



الموسى الصحية
Almoosa Health

Almoosa Health Drug Formulary

2024 - 2025 Version



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INTRODUCTION

Dear Colleagues,

It is with great enthusiasm that I present to you the Almoosa Drug Formulary, an indispensable resource designed to support our shared mission of delivering safe, effective, and high-quality care to every patient we serve.

This formulary serves as a cornerstone of our inpatient pharmacy services, providing comprehensive guidance on medication selection, dosing, and administration. It is a vital tool developed to empower healthcare professionals with evidence-based recommendations that prioritize patient safety and therapeutic efficacy.

Developed through the rigorous evaluation and expertise of our dedicated team of pharmacists, clinicians, and specialists, this formulary reflects our unwavering commitment to advancing clinical practice and optimizing patient outcomes.

I encourage you to utilize this resource as a trusted guide in your daily practice and as a foundation for enhancing collaboration across our healthcare system. Should you have any questions or suggestions regarding its use, our pharmacy team is always available to assist.

Together, let us continue to uphold the highest standards of care and ensure that every patient receives the best possible treatment.

Warm regards,

**Dr. Batool Alhassan
Group Inpatient Pharmacy Services Director
Almoosa Health**

Pharmacy and therapeutic committee

Committee members

Group IP Pharmacy Services Director	Chairperson
ASH Clinical Pharmacy Supervisor	Vice Chairperson
ASH CEO	Member
Group COQ	Member
Group CMO	Member
Group OP Pharmacy Director	Member
Pharmacy Procurement Manager	Member
Materials Planning Manager	Member
IP Pharmacy Manager	Member
RCM Director	Member
Surgery Consultant representative	Member
Chief of Pediatrics	Member
Chief of OB-Gyn	Member
Infection Control Director	Member
Chief of IM	Member
Chief of ICU	Member
Group CNO	Member
Nursing Director	Member
Finance Auditor	Member
Pharmacy Stock Controller Supervisor	Member
Patient Experience Representative	Member
ARH CMO	Member
Drug Information Pharmacist	Member
ARH Quality Manager	Member
ARH Nurse Director	Member
ARH Geriatric Consultant	Member
ARH Internal Medicine Consultant	Member

PHARMACY AND THERAPEUTICS COMMITTEE

FUNCTIONS

The Pharmacy and Therapeutics Committee is a multi-disciplinary committee comprising of physicians, nurses, pharmacists and the quality improvement department. It shall perform the following specific functions.

1. Developing a current, updated formulary of all drugs used in ASH hospital.
2. Maintaining the drug formulary.
3. Recommending additions of drugs to the formulary.
4. Identification and implementation of specific training requirements for new drugs.
5. Recommending deletion of drugs from the formulary.
6. Review of formulary drugs licensed for new indications.
7. Review of non-formulary prescribing.
8. Review of inappropriate prescribing and recommends corrective action (e.g., drugs where expenditure higher than budgeted).
9. Review of medication error incidents occurring in the hospital.
10. Review of adverse drug reactions occurring in the hospital.
11. Review of medication alerts.
12. Recommending policies relating to the selection, procurement, distribution, dispensing use and administration of drugs.
13. Review of all pharmacy policies and procedures.
14. Review of quality improvement reports (e.g., prescribing review, medication administration monitoring, monthly inspection).
15. Makes recommendations concerning drugs to be stocked on nursing units.
16. Review recommendation from the Code Blue Committee concerning additions of or deletions of emergency medications and antidotes maintained on crash carts.
17. Review of MOH circulars concerning drug restrictions and usage in Saudi Arabia and implement appropriate practices

PHARMACY DIRECTORY

Pharmacy department unit structure

Department	Location		Telephone	Extension	
Chief Pharmacist	15th Floor North Tower		135369500	1185	
IP Pharmacy Manager	8 th floor South Tower		135369500	1339	
Clinical Pharmacy service	7 th floor South Tower		135369500	1755	
Outpatient Pharmacy	North Tower ground floor	Supervisor	135369500	2805	
		In charge		1186	
	South Tower ground floor	In charge		1106	
Inpatient pharmacy	Main building 1 st floor	Supervisor	135369500	2888	
	First floor old building	In charge		1184	
	Omnicell Admin			2543	
Narcotic and Control Drug Pharmacy service	Supervisor		135369500	1732	
	Inpatient First floor main building of Hospital			1149	
	Outpatient South Tower ground floor			1395	
Chemotherapy Intravenous admixture service	9 th Floor North Tower		135369500	1203	
Infusion Pharmacy	7 th Floor South Tower		135369500	1514	
	9 th Floor North Tower			1342	
Non-sterile Compounding Service	5 th Floor South Tower		135369500	1477	

HOW TO USE THE ASH FORMULARY

This edition of Drug Formulary is organized into the following five main sections:

GENERAL INFORMATION

This section includes:

- 1.1 Al Moosa Specialist Hospital Mission Statement
- 1.2 Pharmacy Department Mission, Vision and Value Statement

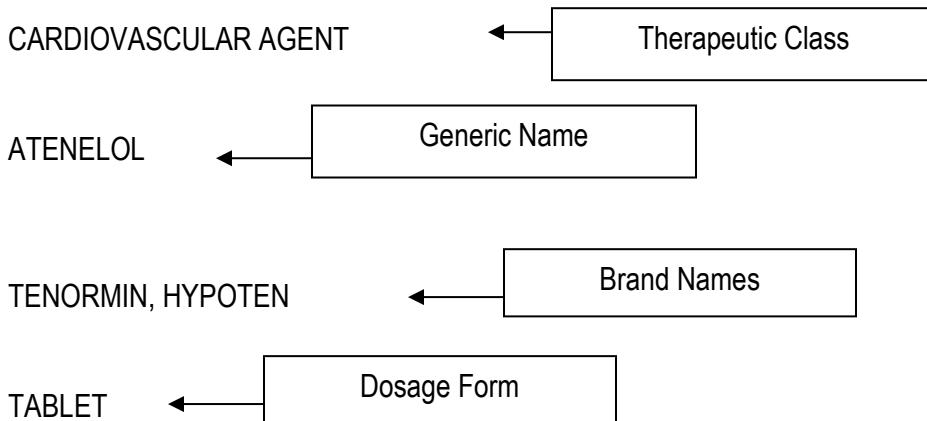
POLICIES AND PROCEDURES

This section briefly describes the policies and procedures for ASH Formulary drug additions and deletions, drug prescribing, dispensing and distributing, special medications, and adverse drug reaction reporting.

THERAPEUTIC CLASSIFICATIONS

There are 15 drug classifications containing drugs mini-monographs. Drugs are listed alphabetically by generic name (for single drug entities) or by formulary brand name (for drug combinations). Each drug is detailed with its category, dosage form, and strength, route of administration, indications, cautions, side effects, contraindications, lactation and pregnancy information.

DRUGS, INCLUDING MINI-MONOGRAPHS, WHICH ARE CLASSIFIED AS:



25MG, 50MG, 100MG

Strengths or concentrations

Administration : May be taken with or without food
Category : Beta-adrenergic blocking agent
Indications : Hypertension, Angina, Arrhythmias
Caution : Abrupt withdrawal in patients with angina pectoris
Side Effects : AV Block, bradycardia
Dosing : Adult & pediatric
Dose adjustment in organ failure

APPENDIX

This section is a compilation of lists, tables, forms and other information relevant to procurement, prescribing, dispensing and administration of drugs. A table of contents for the appendix is included.

GENERIC NAME INDEX

This section contains entries for generic names arranged alphabetically. A particular drug can be checked by looking it up in the index at the back of the book which contains generic names.

Physicians are advised to prescribe the generic names for all patients. The brand name can be used if the product is a combination of two or more drugs.

TRADE NAME INDEX

This section contains entries for trade names arranged alphabetically. A particular brand can be checked by looking it up in the alphabetical index at the back of the book which contains trade names.

GENERAL INFORMATION

AL MOOSA SPECIALIST HOSPITAL

HOSPITAL MISSION

Providing **QUALITY** and **SAFE** healthcare services in a financially reasonable manner, to the society we serve.

PHARMACY DEPARTMENT

MISSION

To continuously improve the safety, quality and access to the pharmaceutical services provided to our patients

VISION

To change from delivery of pharmaceutical products to patient-centered pharmaceutical care with strong commitment to patient satisfaction

VALUES

1. Ethical
2. Patient Focus
3. Commitment to safety
4. Commitment to Quality & Excellence
5. Team Work
6. Education to our staff and patients

POLICIES AND PROCEDURES

DRUG POLICIES AND PROCEDURES

FORMULARY ADDITIONS

Only ASH consultant physicians may propose a drug for addition to the formulary by submitting a properly completed and signed Formulary Addition Request Form to the pharmacy for inclusion in the next regularly scheduled P&T meeting. Formulary addition requests should be accompanied by non-company sponsored literature to support the efficiency and safety of the new medications. Forms are available with the Inpatient Pharmacy. The P&T Committee will evaluate the request against strict criteria and when necessary will seek opinions from other members of the medical staff. Infectious Disease physicians, as a group, will be consulted for formulary addition requests for systemic antibiotic medications.

FORMULARY DELETIONS

Suggestions for deletions of drugs may be made by consultant physician or chief pharmacist using the Formulary Deletion Request Form.

DRUG RESTRICTIONS

The Pharmacy and Therapeutic Committee may put into restriction any group of drugs and should notify the concerned service.

THERAPEUTIC SUBSTITUTION

When a physician orders a drug, the chemical and pharmacological formulary equivalents may be substituted.

NON-FORMULARY MEDICATIONS

1. The ASH physician may request a non-formulary medication only if:
 - a. No alternative medication in the formulary.
 - b. Newly marketed medication that has not been requested for formulary addition.
 - c. Patient has a documented adverse reaction to the formulary medication (prescriber to specify medication and reaction)

- d. Documented therapeutic failure with formulary agents (prescriber to specify medications used)
 - e. Patient stabilized on a specific medication prior to admission or consultation.
2. The requesting ASH physician must complete a Non-formulary Medication Request Form. Forms are available with the pharmacy. Non-formulary medications must be approved by the Medical Director and are restricted to that specific patient.

ADVERSE DRUG REACTION REPORT (ADR)

Adverse drug reaction is defined as undesired effect caused by taking medication.

Should an Inpatient or an Outpatient develop an adverse drug reaction, an adverse drug reaction report will be filled out immediately and submitted to the Inpatient Pharmacy. Pharmacy shall submit to P&T Committee for discussion, coming up with conclusion and action for the future benefit of the patient.

MEDICATION ERROR REPORT

Medication error is defined as a preventable adverse drug event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures and systems, including prescribing, order communication; product labeling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring and use.

Should a medication error occur, an occurrence verifying report must be filled out immediately and submitted to quality improvement department the pharmacy department will participate in the trending, tracking, analysis of all medication errors with the purpose of recommending system enhancements and safety improvements to prevent similar errors.

The medication errors will be discussed in the P&T Committee meetings for reviewing, assessment, and ultimately coming up with conclusion, recommendations and actions.

PRESCRIBING POLICIES AND PROCEDURES – INPATIENT SETTING

The Pharmacy Services describes the policies and procedures on inpatient drug prescribing as follows:

- Medications for inpatients are prescribed and entered in the computerized physician order entry on physician's order sheet.
- There must be order for every medication

- The physician's order sheet must contain the following information:
 - Patient's name, age, sex, hospital file number and location including room, bed number and unit.
 - Patient allergy and admitting diagnosis
 - Date and time order is written
 - Generic or brand name of the drug. (Abbreviations of drug names not accepted.)
 - Dose, dosage form, route of administration, frequency and duration for use
 - Physician's electronic signature must be present on all inpatient drug orders.
- The inpatient order must be clear and complete.
- Any new physician orders reorder or change in order must be made through the computerized system.
- The inpatient physician order must be free of prohibited abbreviations and dose designations as these may be misinterpreted leading to medication errors. (Refer to list of prohibited abbreviations).
- Pharmacist must review inpatient physician order and clarify any unclear or incomplete order before dispensing for the inpatient
- The order shall specify, where necessary the emergent need for the medication, e.g. "STAT" or PRN.
- Medication orders are automatically discontinued as follows:

All Medications excluding antibiotics, antifungal, antiviral, and narcotics.....30 days
 Antibiotics for prophylactic use24 hrs.
 Controlled category 72 hours
 Restricted category 24 hours
 Limited use category will not be initiated unless ID consultant approval

iv. Antibiotics, for therapeutic use will be dispensed until the prescribed duration with maximum limit of 14 days, then ID consultant

Physicians may indicate a duration that exceeds or is shorter than the automatic stop order durations.

- Patient's own medication can only be used in exceptional circumstances and if the medication cannot be supplied by the pharmacy e.g. non-formulary drug or out-of-stock medication.
- Patient's own medications approved for inpatient use may be used only upon a written physician order in the physician's order sheet and are not to be administered until identified by the pharmacist.
- Drugs are supplied to most nursing stations via the unit dose distribution system in single unit doses ready to be administered. Drugs are stored in medication carts with individual patient's drawers.
- Only few frequently prescribed drugs, emergency drugs and narcotic and controlled drugs are available as floor stock. Nursing stations may request floor stock drugs from the pharmacy via the electronic system using approved pharmacy requisition forms.

PREScribing POLICIES AND PROCEDURES-DISCHARGED PATIENTS

- Physicians may prescribe medications to patients being discharged from the hospital using computerized electronic system.
- The following general information is required:
 - Patient name, hospital file number and badge number for Aramco patient
 - Patient's allergy and diagnosis.
 - Generic or brand names of the drugs prescribed (abbreviations of drug names not accepted).
 - Dosage form, dose, route of administration, frequency and duration of use
 - Date of prescription and unit
 - Prescriber's name, ID, electronic signature
- Pharmacist must review discharge orders and clarify any unclear or incomplete prescription before dispensing to the patient.
- All prescriptions dispensed will be clearly and completely labeled in both Arabic and English in addition to direct patient counseling.

PREScribing POLICIES AND PROCEDURES – OUTPATIENT

- Prescriptions must be issued for a legitimate medical purpose by a Physician or Dentist
- Only those prescriptions written by an ASH Physician or Dentist will be honored by the outpatient Aramco pharmacy.
- Prescriptions shall be sent using the computerized electronic system.
- The following general information is required for all prescriptions:
 - Patient's Name, file number and badge number
 - Diagnosis, Allergy, and Pregnancy status of the patient
 - Generic or brand names of the drugs prescribed (abbreviations of drug names not accepted).
 - Dosage form, dose, route of administration, frequency and duration of use
 - Date of prescription and clinic
 - Prescriber's name, ID, electronic signature
- Only approved abbreviations may be used. The prescription shall be free of prohibited abbreviations and dose designation.

- Pharmacist must review outpatient order and clarify any unclear or incomplete prescription before dispensing to the patient.
- Medications restricted to a particular service/physician, must be initiated or authorized by the appropriate physician.
- Physicians may not prescribe medication for themselves or members of their family.
- All prescriptions dispensed will be labeled with drug name, dosage form and strength, quantity dispensed, directions for use, patient's name, medical record number, ID number, date dispensed, expiry date and other auxiliary or cautionary labels as necessary.
- A maximum of two months' supply will be dispensed per prescription.
- Exception to the above policy is if the patient is going on vacation. In which case the medication may be supplied for three months. In such cases, the prescriber must write the phrase "GOING ON VACATION" clearly on the prescription.
- The holding time for unclaimed non-narcotic and non-controlled prescriptions is 7 days

Rules for prescribing Narcotic and Controlled Drugs

- Prescriptions for narcotics and controlled drugs must comply with Saudi Arabia Government laws. Narcotic and Controlled medications must be prescribed on Ministry of Health (MOH) approved prescription formats.
- Narcotic drug prescription must be prescribed on ASH Narcotic Prescription (white) and Controlled drug must be prescribed on ASH Controlled Prescription (pink-colored)
- Physicians are not allowed to prescribe narcotic and controlled drugs for self or family members.
- All narcotic and controlled drug prescriptions must be signed and stamped by the physician.
- Only one medication must be prescribed on each form.
- All blocks in the form must be completed for prescription to be valid.
- Prescriptions that are incomplete, incorrect, erased or overwritten are automatically invalid since this is not permitted by MOH regulations.
- Amount prescribed must not exceed the prescribing limit as established by MOH.
- Injectable preparations of narcotic and controlled drugs are not for outpatient dispensing.
- Narcotic and Controlled prescriptions are not refillable.

GENERAL INSTRUCTIONS FOR PHYSICIANS

- The physician must obtain a complete and accurate medication history for all new patients
- Allergy is an important cause of adverse drug reaction. Ask if the patient had previous allergic reactions.
- Allergy must be verified and documented for all medication orders on all medication related documentation including patient EMR
- Age and hepatic or renal disease may alter the metabolism or excretion of drugs so these factors must be considered when deciding on therapy for patient.
- If the patient is pregnant do not prescribe a drug unless the need for it is imperative.
- Physicians are advised to prescribe only formulary medications.
- Where possible prescribe a familiar drug. With new drugs be particularly alert for adverse drug reactions.
- Prescribe as few drugs as possible. Be evidence-based.
- Medication orders must be free of prohibited abbreviations. E.g. do not use abbreviation U write units. Do not write a zero by itself after a decimal point and always use a zero before a decimal point.
- The strength and volume of drugs should be expressed and labeled in the metric system. Volume should always be expressed in milliliters (ml) weights in gram (g), milligrams (mg) and micrograms (mcg).
- Medication orders must not be ambiguous. Phrases such as "resume pre-operative orders" or "discharge on same medications" are not accepted.
- New physician order, reorder, or changing order must be made in writing and via the computerized electronic system to ensure effective communication.
- Physicians should not order by number of vials or ampule or number of packages without specifying the concentration

INFORMATION ON ANTIBIOTIC PRESCRIBING AND RESTRICTIONS

INFORMATION ON ANTIMICROBIAL GUIDELINES FOR SURGICAL PROPHYLAXIS

Antimicrobial Surgical Prophylaxis

- Antimicrobial surgical prophylaxis is indicated in patients undergoing clean surgical procedures where infection could be life-threatening, surgeries involving implantation of prosthetic material, and patients with clean contaminated or contaminated surgery.
- Patients with dirty surgery should not receive prophylaxis but should be on a full therapeutic course of antibiotics.
- Advantage of surgical prophylaxis include:
 - a. can decrease the incidence of post-operative wound infection
 - b. shorten hospitalization
 - c. Reduce the overall costs attributable to infections.
- Responsibilities include:
 - a. Department chiefs should orient and discuss the antimicrobial surgical prophylaxis guidelines with their surgeons and encourage adherence to them.
 - b. ASH surgeons should comply with the guidelines in this policy.
 - c. ASH pharmacy should monitor the surgeon's compliance to the policy guidelines.
- Physician shall enter the order into the HIS for the antibiotic. Then in the field of "Type of Therapy" he will choose prophylactic. Go to the field of instruction to write the category of the patient wound (clean, clean contaminated or contaminated).
- Compliance with the following should decrease the incidence of wound infection including:
 1. Timing
 - a. The goal in prophylaxis is to achieve inhibitory antimicrobial levels in the tissue at the time of incision and to maintain levels for the duration of the procedure. Agents used for parenteral pre-operative prophylaxis should be administered intravenously (IV) at the time of induction of anesthesia (30-60 minutes before incision).

- b. The exceptions are Cesarean Section in which the prophylactic dose is delayed until the umbilical cord is clamped. It should be administered immediately after clamping of the umbilical cord.
- c. Colonic procedures in which PO antibiotics should be administered starting 19 hours before the scheduled time of surgery.
- d. For surgical procedures using Vancomycin, administration of the drug should be completed at least (1) one hour prior to surgical incision

2. Dose

- a. The prophylactic agent must be administered in a dose which provides an effective tissue concentration prior to intraoperative, bacterial contamination.
- b. The effective dose should be governed by the patient's weight.
For cephalosporins, patients weighing >80 kg, dosage should be doubled (e.g 80 kg: Cefazolin 1 g IV, >80 kg: Cefazolin 2 g IV).
- c. A single prophylactic dose is indicated and usually sufficient if the duration of surgical procedure is less than three hours.
- d. The prophylactic dose should never be smaller than the standard therapeutic dose of a drug. Pediatric dosing is based upon weight.

3. Frequency of administration (interval)

- a. Additional intraoperative doses of antimicrobial agent should be re-administered during prolonged procedures (e.g, if the operation extends more than 3 hours when a short-acting agent is used (e.g. Cefazoline) or beyond 6 hours with Vancomycin prophylaxis).
- b. Procedures lasting greater than three hours require an additional effective dose.
- c. Sometimes 2 or 3 additional prophylactic doses.
- d. Also additional intraoperative doses of the antimicrobial agents should be re-administered if there is insertion of a prosthesis, and with prolonged or excessive bleeding and extensive burns.
- e. Re-administration of supplemental doses shall be at intervals appropriate to the antimicrobial agent used.
- f. Re-administration shall be at 8 and 16 hours after surgery (with the exception of Vancomycin, aminoglycosides and fluoroquinolones).

4. Duration

- a. Many reports document effective prophylaxis with a single dose of drug given 30-60 minutes prior to surgery. In cases with prolonged surgery or excessive blood loss additional doses are advisable during surgery. It is likely that no further benefit is conferred by administration of

- additional doses after the patient has left the operating room and antimicrobial prophylaxis should be discontinued within 24 hours of the operative procedure.
- b. The optimal duration of prophylaxis for cardiac operations is still being debated, and many investigators believe that longer duration are needed (2 to 3 days). However, the continuation of prophylaxis until all catheters and dressings have been removed is not appropriate.
 - c. Antibiotics prophylaxis for orthopedics cases where metal prosthesis is inserted can be extended to 3 days.
 - d. For Spinal Disc surgery antibiotics prophylaxis can be extended for 3 days.
5. Choice of Antimicrobial Agent
- a. An effective antimicrobial agent for pre-operative prophylaxis should be directed against the most likely infecting organisms, but need NOT eradicate every potential pathogen.
 - b. Surgeons should use antibiotic with the narrowest spectrum to minimize emergence of resistant bacteria.
 - c. For most procedures, Cefazolin, (Cephalosporin- first generation), which has a moderately long serum half-life, has been shown to be effective.
 - d. Second generation Cephalosporins can also be used (e.g, Cefuroxime).
 - e. Third and fourth generation Cephalosporins should not be used for routine prophylaxis.
 - f. Vancomycin can be given instead of Cefazoline to patients who are allergic to cephalosporins or in settings where infections with resistant staphylococcus species are prevalent (patients who have demonstrated recent infection with MRSA). However, Vancomycin should not be used for routine prophylaxis. If Vancomycin is selected it should be given as 1 gm IV administered over 120 minutes to avoid red man syndrome, with reducing q12h.
 - g. The alternative agents for any surgical prophylaxis will be indicated if the first choice cannot be administered because:
 - a) The first choice is not available
 - b) Allergy to this antibiotic
 - c) Increased rate of resistance to it in the hospital
 - h. Alternate regimens are designed to provide equivalent coverage, while avoiding potential problems with allergy to the recommended first line agents.
 - i. For procedures involving the distal ileum, colon or appendix, the drugs should be active against both the (see highlighted line).
 - j. There are some situations when the addition of a few doses of parenteral prophylaxis is given in addition to oral antibiotics (e.g. Colorectal Surgery).
 - k. The following guidelines have been prepared to assist physicians in their selection of antimicrobials.

Almoosa Specialist Hospital

Antimicrobial Stewardship Guidelines

December 2024



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S. pneumonia, Gram negative enterics (Salmonella, E. coli)	Error! Bookmark not defined.
S. pneumonia,.....	Error! Bookmark not defined.
M. pneumoniae,.....	Error! Bookmark not defined.
M. hominis,.....	Error! Bookmark not defined.
C. pneumonia.....	Error! Bookmark not defined.
RSV	Error! Bookmark not defined.
Gram negative aerobic bacteria:	Error! Bookmark not defined.
P. aeruginosa,.....	Error! Bookmark not defined.
E. coli,.....	Error! Bookmark not defined.
Klebsiella spp	Error! Bookmark not defined.

Gram positive cocci: *Staphylococcus spp, Viridans Streptococci*
..... Error! Bookmark not defined.

DISEASE/THERAPY EXAMPLES Error! Bookmark not defined.

Standard chemotherapy for most solid tumors, Anticipated neutropenia less than 7 days Error! Bookmark not defined.

Lymphoma, Multiple myeloma, CLL, Purine analog therapy, Anticipated neutropenia 7-10 days Error! Bookmark not defined.

Acute leukemia (Induction, Consolidation), Anticipated neutropenia >10 days, Error! Bookmark not defined.

Pediatric Guidelines for the Empiric Treatment of Various Infections Error! Bookmark not defined.

Treatment of Superficial Fungal Infections – DERMATOPHYTES Error! Bookmark not defined.

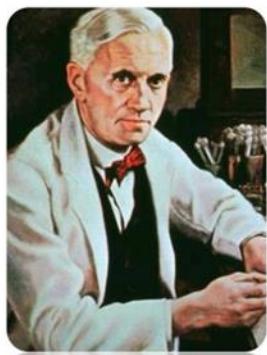
Recommendations for Surgical Antimicrobial Prophylaxis
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Recommendations for Monitoring Patients Receiving Long-term Antimicrobial Therapy Error! Bookmark not defined.

Dose Adjustment for Renal Impairment Error! Bookmark not defined.

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Person playing with penicillin is
morally responsible for the
death of the man who finally
succumbs to infection with the
penicillin-resistant organism!

- Sir Alexander Fleming, June 1945

- 28 July 2017 10:00:00 AM

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Foreword

The emergence of antimicrobial resistance among bacterial, fungal and viral pathogens has been alarming. This is mainly the attribution of inappropriate use of these agents in the hospital and community settings.

Reasons for inappropriate use of antimicrobial agents, maybe from choosing the incorrect: antibiotic, combination, dose, route or duration, as this may be complicated further by the incorrect diagnosis, may unavailability of proper testing, the improper interpretation of certain tests, which may all lead to the inappropriate use of antimicrobial agents.

We have experienced emergence of antimicrobial resistance, to the extent that some patients end with no options for treatment of severe infections. On top of that side effects from the use of antibiotics have been experienced with clear morbidity, mortality and cost implications to patients and the institution.

This document is only one of many faces to a newly established Antimicrobial Stewardship Program (ASP) at the Almoosa Specialist Hospital. **It was prepared based on the thorough review of the literature, international guidelines, and the current local antibiogram.** It is to be used as guidance to prescribing physicians; the guidelines however do not replace the infectious disease consultation when needed. The guidelines will be updated on a yearly basis and will be available as a PDF document on the internet.

Dr. Mahmoud Mostafa

X-Chairman of Antimicrobial Stewardship committee

This Document

1. It is intended to be used to guide physicians in selecting the proper empirical antimicrobial(s) when evaluating the patient initially before the results of the cultures become available. Once available, the antimicrobial(s) shall be modified to use the antimicrobial that is:
 - i. The most effective
 - ii. The least toxic
 - iii. The narrowest spectrum
2. Guidelines are only guidelines, and they don't replace the physician's clinical evaluation and judgment when dealing with individual patients. Sound clinical judgment backed by adequate medical literature and coupled with clear justification documented in the patient's medical record, can be a good reason to choose to treat the patient outside the current guidelines.
3. Duration of antimicrobial use has been determined for infections when data from respected guidelines supported by clinical trials have suggested a specific duration. For scenarios where the duration has not been determined, please consult the Infectious Diseases consultants or the Clinical Pharmacist in your department for help.
4. In cases of infections without specific duration of therapy, an Infectious Diseases Consultant's approval is mandatory if the antimicrobial(s) are to be continued beyond 7 days.
5. The primary regimen selected in this guideline is expected to be used as the treatment of choice for most of the patients who have no allergy to one or more of the drugs in the regimen, and have no contra-indication to avoid using this regimen. Choosing the alternative is acceptable if not being given always instead of the primary regimen.
6. If the treating physician(s) has any concerns about one or more parts of this guideline, or if he comes across any new data that support other regimens or recommendations that are not specified here, he or she is encouraged to bring his/her concerns and/or the new data to the attention of the antimicrobial stewardship committee to be discussed, and if approved, changes to the guideline can be made as deemed appropriate.
7. This guideline will be updated on annual basis.

Abbreviations List

The following list includes the abbreviations that were used in the current guidelines:

AM: Anti-Microbial (drug)
Amoxi-clav: Amoxicillin-Clavulanic acid
BID: twice daily
CoNS: Coagulase Negative Staphylococcus
DS: Double Strength
ER: Emergency Room
ESBL: Extended-Spectrum Beta-Lactamase
GNB: Gram Negative Bacilli
GPC: Gram Positive Cocci
H: Hour
HAP: Hospital Acquired Pneumonia
HD: Hemodialysis
ID: Infectious Disease
IM: Intra-Muscular
IV: Intra-Venous
MDR: Multi-Drug Resistant
MRSA: Methicillin-Resistant Staphylococcus aureus
MSSA: Methicillin-Susceptible Staphylococcus aureus
Pip/tazo: Piperacillin/tazobactam
PO: Per Os (orally)
Q: every
QID: four times per day
TB: Tuberculosis
TID: three times per day
TMP/SMX: Trimethoprim/Sulfamethoxazole.
VAP: Ventilator Associated Pneumonia

How to Prescribe Antimicrobial Agents?

- ✓ **Unrestricted antimicrobial:** Can be ordered by prescribers at any level.
- ✓ **Controlled antimicrobial:** Are agents that require culture and sensitivity report, and/or a positive initial gram stain for approval after 72hrs. These antimicrobials can be ordered by prescribers at any level:
 - ✓ Send culture sample to lab prior to initiate the order
 - ✓ Obtain culture and Sensitivity report approval after 72hrs
 - ✓ If culture result is positive to the ordered antimicrobial agent, continue to appropriate duration
 - ✓ if culture result is negative to the ordered antimicrobial agent, ID approval required thereafter for continuation of therapy
 - ✓ Orders not approved by culture and Sensitivity report and/or ID physician are not allowed to be dispensed after the 1st 72 hrs.
- ✓ **Restricted antimicrobial:** Agents require approval from ID physician within 24 hours of initiating the order. Please see the restriction list.
 - ✓ ID physician should be contacted.
 - ✓ ID physician should then respond within 24 hrs to clear all pending approvals.
 - ✓ Orders not approved by ID physician within 24 hrs are not allowed to be dispensed after the first 24 hours & will be automatically discontinued.
- ✓ **Limited use antimicrobial:** agents require ID approval for initiation

Summary:

Restriction category	Definition
Unrestricted	Use does not require ID approval
Controlled	Unrestricted use for initial 72 hrs. If the culture is positive, the antibiotic can be continued, if not, ID approval will be required thereafter
Restricted	Unrestricted use for initial 24hrs only, ID approval required thereafter
Limited Use Antimicrobials	ID approval required to initiate

Antimicrobial Restriction Lists

Controlled restricted use for the initial 72 hrs; if the culture is +ve continue, if not, ID approval required thereafter	Restricted restricted use for the initial 24hrs only; ID approval required thereafter	Limited Use ID approval required to initiate
Vancomycin IV, PO	Linezolid	Ceftobiprole
Teicoplanin IV, PO	Colistin	Ceftolozane/tazobactam
Meropenem	Rifampin#	Ceftazidime/Avibactam
Imipenem/ Cilastatin	Cloxacillin	Amphotericin B
Ertapenem	Voriconazole IV, PO	Amphotericin liposomal
Piperacillin/tazobactam	Anidulafungin	Isavuconazole
Cefepime (4th generation)	Micafungin	Daptomycin
Ceftazidime (3rd generation)	Caspofungin	Isoniazid#
Amikacin	Ganciclovir	Ethambutol#
Ciprofloxacin IV	Valganciclovir	Pyrazinamide#
Levofloxacin IV		Artemether IM
Moxifloxacin IV	Artesunate PO	Artesunate IV
Trimethoprim-Sulfamethoxazole IV	Primaquine	Quinine IV
Cloxacillin	Mefloquine	Pyrimethamine
Tigecycline	Chloroquine	Remdesivir
		Adefovir*, Entecavir, * Lamivudine*
Fluconazole IV		Sofosbuvir*, Daclatasvir*, Ribavirin*
Acyclovir IV		Ledipasvir/Sofosbuvir (Harvoni)*
		Elbasvir/Grazoprevir (Zepatier)*
		Tenofovir and all ART

Pulmonary consultants can prescribe these drugs with no restrictions.

* GI Consultants can prescribe these drugs with no restrictions.

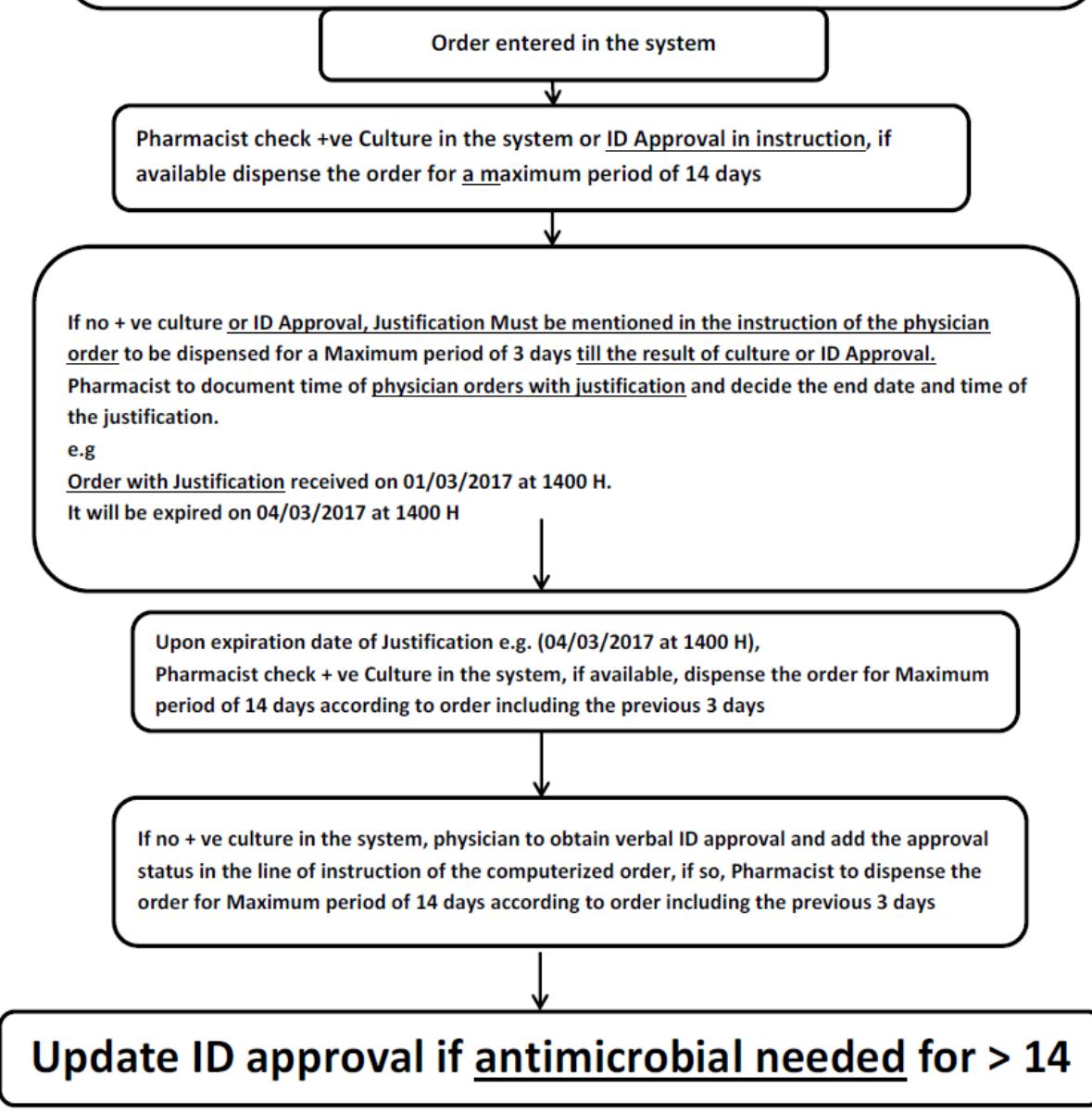
ER – Approved Antimicrobial List

GENERIC NAME	TRADE NAME
AMOXICILLIN, ORAL	AMOXIL, ORAL
AMOXICILLIN + CLAVULANIC ACID, ORAL	AUGMENTIN, ORAL
AMPICILLIN, ORAL	OSPIN ORAL
AMPICILLIN, INJECTION	EPICOCILLIN, INJECTION
AZITHROMYCIN, ORAL	ZITHROMAX, ORAL
BENZATHINE BENZYL PENICILLIN, INJECTION	RETARPEN, INJECTION
CEFADROXIL, ORAL (1 st generation cephalosporin)	DOXRIL, ORAL
CEFAZOLIN, INJ (1 st generation cephalosporin)	ZOLACINE, INJECTION
CEPHALEXIN, ORAL (1 st generation cephalosporin)	KEFLEX, ORAL
CEPHRADINE, ORAL (1 st generation cephalosporin)	VELOSEF, ORAL
CEFACLOR, ORAL (2 nd generation cephalosporin)	CECLR, ORAL
CEFPROZIL, ORAL (2 nd generation cephalosporin)	CEFZIL, ORAL
CEFUROXIME, ORAL (2 nd generation cephalosporin)	ZINNAT, ORAL
CEFTRIAXONE, INJ (3 rd generation cephalosporin)	ENOXIRT, INJECTION
CEFUROXIME, INJ (2 nd generation cephalosporin)	ZINACEF, INJECTION
CLARITHROMYCIN, ORAL	KLACID, ORAL
CLINDAMYCIN, ORAL	DALACIN C, ORAL
CLINDAMYCIN, INJECTION	DALACIN C, INJECTION
CO-TRIMOXAZOLE, ORAL	BACTRIM, ORAL
DOXYCYCLINE, ORAL	DOXYDAR, ORAL
ERYTHROMYCIN, ORAL	ERYTHROCIN, ORAL
Fosfomycin, oral	Munurol, Oral
METRONIDAZOLE, ORAL	FLAGYL, ORAL
METRONIDAZOLE, INJECTION	FLAGYL, INJECTION
METRODINAZOLE+DILOXANIDE FUROATE, ORAL	FURAZOLE, ORAL
OFLOXACIN, ORAL	TARIVID OR OFLACIN, ORAL
TETRACYCLINE, ORAL	TERTRACYCLINE, ORAL

Antimicrobial ordering flow chart

Physician plan to prescribe Controlled AM

All dosage forms of: Vancomycin IV/PO , Meropenem, Imipenem/ Cilastatin,
Piperacillin/Tazobactam, Cefepime, Ceftazidime, Fluconazole, Acyclovir, Moxifloxacin,
Ciprofloxacin, Levofloxacin, Ertapenem, Teicoplanin IV/PO, Amikacin, Trimethoprim
/Sulfamethoxazole.



Flow chart also used to communicate reasons when order is rejected by pharmacy

Antimicrobial ordering flow chart

Physician plan to prescribe Restricted AM

All dosage forms of: Linezolid, Colistin, Tigecycline, Anidulafungin, Caspofungin, Micafungin, Ganciclovir, Voriconazole IV /PO , Valganciclovir , Artesunate PO , Primaquine , Mefloquine ,

Order entered in the system



Pharmacist check +ve Culture in the system or ID Approval in instruction, if available dispense the order for Maximum period of 1 day only till getting ID Approval



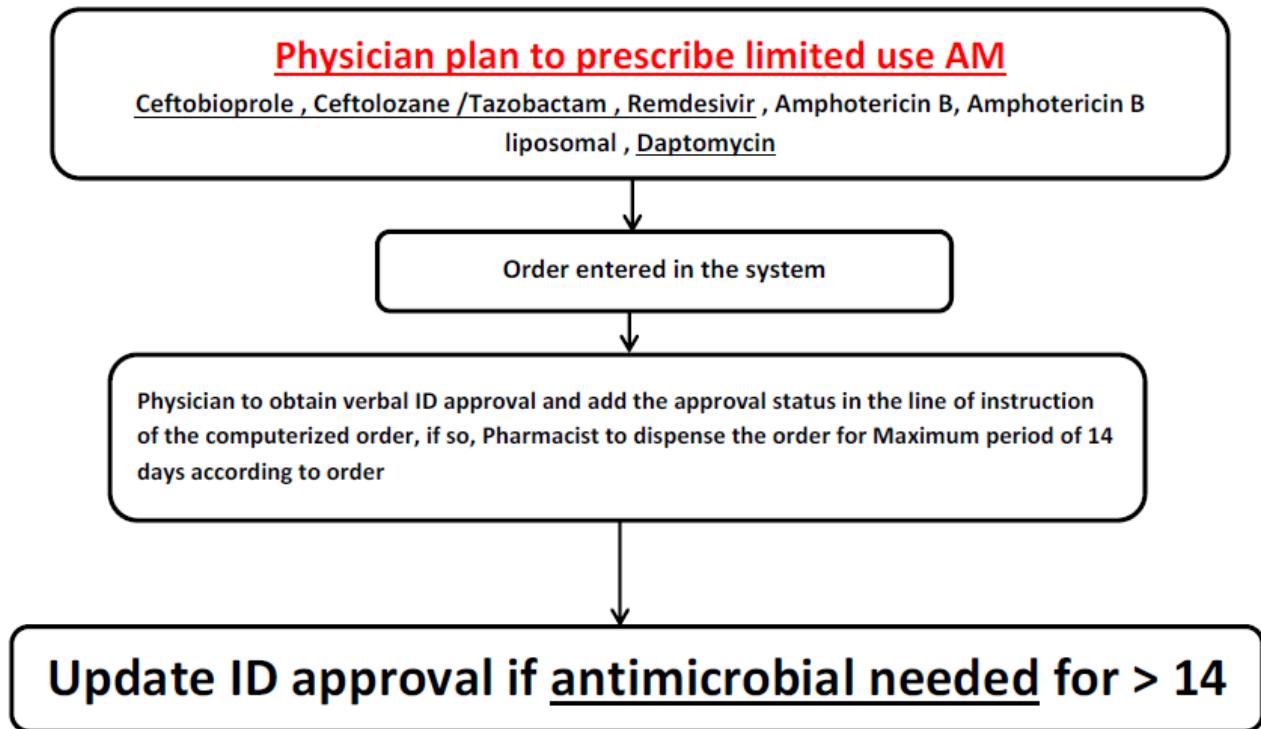
If no + ve culture in the system or ID Approval in instruction, Justification Must be mentioned in the instruction of the physician order to be dispensed for a Maximum period of 1 day till getting ID Approval.
Pharmacist to document the time of physician order with justification and decide the end date and time of the justification form
e.g.
Justification form received on 01/03/2017 at 1400 H
It will expire on 02/03/2017 at 1400 H



Update ID approval if antimicrobial needed for > 14

Flow chart also used to communicate reasons when order is rejected by pharmacy

Antimicrobial ordering flow chart



Flow chart also used to communicate reasons when order is rejected by pharmacy

Adult Guidelines for the Empiric Treatment of Various Infections

Dermatology infections				
Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Comedones		Topical Retinoid	Benzoyl peroxide	
Mild inflammatory acne (papules and pustules)	Cutibacterium acnes (formerly known as Propionibacterium acnes)	Topical treatment with any of the following: 1. Benzoyl peroxide 2. Retinoid 3. Combination topical therapy for acne: A. Benzoyl peroxide PLUS Topical Erythromycin 3% B. Benzoyl peroxide PLUS topical retinoid C. Combination of benzoyl peroxide, Topical Erythromycin 3%, and topical retinoid	Add topical retinoid or benzoyl peroxide (if not using already), or consider alternative retinoid,	Given concerns regarding increasing antibiotic resistance, current acne treatment guidelines recommend limiting the use of oral antibiotics to 3 to 4 months only for moderate to severe inflammatory acne
Moderate inflammatory Acne (papules pustules and no nodules)		Combination topical therapy for acne: A. Benzoyl peroxide PLUS Topical Erythromycin 3% B. Benzoyl peroxide PLUS topical retinoid C. Combination of benzoyl peroxide, Topical Erythromycin 3%, and topical retinoid	Trial a different oral antibiotic (Minocycline 50 mg po bid) or combination topical therapy. For female individuals of reproductive age: Consider hormonal therapy for acne.	
Moderate inflammatory Acne (papules pustules and few nodules)		Benzoyl peroxide PLUS topical retinoid PLUS Doxycycline 100 mg po bid	Consider oral isotretinoin.	
Severe inflammatory Acne (papules		Topical Erythromycin 3% PLUS benzoyl peroxide PLUS	Trial a different oral antibiotic (Minocycline 50 mg po bid) or combination topical therapy.	

pustules and multiple nodules)		<p>1. Doxycycline po 100 mg po bid Or 2. Oral retinoid</p> <p>For female individuals of reproductive age: Consider hormonal therapy for acne. Consider oral isotretinoin if not added.</p>	
Mild Papulopustular rosacea		<p>Topical metronidazole, azelaic acid, and topical ivermectin</p>	<p>Topical minocycline</p> <p>Except for severe cases, the usual treatment is topical; requires 4-6 weeks of topical therapy for visible improvement.</p>
Severe Papulopustular rosacea		<p>Consider po isotretinoin PLUS Doxycycline po 100 mg once daily</p>	<p>metronidazole (200 mg twice daily)</p> <p>Offer an oral antibiotic for severe papulopustular rosacea</p> <p>Whenever possible, avoid long-term use of oral antibiotics in people with rosacea . The optimal duration of antibiotic therapy is not known. In acne, a lack of response after 2–3 months of antibiotic therapy is usually regarded as treatment failure, and a similar duration.</p>

				to establish benefit may be appropriate in rosacea. When antibiotics are working, the pros and cons of longer-term treatment need to be evaluated carefully
Ocular Infections				
Hordeolum (stye)	Staphylococcus aureus	Most hordeola resolve spontaneously over one to two weeks Drainage can be facilitated with warm, moist compresses placed on the affected areas frequently (eg, for 5 to 10 minutes four times a day). If signs Preseptal cellulitis as complication of hordeolum: treat as Preseptal cellulitis		
Preseptal cellulitis	Staphylococcus aureus	Clindamycin 300 mg PO Q 8 hours	Doxycycline po 100 mg once daily	7-10 days
Orbital Cellulitis	S. pneumoniae, H. influenzae, S. aureus, Anaerobes	Ceftriaxone 2 g IV once daily PLUS Metronidazole 500 mg IV Q6-8h	Pip/tazo 4.5gm IV Q6-8H	
Bacterial conjunctivitis	Staphylococcus aureus, Streptococcus pneumoniae, Haemophilus influenzae, and Moraxella catarrhalis	<p>Not suspected to be from trachoma or sexually transmitted infections: Topical antibiotics such as trimethoprim-polymyxin or quinolones</p> <p>Suspected to be from trachoma or sexually transmitted infections:</p> <ul style="list-style-type: none"> 3. IM ceftriaxone for Neisseria gonorrhoeae 4. oral doxycycline for Chlamydia trachomatis 5. tetracycline eye ointment and/or oral azithromycin for trachoma. 		
Viral conjunctivitis	Adenoviruses (65%–90% of cases); other causes include herpesviruses, enterovirus, measles, mumps, rubella, SARS-CoV-2, Ebola,		<ul style="list-style-type: none"> 1. Treatment of adenovirus conjunctivitis is supportive 2. Mpox treatment may include tecovirimat 3. Molluscum lesions may require excision, cryotherapy, cauterization, or topical agents. 	

	Mpox, Molluscum contagiosum			
Bacterial keratitis	Pseudomonas, Staphylococcus aureus, and streptococcal species are common	<p>1. Topical therapies, often given hourly at first and then tapered as infection improves: empiric quinolone drops, or vancomycin plus tobramycin drops, then treatment is tailored to culture results.</p> <p>2. Systemic therapy (oral quinolone) is added on rare occasions (eg, severe Pseudomonas keratitis with extension to sclera).</p>		
Fungal keratitis	Fungi (Fusarium, Aspergillus, others)	<p>1. Empiric topical natamycin for fungal infection (alternatives: topical amphotericin or voriconazole)</p> <p>2. Systemic therapy (usually oral voriconazole) may be added in some cases.</p>		
Acanthamoeba keratitis	Acanthamoeba	<p>1. Topical chlorhexidine and polyhexamethylene biguanide;</p> <p>2. Systemic voriconazole and miltefosine for cases refractory to topical therapy</p>		
Herpes zoster ophthalmicus	VZV	<p>a. Mild infection/immunocompetent : oral antiviral agents (acyclovir 800 mg, 5 times daily, famciclovir 500 mg tid, or valacyclovir 1000 mg tid) × 7 d.</p> <p>b. For immunocompromised patients or for disseminated zoster, IV acyclovir 10 mg/kg q8 h, then after improvement, valacyclovir 1000 mg po tid, total duration usually 7–14 d.</p>		
HSV keratitis	HSV	<p>1. HSV epithelial keratitis: topical or oral antivirals;</p> <p>2. HSV stromal keratitis: topical corticosteroids plus oral antiviral agents.</p> <p>3. Oral antiviral agents include acyclovir 400–800 mg 5 times daily × 7–10 d), famciclovir (500 mg bid × 7–10 d), or valacyclovir 1000–2000 mg PO tid 7–10 d.</p> <p>4. Topical agents include trifluridine 1% q1–2 h × 14 d, ganciclovir 0.15% 5 times daily until epithelial healing, then tid × 1 wk.</p> <p>5. Recurrent of HSV keratitis: Chronic acyclovir (400 mg twice daily), famciclovir (250 mg twice daily), or valacyclovir (500 mg once daily)</p>		
Skin/Soft Tissue Infections				
Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Non-suppurative Cellulitis Mild	S. aureus (MSSA), S. aureus (MRSA), Streptococci	Cephalexin 500mg Po Q 6H for 5-7days, Or Clindamycin PO 300mg q6-8H	*TMP-SMX 1-2 DS PO BID Or *Doxycycline 100mg PO BID	Always elevate affected extremity..
Moderate		Clindamycin 600-900mg IV Q8H Or Cefazoline 1-2g IV Q8H Or Ampicillin-Sulbactam 3.0gm IV Q6H	* Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily	*MRSA suspected

Severe	S. aureus (MSSA, MRSA), Streptococci, GNB	Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily Plus Pip/tazo 4.5g IV Q6-8H	Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily Plus Ciprofloxacin 400mg IV Q8-12H Plus Metronidazole 500mg IV Q8H	
Suppurative Cellulitis Mild	S. aureus (MSSA) S. aureus (MRSA)	Surgical drainage Plus Clindamycin 300mg PO Q8H, Or TMP-SMX 1-2 DS PO BID, Or Doxycycline 100mg PO BID		Surgical drainage is essential. Duration of therapy is 10 days
Moderate		Surgical drainage Plus Clindamycin 600-900mg IV Q8H		
Severe		Surgical drainage Plus Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily		
Cutaneous Abscess	S. aureus	Incision and drainage (mainstay of treatment of well-localized, uncomplicated cutaneous abscesses)	TMP/SMX 1-2 DS PO BID, Or Doxycycline 100 mg PO BID, Or Amoxi-clav 1g PO BID	Duration is 5-7 days
Small Folliculitis	S. aureus	Hot packs /self-limited	Topical mupirocin three times daily.	5 days
Severe Folliculitis 1- Extensive disease (numerous papules or pustules or with involvement of more than one body area) 2- Persistent disease (folliculitis that does not resolve spontaneously within several weeks)	S. aureus	Cephalexin 500 mg Q 6 hours	Clindamycin 300 mg Q 8 hours	7 days -10 days

Necrotizing Fasciitis	Strep spp- group A, C, G, Clostridia spp., Polymicrobial: Aerobic + Anaerobic	Prompt debridement is essential- Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily Plus Pip/Tazo 4.5gm IV Q6-8H Plus Clindamycin 600mg IV Q 8H	PCN allergy: Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily Plus Ciprofloxacin 400 mg IV Q 12H Plus Clindamycin 600-900 mg IV Q8H	4-6 weeks
Infected human or animal bite	Streptococci, anaerobes, <i>S. aureus</i> , <i>Pasteurella multocida</i>	Amoxi-clav PO 1g q12hr Or Amp/sulbactam 3g IV Q6H	PNC allergy: Ciprofloxacin 400mg PO/IV Q8-12H plus Clindamycin 600mg PO/IV Q6-8H	In animal bites: 1. Tetanus vaccine should be given if no booster in the last 5 years 2. Always assess the risk of rabies
Open Fracture				
- Gustilo Type I/II	GPC, rarely GNB, and anaerobes	Cefazoline 2g IV Q8H Or Amoxicillin/clavulinate 1.2g IV Q8H Or Ampicillin/Sulbactam 3g IV Q 6H	Penicillin allergy: Clindamycin 600-900mg IV Q8H Or Vancomycin 15mg/kg IV Q12H (for patients with risk of MRSA infection)	Duration is 24 hours
Gustilo Type III		Amoxicillin/clavulinate 1.2g IV Q8H Or Ampicillin/Sulbactam 3g IV Q 6H Or Cefazoline 2g IV Q8H Plus Gentamicin 3mg/kg IV once daily	Clindamycin 600-900mg IV Q8H Or Vancomycin 15mg/kg IV Q12H Plus Gentamicin 3mg/kg IV once daily	Duration is 72 hours
DM Foot Infection				
Mild	MSSA, Streptococci	Amoxi-clav PO 1g q12hr Or Cephalexin 500mg PO Q6H Or Clindamycin 300-450 mg PO Q6-8H	*TMP-SMX 1 DS PO Q12H Or *Doxycycline 100mg BID	*MRSA suspected 1-2 wks
Moderate	MSSA, Streptococci, Enterobacteriaciae , Anaerobes	Cefepime 2 g Q8-12H Plus Clindamycin 600-900mg IV Q8H	Ciprofloxacin 750 mg PO Q12H (or 400mg IV Q8-12H) Plus Clindamycin 300-450 mg PO Q6-8H (or 600mg IV Q6-8H)	1-3 wks

Severe	MRSA, Enterobacteriaceae , Pseudomonas, Anaerobes	Pip/tazo 4.5g Q6-8H Plus Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily	Meropenem 1 g IV Q8H Plus Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily	2-4 wks
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Criteria for determining the severity of infection:

- Mild**
1. presence of ≥ 2 manifestations of inflammation (purulence, or erythema, pain, tenderness, warmth, or induration)
 2. any cellulitis/erythema extends ≤ 2 cm around the ulcer
 3. infection is limited to the skin or superficial subcutaneous tissues
 4. no other local complications or systemic illness

Moderate: Infection (as above) in a patient who is systemically well and metabolically stable but which has ≥ 1 of the following characteristics:

1. cellulitis extending >2 cm
2. lymphangitic streaking
3. spread beneath the superficial fascia
4. deep-tissue abscess
5. gangrene
6. involvement of muscle, tendon, joint or bone

Severe: Infection in a patient with systemic toxicity or metabolic instability (e.g. fever, chills, tachycardia, hypotension, confusion, vomiting, leukocytosis, acidosis, severe hyperglycemia, azotemia).

Surgical-Site Infections

General uncomplicated surgery	S. aureus	Cefazolin 1 g IV Q8H	Clindamycin 600 mg IV Q8H	
Infections following contaminated procedures, GI, and genitourinary surgeries:	S. aureus, GNB, anaerobes	Ciprofloxacin 400mg IV Q12H Plus Metronidazole 500mg IV Q 8 H	Broad spectrum antibiotics for severely ill: Pip/tazo 4.5gm IVQ8H Plus Teicoplanin 6-10 mg/kg Q12 hours for 3 doses, then 6-10 mg/kg once daily	

Bone and Joint Infections:

General principles:

- Take two sets of blood cultures before giving the first dose of antibiotic therapy
- Obtain blood cultures and serological tests for Brucella in patients with sub-acute vertebral osteomyelitis/discitis, and chronic osteomyelitis
- Send joint aspirate/bone tissue for gram stain and culture, and cell count.
- If clinically and neurologically stable, hold antibiotic therapy until the causative organism is identified.

			<ul style="list-style-type: none"> ▪ Always review previous microbiology results. ▪ Assess the risk factors for gram-negative infections (e.g. sickle cell disease), TB and Brucella. <ul style="list-style-type: none"> ▪ Review antimicrobial therapy as soon as microbiological results are available ▪ Consider removal of the infected prosthesis. Patients with the following criteria have the option to retain the prosthesis: <ol style="list-style-type: none"> 1. Prosthesis is well-fixed 2. Absence of a sinus tract 3. Presentation within 30 days of prosthesis implantation or fewer than 3 weeks of onset of infectious symptoms <ul style="list-style-type: none"> ▪ ID consult is strongly recommended. 	
Osteomyelitis Community-associated	S. aureus	Cefazolin 2gm IV Q8H	Clindamycin 600mg IV Q 8H	Collect Tissue or deep culture before starting empiric treatment unless patient septic
	S. aureus, GNB	Vancomycin 15-20mg/kg IV Q8-12H Plus Ceftazidime 2gm IVQ12-8H	Vancomycin 15-20mg/kg IV Q8-12H Plus Pip/Tazo 4.5gmlV Q6H	
	Salmonella spp and other GNB	Ceftriaxone 2 gm IV once daily Plus Clindamycin 600mg IV Q6-8H	Ciprofloxacin 400mg IV Q12H	
Vertebral osteomyelitis, Discitis: Acute Pyogenic	S. aureus GNB	Vancomycin 15-20mg/kg IV Q8-12H Plus Ceftazidime 2gm IV Q 8-12H	Vancomycin 15-20mg/kg IV Q 8-12H Plus Meropenem 1 gm IV Q 8H	Patients with neurological deficit, or spinal instability should be considered for urgent surgical intervention
	GPC, GNB, Brucella, fungi, TB	Plan treatment based on known microbiology results, prior antibiotic therapy history and discussion with ID.		
Septic Arthritis (Native joint)	S. aureus, GPC	Cefazolin 2g IV Q 8H	Clindamycin 600mg IV Q 8H or Vancomycin if MRSA positive	Arthrocentesis before starting antibiotics Unless the patient septic

Septic Arthritis (Prosthetic joint)	MRSA, CoNS	Vancomycin 15-20mg/kg IV Q8-12H	Linezolid 600mg IV/PO Q12H	
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CNS Infections

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Brain Abscess	S. aureus, Streptococci, GNB, Anaerobes	Vancomycin load with 25–30 mg/kg, then 15–20 mg/kg IV Q8–12H Plus Ceftriaxone 2 g IV Q12H Plus Metronidazole 500 mg IV Q6–8H	Anaerobic coverage should ALWAYS continue even if none are grown.	6–8 weeks, 4–6 weeks if drained completely
Meningitis Immunocompetent, Age < 50	S. pneumoniae, N. meningitidis, H. influenzae	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Ceftriaxone IV 2g q12hr for 10- 14days		Dexamethasone w/ suspected pneumococcal meningitis at 0.15 mg/kg IV Q6H for 2–4 days 10–20 minutes before or concomitant with the first dose of antibiotics
	As above, plus Listeria	As above plus Ampicillin 2g IV Q4H	TMP/SXT 5mg/kg Q6-8H to replace Ampicillin in patients with penicillin allergy	
Immunocompromised patients	S. pneumoniae, N. meningitidis, H. influenza Listeria Gram-negatives	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg Q8-12H Plus Cefepime 2 g IV Q8H Plus Ampicillin 2g IV Q4hr	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Meropenem 2g IV Q8H	Duration is usually 10–14 days
Head trauma	S. pneumoniae, H. influenzae, Group A b- hemolytic streptococci	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Ceftriaxone IV 2g q12hr		
Basilar skull fracture				
Penetrating trauma and/Or postneurosurgery	S. aureus, CoNS, GNB (including Pseudomonas aeruginosa)	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Ceftazidime 2g IV Q8H	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Meropenem 2g IV Q8H	

CSF Shunt	<i>S. aureus, CoNS, GNB (including P.aeruginosa), Propionibacterium acnes</i>	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Ceftazidime 2g IV Q8H	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Meropenem 2g IV Q8H	Remove infected shunt
Meningo-encephalitis	Mostly Viral Other bacterial, fungal and protozoal causes are less common	Acyclovir 10mg/kg Q8H Plus Ceftriaxone 2g IV Q12H Plus Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H	Emphasis should be on identifying the causative pathogen, and then starting targeted therapy directed at the specific pathogen.	
Herpetic Encephalitis	Herpes viruses (HSV1, HSV2, VZV)	Acyclovir 10 mg/kg IV Q8H for 14-21d		Do CSF PCR for all suspected cases

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Dental Infections

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Periodontal disease Dental abscess	Aerobic & anaerobic Streptococci	Amoxi/clav 1g PO BID	Clindamycin 300 mg QID Metronidazole 250-500 mg TID	Treat for 7-10 days
Simple implant placement (flap or no flap), nongrafted extractions, and second-stage surgery in healthy individual	Anaerobic gram-positive cocci, streptococci, and anaerobic gram-negative rods. In particular, strains of Prevotella	Antibiotics Not needed		
Traumatic extractions, socket preservation procedures, and immediate implant placements		1-hour Preoperative loading dose of Amoxixillin 1 g PO followed by 500 mg one single dose 6 hour after 1 st dose .	Clindamycin PO 600 mg loading then 300 mg Q 8 hours. Azithromycin PO 500 mg loading then 250 mg daily.	
Multiple implants with extensive soft tissue reflection or immediate implant placements along with bone grafting and membrane		1-hour Preoperative loading dose of Amoxixillin 1 g PO followed by 500 mg Q 8 hours for 3 days		
Implant surgeries that manipulate or enter the maxillary sinus,		1-hour Preoperative loading dose of Amoxixillin 1 g PO followed by 500 mg Q 8 hours for 5 days		

<p>autogenous block bone grafts, and the same procedures as in categories 2 and 3 except for medically immune-compromised patients</p>			
<p>Dental Implant with all lateral wall sinus augmentation procedures.</p>	<p>1-day Preoperative loading dose of Amoxi/clav 2g PO followed by 1 g Q 12 hours for 5 days</p>		<p>A loading dose of antibiotics one day before the surgery (Ensuring adequate levels in sinus tissues before surgery) and a beta-lactamase antibiotic, penicillin (Amoxi/clav is the best choice), due to the high incidence of beta-lactamase pathogens in maxillary sinus infections</p>

Respiratory Infections

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Acute Otitis Media	S. pneumoniae, H. influenzae, Moraxella catarrhalis Clinical failure after 3days of therapy	Amoxicillin 500mg PO Q8H Cefdinir 300mg PO BID	Amoxi/clav 1gm PO BID Or Azithromycin 250-500mg PO Q24H Cefditoren 200 mg PO BID Or Ceftriaxone 2gm IM/IVQ24H x3days	Treat 5- 10 days
Acute Bacterial Rhinosinusitis (ABRS)	S. pneumoniae, H. influenza, M. catarrhalis	Amoxi/clav 1gm PO Q12H	Amoxi/clav 2gm PO Q12H Or Doxycycline 100mg PO Q12H Or Levofloxacin 500mg PO Q24H Parenteral regimens (for those requiring hospitalization) : Ceftriaxone 1-2g IV Q12-24H	Treat as ABRS if - Symptoms persist >10days - Severe for >3-4 days - Worsening or double sickening after 3-4 days
Chronic Rhinosinusitis (CRS)	Focus should be directed at establishing the cause of chronic rhinosinusitis by careful clinical, radiological and microbiological assessment to differentiate infectious from non-infectious etiologies (e.g. allergic sinusitis, other inflammatory conditions), get appropriate samples for culture, and to give targeted antibiotic therapy after the causative pathogen was identified.			
Acute Pharyngitis	Viral, Group A beta hemolytic Streptococcus	Amoxicillin 500mg Q8H for 10days	Cephalexin 500mg PO TID x 10 days Or Clindamycin 300mg PO TIDx10days Amoxi/clav 1gm PO Q12H for recurrent pharyngitis	Use Modified Centor Criteria below to differentiate viral from bacterial, indication for RADT and throat culture

The Modified Centor Criteria

Absence of a cough, rhinorrhea, hoarseness and oral ulcer	1
Tonsillar exudate or swelling	1
Swollen and tender cervical lymph nodes	1
Temperature >38.0 °C	1

Age		
3-14 years old		+1
15-44 years old		0
>44 years old		-1
0 or 1 point	No antibiotic or culture needed	
2-3 points	Perform RADT; no need to do culture if negative RADT	
>4 points	Empiric antibiotics	

Community – Acquired Pneumonia

Always check CURB-65 score (one point for each criterion) to assess the severity of infection and the need for hospitalization:

- a) Recent onset Confusion
- b) Urea >7
- c) Respiratory Rate > 30/minute
- d) BP: systolic < 90 or diastolic < 60
- e) Age > 65 years

CURB 65 ≤ 1: mild in severity – Consider outpatient therapy

CURB 65 = 2: moderate in severity – Consider hospital admission

CURB ≥ 3: severe infection – Consider ICU admission.

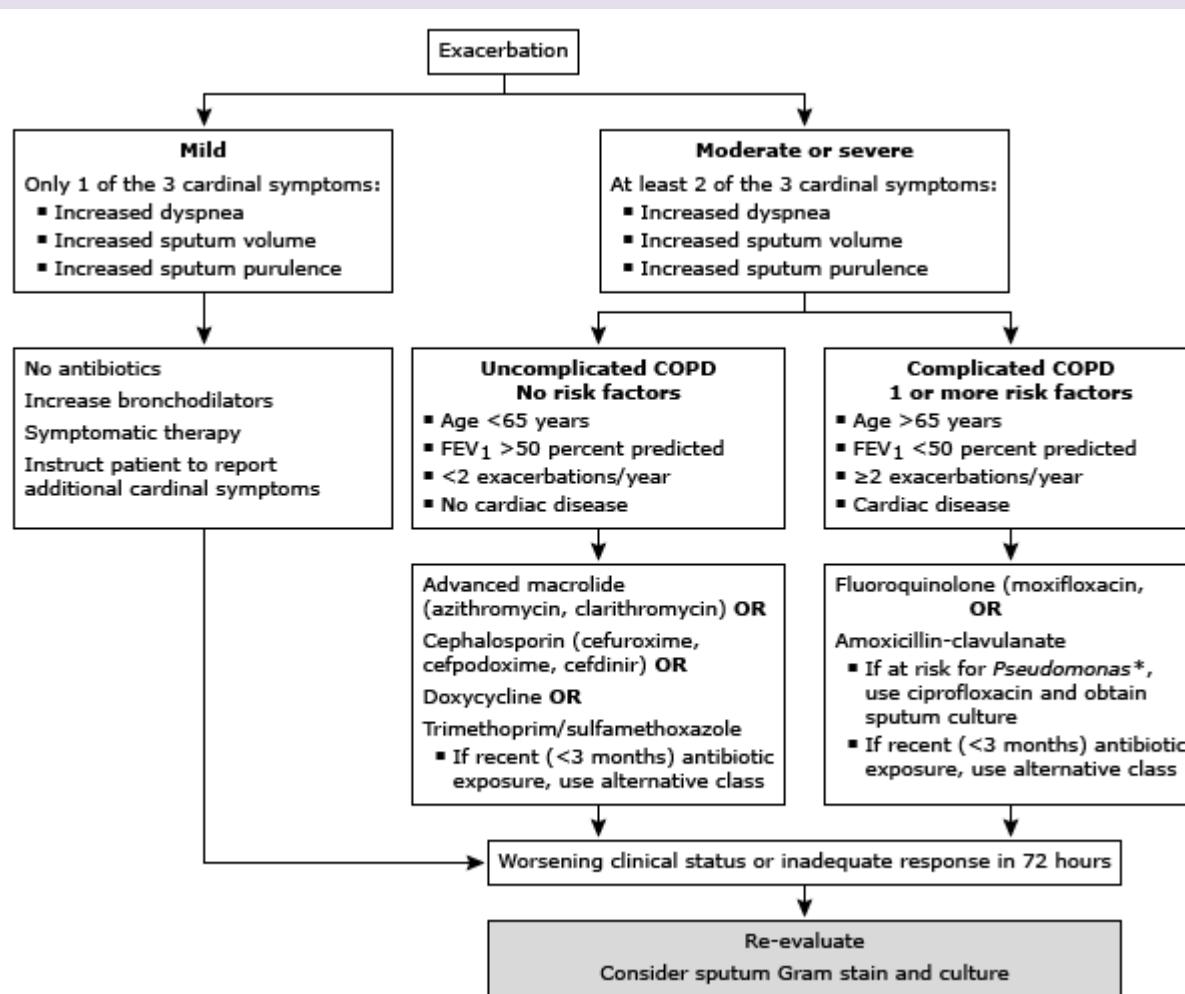
MRSA or P. aeruginosa risk factors:

- Prior respiratory isolation of MRSA or P. aeruginosa or recent hospitalization AND receipt of parenteral antibiotics

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Outpatient Previously healthy/no antibiotic use in past 3months	S. pneumonia, atypical pathogens (Mycoplasma, Legionella, Chlamydia) Haemophilus	Azithromycin 500 mg PO on day 1 followed by 250mg q24hr on days 2-5	Doxycycline 100 mg PO Q12H for 7 days	

Comorbidities or history of antibiotic use in the past three months	influenzae, Moraxella catarrhalis Viral	Amoxi/clav 2g PO Q12H Or Cefditoren 400 mg PO Q12H for 7d Plus Azithromycin 500 mg PO once daily for 5 days	Levofloxacin 750mg PO Q24H for 5 days Or Moxifloxacin 400 mg PO Q24H for 5 days	
Inpatient NON-ICU	As above + Legionella, GNB IVDU: S. aureus Post influenza: S. aureus, S. pneumonia	Ceftriaxone 2g IV Q24H Plus Azithromycin 500 mg IV/PO once daily-for 5 days	Levofloxacin 750mg IV/PO Q24H for 5-7 days Or Moxifloxacin 400 mg IV/PO Q24H	*If MRSA is a consideration **If Influenza suspected ***For patients with a high likelihood of infection with ESBL-producing gram-negative bacilli.
ICU (Not at risk for Pseudomonas)		Ceftriaxone 2g IV once daily Plus Azithromycin 500 mg IV/PO once daily	Ceftriaxone 2g IV once daily Plus Levofloxacin 750mg IV Q24H	
ICU (at risk for Pseudomonas)		Cefepime 2 g IV Q8H Plus Azithromycin 500 mg IV/PO Q24H or Levofloxacin 750mg IV Q24H * Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H **Oseltamivir (Tamiflu) 75mg PO Q12H for 5days	Pip/tazo 4.5 g IV Q6-8H Plus or Levofloxacin 750mg IV Q24H Or Amikacin 15mg/kg IV Q24H ***Imipenem 500mg IV Q6H Or ***Meropenem 1g IV Q8H Plus Levofloxacin 750 mg IV Q24H Or Amikacin 15mg/kg IV Q24H	

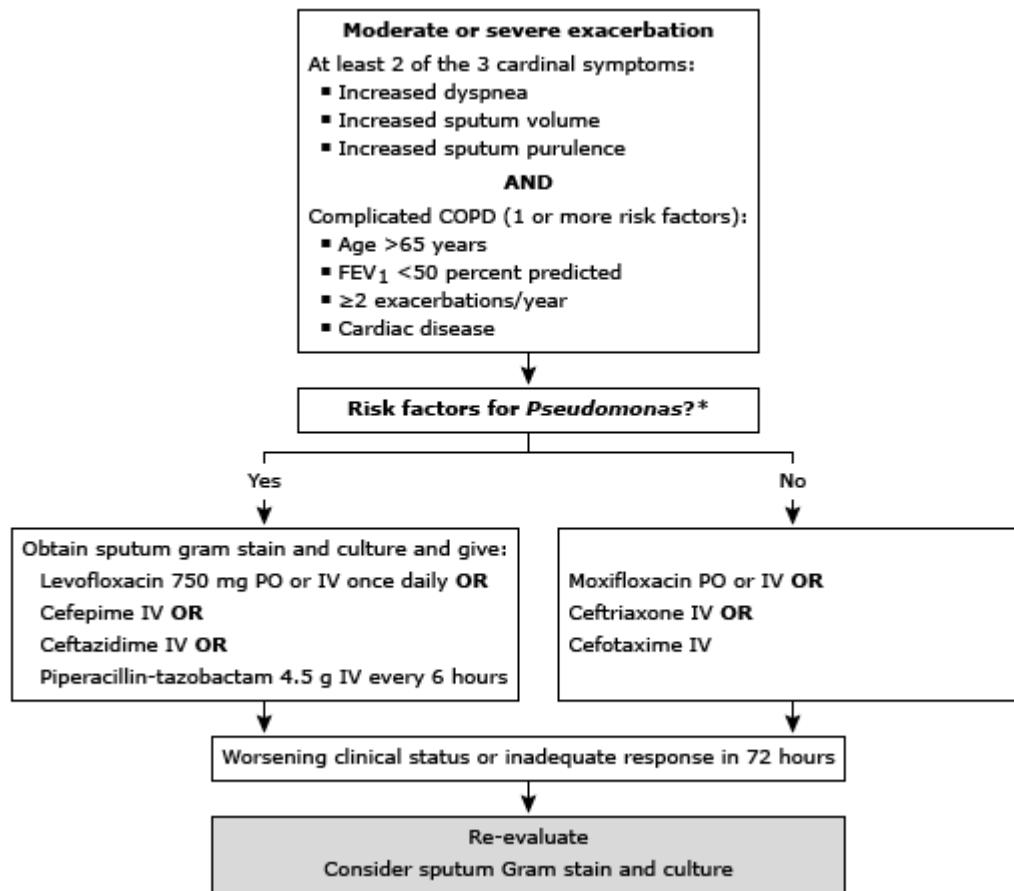
COPD Exacerbation – Outpatient *



*COPD: chronic obstructive pulmonary disease.
* *Pseudomonas* risk factors:*

*Advanced COPD
Previous isolation of *Pseudomonas* from sputum
Concomitant bronchiectasis
Frequent administration of antibiotics
Frequent hospital admissions
Systemic glucocorticoid use*

COPD Exacerbation – In Patient



COPD: chronic obstructive pulmonary disease.
** Pseudomonas risk factors:*

Advanced COPD
*Previous isolation of *Pseudomonas* from sputum*
Concomitant bronchiectasis
Frequent administration of antibiotics
Frequent hospital admissions
Systemic glucocorticoid use

Azithromycin 500 mg PO/IV Q24H for 3days /Clarithromycin 500 mg PO Q12H
 Doxycycline 100 mg PO BID for 5days
 Amoxi-Clav 1gm PO BID/Ampicillin-Sulbactam 1.5-3 g IV Q6H
 TMP-SMX 960mg PO BID
 Levofloxacin 750mg IV/PO once daily, Moxifloxacin 400 mg IV/PO Q24H
 Ceftriaxone 2g IV once daily
 Cefepime 1-2 g IV Q8H
 Pip/tazo 4.5 g IV Q6-8H

Duration is usually 7 days with moderate disease; but can be extended to 10-14 days for those with poor clinical response

Exacerbations of Bronchial Asthma

Antibiotics are only indicated when associated with **BACTERIAL SINUSITIS OR PNEUMONIA**.
Please refer to regimen for sinusitis /pneumonia.

Antibiotics in Acute Bronchitis

Routine treatment of uncomplicated acute bronchitis with antibiotics is NOT recommended, regardless of cough duration.

The presence or absence of a community epidemic, the time of year, the population affected, and influenza immunization status are important risk factors for specific pathogens.

Diagnostic testing is most useful for identifying treatable causes when an infectious agent is circulating in the community and for identifying a cause in an outbreak setting.

Viral etiology – Majority - No antimicrobial therapy	Rhinovirus, adenovirus, Parainfluenza virus, RSV, others.	Supportive therapy: Decongestants Cough suppressants Expectorants		
Recognized pathogens that warrant treatment - Antimicrobial therapy warranted	Influenza virus	Oseltamivir 75mg PO Q12H for 5 days		
	Mycoplasma, Chlamydia pneumonia, B. pertussis	Azithromycin 500mg PO on day 1, then 250mg PO daily on days 2-5	Doxycycline 100mg PO Q12H for 5days	

Infective Exacerbations of Bronchiectasis

- Criteria defining an exacerbation needing antibiotic therapy (positive in 3 arms):
 1. Increased cough Plus wheeze Plus breathlessness Plus systemic upset.
 2. Increased sputum volume, or change in viscosity.
 3. Increased sputum purulence.
- Sputum cultures should be obtained in all patients with bronchiectasis and before starting antibiotics.
- Previous sputum bacteriology results can be useful in deciding which antibiotic to use.
- Failure to respond to an antibiotic course should prompt a repeat sputum culture.

- Intravenous antibiotics should be considered when patients are particularly unwell, have resistant organisms or have failed to respond to oral therapy.

Bronchiectasis No previous bacteriology	S. pneumoniae, H. influenza, M. Catarrhalis, S. aureus	Amoxi/clav 1g PO BID	Azithromycin 500mg PO Q24H for 5 days	Treat for 10-14 days
Bronchiectasis with <i>Pseudomonas aeruginosa</i> in current or previous cultures	P. aeruginosa	Ciprofloxacin 500 -750mg PO BID or 400mg IV Q 8-12H Levofloxacin 750 mg IV/PO Q24H	Ceftazidime 2g IV Q8H or Cefepime 2g IV Q8H	

Hospital – Acquired Pneumonia (HAP)

Risk factors for MDR HAP/VAP:

1. Prior IV antibiotic use within 90 days
2. Septic shock at time of HAP/VAP
3. Acute-onset ARDS
4. Five or more days of hospitalization prior to the occurrence of VAP
5. Acute renal replacement therapy prior to VAP onset

Not at High Risk of Mortality	S. aureus (MSSA or MRSA), P. aeruginosa, Gram negative bacilli	Cefepime 2 g IV Q8 Or Levofloxacin 750mg IV Q24H +/- *Vancomycin 25-30mg/kg IV loading followed by 15-20 mg/kg IV Q8-12H	Pip/tazo 4.5 g IV Q6H Or **Imipenem 500mg IV Q6H Or **Meropenem 1g IV Q8H +/- Vancomycin 25-30 mg/kg IV loading followed by 15-20mg/kg IV Q8-12 H	*For patients with risk factors for MRSA infection.
High Risk of Mortality: - Need for ventilator support - Septic shock		Cefepime 2 g IV q8h Or Pip/tazo 4.5 g IV q6h Plus Amikacin 15mg/kg/day Or Ciprofloxacin 400 mg IV q8h Plus Vancomycin 25-30 mg/kg IV loading followed by 15-20 mg/kg Q8-12H -	**Imipenem 500mg IV q6h Or **Meropenem 1gm IV Q8H Plus Amikacin 15mg/kg/day Or Levofloxacin 750 mg IV Q24H Plus Vancomycin 25-30mg/kg IV loading followed by 15-20mg/kg IV Q8-12 H	**For patients with a high likelihood of infection with ESBL-producing GNB

			<p>Consider Colisitn for patients with prior infection or colonization with MDR Acinetobacter (see Colistin dosing guidelines below).</p> <p>PCN allergy: Ciprofloxacin 400 mg IV Q8H Plus Amikacin 15mg/kg/day Plus_Vancomycin 25-30mg/kg IV loading followed by 15-20mg/kg IV Q8-12 H</p>	
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VENTILATOR-ASSOCIATED PNEUMONIA (VAP)

VAP	P. aeruginosa, other Gram negative bacilli, MRSA	Cefepime 2 g IV q8h Or Pip/tazo 4.5 g IV q6h Plus Amikacin 15mg/kg/day Or Ciprofloxacin 400 mg IV q8h +/- * Vancomycin 25-30mg/kg IV loading followed by 15-20mg/kg IV q8-12h	<p>**Meropenem 1gmlV Q8H Or **Imipenem 500 mg IV q6h Plus Amikacin 15mg/kg/day Or Levofloxacin 750 mg IV q24h +/ *Vancomycin 25-30mg/kg IV loading followed by 15-20mg/kg IV q8-12h Or</p> <p>Consider Colisitn for patients with prior infection or colonization with MDR Acinetobacter (see Colistin dosing guidelines below).</p> <p>PCN allergy: Ciprofloxacin 400 mg IV Q8H Plus Amikacin 15mg/kg/day Plus_Vancomycin 25-30mg/kg IV loading followed by 15-20mg/kg IV Q8-12 H</p>	<p>*For patients with risk factors for MRSA infecction.</p> <p>** generally reserve for patients with a high likelihood of infection with ESBL-producing gram-negative bacilli</p>
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***Prolong Azithromycin course:**

1. In selected COPD patients (i.e, history of smoking, continuous supplemental oxygen, systemic glucocorticoids within the previous year, recent emergency room or hospitalization for acute exacerbation of COPD), Azithromycin 250 mg daily for 1 year decreased the frequency of exacerbations from 1.83 to 1.48 per year, and improved quality of life but was associated with a small decrement in hearing in approximately 5% of subjects.
2. For individuals with Cystic fibrosis ,6 years of age and older,with P.aeruginosa persistently present incultures of the airways, the Cystic fibrosis Foundation recommends the chronic use of azithromycin to improve lung function and reduce exacerbations.
3. Needed infectious diseases visit for evaluation, counseling, rule out other immunologic dysfunctions and to evaluate risk of decrease hearing, Qtc prolongation and resistance should be explained to each case.

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CARDIOVASCULAR INFECTIONS

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comment
Catheter-Related Bloodstream Infections (CR-BSI)	S. aureus, Gram negatives including P. aeruginosa	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H +/- Cefepime 2 g IV Q8H Or Pip/tazo 4.5 g IV q6h	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H +/- Meropenem 1g IV Q8H Or Imipenem 500mg IV Q 6H PCN allergy: Vancomycin ± Ciprofloxacin 400 mg IV Q8H ± Gentamicin 3mg/kg q8h	Consider adding Amikacin 15mg/kg IV once daily in patients with septic shock or severe sepsis
Infective Endocarditis Empirical Therapy				
Native valve	S. viridans, S. bovis, HACEK, S. aureus	Ampicillin 2g IV Q4-6H plus Gentamicin 1mg/kg IV Q8H	Vancomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H plus Gentamicin 1mg/kg IV Q8H	Consult ID for all cases of infective endocarditis
Prosthetic valve	S. aureus, Coagulase Negative staphylococcus	Vacomycin 25-30mg/kg IV loading dose then 15-20mg/kg IV Q8-12H Plus Gentamicin 1mg/kg IV Q8H Plus Rifampin 300mg PO Q8H		
Permanent Pacemaker (PPM) & Implantable Cardioverter-Defibrillator (ICD) Infections	Staphylococci GNR (less common)	Vancomycin 25-30mg/kg IV loading then 15-20mg/kg IV Q8-12H +/- Cefepime 2g IV Q8H		Removal of the infected device is essential. Consult ID for all patients
Prophylaxis of infective endocarditis				
<u>Predisposing Cardiac conditions:</u>				
<ol style="list-style-type: none"> 1. Prosthetic cardiac valve or prosthetic material used for cardiac valve repair. 2. Previous infective endocarditis (IE). 3. Congenital heart disease (CHD) (unrepaired cyanotic CHD, including palliative shunts and conduits; completely repaired congenital heart defect with prosthetic material or device within the first 6 months after the procedure; repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device). 				

Cardiac transplantation recipients who develop cardiac valvulopathy.

<p>Give prophylaxis in procedures that involve manipulation of gingival tissue, dental periapical regions, or perforating the oral mucosa in patients with <u>one of the above predisposing cardiac conditions only.</u></p>	<p>S. viridans, S. bovis, HACEK</p>	<p>Adult: <u>Amoxicillin</u> 2 gm po 1 hour before procedure Pediatric: Amoxicillin 50 mg/kg po 1 hour before procedure</p>	<p>If unable to take oral therapy:</p> <p>Adult: Ampicillin 2 gm IV/IM 30 minutes before procedure Pediatric: Ampicillin 50 mg/kg IV/IM 30 minutes before procedure</p> <p>Penicillin allergy Adult: (Cephalexin 2 gm po or Azithromycin or clarithromycin 500 mg po) 1 hour before procedure Pediatric: (Cephalexin 50 mg/kg po or Azithromycin or clarithromycin 500 mg po) 1 hour before procedure</p>	
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GASTROINTESTINAL INFECTIONS

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
H. pylori Failure of first line	H. pylori	Amoxicillin 1 g PO BID Plus Clarithromycin 500 mg PO BID Plus Double dose PPI Duration is 14 days for the three drugs	Sequential therapy: Amoxicillin 1 g PO BID for 7 days followed by Clarithromycin 500 mg PO BID and metronidazole 500 mg PO BID for 7 days Double dose PPI for 14 days	
		Levofloxacin 500 mg PO Q24H Plus Amoxicillin 1 g PO BID Plus Double dose PPI Duration is 14 days		

Cholecystitis & Cholangitis

Community-acquired, Mild-Moderate	Enterobacteriaceae, Enterococci, Bacteroides	*Ceftriaxone 2gm q 24hours +/- Metronidazole 500mg IV Q8H	*Ciprofloxacin 400 mg IV Q12H +/- Metronidazole 500 mg IV Q8H	*May be given alone if without prior biliary procedure/ patient not severely ill
Hospital acquired infections OR patients with multiple surgical, biliary manipulations or severely ill/ICU	As above, plus Pseudomonas	Pip/Tazo 4.5gm IV Q6-8H	Meropenem 1g IV Q8H Or Imipenem 500mg IV Q6	Duration is 7 days with source control
Diverticulitis Mild-moderate	Enterobacteriaceae, Anaerobes	Amoxi/clav 1g PO BID or Ceftriaxone 2g IV Q24H Plus Metronidazole 500mg IV/PO Q8H	Ciprofloxacin 400mg IV Q12H Plus Metronidazole 500mg IV/PO Q8H	Duration is 4-7 days
Severe	As above	Cefepime 1-2G IV Q8H Plus Metronidazole 500mg IV Q8H	Pip/Tazo 4.5G IV Q6-8H	
Primary Peritonitis	Enterobacteriaceae	Ceftriaxone 2gm IV Q24hours	Ciprofloxacin 400mg IV Q12H Pip/Tazo 4.5gm IV Q6-8H	Duration is 5-7 days.

Secondary peritonitis (bowel perforation, ruptured appendix, ruptured diverticula)

- Source control is essential

- Empirical anti-fungal therapy is only indicated in patients with esophageal perforation, immunosuppression, and persistent GI leak.
- For adults recovering from infection, switching to oral antibiotics is acceptable if the patient is able to tolerate an oral diet, and when susceptibility studies do not demonstrate resistance.

Mild-Moderate	Enterobacteriaceae, Anaerobes	Cefepime 2g IV Q8H Plus Metronidazole 500mg IV Q8H	Ciprofloxacin 400mg IV Q8-12H Plus Metronidazole 500mg IV Q8H	Duration is 7 days with good source control
Severe infection		Pip/Tazo 4.5gm IV Q6H Or Tigecycline 100 mg IV loading followed by 50mg IV Q12H	Meropenem 1g IV Q8H Or Imipenem 500mg IV Q6H	Duration is 10 days with good source control

Pancreatitis

Antibiotics are only indicated in infected pancreatic necrosis which is defined as CT scan with gas in the pancreas and/or percutaneous or surgical specimen with organisms evident on gram stain or culture

Infected Pancreatitis	Escherichia coli, Pseudomonas, Klebsiella, and Enterococcus	Cefepime 1-2g IV Q8H Plus Metronidazole 500mg IV Q8H Or Pip/Tazo 4.5g IV Q6H	Meropenem 1g IV Q8H Or Imipenem 500mg IV Q6H	
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Infectious Diarrhea

- Most infectious diarrhea is self-limited and only requires supportive care.
- Empirical antimicrobial therapy for bloody diarrhea, while waiting for results of investigations, is not recommended except in the following cases:
 - Immunocompromised patients with severe illness
 - Patients with recent international travel, fever ($\geq 38.5^{\circ}\text{C}$) and/or signs of sepsis.
- Ill patients with fever, abdominal pain, bloody diarrhea, and bacillary dysentery (frequent scant bloody stools, fever, abdominal cramps, tenesmus) presumptively due to Shigella.
- Patients with clinical features of sepsis who are suspected of having enteric fever should be treated empirically with broad-spectrum antimicrobial therapy after blood, stool, and urine culture collection.
 - Give a pathogen-specific therapy once the causative-agent has been identified.
- Antimicrobial therapy for people with infections attributed to E. coli (STEC O157) should be avoided.
 - Antimotility agents should not be used in patients with bloody diarrhea.
 - Clinical indications for requesting the gastro-enteritis multiplex PCR panel:
 1. Community-acquired diarrhea ≥ 7 days duration
 2. Travel-related diarrhea
 3. Diarrhea with warning signs/risk factors for severe disease (fever, bloody diarrhea, dysentery, severe abdominal pain, dehydration, hospitalization, immunocompromised state)
 4. Severe diarrhea requiring hospitalization.
 5. Suspected C. difficile infection

Diarrhea with indications for empirical therapy (see above)		Ciprofloxacin 500mg PO Q12H Or Azithromycin 500mg PO Q24H	Ceftriaxone 2g IV Q24H (when presenting with sepsis that is suspected to be due to enteric fever)	Adjust therapy once microbiology results are available
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C. difficile Infection

- Discontinue therapy with the inciting antibiotic agent(s) as soon as possible
- Antibiotic therapy for C. difficile infection should be started empirically for situations where a substantial delay in laboratory confirmation is expected, or for fulminant CDI

Asymptomatic carriage		Do NOT treat; treatment can promote relapsing disease		
None-severe		Vancomycin 125mg PO Q6H	Metronidazole 500mg PO Q8H	For 10 days
Severe – initial episode		Vancomycin 125mg PO Q6H		For 10-14 days
Severe – recurrent		Vancomycin 125 mg Q6H for 10-14 days, followed by 125mg Q12H for one week, then Vancomycin 125mg daily for one week, and finally vancomycin 125mg once every 2 or 3 days for 2–8 weeks		
Fulminant Characterized by hypotension or shock, ileus, or megacolon		Vancomycin 500 mg Q6H PO/NGT Plus Metronidazole 500mg IV Q8H If ileus is present, Vancomycin 500mg in 500 ml NS Q6H as retention enema via Foley's catheter in rectum Plus Metronidazole 500mg IV Q8H		For 14 days at least Surgical intervention (colectomy) is indicated in cases of toxic megacolon

Entamoeba histolytica

Asymptomatic cyst passer		Diloxanide furoate 500mg PO TID for 10 days		
Symptomatic patients with trophozoites only		Metronidazole 500mg PO TID for 7-10 days	Tinidazole 2g PO TID for 3 days	

Symptomatic patients with cysts and trophozoites		Furazol (Metronidazole/Diloxanide furoate [200mg/250mg]) 2 tablets PO TID for 7-10 days		
Giardia	Giardia lamblia (Giardia intestinalis)	Tinidazole 2g PO x one dose	Metronidazole 250mg POTID for 5-7 days	
Strongyloidiasis	Strongyloides stercoralis	Ivermectin 200mcg/kg per day PO for 2days	Albendazole 400mg PO BID for 3-5 days	

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PELVIC/GENITOURINARY INFECTIONS

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
PROM				
Term >37 weeks	PROM more than 18H GBS positive History of affected infant with GBS History of GBS bacteriuria in current pregnancy. Fever >38c	Ampicillin 2gm IV Q6H	Azithromycin 250mg BID	
Preterm 34 -36 weeks		Ampicillin 2gm IV Q6H	Azithromycin 250mg PO BID	
Preterm <34 weeks		Erythromycin 500 mg q6hrs for 10 days	Azithromycin 250mg PO BID	
PROM with Chorioamnionitis		Ampicillin 2gm IV Q6H Plus Gentamicin 80mg IV Q8H Plus Metronidazole 500mg IV Q8H		
Pelvic Inflammatory Disease	N. gonorrhoeae, C. trachomatis, Gardnerella spp, Ureaplasma urealyticum, Anaerobes (Prevotella spp., B. fragilis), Gram negative rods, Streptococci	Ceftriaxone 2 g IV Q24H Plus Doxycycline 100mg PO BID With or without Metronidazole 500mg PO Q12H	Ampicillin/Sulbactam 3gm IV Q6H Plus Doxycycline 100mg PO BID *Ertapenem 1g IV Q24H Plus Doxycycline 100mg PO BID PCN allergy: Clindamycin 600-900mg IV Q6H Plus Gentamicin 1.5mg/kg Q8H (Or Gentamicin 3-5mg/kg/day) Plus Doxycycline 100mg PO BID	*with prior history of Cephalosporin treatment and high risk for resistant infection
Endomyometritis	Bacteroides, Prevotella, Group B, A Streptococci: Enterobacteriaceae; C. trachomatis	Ampicillin/Sulbactam 3gm IV Q6H	Ertapenem 1g IV Q24H	Treat until patient afebrile for 24-48H

Bacterial vaginosis	Anaerobic bacteria (Prevotella spp, Mobiluncus spp.), G vaginalis, Ureaplasma, Mycoplasma	Metronidazole gel 0.75%, one full applicator (5gm) intravaginally, once daily for 5days	Metronidazole 500mg PO BID for 7days Or Clindamycin 300mg PO BID for 7days	Treatment is recommended in all symptomatic women and high risk asymptomatic pregnant women.
Trichomoniasis	T. vaginalis	Metronidazole 2gm PO one dose	Metronidazole 500mg PO BID for 7days	Screen and treat sexual partners.
Uncomplicated gonococcal urethritis, cervicitis, proctitis	N. gonorrhoeae (C. trachomatis commonly seen as a co-pathogen)	Ceftriaxone 250mg IM one dose Plus Azithromycin 1gm PO one dose	Ceftriaxone 250mg IM once Plus Doxycycline 100mg PO BID for 7days Or Cefixime 400mg PO x one dose Plus Azithromycin 1g PO x one dose	Screen and treat sexual partners.
Disseminated Gonococcal Infection	N. gonorrhoeae (C. trachomatis commonly seen as a co-pathogen)	Ceftriaxone 1g IV/IM Q24H Plus Azithromycin 1g PO one dose	In cases of Meningitis and Endocarditis: Ceftriaxone 1-2g IV Q12-24H Plus Azithromycin 1g PO one dose	
Chancroid	Haemophilus ducreyi	Azithromycin 1 g orally in a single dose	Ceftriaxone 250 mg IM in a single dose	
Granuloma Inguinale (Donovanosis)	Klebsiella granulomatis	Azithromycin 1g PO once per week or 500mg PO Q24H for at least 3 weeks and until all lesions have completely healed	Doxycycline 100 mg PO BID for at least 3 weeks and until all lesions have completely healed	
SYPHILIS				
Early syphilis (primary, secondary & early latent syphilis within 1year after infection)	T. pallidum	Penicillin G Benzathine 2.4million units IM one dose Syphilis in pregnancy: Penicillin G Benzathine 2.4million units IM weekly x 2 esp in 3 rd trimester and 2 syphilis	Severe PCN allergies: Doxycycline 100mg PO BID for 2weeks If the pregnant woman is allergic to Penicillin: Penicillin-desensitization is recommended	
Late latent syphilis (asymptomatic infection with positive serology >1 year infection or latent syphilis of unknown duration)		Penicillin G Benzathine 2.4million units IM weekly for 3weeks (total of 3doses)		

Neurosypilis		Penicillin G 3-4million units IV Q4H for 10-14days	Patients allergic to Penicillin: Penicillin-desensitization is recommended	
Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
INFECTIONS WITHOUT URINARY CATHETER				
Asymptomatic bacteriuria Positive urine culture $\geq 100,000$ CFU/mL with no signs or symptoms		Treatment is not indicated unless the patient is: <ul style="list-style-type: none">- Pregnant- About to undergo a urologic procedure- Within one month post renal transplant. If treatment is indicated, it should be guided by urine culture result, and should not exceed 3-7 days. Note: for patients more than one month post renal transplant, or post spinal cord injury, or patients with neutropenia, treatment is not generally indicated. Please consult the infectious diseases consultant for assistance.		
Acute Cystitis	E. coli (75-90%) P. mirabilis K. pneumonia S. saphrophyticus	*Nitrofurantoin 100 mg PO Q 12 hrs x 5 days (NOT in patients with CrCl < 50ml/min) Or Fosfomycin 3gm PO x 1 dose	**TMP-SMX 160/800 mg [DS] 1 tab Q12H x 3days (in confirmed G6PD-negative patients) Or Cefixime 400mg PO Q24H for 3days	*Do not give during 3 rd trimester of pregnancy **Do not give in 1 st trimester of pregnancy
Pyelonephritis	E. coli (75-90%) P. mirabilis K. pneumonia S. saphrophyticus	Outpatient therapy Ofloxacin 400mg PO Q12H for 7-14days Or Ciprofloxacin 500mg PO Q12H for 7-14 days	Cefixime 400mg PO Q24H for 7-14days Or Cepodoxime 200mg PO Q12 hr for 7-14days	an initial 1-time IV dose of 1 g ceftriaxone or a 3mg/kg IV Gentamicin dose, is recommended
		Inpatient therapy Ceftriaxone 2g IV q24H	Ciprofloxacin 400 IV Q12H	Duration is 7-14 days
		MDRO Risk factors*: Cefepime 1g IV Q8H	Pip/Tazo 4.5 gm IV Q6hr	Duration is 7-14 days
WITH URINARY CATHETER				
Asymptomatic Bacteriuria		Remove the catheter <u>No treatment</u> unless patient is 1. Pregnant 2. About to undergo a urologic procedure	Antibiotics do not decrease asymptomatic bacteriuria or prevent subsequent development of UTI.	Remove the catheter whenever possible

		3. Within one month post renal-transplant		Duration is 7 days in those with prompt resolution of symptoms
Catheter-Associated UTI (CA-UTI) Patient stable with <i>no</i> evidence of upper tract disease	E. coli or other Enterobacteriaceae P. aeruginosa, Enterococci, S. aureus, Candida spp.	Cefepime 1g IV Q8H Or *Ciprofloxacin 500mg PO BID or 400mg IV Q12H	Pip/Tazo 4.5 gm IV Q6hr	*Avoid in pregnancy and in patients with prior exposure to quinolones
Patient severely ill/ urosepsis, evidence of upper tract disease, or hospitalized >48H, with nephrostomy Tube		Pip/Tazo 4.5 gm IV Q6hr	Meropenem 1g IV Q8H Or Imipenem 500mg IV Q 6-8H	Oral step-down therapy is recommended if the pathogen is susceptible.

*MDROs risk factors:

1. Prior intravenous antibiotic use within 90 days
2. Previous colonization of MDRO last one year
3. Recent invasive procedure within the last 90 days.

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Hematological syndromes

Infection Type	Etiology	Primary Regimen	Alternative Regimen	Comments
Sickle Cell Disease (SCD)				
Sickle Cell disease with fever (>38C)	S. pneumonia, Gram negative enterics (Salmonella, E. coli)	Ceftriaxone 2 g IV daily	Cefixime 400mg PO daily	
Acute Chest Syndrome*	S. pneumonia, M. pneumoniae, M. hominis, C. pneumonia RSV	Ceftriaxone 2g IV daily Plus Azithromycin 500mg IV/PO daily x5 days	Moxifloxacin 400mg IV/PO x 7 days	*Follow recommendation for Hospital – associated pneumonia in patients with risk factors
Febrile Neutropenia				
Empiric Therapy	Gram negative aerobic bacteria: P. aeruginosa, E. coli, Klebsiella spp Gram positive cocci: Staphylococcus spp, Viridans Streptococci	Cefepime 2g IV every 8 hours *Add Amikacin 15mg/kg IV daily to above regimen **Add Vancomycin 15-20mg/kg IV Q8-12H Or Teicoplanin 400 mg Q 12hours for 3 doses then once daily	Pip/Tazo 4.5 g IV every 6H Or Imipenem/Cilastatin 500 mg IV Q 6 hours to 1g IV Q 8 hours Or Meropenem 2g IV Q8H	*sepsis or documented bacteremia with GNB while susceptibility results are pending **If fever persists for three days, or develops hemodynamic instability, or If there are signs of catheter infection or severe mucositis ID consultation should be considered in all patients with fever that persists beyond 3 days

Prophylactic treatment	DISEASE/THERAPY EXAMPLES	FEVER AND NEUTROPENIA RISK	ANTIMICROBIAL PROPHYLAXIS	COMMENTS
LOW RISK FOR INFECTION	Standard chemotherapy for most solid tumors, Anticipated neutropenia less than 7 days	Incidence low	Bacterial-none Fungal- none Viral –none unless prior HSV episode	
INTERMEDIATE RISK FOR INFECTION	Lymphoma, Multiple myeloma, CLL, Purine analog therapy, Anticipated neutropenia 7-10 days	Incidence usually high, significant variability may exist	Bacterial: Ciprofloxacin 500mg PO BID Fungal: Fluconazole 200mg Q24H during neutropenia and for anticipated mucositis	
HIGH	Acute leukemia (Induction, Consolidation), Anticipated neutropenia >10 days	Incidence usually high, significant variability may exist	Consider TMP-SMX 1 DS Q24H for PCP prophylaxis Viral: Aciclovir 400-800mg PO BID during neutropenia and longer depending on the risk	HSV prophylaxis during active therapy including periods of neutropenia

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Candidiasis and Other Fungal Infections				
Asymptomatic Candiduria		No treatment is usually indicated. Treatment is indicated if the patient has: -Urinary obstruction or abnormal GU tract -About to undergo a urologic procedure -Neutropenia Fluconazole 200-400 mg PO once daily for 7 days		Removal of indwelling bladder catheter is strongly recommended
Candida Cystitis		Fluconazole 200-400 mg PO once daily for 7 days	Amphotericin-B IV 0.5 mg/kg daily for 7 days	
Pyelonephritis		Fluconazole 400 mg PO once daily for 14 days	Amphotericin-B IV 0.5-0.7 mg/kg daily for 14 days	
Candidemia	Candida spp.	Anidulafungin 200mg IV loading followed by 100mg IV Q24H	Fluconazole 800mg IV loading dose then 400mg IV daily Can be used in patients who are not critically ill and who are considered unlikely to have a fluconazole-resistant Candida species	
Oropharyngeal Disease Or Thrush		Nystatin suspension 500,000 units/5mL Q6H for 5-10days	Fluconazole 100–200 mg daily for 5-10days	
Recurrent or Intractable Disease:		Fluconazole 100–200 mg PO once daily for 5-10days		If refractory to Fluconazole, consider fungal culture and Susceptibilities
Esophageal Candidiasis		Fluconazole 200–400 mg IV/PO once daily		Duration is 14–21 days
Relapse		Fluconazole 400–800 mg IV/PO once daily		
Refractory to Fluconazole		Anidulafungin 200mg IV Q24H loading followed by 100mg IV Q24H	Itraconazole 200 mg PO BID Or voriconazole, 200mg PO/IV Q12H	

Candida Vulvovaginitis		Miconazole 2% cream 5 g intravaginally once daily for 7days	Fluconazole 150 mg PO single dose Recurrent (> episodes/year of symptomatic infection): Fluconazole 150 mg PO Q72H then Fluconazole 150 mg once a week	
Aspergillosis				
Invasive pulmonary Aspergillosis	Aspergillus spp	Voriconazole 6 mg/kg IV Q12h x 1day then 4 mg/kg IV Q12h or 200-300 mg PO bid	Liposomal Amphi B 3-5 mg/kg per day Isavuconazole 200 mg IV every 8 h for 6 doses, then 200 mg daily Micafungin 150mg IV Q24H	Duration is 12 or more weeks
Other sites	Refer all patients with suspected or confirmed aspergillosis to the ID consultant.			
Cryptococcal meningo-encephalitis and disseminated disease				
HIV patients:	Cryptococcus neoformans Cryptococcus gattii	Induction/Consolidation: Amphotericin B deoxycholate 0.7 – 1.0 mg/kg IV Q24H Plus Flucytosine 25 mg/ kg Q6H for 2 weeks Followed by Fluconazole 400mg PO/IV Q24H for 8 or more weeks Suppressive treatment: Fluconazole 200mg PO Q24H for 12 months and until CD4 count \geq 100 cells/ μ l	Liposomal Amphotericin B 3-4mg/kg IV Q24H for 4-6 weeks	If the CSF pressure is \geq 25 cm of CSF and there are symptoms of increased intracranial pressure, relieve by CSF drainage (by lumbar puncture), which can be repeated if needed.
Solid organ transplant recipients:		Induction/consolidation: Liposomal AmB 3-4 mg/kg Q24H IV Plus Flucytosine 25 mg/kg Q6H for at least 2 weeks, followed by fluconazole 400-800 mg PO Q24H for 8 weeks		

		Suppressive therapy: Fluconazole 200-400 mg Q24H for 6-12 months		
Pneumocystis jirovecii				
Pneumocystis pneumonia (PCP)	Pneumocystis jirovecii	Treatment: TMP-SXT 15–20 mg/kg/day IV (based on TMP component) divided every 6-8 hours (may switch to oral therapy after clinical improvement) given for 21 days Prophylaxis: TMP-SMX 80/400mg PO once daily	Indications for Corticosteroids: 1. PaO ₂ <70 mmHg at room air 2. Alveolar-arterial oxygen gradient ≥35 mmHg Prednisone Dose: Days 1–5: 40 mg PO BID Days 6–10: 40 mg PO daily Days 11–21: 20 mg PO daily	For patients with G6PD and those who have allergy to TMP-SXT, consult ID to consider alternative therapy

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Brucellosis				
Non-localizing disease		Doxycycline 100 mg PO BID for 6 weeks PLUS Streptomycin 1g IM q24hr x 14-21 days Or Rifampicin 600mg PO q24H x 6weeks	Doxycycline 100 mg PO BID for 6 weeks PLUS *TMP-SMX 160/800mg PO BID for 6weeks	* Avoid using TMP-SXT in patients with G6PD deficiency

Spondylitis / Sacroilitis / Arthritis		Doxycycline 100 mg PO BID for 6-8 weeks Plus Gentamicin 3mg/kg Q24H for 1-2 weeks	Doxycycline 100 mg PO BID Plus TMP-SMX* 5 mg/kg of TMP component IV Q12hr For 6-8weeks	
Inpatient				
Outpatient		Doxycycline 100 mg PO BID Plus Streptomycin 1g IM q24hr x 14-21 days	Doxycycline 100mg PO BID Plus TMP-SMX* 160/800mg PO BID for 6-8weeks	
Brucella during Pregnancy		TMP-SMX* 960mg PO Q12H Plus Rifampicin 900mg POq24hr for 6 weeks	If \geq 38 weeks, use: Rifampicin 900mg q24hr for 12 weeks After delivery: Doxycycline 100mg PO BID for 6 weeks Plus Streptomycin 1g IM Q24H for 2 weeks	
Neurobrucellosis		Doxycycline 100 mg PO BID for 12-24 weeks Plus Rifampin 900mg IV/PO Q24H for 12-24weeks Plus TMP-SMX* 160/800 IV/PO Q12H for 12-24 weeks plus Ceftriaxone 2g IV q12h for 4 weeks		Continue until CSF is sterile. Infectious Diseases Consultation is imperative
Endocarditis		Doxycycline 100 mg PO BID for 12-24 months Plus Gentamicin 5mg/kg IV Q24H for 2-3weeks Plus TMP-SMX* 5mg/kg IV/PO q12h x 12-24 week Plus Rifampin 900mg IV/PO for 12-24 weeks		- Gentamicin trough level <1 μ g/mL. - Infectious Diseases Consultation is imperative. -Combined surgical and medical management is essential.

Tuberculosis

Pulmonary TB (Drug-susceptible TB)	<p>Intensive phase – 4 drugs - 8 weeks</p> <p>Isoniazid (INH) 5mg/kg (typically 300mg) PO daily Rifampin (RIF) 10mg/kg (typically 600mg) PO daily Ethambutol (EMB) given according to weight: - 40-55Kg: 800mg once daily - 56-75Kg: 1200mg once daily - 76-90Kg: 1600mg once daily Pyrazinamide (PZA) given according to weight: - 40-55Kg: 1000mg once daily - 56-75Kg: 1500mg once daily - 76-90Kg: 2000mg once daily</p>	Continuation phase – 2 drugs – 18 weeks	Fixed combinations of the anti-TB drugs are available and can be used instead of the individual drugs.
Extra-pulmonary TB	Refer all patients with suspected extra-pulmonary TB to the ID consultant.		

Varicella Zoster Virus

Chickenpox:

Antiviral medications are recommended for people with chickenpox who are more likely to develop serious disease including:

- Healthy people older than 12 years of age
- People with chronic skin or lung disease
 - People receiving steroid therapy
 - Pregnant women
- Immunocompromised patients.

Medication works best if it is given within the first 24 hours after the rash starts.

Chickenpox, no indication for anti-viral treatment		Supportive treatment		
Chickenpox with indication for anti-viral treatment		Acyclovir 800mg PO Q6H for 5 days Or Valacyclovir 1g PO Q8H for 5 days		

Varicella pneumonia or severe systemic infection		Acyclovir 10mg/kg IV Q8H Or Valacyclovir 1g PO Q8H for 7-10 days		
Herpes zoster		Acyclovir 800mg PO 5 times/day Or Valacyclovir 1g PO Q8H for 7-10 days		
Disseminated zoster/ Immunocompromise d patient		Acyclovir 10mg/kg IV Q8H Or Valacyclovir 1g PO Q8H for 7-10 days		

Malaria (Plasmodium spp)

Criteria of severe Malaria:

1. Cerebral malaria
2. Hyper parasitemia: *P. falciparum* parasitemia > 5% in non-immune patients or > 10% in immune patients
3. Hypoglycemia
4. Renal impairment
5. Severe anemia: HB less than 7g/100ml in adults (hematocrit < 15 % in children).
6. Coagulopathy (DIC).
7. Severe thrombocytopenia: Platelets less than 50,000/ μ l or evidence of bleeding.
8. Jaundice: serum bilirubin of >50 μ mol/L (3mg/dl) with parasite count of >100,000/ μ l
9. Pulmonary complication
10. Shock.
11. Acidosis
12. Prostration in children: inability to sit or feed.

Simple uncomplicated falciparum malaria		Pyrimethamine–Sulfadoxine (SP) Plus Artesunate (AS) See doing instructions below	Artemether + Lumefantrine See doing instructions below	A single dose of primaquine (0.25 mg/kg, maximum dose 15 mg) should be added on the first day of treatment
Malaria caused by <i>P. ovale</i> , <i>P. vivax</i> , and <i>P. malariae</i>		Chloroquine 25mg base/kg divided over three days Day 1: 4 tablets Day 2: 4 tablets Day 3: 2 tablets Plus Primaquine 0.25 mg/kg (maximum dose 15 mg) once daily for 14 days for vivax and ovale		

		Adult dose of Primaquine is 15 mg tabs once daily for 14days		
Severe Malaria		Artesunate IV	Artemether IV Quinine IV	See the table below. Consult ID

Artesunate (AS) Plus Pyrimethamine–Sulfadoxine (SP): dosing schedule

Age	Weight	Day 1		Day 2		Day 3	
		SP (500mg S + 25mg P tablet)	AS (50mg tablet)				
2-11 months	5-10 kg	1/2	1/2	1/2	1/2	1/2	1/2
1-6 years	11-24 kg	1	1	1	1	1	1
7-13 years	25-50 kg	2	2	2	2	2	2
>13 years	>50 kg	3	4	4	4	4	4

Artemether 20mg + Lumefantrine 120mg: dosing schedule

Age (Years)	Weight (Kg)	Day 1		Day 2		Day 3	
		Am	Pm	Am	Pm	Am	Pm
<3	<5	Not recommended					
<3	5-14	1	1	1	1	1	1
3-8	15-24	2	2	2	2	2	2
9-14	25-34	3	3	3	3	3	3
>14	>34	4	4	4	4	4	4

Treatment of severe Malaria

Treatment		Day 1		Day 2	Day3	Day 4	Day 5	Day6	Day7
		Time 0	12 hrs						
First option	Artesunate I.V / I.M	2.4mg/kg							
Second	Artemether	1.6mg/kg							

option	I.M								
Third option	Quinine I.V	20mg/kg in 5% Glucose (loading dose)	Eight hours after the loading dose, start the maintenance dose as at 10mg/kg /8h till the patient can take by mouth then switch to oral therapy						

Treatment of Malaria during pregnancy:

Pregnancy	Uncomplicated malaria	Severe malaria
0 - 12 weeks (1st trimester)	Quinine + Clindamycin	Quinine + Clindamycin
13 - 40 (2nd & 3rd trimester)	* First option: (AS + SP) * Second option: Quinine + Clindamycin	Artesunate Or Quinine + Clindamycin
Puerperium	AS + SP	Artesunate Or Quinine + Clindamycin

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Pediatric Guidelines for the Empiric Treatment of Various Infections

INDICATION		SUSPECTED PATHOGEN	FIRST LINE	ALTERNATIVE REGIMEN	COMMENTS
SEPSIS					
≤28 DAYS OLD	Early-onset	GBS, E.coli, Listeria	Preferred regimen: Ampicillin 100-200 mg/kg/day IV divided every 6-12 hrs + Gentamicin IV 4 mg/kg/dose every 24 hrs Or Ampicillin 100-200 mg/kg/day IV divided every 6-12 hrs + Cefotaxime 100 mg/kg/day IV divided every 12 hrs		Refer to Neofax for doses according to gestational age and weight.
	Late-onset		Preferred regimen: Ampicillin 150-300 mg/kg/day IV divided every 6-8 hrs + Gentamicin IV 5 mg/kg/dose IV every 24 hrs Or Ampicillin 150-300 mg/kg/day IV divided every 6-8 hrs + Cefotaxime 150-200 mg/kg/day IV divided every 6-8 hrs	Alternatives for Ampicillin: Ampicillin/sulbactam	For hospitalized neonates since birth; ampicillin should be substituted with vancomycin
29 TO 90 DAYS OLD		GBS, E.coli ,Streptococcus pneumoniae, Neisseria meningitidis, H.influenzae,	Cefotaxime 150-200 mg/kg/day IV divided every 6-8 hrs.	Add vancomycin, when: <ul style="list-style-type: none"> • MRSA prevalence >10% of isolates • severely ill appearing patient 	

> 90 DAYS OLD	Streptococcus pneumoniae, Neisseria meningitidis, H.influenzae, E.coli, Staph aureus	Ceftriaxone 50-75 mg/kg/dose every 24 hours	Add gentamicin, when: broader coverage for Gram negative pathogens is indicated Add acyclovir when: <ul style="list-style-type: none">• exposure (maternal active genital lesions);• patients with ill appearance, mucocutaneous vesicles, seizures;• clinical findings of HSV infection.	
HOSPITAL ACQUIRED (AFTER >48 HRS. OF HOSPITALIZATION)	P. aeruginosa, klebsiella pneumoniae , E. coli, staph aureus	Cloxacillin 200 mg/kg/day IV divided every 6 hrs. + Ceftazidime 150 mg/kg/day IV divided every 8 hrs.	Vancomycin 60 mg/kg/day IV divided every 6 hrs. + Piperacillin/tazobactam 400 mg/kg/day IV divided every 6-8 hrs	If unstable Vancomycin + meropenem + gentamicin
CENTRAL LINE RELATED	S. aureus, CONS, enteric Gram negative bacilli, P. Aeruginosa ,MDR in immunocompromised patients	Vancomycin 60 mg/kg/day IV divided every 6 hrs. + Ceftazidime 150 mg/kg/day IV divided every 8 hrs	Vancomycin 60 mg/kg/day IV divided every 6 hrs. + Cefepime 150 mg/kg/day IV divided every 8 hrs	
SICKLE CELL DISEASE WITH SEPSIS	S. pneumoniae, H. influenzae, Salmonella, and S. aureus	Ceftriaxone 50-100 mg/kg/day IV divided every 12 hrs.	Allergic to b-lactam: Levofloxacin 10 mg/kg/dose IV every 12-24 hours	Vancomycin may also be added to hemodynamically unstable patients
FEBRILE NEUTROPENIA (IMMUNOCOMPROMISED)	Gram negative bacilli including P. aeruginosa	Cefepime150 mg/kg/day IV divided every 8 hrs.	Piperacillin/tazobactam 400 mg/kg/day IV divided every 6-8 hrs Or Meropenem 120 mg/kg/day IV divided every 8 hrs.	Add vancomycin if: <ul style="list-style-type: none">• Persistent fever after 72 hrs. of therapy<ul style="list-style-type: none">• Mucositis• Hemodynamic instability<ul style="list-style-type: none">• Documented pneumonia• Skin and soft tissue infection

				<ul style="list-style-type: none"> • Suspicion of catheter related infection • Colonized with MRSA
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CNS INFECTIONS

MENINGITIS

NEONATE (UP TO 4 WEEKS)	GBS, E.coli, Listeria	Ampicillin 300 mg/kg/day IV divided every 6hrs. + Cefotaxime 100-200 mg/kg/day IV divided every 6-8 hrs.	
1 MONTH - 12 YEARS	GBS, E.coli Streptococcus pneumoniae, Neisseria meningitidis, H.influenzae,	Vancomycin 60 mg/kg/day IV divided every 6 hrs. +	Deescalate antibiotic according to CSF culture & sensitivity

		Ceftriaxone 100 mg/kg/day IV divided every 12 hrs.		
ENCEPHALITIS	Herpes simplex virus	Acyclovir <3 months: 20 mg/kg/dose IV every 8 hours ≥3 months: 10-15 mg/kg/dose IV every 8 hours for 21 days	Obtain CSF sample for HSV (and other viruses) PCR.	
BRAIN ABSCESS	S. aureus, Streptococci, Gram negatives, Anaerobes	Vancomycin 60 mg/kg/day IV q6 hrs. + Ceftriaxone 100 mg/kg/day IV in two divided doses + Metronidazole 30 mg/kg/day IV q8 hrs.	Unstable patient: Vancomycin 60 mg/kg/day IV q6 hrs. + Meropenem 120 mg/kg/day q8 hrs	<ul style="list-style-type: none"> • Consult neurosurgery for drainage • Obtain drainage culture • Duration :3- 6 weeks, may be longer
VP SHUNT RELATED INFECTIONS	S.epidermidis, S.Aureus, gram negative bacilli (including P. aeruginosa), Propionibacterium acnes	Vancomycin 60 mg/kg/day IV divided every 8 hrs + Ceftazidime 150-200 mg/kg/day IV divided every 8 hours	Unstable patient: Vancomycin + Meropenem 40 mg/kg/dose every 8 hours	<ul style="list-style-type: none"> • Consult neurosurgery • Remove the infected shunt • Rule out ventriculitis
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RESPIRATORY INFECTIONS			
ACUTE OTITIS MEDIA	Viruses: RSV, adenovirus, rhinovirus, or influenza Bacteria: S. pneumoniae, non typable H influenzae, Moraxella catarrhalis, Group A streptococcus	Amoxicillin 90 mg/kg/day orally divided every 12 hours for 10 days (5-7 days for children \geq 2 years with intact tympanic membrane and no history of recurrent AOM)	<p>Amoxicillin/clavulanate 90 mg amoxicillin/kg/day orally divided every 12 hours</p> <p>Mild non-IgE-mediated reactions to penicillins:</p> <ul style="list-style-type: none"> • Cefuroxime 30 mg/kg/day orally divided every 12 hours <ul style="list-style-type: none"> • Cefdinir 14 mg/kg/day PO QD or BID • Cefpodoxime 10 mg/kg/day orally divided every 12 hours • Ceftriaxone 50 mg/ kg OD IM or IV for 1- 3 days <p>Serious IgE-mediated reaction to beta-lactams including cephalosporins</p> <ul style="list-style-type: none"> • Azithromycin 10 mg/kg once on day 1, then 5 mg/kg once per day on days 2 - 5 orally • Clindamycin 20 to 30 mg/kg/ day in 3 doses orally
	Clinical Failure after 2-3 days of therapy	Amoxicillin clavulanate 90 mg/kg/day divided in two doses for 10 days OR Ceftriaxone 50 mg/kg OD IM or IV for 3 days	Clindamycin 30–40 mg/kg/day q 8 hrs. + third-generation cephalosporin <ul style="list-style-type: none"> • Consider ENT consultation for possible tympanosentesis or Tympanostomy
ACUTE PHARYNGITIS	Viral Group A streptococcus	Amoxicillin 50 mg/kg/day once daily orally for 10 days	<p>Alternative: Amoxicillin clavulanate 90 mg/kg/day divided in two doses for 10 days</p> <p>Penicillin allergy:</p> <ul style="list-style-type: none"> • Cephalexin 40 mg/kg/day po BID for 10 days <p>OR</p> <ul style="list-style-type: none"> • Azithromycin: 12mg/kg once (max 500 mg) then 6mg/kg QD (max 250 mg) for 4 days

			<p>OR</p> <ul style="list-style-type: none"> • Clindamycin: 7 mg/kg/dose q 8 hrs. for 10 days (max 300 mg/dose) • Perform RADT to differentiate between viral and bacterial. • See Centor criteria
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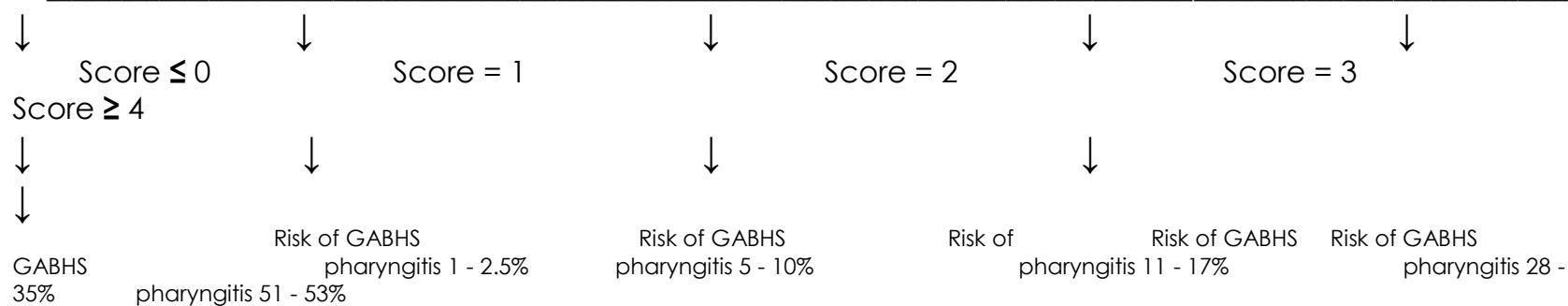
THE MODIFIED CENTOR CRITERIA

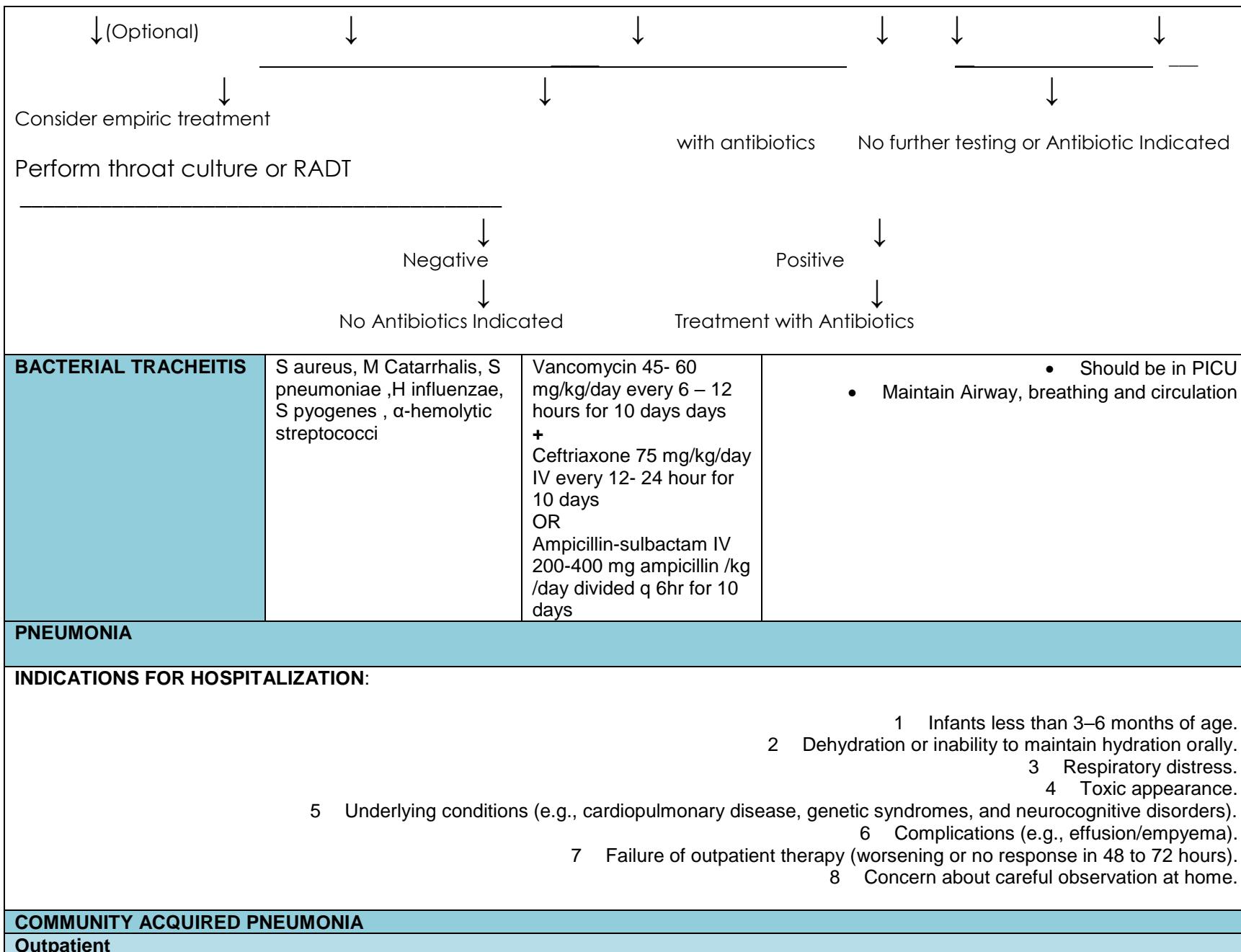
Patient with sore throat

Apply Streptococcal Score



Criteria	Points
Absence of Cough	1
Swollen and tender Anterior Cervical Nodes	1
Temperature > 100.4°F (38°C)	1
Tonsillar exudates or swelling	1
Age:	
3 to 14 years	1
15 to 44 years	1
45 years and older	-1
Cumulative Score	





>6 MONTHS	Strep.Pneumo,mycoplasma pneumonia in school age children	Amoxicillin 90 mg/kg/day PO divided every 8 hours for 10 days OR Amoxicillin clavulanate 90 mg/kg/day PO divided every 8 hours for 10 days	<ul style="list-style-type: none"> • Add azithromycin in suspected atypical pneumonia
Inpatient			
NEONATE (UP TO 4 WEEKS)	Group B Streptococcus, Gram negative Enteric Bacilli, Listeria Late onset: additional CoNS, S. aureus, Klebsiella, Citrobacter, Enterococcus, Pseudomonas, Serratia	Ampicillin 100-300 mg/kg/day IV divided every 6-12 hrs + Gentamicin IV 4 mg/kg/dose every 24 hrs Or Ampicillin 100-300 mg/kg/day IV divided every 6-12 hrs + Cefotaxime 100 -200 mg/kg/day IV divided every 8-12 hrs	If there is bacteremia, meningitis has to be ruled out For hospitalized neonates since birth; ampicillin should be substituted with vancomycin
1 -3 MONTHS	S. pneumoniae, Streptococcus pyogenes, C. trachomatis, B. pertussis, S. aureus, H. influenzae	Cefotaxime 50 mg/kg/dose IV every 8 hours. ± Macrolide	<ul style="list-style-type: none"> • Obtain a viral NPA • Young infants who are thought to have B. pertussis pneumonia should be admitted •
>3 MONTHS			
IMMUNIZED	Strept. Pneumonia, mycoplasma , staph aureus	Ampicillin 150-200 mg/kg/day IV q 6 hrs OR Ceftriaxone 50-100 mg/kg/day IV q 12 hrs.	<ul style="list-style-type: none"> • Add vancomycin or clindamycin in suspected CA-MRSA • Add azithromycin in suspected atypical pneumonia
NON-IMMUNIZED OR	Strept. Pneumonia, H.	Ceftriaxone 100 mg/kg/day IV q 12hrs.	

SICKLE CELL DISEASE PATIENTS	influenza, Mycoplasma.pneumonia. <i>S. aureus</i> ,		
ASPIRATION PNEUMONIA	Anaerobes, enteric gram negative	Amoxicillin-clavulonate 90 mg/kg/day IV q 12hrs.	Clindamycin 30-40 mg/kg/day IV every 6-8 hours.
COMPLICATED PNEUMONIA	<i>S. pneumoniae</i> , <i>S. aureus</i> , <i>H. influenzae</i> , <i>S. pyogenes</i> , <i>C. pneumoniae</i> , <i>M. pneumonia</i>	Ceftriaxone 100 mg/kg/day IV q 12 hrs. + Clindamycin 30-40 mg/kg/day IV every 6-8 hours. ± Azithromycin	<ul style="list-style-type: none"> • Consult pulmonology • Consider drainage Vancomycin + Piperacillin/tazobactam
HEALTH CARE ASSOCIATED PNEUMONIA			
VENTILATED	Gram negative including <i>Pseudomonas</i> , Anaerobes, <i>S. aureus</i>	Piperacillin-tazobactam 300-400 mg piperacillin /kg / day IV in 3-4 divided doses ± Vancomycin 60 mg/kg/day IV q 6 hrs	Other options: <ul style="list-style-type: none"> • Meropenem 60 mg/kg/day IV in three divided doses, • Cefepime 150 mg/kg per day in three divided doses
NON VENTILATED	Gram negative, <i>S.aureus</i>	Ceftazidime 125 - 150 mg/kg/day in three divided doses	Piperacillin-tazobactam 300-400 mg piperacillin /kg / day IV in 3-4 divided doses
VIRAL PNEUMONIA	Influenza A and B, H1N1	Oseltamivir Infants ≤8 months: Oral: 3 mg/kg/dose twice daily Infants ≥9 months: Oral: 3.5 mg/kg/dose twice daily ≤15 kg: Oral: 30 mg twice daily. >15 to 23 kg: Oral: 45 mg twice daily. >23 to 40 kg: Oral: 60 mg twice daily. >40 kg: Oral: 75 mg twice daily.	
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GI INFECTIONS

ACUTE GASTROENTERITIS	Viral	No antibiotics indicated, No antidiarrheal, Only supportive care	
SALMONELLA ENTERITIS		Supportive No antibiotics	<p>Antibiotics indicated only in:</p> <ul style="list-style-type: none"> • SCD/hemoglobinopathies <ul style="list-style-type: none"> • Immune deficient • Bacteremia • Below 3 months of age <p>Antibiotic recommended are: fluoroquinolone and third generation cephalosporin or azithromycin</p> <ul style="list-style-type: none"> - Ciprofloxacin for HIV infected patient and age ≥ 6 months: 15 mg/kg/dose orally BID for three days - Ceftriaxone for non-HIV infant and children: IM, IV 75 to 100 mg/kg/day divided every 12 or 24 hours for 5-14 days
PSEUDOMEMBRANOUS COLITIS	Clostridium difficile	Stop offending antibiotic	<ul style="list-style-type: none"> • Non-severe infection: Vancomycin 40 mg/kg/day PO q 6 hours for 10 days.

		<p>Metronidazole 30 mg/kg/day PO q 6 hrs. for 10 days</p> <ul style="list-style-type: none"> - Mild to moderate: Oral, IV metronidazole 7.5 mg/kg/dose every 6 hours for 10 days - Sever/fulminant: IV 10 mg/kg/dose every 8 hours for 10 days consider adding vancomycin 	<ul style="list-style-type: none"> • Sever/fulminant: Vancomycin 40 mg/kg/day PO q 6 hours for 10 days and consider adding IV metronidazole
NECROTIZING ENTEROCOLITIS (NEC)	Enteric gram negative bacilli, Enterococcus spp., anaerobes	<p>IV Ampicillin + IV Gentamycin ± IV Metronidazole 7.5mg/kg/dose every 6 hours</p>	<p>If MRSA or Pseudomonas suspected:</p> <p>Vancomycin 10 to 15 mg/kg/dose IV every 6-8 hours + piperacillin/tazobactam (60 to 75 mg piperacillin/kg/dose every 6 hours) or Meropenem 120 mg/kg/day IV q 8 hrs</p> <p>Consult Pediatric surgery</p>
PERITONITIS			
PRIMARY PERITONITIS	Strept.Pneumo, gram negative bacilli	Ceftriaxone 75-100 mg/kg/day IV q 12 hrs.	
SECONDARY (POST PERFORATION)	Gram negative bacilli, Anaerobes	piperacillin/tazobactam 300- 400 mg piperacillin/kg/day IV q 6-8 hrs. For 7 to 10 days	
CATHETER RELATED (PERITONEAL DIALYSIS)	Gram negative including Pseudomonas, Strep.pneumo, staph aureus and MRSA.	<p>Cefepime IP *Add Vancomycin Intraperitoneal if MRSA is suspected OR Cefazolin IP + Ceftazidime IP</p>	<ul style="list-style-type: none"> • Obtain peritoneal fluid sample • if the effluent peritoneal fluid WBC is > 100/mm3,> 50% of the WBCs are PMNs (peritonitis) <ul style="list-style-type: none"> • Consult Id and Nephrology • Consider removing peritoneal catheter • Antibiotics instilled intraperitoneally
<p>References:</p> <ol style="list-style-type: none"> 1.AAP.Salmonella infections. In Redbook:2015 Report of the committee on Infectious diseases,30th Kimberlin DW et al,AAP. 2.AAP.Clostridium Difficle. In Red Book:2018 Report of the committee on Infectious Diseases,31st Ed,Kimberlin DW et al.AAP. 3.Solomkin JS , et al. Diagnosis and management of complicated intraabdominal infection in adults and children .Guidelines by the surgical infection society and the IDSA.CID.2010;50:133. 4. CONSENSUS GUIDELINES FOR THE PREVENTION AND TREATMENT OF CATHETER-RELATED INFECTIONS AND PERITONITIS IN PEDIATRICPATIENTS RECEIVING PERITONEAL DIALYSIS: 2012 UPDATE Peritoneal Dialysis International.2012;32:86. 			

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URINARY TRACT INFECTIONS

ACUTE CYSTITIS	E. Coli , Klebsiella, Proteus	Amoxicillin-clavulanic acid 40 mg/kg/day PO q 8 hrs. OR Cefuroxime 20 to 30 mg/kg/day PO BID OR Cefixime 8 mg/kg/day PO Q24HOURS OR Ceftriaxone 75mg/kg/dose (Q 24hours) OR Cefdinir 14 mg/kg PO once daily	Nitrofurantoin 5 to 7mg/kg/day PO q 6hr for 3-7 days OR Trimethoprime/Sulfamethoxazole PO 6 to 12 mg TMP/kg/day in divided doses every 12 hours IV Trimethoprime/Sulfamethoxazole 8 to 10 mg TMP/kg/day in divided doses every 6 to 12 hours	<ul style="list-style-type: none"> Duration of simple uncomplicated cystitis is 7 to 10 days. Rule out g6PD deficiency before starting Bactrim or Nitrofurantoin. Never take urine sample by bag; clean catch for toilet trained children and in and out catheter for non-toilet trained.
PYELONEPHRITIS	less than 3 months	Ampicillin 100-200mg/kg/day q 6hr IV	<ul style="list-style-type: none"> If bacteremia is documented rule out meningitis 	

		<p style="text-align: center;">+</p> <p>Gentamicin 7.5mg/kg/day IV QD</p>	
	>3 months	<p>Ceftriaxone 50mg/kg/day IV q 24hr OR Cefotaxime 150 mg/kg /day q 6–8 h</p>	<ul style="list-style-type: none"> • if ESBL is suspected :Amikacin 15 mg/kg/day IV QD • Initially for 2-4 days then complete 10-14 days PO according to the sensitivity of the organism.

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Skin & Soft Tissues Infection/Bone Infection

CELLULITIS	<p><i>S. aureus</i>, Group A Streptococcus</p> <p>If mild penicillin, cephalosporins or clindamycin</p> <p>Moderate penicillin, cefazolin, ceftriaxone or clindamycin</p>	<p>Penicillin VK Oral: 25 to 50 mg/kg/day in divided doses every 6 hours; maximum daily dose: 2,000 mg/day</p> <p>OR</p> <p>Cefazolin 400- if skin and soft tissue including pyomyositis 50 mg/kg/day IV q 8 hrs.</p> <p>if necrotizing skin or fascia or muscles</p> <p>10mg/kg/dose q 8 hrs</p> <p>Clindamycin IV 25-40 mg/kg/day Q 8hrs</p>	<p>if MRSA is suspected:</p> <p>Clindamycin 40 mg/kg/day IV q 8 hrs.</p>
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PERIORBITAL CELLULITIS	Strept. Pneumo, staph aurues, GAS, H. Influenza	Amoxicillin/clavulonate 80 to 90 mg/kg/day Q 8 or 12 hrs	if MRSA is suspected: Clindamycin 40 mg/kg/day IV q 8 hrs. OR 10 to 30 mg/kg/day PO divided every 6 to 8 hours OR Trimethoprime/sulfamethoxazole Mild/moderate infection, 8 to 12 mg/kg per day divided every 12 hours; severe infection, 20 mg/kg per day divided every 6 to 8 hours
ORBITAL CELLULITIS	Strept. Pneumo, moraxella, GAS, anaerobes	Clindamycin 40 mg/kg/day IV q 8 hrs. + Ceftriaxone 75-100 mg/kg/day IV q 12 hrs.	If Severe with intracranial extension Vancomycin 60 mg/kg/day IV q 6 hrs. + Ceftriaxone 100 mg/kg/day IV q 12 hrs. + Metronidazole 30 mg/kg/day IV q8 hrs. • Consult Ophthalmology
NECROTIZING FASCIITIS	Gr A streptococcus, S. aureus, Polymicrobial, Clostridium spp.	Piperacillin/tazobactam 60 to 75 mg piperacillin/kg/dose Q 6hrs plus vancomycin 60 mg/kg/day divided Q 6 hrs for methicillin-resistant <i>Staphylococcus aureus</i> plus clindamycin for antitoxin effect	• PICU admission • Consult Pediatric Surgery
OSTEOMYELITIS	Immunocompetent (Staph aureus,Group A strep,K.Kingae ,Strep.pneumonia)	Cefazolin 100 to150 mg/kg/day q 6 to 8 hours OR Clindamycin 30 to 40 mg/kg/day IV or oral q 8 hrs.	if severe: Vancomycin 60 mg/kg/day IV q 6 hrs OR Linezolid 10mg/kg/dose PO or IV Q8hrs <ul style="list-style-type: none"> • Duration of therapy: ✓ Acute:4-6 weeks ✓ Subacute:3 months

		<ul style="list-style-type: none"> • If low MRSA rate less than 10-20% Cefazolin • If MRSA rate more than 20% <ul style="list-style-type: none"> - Options for clinically stable, nontoxic patient: vancomycin, cefazolin - Options for clinically moderate to severely ill patient: vancomycin, daptomycin, ceftaroline, or linezolid 		<p>✓ Chronic: more than 6 months</p> <ul style="list-style-type: none"> • Shift antibiotics from IV to PO once the patient is stable, tolerating orally, afebrile and with improvement in inflammatory markers.
	<u>Immunocompromised, Sickle cell disease, not immunized</u> (Salmonella, Staph aureus, Group A strept, Strep.pneumonia ,H.Influenzae)	Clindamycin 40 mg/kg/day IV q 8 hrs. + Ceftriaxone 100 mg/kg/day IV q 12 hrs.	if severe: Vancomycin 60 mg/kg/day IV q 6 hrs. + Ceftriaxone 100 mg/kg/day IV q 12 hrs.	
SEPTIC ARTHRITIS	Staph aureus,Group A strept,K.Kingae ,Strep.pneumonia	Cefazolin 150 mg/kg/day q 6 to 8 hours OR Clindamycin 40 mg/kg/day IV q 8 hrs.	if severe: Vancomycin 60 mg/kg/day IV q 6 hrs.	<ul style="list-style-type: none"> • Considered an emergency <ul style="list-style-type: none"> • Consult orthopedic immediately for drainage • Duration of therapy 2-3 weeks
<p>References:</p> <ol style="list-style-type: none"> 1.Seltz LB, et al.Microbiology and antibiotic management of orbital cellulitis.Pediatrics.2011;127:e566. 2.Stevens DL et al.Practice guidelines for the diagnosis and management of skin and soft tissue infections:2014 update by the IDSA.CID.2014;59:147. 3.Kaplan SL.Osteomyelitis in children.Infect Dis Clin North Am 2005;19:787. 4. Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America, Dennis L. Stevens, Alan L. Bisno, Henry F. Chambers, E. Patchen Dellinger, Ellie J. C. Goldstein, Sherwood L. Gorbach, Jan V. Hirschmann, Sheldon L. Kaplan, Jose G. Montoya, James C. Wade, 15 July 2014. 				

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OTHER

BRUCELLOSIS	<8 year	Bactrim 10 mg TMP /kg/day PO q 12 hrs. For 6 wks. + Rifampin 15 to 20 mg/kg/day PO q 12 hrs. For 6 wks.	<ul style="list-style-type: none"> • Consult ID
	>8 years	Doxycycline 4.4 mg/kg per day (maximum 200 mg/day) orally in 2 divided doses for 6 weeks + Rifampin 15 to 20 mg/kg per day (maximum 900 mg/day) orally once daily for 6 weeks OR Doxycycline 4.4 mg/kg per day (maximum 200 mg/day) orally in 2 divided doses for 6 weeks Consider adding Gentamicin 5 mg/kg/day IM or IV in 1 dose; for 7 to 10 days	
TB	Latent	Isoniazid 15 mg/kg/day PO QD for 6-9 months	<ul style="list-style-type: none"> • Rifampin 20 mg/kg/day PO q 12 hrs. for 4 months

	(+PPD, normal CXR, asymptomatic)		
	Active	Isoniazid 15 mg/kg/dose PO QD or 5 days / week (DOT) + Rifampin 20 mg/kg/dose PO q 12 hrs -QD or 5 days / week (DOT) + Pyrazinamide 30–40 mg/kg/dose PO QD -BID or 5 days / week (DOT) + Ethambutol 25 mg/kg/dose PO QD or 5 days / week (DOT)	<ul style="list-style-type: none"> • Consult ID
BCG ADENITIS	Mycobacterium Bovis	No anti TB indicated <u>Suppurative:</u> Large needle aspiration <u>Non suppurative :</u> observation	<ul style="list-style-type: none"> • If persistent more than 12 months of age with size >3 cm :consider surgical excision

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Treatment of Superficial Fungal Infections – DERMATOPHYTES

TYPE OF INFECTION/ORGANISM / SITE OF INFECTION	ANTIMICROBIAL AGENTS OF CHOICE	
	PRIMARY	ALTERNATIVE
Dermatophytosis Omychomycosis (Tinea unguium) (primary cosmetic)	Fingernail Rx Options: Terbinafine 250 mg po q24h [children < 20 kg: 67.5 mg/day 20-40 kg: 125 mg/day, > 40 kg/day] x 6 wks (79% effective) OR Itraconazole 200 mg po q24h x 3 mos OR Itraconazole 200 mg po bid x 1 wk/mo x 2 mos OR Fluconazole 150-300 mg po q wk x 3-6 mos	
Tinea capitis (ringworm) (Trichophyton tonsurans, Microsporum canis, N. America: other sp. Elsewhere)	Terbinafine 250mg po q24h 2-4 wks (adults); 5 mg/kg/day x 4 wks (children)	Itraconazole 5 mg/kg per day x 4 wks. Fluconazole 6 mg/kg q wk x 8-12 wks. Cap at 150 mg po q wk for adults Griseofulvin: adults 500mg po q24h x 6-8wks, children 10-20 mg/kg/day until hair regrows
Tinea corporis, curis, or pedis (trichophyton rubrum, T. mentagrophytes, Epidermophyton floccosum) “Athlete’s foot, jock itch, and ringworm”	Tropical rx: Generally applied 2x/day. Available as creams, ointments, sprays, by prescription & “over the counter”. Apply 2x/day for 2-3wks. Recommendation: Lotrimin Ultra or Lamisil AT; contain butenafine & terbinafine – both are fungicidal	Terbinafine 250 mg po q24h x 2 wks. OR ketoconazole 200mg po q24h x 4wks OR fluconazole 150mg po 1x/wk for 2-4 wks Griseofulvin: adults 500mg po q24h times 4-6 wks, children 10-20mg/kg per day. Duration: 2-4 wks for corporis, 4-8 wks for pedis.
Tinea vesicolor (Malassezia furfur or Pityrosporum orbiculare) Rule out erythrasma	Ketoconazole (400 mg po single dose) or (200 mg q24h x 7 days) or (2% cream 1x q24h x 2 wks)	Fluconazole 400 mg po single dose or Itraconazole 400 mg po q24h x 3-7 days

Recommendations for Surgical Antimicrobial Prophylaxis

General instructions:

- Patients planned for elective cardiothoracic and orthopedic surgeries: screen patients for MRSA nasal carriage before surgery, if screening is positive for MRSA colonization, eradicate with nasal mupirocin and chlorhexidine body wash for 5 days.
 - For procedures lasting greater than 4 hours, or greater than 1500mL blood loss, repeat Cefazolin prophylactic dose every 4 hours OR Clindamycin every 6 hours.
- Duration of antimicrobial prophylaxis should be limited to less than 24 hours from surgery end time, regardless of the presence of indwelling catheters, drains or prostheses.
- The use of antimicrobial agents for dirty procedures or established infection is classified as treatment of presumed infection, not prophylaxis. It is excluded from this guideline.
 - Consider adding a single dose of Gentamicin 5 mg/kg IV if your hospital is facing gram negative bacterial surgical site infection.
 - Laparoscopic elective but: High-risk: age >70 years, acute cholecystitis, non-functioning gallbladder, obstructive jaundice, common duct stones, diabetes, pregnancy, immunosuppression.

	Preferred regimen	Alternative (in case of allergy or the drug of choice not available)
Surgical prophylaxis for General / Intra-abdominal surgeries		
Hernia repair Gastroduodenal Small intestine (non obstructive)	Cefazolin 2 g (weight \geq 120 kg: 3g) (children dose: 30mg/kg) IV single 30 - 60 minutes prior to incision	<input type="checkbox"/> Clindamycin 900mg (children dose: 10mg/kg) IV + gentamicin 4.5 mg/kg IV(children dose 2.5mg/kg)single dose 30 - 60 minutes prior to incision
Bariatric surgery	Cefazolin 2 g (weight \geq 120 kg: 3g) (children dose: 30mg/kg) IV single 30 - 60 minutes prior to incision	<input type="checkbox"/> Clindamycin 900mg (children dose: 10mg/kg) IV + gentamicin 4.5 mg/kg IV(children dose 2.5mg/kg)single dose 30 - 60 minutes prior to incision
Colorectal Appendectomy Biliary (Laparoscopic elective but high risk	<input type="checkbox"/> Cefazolin 2 g (weight \geq 120 kg: 3g) (children dose: 30mg/kg) IV single dose + Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg)IV single dose +	<input type="checkbox"/> Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg)IV single dose + Ciprofloxacin 400mg

or open cholecystectomy) Whipple procedure	1.2kg) IV single dose 30 - 60 minutes prior to incision	IV(children dose: 10mg/kg) single dose 120 minutes prior to incision <input type="checkbox"/> Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg)IV single dose + Ceftriaxone 2 g IV(children dose: 100 mg/kg) single dose 120 minutes prior to incision
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Surgical prophylaxis for Cardiothoracic Surgeries

Cardiothoracic including cardiac device insertion (e.g. permanent pacemaker, implantable defibrillator)	<input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision <input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose 30 - 60 minutes prior to incision Re-dose Cefazolin after 4Hours if surgery is prolonged	<input type="checkbox"/> Cefuroxime 1.5gm IV as single dose Re-dose Cefazolin after 4Hours if surgery is prolonged <input type="checkbox"/> Vancomycin 1 g (children dose: 15 mg/kg) IV single dose 120 minutes prior to incision. For patients weighing >90kg use 1.5gm IV as a single dose or q12H for 1-2 days Re-dose Cefazolin q4H if CrCl 30ml/min or q8H if CrCl<30ml/min
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Surgical prophylaxis for gynecological procedure

Cesarean delivery	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min + (Azithromycin 500 mg IV Single dose for non-elective cesarean deleivery)	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Hysterectomy (vaginal or abdominal)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min Or <input type="checkbox"/> Ampicillin-sulbactam 3 gram IV Single dose IV Push over 3-5 minutes	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Repair of cystocele or rectocele	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion

Dilation and curettage (uncomplicated)	<input type="checkbox"/> No prophylaxis needed	<input type="checkbox"/> No prophylaxis needed
Dilation and curettage (complicated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion
Oncology procedures without intestinal invasion	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Oncology procedure with anticipated bowel or colon resection	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min + metronidazole 500 mg IV – 10 Minute infusion	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Urogynecology procedures , including those involving mesh implants	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Brachytherapy	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Moxifloxacin 400 mg IV
Surgical prophylaxis for Head / Neck / Neurosurgery		
Head / Neck	<input type="checkbox"/> Clean cut procedures: none incision through oral or pharyngeal mucosa:	
	<u>Clean with prosthesis:</u> <input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision <input type="checkbox"/> Cefazolin (wight≥120 kg: 3g)) IV single dose 30 - 60 minutes prior to incision	<u>Clean with prosthesis:</u> <input type="checkbox"/> Clindamycin 900mg (children dose:10mg/kg) IV single dose 30 - 60 minutes prior to incision <input type="checkbox"/> Cefuroxime 1.5gm IV as single dose 30 - 60 minutes prior to incision

	<p><u>Clean – contaminated:</u></p> <p><input type="checkbox"/> Cefazolin 2 g (wight≥120 kg: 3g) (children dose: 30mg/kg) IV single dose + Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg) IV single dose 30 - 60 minutes prior to incision.</p> <p><input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose+ Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg) IV single dose 30 - 60 minutes prior to incision</p>	<p><u>Clean – contaminated:</u></p> <p><input type="checkbox"/> Clindamycin 900mg (children dose:10mg/kg) IV single dose 30 - 60 minutes prior to incision Clindamycin 900mg (children dose:10mg/kg) IV single dose 30 - 60 minutes prior to incision</p> <p><input type="checkbox"/> Cefuroxime 1.5gm IV as single dose 30 - 60 minutes prior to incision + Metronidazole 500mg (children dose:15mg/kg, 7.5mg/kg if < 1.2kg) IV single dose 30 - 60 minutes prior to incision.</p>	
<p>-Neurosurgery: Elective craniotomy and cerebrospinal fluid-shunting Procedures, Implantation of intrathecal pumps</p>	<p><input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision</p> <p><input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose 30 - 60 minutes prior to incision</p>	<p><input type="checkbox"/> Clindamycin 900mg (children dose:10mg/kg) IV single dose 30 - 60 minutes prior to incision</p> <p>If MRSA colonization is present:</p> <p><input type="checkbox"/> Vancomycin 1 g (children dose:15mg/kg) IVsingle dose within 120 minutes prior to incision</p>	
<p>-Orthopedic(spinal procedure with or without instrumentation) -replacement limb amputation</p>	<p>*Clean operations: hand, knee or foot not involoving implantataion of foreign mateials: none</p>	<p><input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision</p> <p><input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose 30 - 60 minutes prior to incision</p>	<p><input type="checkbox"/> Vancomycin 1 g (children dose:15 mg/kg) IV single dose 120 minutes prior to incision</p>
<p>-Vascular -Hernioplasty or herniorrhaphy</p>	<p><input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision</p> <p><input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose 30 - 60 minutes prior to incision</p>	<p><input type="checkbox"/> Vancomycin 1 g (children dose: 15 mg/kg) IV single dose within 120 minutes prior to incision.</p>	

Surgical prophylaxis for urological procedure		
Cystourethroscopy with minor manipulation, break in mucosal barriers (Ureteroscopy, cystourethroscopy) (Clean contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min (consider vancomycin 15 mg/kg 1 hour infusion, 30 minutes before procedure)	<input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Transurethral Cases: (TURP, TURBT, laser enucleative and ablative procedures). (Clean contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion <input type="checkbox"/> Or <input type="checkbox"/> Ciprofloxacin 400 mg IV – 1 Hour infusion
Prostate brachytherapy or cryotherapy (Clean contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion
Transrectal prostate Biopsy (contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion <input type="checkbox"/> or <input type="checkbox"/> vancomycin 15 mg/kg 1 hour infusion +/- <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion
Percutaneous renal surgery, e.g., PCNL; (Clean contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion
Ureteroscopy (Clean contaminated)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion <input type="checkbox"/> or <input type="checkbox"/> Ciprofloxacin 400 mg IV – 1 Hour infusion
Lithotripsy (if urine is sterile)	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min	<input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion

Implanted prosthetic device	<input type="checkbox"/> Cefazolin 2 g IV Push over 3-5 min + <input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion for placement of prosthetic material [penile prosthesis]	<input type="checkbox"/> Gentamicin 5 mg/kg 30-minute infusion <input type="checkbox"/> or <input type="checkbox"/> Ciprofloxacin 400 mg IV – 1 Hour infusion + <input type="checkbox"/> Clindamycin 600 mg IV (900 mg if > 100 kg) – 10 to 20 minutes infusion or <input type="checkbox"/> Vancomycin 15 mg/kg 1 hour infusion
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Surgical prophylaxis for miscellaneous types of surgeries

Plastic	<u>Clean with risk factors** or clean-contaminated</u> <input type="checkbox"/> Cefazolin 2 g (children dose: 30mg/kg) IV single dose 30 - 60 minutes prior to incision <input type="checkbox"/> Cefazolin (wight≥120 kg: 3g) IV single dose 30 - 60 minutes prior to incision	<u>Clean with risk factors** or clean-contaminated</u> <input type="checkbox"/> Clindamycin 900mg (children dose: 10mg/kg) IV for single dose 30 - 60 minutes prior to incision. <input type="checkbox"/> Vancomycin 1 g (children dose: 15 mg/kg) IV single dose 120 minutes prior to incision
Ophthalmic	<input type="checkbox"/> Topical Moxifloxacin 1 drop every 5–15 min for 5 doses At the end of procedure, Addition of:(OPTIONAL) <input type="checkbox"/> Cefazolin 100 mg by subconjunctival injection OR <input type="checkbox"/> Cefazolin 1–2.5 mg Intracameral	

*DW = IBW + 0.4(actual weight – IBW) where IBW is computed: M = 50 kg for the first 152 cm + 1 kg for each additional cm.
F = 45 kg for the first 152 cm + 1 kg for each additional cm.

** Risk factors: use of prosthetic material, skin irradiation, traumatic/crush hand injuries, flap reconstruction, panniculectomy, injuries requiring amputation/reconstructive limb surgery, injuries involving bone, joint, tendon (except open flexor tendon injuries) or nerve

Interval re-dosing if surgery prolonged	Cefazolin	Every 4 hours
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Vancomycin	Every 12 hours	Gentamicin	Do not re-dose
Ciprofloxacin	Do not re-dose	Clindamycin	Every 6 hours
Ampicillin-sulbactam	Every 2 hours	Metronidazole	Every 12 hours

Surgeries that require NO surgical prophylaxis:

All surgeries included the list below are of low risk; antimicrobial prophylaxis is NOT indicated:

System/organ	Type of surgery	Notes
Cardiac/Thoracic	Cardiac catheterization including PCI Trans-esophageal echocardiogram Thoracentesis or chest tube insertion for non-traumatic indications (e.g., spontaneous pneumothorax) Mediastinoscopy	
Vascular	Brachiocephalic procedures Carotid endarterectomy without prosthetic material Angiography Angioplasty Thrombolysis Vascular stenting	
Head and Neck Clean cut procedures: no incision through oral/nasal/pharyngeal mucosa	Parotidectomy Thyroidectomy Submandibular gland excision Excisional lymph node biopsy	
Dental	Simple implant placement (flap or no flap), nongrafted extractions, and second-stage surgery in healthy individual	
Orthopedics Clean operations not involving implantation of foreign materials	Hand surgery Knee surgeries Foot surgeries	
Plastic surgeries	All clean without **risk factors excluding breast surgery	
Biliary procedures	Low risk, elective laparoscopic procedure	

**Risk factors: use of prosthetic material, skin irradiation, traumatic/crush hand injuries, flap reconstruction, panniculectomy, injuries requiring amputation/reconstructive limb surgery, injuries involving bone, joint, tendon (except open flexor tendon injuries) or nerve

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Culture based Treatment of Antimicrobial Resistant Gram-Negative Infections

(This to be a guide for the proper choice of antimicrobials; however, the use of restricted antimicrobials must be aligned with our antimicrobial stewardship recommendations)

Definitions:

Enterobacteriaceae: a large family of Gram-negative bacteria that includes a number of pathogens such as Klebsiella, Escherichia coli, Enterobacter, Citrobacter, Salmonella, Shigella, Proteus, Serratia and other species.

Carbapenem-resistant Enterobacteriaceae (CRE): any Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, or Enterobacter spp. Testing resistant to Imipenem, Meropenem, Doripenem, or Ertapenem by standard susceptibility testing methods OR by production of a carbapenemase demonstrated using a recognized test (e.g., PCR or Modified-Hodge test).

ESBL: enzymes that confer resistance to most beta-lactam antibiotics, including penicillins, cephalosporins, and the monobactam aztreonam. They are present in Enterobacteriaceae (such as Escherichia coli and Klebsiella) and other gram negatives (such as Pseudomonas aeruginosa)

MDR pseudomonas: non-susceptible (resistant or intermediate) to at least one agent in at least 3 out of 5 antimicrobial classes (penicillins, aminoglycosides, cephalosporins, fluoroquinolones, and carbapenems)

MDR Acinetobacter: non-susceptible (resistant or intermediate) to at least one agent in at least 3 out of 6 antimicrobial classes (penicillins, aminoglycosides, cephalosporins, fluoroquinolones, carbapenems, and sulfactam)

Amp C beta-lactamases: enzymes found in gram-negative bacteria that inactive penicillins and many cephalosporins including the cephamycins (cefoxitin & cefotetan). However, carbapenems and ceftazidime are stable to inactivation by AmpC beta-lactamases /Enterobacter cloacae, Klebsiella aerogenes, and Citrobacter freundii are the highest risk organisms for induced resistance

Stenotrophomonas maltophilia: are intrinsically resistant to a plethora of antimicrobial agents that severely limit commonly used empiric standard antimicrobial therapies. *S. maltophilia* is resistant to many β -lactams, β -lactamase inhibitors, and aminoglycosides Trimethoprim/sulfamethoxazole (TMP/SMX) remains the therapy of choice worldwide

Infection Type	Uncomplicated Cystitis	Stable Pyelonephritis/Complicated UTIs	Blood stream infections OR pneumonia OR sepsis	Stable Intrabdominal infection	Stable Skin/bone infection
Dosing is for patients with normal renal function; refer to clinical pharmacist or institution dosing protocols for dosing in impaired renal function					
ESBL - Enterobacteriales	<p>Nitrofurantoin 100 mg PO Q 12 hours x 3-5 days (NOT in patients with CrCl < 50ml/min)</p> <p>OR</p> <p>Fosfomycin 3 g PO x 1 dose</p> <p>OR</p> <p>Sulfamethoxazole/Tri methoprim 1600/320 mg (2 DS) PO Q 12 hours x 3-5 days</p>	<p>Meropenem 1g IV Q 8 hours x7-14 days</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours x7-14 days</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours x7-14 days</p>	<p>Meropenem 1g IV Q 8 hours x7-14 days</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours x7-14 days</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours x7-14 days</p>	<p>Meropenem 1g IV Q 8 hours</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours</p> <p>OR</p> <p>Tigecycline 100 mg IV loading then 50 mg IV Q 12 hours (not as monotherapy in bacteremia 2nd to Intrabdominal infection)</p>	<p>Tigecycline 100 mg IV loading then 50 mg IV Q 12 hours</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours</p>
Moderate to high risk" clinically significant AmpC production Enterobacteriales E. cloacae, K. aerogenes, & C. freundii	<p>OR</p> <p>Gentamicin 5 mg/kg IV/IM once x1</p>	<p>Meropenem 1g IV Q 8 hours x7-14 days</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours x7-14 days</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours x7-14 days</p> <p>OR</p> <p>Cefepime 2g IV Q 8 hours (Only with cefepime MIC ≤2 mg/L)</p>	<p>Meropenem 1g IV Q 8 hours x7-14 days</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours x7-14 days</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours x7-14 days</p>	<p>Meropenem 1g IV Q 8 hours</p> <p>OR</p> <p>Imipenem 500 mg IV Q 6 hours</p>	<p>Tigecycline 100 mg IV load then 50 mg IV Q 12 hours</p> <p>OR</p> <p>Ciprofloxacin 400 mg IV Q12 hours</p> <p>OR</p> <p>Cefepime 2g IV Q 8 hours (Only with cefepime MIC ≤2 mg/L)</p>
Carbapenem-resistant		Ciprofloxacin 400 mg IV Q 8 hours x7-14 days	Ceftazidime-avibactam 2.5 g IV Q 8 hours		

Enterobacterales (CRE)		OR Ceftazidime-avibactam 2.5 g IV Q 8 hours (over 3 hours infusion) x7-14 days	(over 3 hours infusion) OR Ciprofloxacin 400 mg IV Q 8 hours	Ceftazidime-avibactam 2.5 g IV Q 8 hours (over 3 hours infusion) Plus Metronidazole 500 mg IV Q 6 hours	Tigecycline 100 mg IV loading then 50 mg IV Q 12 hours OR Ciprofloxacin 400 mg IV Q 8 hours OR Ceftazidime-avibactam 2.5 g IV Q 8 hours Infuse over 3 hours
Carbapenem-resistant Enterobacterales (CRE) NDM /R to Ceftazidime-avibactam (Infectious diseases Consultation is recommended)		TMP-SMX 5 mg/kg IV Q 8 hours x7-14 days OR Ciprofloxacin OR Gentamycin 7 mg /kg Q 24 hours Plus Meropenem 2 g IV Q 8 hours (over 3 hours infusion) x7-14 days	Ciprofloxacin 400 mg IV Q8 hours OR Gentamicin Plus Meropenem 2 g IV Q 8 hours (over 3 hours infusion) Plus Tigecycline 200 mg IV loading then 100 mg IV Q 12 hours	Meropenem 2 g IV Q 8 hours (over 3 hours infusion) Plus Tigecycline 200 mg IV loading then 100 mg IV q 12 hours (not preferred for bacteremia)	Tigecycline 200 mg IV loading then 100 mg IV Q 12 hours OR Ciprofloxacin 400 mg IV Q8 hours OR Sulfamethoxazole/Tri methoprim 1600/320 mg (2 DS) PO Q 12 hours
MDR P. aeruginosa (Infectious diseases Consultation is recommended if pan resistance)		Ciprofloxacin 500mg PO Q 12 hours X 3-5 days OR Gentamicin 5 mg/kg IV/IM once x1 OR Colistin x3-5 days	Ciprofloxacin 400 mg IV Q 8 hours x7-14 days OR Ceftolozane-tazobactam 3 g IV Q 8 hours (over 3 hours infusion) x7-14 days OR	Ciprofloxacin 400 mg IV Q 8 hours OR Ceftolozane-tazobactam 3 g IV Q 8 hours (over 3 hours infusion) OR	Ciprofloxacin 400 mg IV Q8 hours Plus Metronidazole 500 mg IV Q 6 hours OR Ceftolozane-tazobactam 3 g IV Q 8hours (over 3 hours infusion) OR

		Ceftazidime-avibactam 2.5 g IV Q 8 hours (over 3 hours infusion) x7-14 days OR Colistin x7-14 days	Ceftazidime-avibactam 2.5 g IV Q 8 hours (over 3 hours infusion) OR Gentamycin 7 mg /kg Q 24 hours IV Plus Meropenem 2 g IV Q 8 hours (over 3 hours infusion) OR Colistin IV /Nebs plus Meropenem 2 g IV Q 8 hours (over 3 hours infusion)	8hours (over 3 hours infusion) Plus Metronidazole 500 mg IV q 6 hours OR Ceftazidime-avibactam 2.5 g IV Q 8hours (over 3 hours infusion) Plus Metronidazole 500 mg IV Q 6 hours OR Colistin IV plus Meropenem 2 g IV Q 8 hours (over 3 hours infusion)	Ceftazidime-avibactam 2.5 g IV Q 8hours (over 3 hours infusion) OR Colistin
Carbapenem-resistant Acinetobacter baumannii (CRAB) (Infectious diseases Consultation is recommended if pan resistance)	Sulfamethoxazole/Tri methoprim 1600/320 mg (2 DS) PO Q 12 hours x 3-5 days OR Ciprofloxacin 500mg PO Q 12 hours X3-5 days OR Colistin x 3-5 days	Colistin x 7-14 days OR TMP-SMX 5 mg/kg IV Q 8 hours x7-14 days OR Ciprofloxacin 400 mg IV Q 8 hours x7-14 days	Ampicillin-sulbactam: total daily dose 27 g as extended or continuous infusions (e.g., 9 g IV every 8 hours infused over 4 hours) Plus Colistin IV/Nebs OR Meropenem 2 g IV Q 8 hours (over 3 hours infusion) Plus Colistin IV/Nebs OR Ciprofloxacin 400 mg IV Q8 hours	Ampicillin-sulbactam: total daily dose 27 g as extended or continuous infusions (e.g., 9 g IV every 8 hours infused over 4 hours) Plus Tigecycline 200 mg IV loading then 100 mg IV Q 12 hours OR Ciprofloxacin 400 mg IV Q8 hours Plus Tigecycline 200 mg IV loading then 100 mg IV q 12 hours	Ampicillin-sulbactam 3 g IV Q 6 hours Plus Colistin OR Sulfamethoxazole/Tri methoprim 1600/320 mg (2 DS) PO Q 12 hours OR Ciprofloxacin 400 mg IV Q8 hours OR Tigecycline 100 mg IV loading then 50 mg IV Q 12 hours

S. maltophilia	<p>Sulfamethoxazole/Tri methoprim 1600/320 mg (2 DS) PO Q 12 hours x 3-5 days</p> <p>OR Levofloxacin 750 mg PO Q24 hours x 3- 5days</p>	<p>TMP-SMX 5 mg/kg IV Q 8 hours x 7-14 days</p> <p>OR Levofloxacin 750 mg IV Q 24 hours x 7-14 days</p>	<p>TMP-SMX 5 mg/kg IV Q 8 hours</p> <p>Plus Levofloxacin 750 mg IV Q 24 hours</p> <p>OR TMP-SMX 5 mg/kg IV Q 8 hours</p> <p>Plus Tigecycline 200 mg IV load then 100 mg IV Q 12 hours</p>	<p>TMP-SMX 5 mg/kg IV Q 8 hours</p> <p>Plus Tigecycline 200 mg IV load then 100 mg IV Q 12 hours</p> <p>OR Levofloxacin 750 mg IV Q 24 hours</p> <p>Plus Tigecycline 200 mg IV load then 100 mg IV Q 12 hours</p>	<p>TMP-SMX 5 mg/kg IV Q 8 hours</p> <p>OR Levofloxacin 750 mg IV Q 24 hours</p> <p>OR Tigecycline 100 mg IV load then 50 mg IV Q12 hours</p>

Notes:

- Give Prolonged infusions of beta-lactam antibiotics OVER 4 HOURS in critical patients
- In blood stream infections, pneumonia or sepsis, the antibiotic duration is 7-14 days or according to the primary cause of bacteremia
 - In stable Intrabdominal infection, the antibiotic duration determined based on source control
 - In stable skin and bone infection, the antibiotic Duration determined based on clinical diagnosis and severity

References:

Pranita D Tamma, Emily L Heil, Julie Ann Justo, Amy J Mathers, Michael J Satlin, Robert A Bonomo, Infectious Diseases Society of America 2024 Guidance on the Treatment of Antimicrobial-Resistant Gram-Negative Infections, Clinical Infectious Diseases, 2024; ciae403

<https://www.idsociety.org/practice-guideline/amr-guidance/>

Clinical indications for using infectious pathogens PCR panels

- **Clinical indications for GI PCR panel:**
 - Community-acquired diarrhea ≥7 days duration
 - Travel-related diarrhea
 - Diarrhea with warning signs/risk factors for severe disease (fever, bloody diarrhea, dysentery, severe abdominal pain, dehydration, hospitalization, immunocompromised state)
- **Clinical indications for CSF PCR panel:**
 - Recommended for patients with findings suggestive of acute (<8 days of symptoms) meningitis or encephalitis with the following:
 - Abnormal csf analysis
 - Immunocompromised host
 - Current or recent use of antibiotics

NOTE: Not intended for patients with cerebrospinal fluid (CSF) shunts or possible CNS surgical site infections.

- **Clinical indications for pneumonia PCR panel:**
 - This test should only be used in patients who have clear evidence of pneumonia (signs and symptoms + increased oxygen need + new or progressive radiographic infiltrate).
 - The Pneumonia Panel should be considered in the following situations:
 - Severe CAP (admitted to ICU, respiratory failure, etc.).
 - Severe hospital-acquired or ventilator-associated pneumonia.
 - Pneumonia in immunocompromised host.
- **Clinical indications for bacteremia PCR panel:**
 - All patients with bacteremia and septic shock.

- Bacteremia developing five days after hospital admission in non-LTC patients.
- Breakthrough bacteremia in patients on broad spectrum antibiotics.
- Bacteremia in patients colonized with MDRO pathogens (CRE, VRE, MDRO Acinetobacter/Pseudomonas, MRSA, ESBLs and Candida Auris).
- Bacteremia in the immunocompromised host.

NOTE: Any other indications other than mentioned it should be approved by ID consultant.

Recommendations for Monitoring Patients Receiving Long-term Antimicrobial Therapy

- Long term antibiotic defined as ≥ 1 week
- These monitoring parameter not listed should be individualized based on each patient's clinical feature, including general health status, age, concomitant medication, type of infection, type and dose of antibiotic

Antimicrobial agent(s)	Test	Frequency	Other
Aminoglycoside	CBC	Weekly	Clinical monitoring and patient education for hearing\vestibular dysfunction
	BUN, creatinine	2-3 times per week	
	Aminoglycoside level: Trough: draw 30 minutes prior to the 3rd dose Peak: obtain 1 hour after end of infusion, after the 3rd dose.	Weekly	
Carbapenem, Cephalosporins, Penicillin,	CBC,BUN, creatinine, AST,ALT, bilirubin	weekly	
Colistin	BUN, creatinine	2-3 times per week	Clinical monitoring for neurotoxicity (dizziness, paresthesia, vertigo, confusion, visual disturbances, ataxia)
Linezolid	CBC	weekly	Clinical monitoring for peripheral neuropathy and optic neuritis
Rifampin	CBC, AST, ALT, bilirubin	weekly	Drug interaction (monitor start of any new medication)
Vancomycin	CBC, BUN ,creatinine	Twice weekly	

		More frequently if there is renal impairment	
	Vancomycin level trough: draw 30 minutes prior to the 4th dose	Weekly, unless change in creatinine (increase 50% from baseline), then twice weekly	
Amphotericin B	BUN, creatinine, K, Mg, phosphate.	Twice weekly	
	CBC, AST, ALT	1-2 weeks	
Micafungin	AST, ALT, bilirubin	weekly	
Teicoplanin	CBC, BUN , creatinine, AST, ALT	Weekly	Auditory function should be carefully evaluated and monitored, especially in patients with renal insufficiency.

Dose Adjustment for Renal Impairment

Dosing recommendation can vary according to indication and patient specific parameters. All dosage adjustments are based on Creatinine clearance calculated by Cockcroft-Gault equation.

$$\text{CrCl} = \frac{140 - \text{age} \times \text{weight in kg}}{72 \times \text{serum Creatinine}} \times 0.85 \text{ (if female)}$$

Drug	Typical Dose (may vary)	CrcL (mL/min)	Dose adjustment for renal insufficiency
Acyclovir IV	5-10mg/kg Q8H	>50 25-50 10-24 <10 or HD ⁺	5-10mg/kg Q8H 5-10mg/kg Q12H 5-10mg/kg 2.5-5MG/KG q24h
Acyclovir Po (Genital Herpes)	200mg 5x daily	>10 <10	200mg 5x daily 200mg Q12H
Acyclovir Po (Herpes Zoster)	800mg 5x daily	>25 10-25 <10 or HD ⁺	800mg 5x daily 800mg Q8H 800mg Q12H
Amikacin	Once daily 15mg/kg IV Q24H or 10mg/kg IV Q24H If >50years of age Twice weekly 25mg/kg IV 3 time week	>60 40-59 20-39 <20	10mg/kg IV Q24H 3mg/kg IV Q8H 3mg/kg IV Q12H 3mg/kg IV Q24H 3mg/kg IV once
Amoxicillin	500-1000 mg Q12H	>30 10-30 <10 or HD ⁺	500- 1000mgQ12H 250-875 mg Q12H 250-875 mg Q24H
Amoxicillin (pneumonia)	1g Q8H	>30 10-30 <10 or HD ⁺	1g Q8H 1g Q12H 1g Q24H
Amoxicillin/clavulanat e	500- 1000mg Q12H	>30 10-30 <10 or HD ⁺	500-1000mg Q12H 250-500mg Q12H 250-500mg Q24H *Don't use 875/125mg tablets or extended

			release tablets if HD.
Amphotericin B	0.7-1mg/kg Q24H	<10ml/min Intermittent IHD Continuous renal replacement therapy	0.5-0.7mg/kg IV Q24-48H 0.5-1mg/kg IV Q24H after dialysis session 0.5-1mg/kg IV Q24H
Ambisome	3-5mg/kg Q24H	<10ml/min	5mg/kg IV Q24-36H
Ampicillin	1-2gm IV Q4-6H	>50 10-50 <10 or HD	1-2g Q4-6H 1-2g Q6-8H 1-2g Q8H
Ampicillin/Sulbactam	1.5-3g IV Q6H	≥30 15-29 ≤14 or HD	1.5-3g Q6H 1.5-3g Q12H 1.5-3g Q24H
Ampicillin/Sulbactam (for Acinobacter, E. faecalis)	3g IV Q4H	≥50 10-50 HD	3g Q4H 3g Q6H 3g Q8H
Azithromycin	250-500mg Q24H	-	No dosage adjustment
Cefazolin	1-2g Q8H	≥35 11-34 <10 or intermittent HD	1-2g Q8H 1g Q12H 1g Q24H 2g QHD, if HD in 2 days or 3g Q HD, if HD in 3 days.
Cefdinir	300mg Q12H	≥30 <30 HD ⁺	300 mg Q12H 300 mg Q24H 300mg QHD
Cefepime	1g Q8H	>60 30-60 <29or HD ⁺	1-2g Q8H 1g Q12H 1gQ24H
Cefepime (Central nervous system infections or Pseudomonas)	2g Q8H	>60 30-60 11-29 <11 or HD ⁺	2g Q8H 1g Q8H 1g Q12H 1g Q24H
Cefpodoxime	100-400mg Q12H	>30 <30 HD ⁺	100-400mg Q12H 100-400mg Q24H 100-400 mg 3x/week
Ceftazidime	1-2g IV Q8H For Pseudom0nas 2g Q8H	>50 30-50 15-29 <15 or HD ⁺	1-2g Q8H 1-2g Q12H 1-2g Q24H 1g Q24H
Ceftriaxone	1-2g IV Q24H	--	No dos adjustment

Ceftriaxone (Central nervous system infections)	2g IV Q12H	--	No dosage adjustment
Cephalexin	500mg Po Q6H	>50 10-50 <10 or HD ⁺	500mg Q6H 500mg Q8H 00mg Q12H
Ciprofloxacin IV	400mg Q8-12H	≥30 <30 or HD ⁺	400mg Q8-12H 400mg Q24H
Ciprofloxacin Po	250-750mg Q12H	≥30 <30 or HD ⁺	250-750mg Q12H 250-500mg Q24H
Clarithromycin	250-500mg Q12H	≥30 <30 or HD ⁺	250-500mg Q12H 250-500 mg Q24H
Clindamycin	PO: 300mg Q8H IV: 600mg Q8H		No dosage adjustment
Colistin (Colistimethate)	See colistin dosing instructions below.		
Doxycycline	100mg PO Q12H	--	No dosage adjustment
Ertapenem	1g IV Q24H	≥30 <30 or HD ⁺	1g Q24H 500mgQ24H
Ethambutol	15-25mg/kg Q24H	≥10 <10 HD ⁺	Normal dose Q24H Normal dose Q48H Normal dose QHD session
Fluconazole	200-800mg Q24H	≥50 50 or HD	Normal dose (e.g.100, 400, 800mg) Q24H Load w/normal dose, then 50% of normal dose Q24-48H
Ganciclovir (induction dose)	5mg/kg Q12H	≥70 50-69 25-49 10-24 <10 or HD	5mg/kg Q12H 2.5mg/kg Q12H 2.5mg/kg Q24H 1.25mg/kg Q24H 1.25mg/kg 3 times/week after HD
Gentamycin (in urinary tract infections)	3mg/kg IV once daily OR 1mg/kg iv Q8H	≥60 40-59 20-39 <20	3mg/kg IV Q24H or 1mg/kg IV Q8H 1mg/kg Q12H 1mg/kg Q24H 1mg/kg once

Isoniazid	300mg Q24H	--	No dosage adjustment
Linezolid	600mg PO/IV Q12H	--	No dosage adjustment
Meropenem	1g Q8H 26-50 10-25 <10 o HD	>51 26-50 10-25 <10 or HD	1g Q8H 1g Q12H 500mg Q12H 500mg Q24H
Meropenem (Meningitis, CRE infections)	2g Q8H	>51 26-50 10-25 <10 or HD	2g Q8H 1g Q8H 1g Q12H 1g Q24H
Metronidazole	500mg PO/IV Q8H	--	No dosage adjustment
Micafungin	100-150 mg Q24H	--	No dosage adjustment
Moxifloxacin	400mg PO/IV Q24H	--	No dosage adjustment
Nitrofurantoin (Macrobid)	100mg Q12H	≥50 <50	100 mg Q12H Not recommended
Oseltamivir (treatment)	75mg Q12H	>60 30-60 10-29 <10 or HD	75mg Q12H 75mg Q24H 30mg Q24 30mg QHD session
Oseltamivir (prophylaxis)	75mg Q24H	>60 30-60 10-29 <10 or HD	75mg Q24H 30mg Q24H 30mg Q48H 30mg every other HD session
Oxacillin	1-2g Q4-6H	--	No dosage adjustment
Piperacillin/Tazobactam	3.375-4.5 g Q6H	≥40 20-40 <20 HD ⁺	3.375g Q6H (4.5g Q6H for pseudomonas) 2.25g Q6H(3.375 g Q6H for pseudomonas 2.25g Q8H (2.25g Q6H for Pseudomonas) 2.25G Q12H (2.25G Q8H FOR Pseudomonas)
Pyrazinamide	15-30mg/kg Q24H	≥10 <10 HD	15-30mg/kg Q24H 12-20mg/kg Q24H 25-30mg/kg QHD sessions
Rifampin (TB)	600mg Q24H	--	No dosage adjustment

Rifampin	300mg Q8-12H	--	No dosage adjustment
Teicoplanin	Loading: 6 to 12 mg/kg every 12 hours for 3 doses Maintenance: 6 to 12 mg/kg once daily	30-80 <30	6 to 12 mg/kg every 12 hours for 3 doses then 6 to 12 mg/kg every 48 hours 6 to 12 mg/kg every 12 hours for 3 doses then 6 to 12 mg/kg every 72 hours
Tigecycline	100mg once, then 50mg Q12H	--	No dosage adjustment
TMP/SMX (UTIs or cellulitis)	PO: 1-2 DS tab Q12H IV: 160-320 mg Q12 (dosing is based on TMP component)	≥30 <30 or HD	1-2DS tabQ12or 160-320 mg IV Q12H 1-2 DS tab Q24h or 160-320mg IV Q24H
TMP/SMX (PCP or serious systemic infections)	5mg/kg Q6-8H	≥30 <30 HD	5mg/kg Q6-8H 2.5mg/kg Q6-8H 2.5mg/kg Q8H
Valacyclovir (Genital herpes)	500-1000mg Q12H	≥30 10-29 <10 or HD	500-1000mg Q12H 500-1000mg Q24H 500mg Q24H
Valacyclovir (Herpes Zoster)	1g Q8H	>50 30-49 10-29 <10 or HD	1g Q8H 1g Q12H 1g Q24H 500mg Q24H
Valganciclovir (induction based)	900mg Q12h	≥60 40-59 25-39 10-24 <10 or HD	900mg Q12H 450mg Q12H 450mg Q24h 450mg Q48H Not recommended
Valganciclovir (Maintenance dose)	900mg Q24H	≥60 40-59 25-39 10-24 <10 or HD	900mg Q24H 450mg Q24H 450mg Q48h 450mg twice weekly Not recommended
Vancomycin	Initial dose: 20-25mg/kg followed by 15-20mg/kg Q8-12H using (ABW)	--	SEE TABEL BELOW***

Voriconazole	Loading dose: 6mg/kg IV/Po Q12H x 2 doses Maintenance dose: 4mg/kg/IV/PO Q12H	--	No dosage adjustment is necessary for PO. IV form should not be administered to patients with CrCl ≤50 ml/min due to accumulation of the vehicle.
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Colistin Dosing in Adults

Note: Dosage expressed in terms of **mg of colistin base activity (CBA)**. CBA **300 mg** is defined to be equivalent to **colistimethate sodium (CMS) 9,000,000 units**

Loading dose: **IV:** 300 mg CBA, followed by a maintenance dose based on CrCl calculated using the Cockcroft-Gault equation with an adjusted body weight

Creatinine Clearance (CG) ml/min	Colistin dose to be given in two divided doses ESCMID/EUCAST [Tsuji 2019]; Nation 2017	Creatinine Clearance (CG) ml/min	Alternative renal dosing strategy; be given in two divided doses EMA 2014; Nation 2016
CrCl ≥90	360 mg CBA/day.	CrCl ≥50	300 mg CBA/day
CrCl 80 to <90	340 mg CBA/day.	CrCl 30 to <50	183 to 250 mg CBA/day.
CrCl 70 to <80	300 mg CBA/day.	CrCl 10 to <30	150 to 183 mg CBA/day.
CrCl 60 to <70	275 mg CBA/day.	CrCl <10	117 mg CBA/day.
CrCl 50 to <60	245 mg CBA/day.		
CrCl 40 to <50	220 mg CBA/day.		
CrCl 30 to <40	195 mg CBA/day.		
CrCl 20 to <30	175 mg CBA/day.		
CrCl 10 to <20	160 mg CBA/day.		
CrCl 5 to <10	145 mg CBA/day.		
CrCl <5 mL/minute	130 mg CBA/day.		
Hemodialysis, intermittent (thrice weekly)	Dialysis days: 180 mg CBA on dialysis days (administer after dialysis)		
	Non-dialysis days: 130 mg CBA on non-dialysis days		
CRRT	220 mg CBA every 12 hours		
Inhaled Colistin at any Crcl	1-2 M.I.U two to three times per day (Max 6 M.I.U/ day)		

Maintenance dose: **IV:** The following total daily maintenance doses (**administered in 2 divided doses**) are recommended, begin maintenance dose 12 hours after the loading dose

Colistin Dosing in Children

	Colistin Dose	Frequency	Comments
Infants, children, and adolescent	2.5-5 mg CBA/kg/day	every 6-12 hours	Dose should be based on IBW in obese patients
Inhalational Colistin			
Infants	4 mg CBA/kg/dose	Every 12 hours	Maximum: 75 mg CBA /dose
Children and adolescent	75-150 mg CBA/kg/dose	every 12 hours	

References:

1. Lexicomp
2. Sanford guide
3. Electronic medicines compendium (emc)

IV to Oral Conversion

Eligible patients for IV to Po conversion:

- 1) Patient must have an intact and functioning gastrointestinal tract as evidenced by:
 - a. Patient is tolerating food, fluids or enteral feeds.
 - b. Patient is receiving other oral medications
 - c. No nausea, emesis or diarrhea in the past 24 hours
- 2) Patient is clinically improving as evidenced by:
 - a. Improving signs and symptoms
 - b. Hemodynamically stable
 - c. Afebrile for at least 48hrs (have had maximum temperature of less than 38C)
 - d. WBC is trending towards normal (4000-12000) (consider if patient is on any medications that might sustain leukocytosis e.g. corticosteroids)
- 3) Patient has received antimicrobial therapy for at least 48-72 hours
- 4) Patient is in day 3 post operatively (in case of surgery)

Ineligible patients for IV to Po conversion:

- 1) Patients with severe life-threatening infections:
 - a. Osteomyelitis
 - b. Endocarditis
 - c. Enterococcus Bacteremia
 - d. Orbital Cellulitis
 - e. Endophthalmitis
 - f. Melioidosis (at least 10 to 14 days of IV therapy)
 - g. Septic Arthritis
 - h. CNS Infection (meningitis brain abscess)
- 2) Patients with gastrointestinal dysfunction, nausea, vomiting, and diarrhea in the past 24 hours, or gastrointestinal obstruction, mal-absorption syndrome, short bowel syndrome, ileus or biliary drain.
- 3) Patients with active gastrointestinal bleeding.
- 4) Patients receiving parenteral nutrition.
- 5) Patients who have difficulty swallowing or refuse oral medications, loss of consciousness and no NG access available
- 6) NPO status
- 7) Continuous NG suctioning.
- 8) Severely immune compromised patients (Neutropenia, HIV, patients on immunosuppressant medications who are severely ill.)
- 9) Patients on vasopressor in the critical care unit (typically in persistent hypotension despite high dose of vasopressin).

EMERGENCY TREATMENT OF POISONING

POISON ANTIDOTES

Generally acute poisoning can occur from various compounds; unfortunately, few specific antidotes exist for the majority of the poisoning. No specific treatments are available. The only way to save an intoxicated patient is to use symptomatic treatment to maintain respiratory and circulation functions compiled with attempt to decrease the concentration of the toxin in the body either by the use of emetics, laxatives, absorptive and gastric lavage.

For inquiries contact the poison control center, Dammam 24 hours on telephone # 03-8155648, Extn: 5512. On Friday, on-call doctor is available at Extn: 5233

Poison control center, Riyadh: Telephone#01-4677354/01-4677353(7 AM-4 PM)

ANTIDOTES OVERVIEW

Acetylcysteine (ACC; ACC Long®)

(Syn. N-acetylcysteine)

A derivative of the naturally-occurring amino acid L-cysteine, indicated for treating paracetamol overdose. It is converted to cysteine *in vivo* and acts by stimulating hepatic glutathione synthesis.

Special Prescriber's Points

Use with caution in patients with asthma or a history of asthma.

Patients should be observed carefully for the emergence of hypersensitivity reactions. Skin rashes, anaphylactoid reactions and anaphylactic shock have been reported.

The hypersensitivity-type adverse reactions often tend to be due to histamine release and are not necessarily true allergic reactions. Therefore, acetylcysteine may not need to be discontinued in mild reactions. These reactions may be overcome by temporary cessation of the infusion, IV administration of an antihistamine, followed by a slower infusion rate of acetylcysteine.

Acetylcysteine is incompatible with rubber and metals; silicone rubber and plastic should be used.

Plasma potassium should be monitored; hypokalemia and ECG changes have been associated with paracetamol overdosage irrespective of the treatment.

Considered to be relatively safe during pregnancy and breast- feeding.

Carbocisteine (Rhinathiol®)

Although Carbocisteine is used in mild or less severe paracetamol intoxication, animal studies have indicated that it does not offer adequate protection against liver damage. The safety of late or prolonged administration (> 24 hours) has not been sufficiently explored.

Activated charcoal (Arkopharma Charbon; Eucarbon; NeoCARBON®)

(WHO essential therapeutic group)

Activated charcoal is a powerful adsorbent of a wide spectrum of drugs and poisonous substances thereby reducing absorption from the gut. It is used in cases of overdosage or accidental poisoning by drugs and other non-corrosive substances, usually after the stomach has been emptied by lavage or emesis, and plays a very important role in the management of poisoning.

Special Prescriber's Points

It is essential that the activated charcoal used is of a grade that is documented and proven to be an adequate absorbent/adsorbent.

Since charcoal adsorbs ipecacuanha, it should not be given before the emetic.

Current opinion favors the use of larger and more frequent doses of charcoal in all instances where a potential for adsorbing intoxicants exists.

Binding of drugs in the lumen also creates a concentration gradient so that the drug or poison passes continuously from the circulation into the gut lumen. There are indications that this 'gastrointestinal dialysis' is valuable in hastening the elimination of numerous drugs or toxins that have already been absorbed into the bloodstream.

It is recommended that 2-4 additional doses of 20-50 g be administered in severely poisoned patients, in cases where slow-release tablets have been ingested (e.g. theophylline), in poisoning with drugs that are excreted into the bile, undergoing entero-hepatic recycling (e.g. tricyclic antidepressants, estrogens and progestogens, digitoxin), as well as those secreted into the intestine (e.g. digoxin, pethidine).

It is of no value in poisoning with strong acids or alkalis, iron salts, lithium, petroleum products (including kerosene), and of questionable value in cyanide ingestion.

Activated charcoal may be mildly constipating, but is essentially safe and innocuous. Mixing the suspended dose with 20 mL lactulose and 50% syrup (or sorbitol 70%) makes it more palatable and prevents the constipating effect.

Deferoxamine (Desferal®)

(Syn. desferrioxamine)

(WHO essential agent)

Deferoxamine chelates several metal ions, e.g. iron and aluminum. It has a much greater affinity for trivalent (ferric) iron than for ferrous iron. It removes depot iron from ferritin and hemosiderin, but only when excess concentrations are present. It does not significantly enhance elimination of iron in normal individuals.

Deferoxamine is used in the management of acute iron poisoning, as well as in the long-term treatment of pathological iron overload, e.g. idiopathic haemochromatosis and transfusion hemosiderosis. It is also used in aluminum-related encephalopathy and in aluminum-related bone disease in chronic dialysis patients.

It is poorly absorbed from the GI tract if the mucosa is intact - for systemic effects it has to be given parenterally. Although metabolized by plasma enzymes, the pathways have not been defined. The complex formed with iron (ferrioxamine) is water-soluble, readily excreted in the urine and responsible for a characteristic reddish coloring.

Special Prescriber's Points

Avoid in severe renal disease or anuria, and use with caution in renal impairment.

Patients on prolonged therapy should have regular ophthalmological and audiological evaluations since the most serious adverse effects involve hearing and vision.

Adverse effects following rapid intravenous administration include flushing, urticaria, tachycardia and severe hypotension. Hypersensitivity reactions e.g. rash, fever and anaphylactic shock may occur. Other effects include dysuria, diarrhea, headache, blurred vision, and pain and induration at injection sites.

Deferoxamine is teratogenic in animals; during pregnancy, it should be used only if essential, with the benefits outweighing the potential harm to the fetus. It is considered to be relatively safe during breast-feeding.

Considered safe in porphyria.

Di-cobalt edetate

(Syn. cobalt edetate; cobalt tetracemate)

Dicobalt edetate is used in the treatment of severe cyanide poisoning. It chelates cyanide, forming a stable complex.

Special Prescriber's Points

Cobalt is toxic (complex-formation with cyanide reduces the potential toxicity of the cobalt itself) and should only be used in patients with known severe cyanide poisoning. This product should not be used as a precautionary measure.

Adverse effects include facial oedema, vomiting, sweating, retro- sternal chest pain, ventricular tachycardia and hypotension. Skin rashes, laryngeal oedema and anaphylactoid reactions have been reported.

Dimercaprol

(WHO essential agent)

The sulphydryl groups in dimercaprol form chelation complexes with certain metals and these stable complexes are excreted in the urine. It is the antidote of choice in treating acute mercury, arsenic and gold poisoning; it may also be useful as an adjunct to calcium disodium edetate in the treatment of lead poisoning (especially lead encephalopathy in children). Although it has been used successfully in copper, thallium, bismuth and antimony poisoning, the role is less well established.

Only administered by deep intramuscular injection, as a 10% solution in oil. The dimercaprol not chelated to metal is rapidly metabolised, and excreted in urine and faeces (often completely within 4 hours).

Special Prescriber's Points

The drug is most effective when administered early after poisoning has occurred.

Adverse effects may be minimised by allowing at least 4-hour intervals between doses.

Contraindicated in iron, cadmium, selenium and uranium poisoning. The complexes formed with these metals are more toxic to the kidney than the free metals.

Avoid in patients with severe hepatic function insufficiency. Use with caution in patients with hypertension; doses should be reduced in renal impairment.

The most frequent adverse effect is hypertension, accompanied by tachycardia. Other effects include nausea and vomiting, sweating, burning of the eyes, lips, mouth and throat; lacrimation, conjunctivitis, salivation; muscle spasm and pain, abdominal pain, tingling of the extremities, headache, tightness of the throat and chest.

Injections are often painful and sterile abscesses may form.

Considered safe in porphyria.

Ipecacuanha

(Syn. ipecac)

(WHO essential agent)

Ipecacuanha contains two alkaloids, emetine and cephaeline, prepared from the roots of the plants Cephaelis ipecacuanha and C.acuminata. It is used to induce vomiting following recent ingestion of toxic substances

and overdosage of drugs. It acts by stimulation of the chemoreceptor trigger zone (CTZ) as well as by a local irritant effect on the GI mucosa. Emesis produced by ipecac is favoured in children but may also be effective in adults. It is available without prescription, and sufficiently safe to be kept and administered at home in an emergency situation.

Contraindications:

Ingestion of corrosive agents, e.g. strong acids or alkalis.

Ingestion of volatile organic solvents or petroleum distillates, e.g. paraffins, gasoline, paint thinners.

Ingestion of CNS stimulants, e.g. camphor oil. Stimulation associated with vomiting may trigger convulsions with the danger of aspiration.

Impaired level of consciousness.

Special Prescriber's Points

Emergency use is justified during pregnancy and lactation.

Although ipecac may be less effective in patients who have ingested agents with strong antiemetic properties, this is not a common finding in clinical practice.

The dose may be repeated once if emesis has not occurred within 20-30 minutes.

Adult dose: Oral, 15-30 mL, followed by a copious drink of water or fruit juice

Pediatric dose: Infants 6-18 months, 5-15 mL; older children, 15 mL, with a glass of tepid water or fruit juice.

Sodium Nitrite and Sodium Thiosulfate regimen

(WHO essential agents)

Cyanide combines with cytochrome oxidase, thus inhibiting cellular respiration. Antidotes are amyl nitrite, sodium nitrite and sodium thiosulphate. The amyl nitrite is used initially for rapid response until the sodium nitrite is ready for injection.

The nitrites oxidise haemoglobin (Fe^{2+}) to methaemoglobin (Fe^{3+}), which has a much higher affinity for cyanide, leading to a dissociation of the cyanide- cytochrome complex. The cyanide is strongly bound within the erythrocyte in the form of cyanmethaemoglobin, lowering the plasma cyanide. The methaemoglobin thus acts as a 'mopping-up' agent for cyanide. Because drug-induced methaemoglobin and cyanmethaemoglobin are dissociable complexes, there is a risk of the release of free cyanide. Sodium thiosulphate is therefore administered. Thiosulphate serves as a substrate for the enzyme rhodanese which mediates the conversion of any free cyanide to the much less toxic thiocyanate which is readily excreted in the urine. Methaemoglobin is eventually restored to haemoglobin by the intracellular reductase systems.

Special Prescriber's Points

All cyanide antidotes are potentially toxic.

Dicobalt edetate is the preferred treatment.

100% oxygenation is important and should be ensured during therapy.

Adverse effects of nitrites include hypotension, headache, nausea, vomiting and syncope.

Nitrites must be used with caution in patients with severe cardiovascular or cerebral vascular disease.

The danger of the above regimen is an overdose of the methaemoglobin inducer, which may lead to a severe lowering of the oxygen- carrying capacity of the blood leading to hypoxia. Although methylene blue (2 mg/kg) may be given to reverse the methaemoglobinaemia in an emergency situation, this may induce cyanide release.

Penicillamine (Artamin; Cilamin®)

(WHO essential agent)

Indicated for the treatment of copper, mercury, arsenic, lead and zinc poisoning, Wilson's disease and cystinuria.

SYRUP OF IPECAC

Indication/Cautions: The decision to induce or not to induce emesis should be carefully considered. Ipecac administration has never been shown to alter clinical outcome after overdose. Ipecac administration soon after ingestion reduces serum drug levels. If used, Ipecac is most appropriate in the pre hospital setting. It is generally NOT recommended for use in emergency department.

Emesis is most effective if initiated within 30 minutes if ingestion.

Contraindications: Ipecac induced emesis include:Ingestion of toxicant that might compromise airway protective reflexes or require advanced life support within 60 minutes;coma;seizures;signs of oral,pharyngeal,or esophageal irritation;central nervous system excitation or depression;ingestion of corrosive substance;ingestion of substance with a high aspiration potential(particularly hydrocarbons);debilitated elderly patients or those with medical conditions that might be adversely affected by induced emesis.

Dose: **Adult:** 15 to 30ml

Adolescent: 15 to 30ml

Child (1-12 yrs) 15ml

Child (6 months to 12 months) 5ml to 10ml.Position child in left lateral decubitus position to reduce risk of aspiration

Child (under 6 months) not recommended for prehospital use.

Fluids:Prior to or after the dose is given,encourage clear fluids,8 ounces(240ml) in adults and adolescents and 4 to 8 ounces(120 to 240ml) in a child.

Adverse effects: Common complications may include diarrhea, lethargy/drowsiness, and prolonged vomiting.

WHOLE BOWEL IRRIGATION-POLYETHYLENE GLYCOL

Indications: Whole bowel irrigation with a polyethylene glycol balanced electrolyte solution appears to be a safe means of gastrointestinal decontamination.It is particularly useful when sustained release or enteric coated formulations, substances not adsorbed by activated charcoal, or substances known to form concretions or bezoars are involved in the overdose.

Contraindications: This procedure should not be used in patients who are currently or are at risk for rapidly becoming obtunded,comatose,or seizing until airway is secured by endotracheal intubation.Whole bowel irrigation should not be used in patients with bowel obstruction,bowel

perforation,megacolon,ileus,uncontrolled vomiting,significant gastrointestinal bleeding,haemodynamic instability or inability to protect the airway.

Dose/Administration: Polyethylene glycol balanced electrolyte solution(e.g Colyte(R),Golytely(R) is taken orally or by nasogastric tube.The patient should be seated and/or the head of the bed elevated to atleast a 45 degree angle.Optimim dose not established.

Adult: 2 litres initially followed by 1.5 to 2 litres per hour.

Children(6 to 12 years): 1 litre per hour

Children(9 months to 6 years): 500ml per hour

Continue until rectal effluent is clear and there is no radiographic evidence of toxin in the gastrointestinal tract.

Adverse effects: Nausea, vomiting, abdominal cramping, and bloating.Fluid and electrolyte status should be monitored.Prolonged periods of irrigation may produce a mild metabolic acidosis.Patients with compromised airway prorection are at risk for aspiration.

ACTIVATED CHARCOAL (Arkopharma Charbon; Eucarbon; NeoCARBON®)

DOSE: Adult: The United States Pharmacopeia recommends oral dosing of 25 to 100gms in adults and adolescents.

The FDA suggests a minimal dilution of 240ml of water per 20 to 30gms of activated charcoal as an aqueous slurry.The optimum dose is 30 to 100gms in adults; some suggest using 1 to 2gm/kg as a rough guideline.There is no maximum recommended dose.

Multiple doses: The recommended initial dose is 50 to 100gms.After the initial dose, charcoal can be administered every hour, every 2 hours, or every 4 hours at doses equivalent to 12.5gm/hour.

Where a thick charcoal slurry was aspirated (water to charcoal ratio 3.89:1) the FDA recommends that 30gms of activated charcoal be mixed in a minimum of 8 ounces of liquid.

PEDIATRIC DOSE:

The United States Pharmacopeia recommends oral dosing of 1gm/kg in infants up to 1 year of age, 25 to 50gms in children 1 to 12 years of age, and 25 to 100gms in adolescents.

The FDA suggests a minimal dilution of 240ml of water per 20 to 30gms of activated charcoal as an aqueous slurry.The optimum dose is 15 to 30gms in children; some suggest using 1 to 2gm/kg as a rough guideline especially in infants.There is no maximum recommended dose.

Multiple dose: Initial dose is 10 to 25gms I children; some suggest using 1 to 2 gms/kg.repeat doses in children have not been established, but one-half the initial dose is recommended. Repeated oral charcoal dose (every 2 to 6 hours) may enhance total body clearance and elimination of some agents.Do not repeat charcoal if bowel sounds are absent.

KEY COMMENTS:

Patients vomiting due to the administration of the activated charcoal or due to the drug ingestion itself may require smaller doses of charcoal given more frequently or an intravenous antiemetic to insure adequate administration.

Don't use drug with sorbitol in fructose-intolerant children/in children younger than age 1 year.

Don't give drug by mouth to a semiconscious/unconscious patient; instead administer it through an NG tube.

Because drug adsorbs and inactivates syrup of ipecac, give only after patient stops vomiting.

Drug is most effective when used within 30 minutes of toxin ingestion.

Powder form is most effective.

Prolonged use may impair patient's nutritional status.

Dose may be repeated if patient vomits.

Large doses of activated charcoal can result in constipation.

POISON:

POISON: ACETAMINOPHEN

ANTIDOTE: N-ACETYLCYSTINE (NAC)

ADULT DOSE: ORAL: 140mg/kg as 5% solution. With carbonated beverages and juice/water MAINTENANCE DOSE - Give 17 maintenance doses, 70 mg/kg, in the same concentration and diluents every 4 hours, for a total dose of 1,330 mg/kg over a total of 72 hours.
IV. LOADING DOSE of 150 mg/kg in 200 ml of 5% dextrose over 15 minutes; followed by 70mg/kg every 4 hours for an additional 12 doses.

PEDIATRIC DOSE: Initial - 140 mg/kg for one dose.

ANTIDOTE: ACETADOTE*(N-ACETYLCYSTINE)

ADULT DOSE: 150mg/kg in 200 ml of 5%D5W I.V. over 15 minutes followed by 50mg/kg in 500 ml of D5W over 4 hours and then 100 mg/kg in 1000 ml ofD5W over 16 hours.

PEDIATRIC DOSE: Initial - 140 mg/kg for one dose.

KEY COMMENTS: Should be administered if 24 hours or less have elapsed from the time of the reported ingestion of an overdose

If the patient vomits the loading dose or any maintenance dose within 1 hour of administration, repeat that dose.

Blood should be drawn for acetaminophen plasma assay and for baseline SGOT, SGPT, bilirubin, prothrombin time, creatinine, blood sugar, and electrolytes. Drug drug interaction with charcoal.

Acetadote is available in single dose 30 ml vials containing free acetylcysteine 200mg/ml

POISON: ANTICOAGULANTS: WARFARIN

ANTIDOTE:	VITAMIN K
ADULT:	Oral: 10-25 mg; IM: 10 MG; SC: 10MG; IV: 10-15MG Dilute in NS /D5W give by slow IV 5% dose /minute
PEDIATRIC:	Oral: 1-5 mg; IM : 5-10mg; SC : 5-10mg; IV : 5 mg
KEY COMMENTS:	Administer the lowest effective dose to reverse oral anticoagulation therapy. Monitor patient PT and INR. Discontinue drug if allergy appear. Check particular product for approved route of administration.

POISON: HEPARIN

ANTIDOTE:	PROTAMINE
ADULT:	Immediately after heparin administration give 1-1.5mg of protamine for each 100 units of heparin. At 30-60 minutes give 0.5-0.75 mg of protamine/100 units of heparin. Two hours/more give 0.25-0.375 mg of protamine/100 units of heparin. If the calculated dose is more than 50 mg. Give25-50mg as a loading dose and the rest can be given I.V. but do not exceed than 50 mg over 10 minutes. Reconstitute with Sterile water for injection
PEDIATRIC:	Same as adult.
KEY COMMENTS:	PROTAMINE SULFATE solutions are not intended for further dilution; however, if dilution is required, Dextrose 5% in water or Sodium chloride 0.9% should be utilized. Don't mix with any other drug As it is derived from fish check for possible fish allergy Slow I.V. administration (over1-3minutes) decrease adverse effects. It is recommended that PROTAMINE doses be guided by blood coagulation studies to determine if additional doses are required.

POISON: ATROPINE

ANTIDOTE:	PHYSOSTIGMINE *
ADULT:	I.V/IM 0.5 to 2mg not to exceed 1mg/minute dose can be repeated prn q 10 minutes
PEDIATRIC:	IV/IM 0.02mg/kg. Can be repeated At 5 – 10 minutes .Maximum 2mg
KEY COMMENTS:	Can be diluted in normal saline or D5W and administered by IV. Infusion, with a rate of not greater than 10 milligrams/hour. HOWEVER, INTRAVENOUS PUSH (NOT FASTER THAN 1 MILLIGRAM/MINUTE) IS RECOMMENDED Don't use discolored solution

POISON: ALCOHOL (ETHANOL)

ANTIDOTE:	DEXTROSE
ADULT:	25 grams (50 milliliters of 50% dextrose solution) I.V. may repeat as needed.
PEDIATRIC:	0.5 to 1 gram dextrose/kg as 25% dextrose solution or 10% dextrose solution (2 to 4 mL /kg.)
KEY COMMENTS:	Dextrose solutions of 5% or less are iso-osmotic and may be administered via a peripheral vein. Hypertonic concentrations greater than 5% to 12.5% should be administered by slow intravenous infusion via a central vein
ANTIDOTE:	THIAMINE *
ADULT:	100 mg I.V/IM in patients with chronic ethanol abuse.
KEY COMMENTS:	Perform intradermal skin test before I.V. anaphylaxis can occur. Keep epinephrine available. I.M. may be painful
ANTIDOTE:	NALOXONE
ADULT:	2 mg I.V. may repeat as needed.
KEY COMMENTS:	It is safest drug to use when cause of respiratory depression is uncertain. Maintain adequate respirator and CV status all-Time. Repeated doses are necessary due to short activity.

POISON: ANTICONVULSANTS/PHENYTOIN

ANTIDOTE:	BENZODIAZAPINES/, DIAZEPAM
ADULT:	DIAZEPAM DOSE: 5 to 10 mg initially, repeat every 5 to 10 minutes
PEDIATRIC:	0.2 to 0.5 mg/kg repeat every 5 minutes
KEY COMMENTS:	Dilute in NS. Slight precipitate may form but can be used .Drug interact with plastic don't store in plastic syringe/administer in plastic set IV. route is preferred because drug is absorbed rapidly and uniformly. IV. Rate should not exceed 5mg/minutew for adults and 0.25mg/kg/3minutes for children
ANTIDOTE:	BENZODIAZAPINES/LORAZEPAM
ADULT:	LORAZEPAM DOSE: 2 to 4 mg. I.V.Initial doses may be repeated in 10 to 15 minutes
PEDIATRIC:	0.05 to 0.1 mg/kg I.V. (max 4 mg/dose)
KEY COMMENTS:	Prior to IV use, lorazepam injection should be diluted with an equal volume of compatible solution

D5W, NS. Sterile water. Administer diluted solution immediately don't use discolored solution. Parenteral route is not recommended for neonates

POISON: VALPROIC ACID

ANTIDOTE:	NALOXONE
ADULT:	0.4-2MG/KG IV repeated at 2-3 minutes
PEDIATRIC:	0.01mg/kg given IV
KEY COMMENTS:	It is safest drug to use when cause of respiratory depression is uncertain. Maintain adequate respirator and CV status all Time. Repeated doses are necessary due to short activity

POISON: CARBAMAZEPINE

ANTIDOTE:	BENZODIAZAPINES/DIAZEPAM
ADULT:	5 to 10 mg initially, repeat every 5 to 10 minutes
PEDIATRIC:	0.05 mg/kg.
KEY COMMENTS:	Dilute in NS. Slight precipitate may form but can be used .Drug interact with plastic don't store in plastic syringe/administer in plastic set IV. route is preferred because drug is absorbed rapidly and uniformly. IV. Rate should not exceed 5mg/minutew for adults and 0.25mg/kg/3minutes for children
ANTIDOTE:	LORAZEPAM
ADULT:	2 to 4 mg I.V. Initial doses may be repeated in 10 to 15 minutes
KEY COMMENTS:	Prior to IV use, lorazepam injection should be diluted with an equal volume of compatible solution D5W, NS. Sterile water. Administer diluted solution immediately don't use discolored solution. Parenteral route is not recommended for neonates

POISON: ANTIDEPRESSANTS, TRICYCLIC

ANTIDOTE:	SODIUM BICARBONATE
ADULT:	1 -2 meq/kilogram
PEDIATRIC:	1meq/kg (1 ml)/kg of 8.4% solution) I.V

KEY COMMENTS:	Don't exceed 8meq/kg I.V. slow administration of IV. Of 4.2% solution preferred. Monitor vital signs and urine Ph. Addition of calcium salt may cause precipitate.
ANTIDOTE:	PHYSOSTIGMINE*
ADULT:	I.V/IM 0.5 to 2mg not to exceed 1mg/minute dose can be repeated prn q 10 minutes
PEDIATRIC:	IV/IM 0.02mg/kg. Can be repeated at 5 – 10 minutes maximum 2mg
KEY COMMENTS:	Can be diluted in normal saline or D5W and administered by IV. Infusion, with a rate of not greater than 10 milligrams/hour. HOWEVER, INTRAVENOUS PUSH (NOT FASTER THAN 1 MILLIGRAM/MINUTE) IS RECOMMENDED Don't use discolored solution

POISON: ANTIHISTAMINE

ANTIDOTE:	DIAZEPAM
ADULT:	I.V 5 to 10 mg initially, repeat every 5 to 10 minutes
PEDIATRIC:	0.2 to 0.5 milligram per kilogram repeat every 5 minutes
KEY COMMENTS:	Dilute in NS slight precipitate may form but can be used. Drug interacts with plastic don't store in plastic syringe/administer in plastic set IV. route is preferred because drug is absorbed rapidly and uniformly. IV. Rate should not exceed 5mg/minute for adults and 0.25mg/kg/3minutes for children
ANTIDOTE:	LORAZEPAM
ADULT:	2 to 4 mg IV. Initial doses may be repeated in 10 to 15 minutes 0.2 to 3 mg
PEDIATRIC:	0.05MG/KG
KEY COMMENTS:	Prior to IV use, lorazepam injection should be diluted with an equal volume of compatible solution D5W, NS. Sterile water. Administer diluted solution immediately don't use discolored solution. Parenteral route is not recommended for neonates

POISON: BENZODIAZAPINES

ANTIDOTE:	FLUMAZENIL
ADULT:	0.2mg I.V. over 30 seconds if fails repeat 0.3mg over 30 seconds. It can be repeated up to 5 mg

PEDIATRIC: 0.01mg/kg (max.0.2mg) I.V. over 15 seconds. May repeat q 1 minute to a total cumulative of 1 mg.

KEY COMMENTS: Should be administered as a series of small injections and not as a single bolus dose.
Can be given direct / diluted with diluents (D5W, NS, Lactated ringer solution. Discard unused drug. Monitor patient for re sedation

POISON: ARSENIC

ANTIDOTE: DIMERCAPROL*

ADULT: 3 mg/kg deep I.M. q 4 hours for 2 days then q.i.d on day 3 then bid for 10 days.

PEDIATRIC: 3 mg/kg deep I.M. q 4 hours for 2 days then q.i.d on day 3 then bid for 10 days.

KEY COMMENTS: Fever is common in children.

Monitor for hypertension, tachycardia, hyperpyrexia and urticaria.

Drug has strong garlic odor.

ANTIDOTE: PENICILLAMINE*

ADULT: 0.5gm-1.5gm P.O. daily for 1 to 2 months

PEDIATRIC: 0.5gm-1.5gm P.O. daily for 1 to 2 months

KEY COMMENTS: Administer on an empty stomach. Patients may require a supplement of pyridoxine.

Check for iron deficiency. Monitor CBC and renal function

POISON: MERCURY

ANTIDOTE: DIMERCAPROL*

ADULT: Initially 5 mg/kg deep I.M. then 2.5 mg/kg I.M. daily / bid for 10 days

PEDIATRIC: Initially 5 mg/kg deep I.M. then 2.5 mg/kg I.M. daily / bid for 10 days

KEY COMMENTS: Monitor for hypertension, tachycardia, hyperpyrexia and urticaria.

POISON: LEAD

ANTIDOTE: EDTA CALCIUM & *DIMERCAPROL

ADULT: 4mg/kg deep I.M. (Dimercaprol) then give EDTA Calcium 500mg (max. 1gm) by IV /IM

PEDIATRIC: 4mg/kg deep I.M. (Dimercaprol) then give EDTA Calcium 500mg/m²(max. 1gm) by IV /IM

KEY COMMENTS: If urine flow is not established hemodialysis must accompany. In most cases I.M. route is preferred. Monitor sugar in diabetic patient.

POISON: IRON

ANTIDOTE: DEFEROXAMINE

ADULT: 15mg/kg/hr in D5W (upto90mg/kg/Q8HR) faster rates / bolus may lead to hypotension max. dose 6 gm.

PEDIATRIC: 15mg/kg/hr in D5W (upto90mg/kg/Q8HR) faster rates / bolus may lead to hypotension max. dose 6 gm. OR 20mg/kg

KEY COMMENTS: Use I.M. route for acute iron intoxication if patient isn't in shock. If in shock give I. V slowly no faster than 15mg/kg/hour. Avoid S.C. route. Observe closely to treat hypersensitivity reactions, monitor renal, vision, and hearing function. Also monitor hypotension

Passing of vin rose-colored urine indicates free iron present. Therapy should be discontinued when urine return to normal

POISON: ORAL CONTRACEPTIVES

ANTIDOTE: CHARCOAL

Acute overdosage probably requires no treatment. If multiple ingestion is suspected or the oral contraceptive contains iron induce gastric decontamination may be considered.

ADULT: Administer charcoal as slurry (240 mL water/30 g charcoal). 100 g in adults/adolescents

PEDIATRIC: 25 to 50 g in children (1 to 12 years), and 1 g/kg in infants less than 1 year old.

POISON: THEOPHYLLINE

ANTIDOTE: DIAZEPAM

ADULT: 5 to 10 mg initially, repeat every 5 to 10 minutes as needed. I.V. over 2 to 3 minutes max. rate 5mg/minutes.

PEDIATRIC: 0.2 to 0.5 milligram per kilogram repeat every 5 minutes as needed

KEY COMMENTS: Dilute in NS slight precipitate may form but can be used. Drug interacts with plastic don't store in plastic syringe/administer in plastic set IV.

Route is preferred because drug is absorbed rapidly and uniformly. IV.
Rate should not exceed 5mg/minute for adults and 0.25mg/kg/3minutes
for children

ANTIDOTE: LORAZEPAM

ADULT: 2 to 4 mg. I.V Initial doses may be repeated in 10 to 15 minutes if seizures persist

PEDIATRIC: 0.05 to 0.1 mg/kg I.V. (maximum 4 mg/dose) repeated twice at intervals of 10 to 15 minutes

KEY COMMENTS
Prior to IV use, lorazepam injection should be diluted with an equal volume of compatible solution
D5W, NS. Sterile water. Administer diluted solution immediately don't use discolored solution. Parenteral route is not recommended for neonates

POISON: OPIATES

ANTIDOTE: NALOXONE

ADULT: 0.4 to 2 milligrams I.V. bolus in both children and adults. Can be given S.L / S.C also. Repeat doses of 2 mg. may be given to achieve a clinical effect

PEDIATRIC: Neonatal dose of 0.1 mg/kg.I.V. or intratracheally from birth until age 5 years or 20 kg. body weight

KEY COMMENTS:
It is safest drug to use when cause of respiratory depression is uncertain.
Maintain adequate respirator and CV status allTime.
Repeated doses are necessary due to short activity

POISON: CYANIDE

ANTIDOTE: AMYL NITRATE

ADULT: An ampoule should be broken and inhaled by the patient for 30 seconds every minute. A new ampoule should be used every 3 minutes

PEDIATRIC: Same as adult

KEY COMMENTS:
Keep patient sitting / lying down during and after inhalation.
Monitor for hypotension don't allow patient to make rapid postural changes while inhaling.
DRUG IS FLAMMABLE keep away from open fire and cigarettes before use

ANTIDOTE: SODIUM NITRATE

ADULT:	10 cc (300 mg) of a 3% solution administered intravenously over no less than 5 minutes (usually 15-20 minutes).
PEDIATRIC:	0.15-0.33 cc/kg up to 10 cc, administered intravenously over no less than 5 minutes (usually 15-20 minutes).
KEY COMMENTS:	Intravenous sodium nitrite induces approximately 7-14% methemoglobin Monitor blood pressure treat hypotension by slowing flow and vasopressors
ANTIDOTE:	SOD. THIOSULFATE
ADULT:	I.V 12.5 grams (50 cc of a 25% solution).
PEDIATRIC:	1.65 cc/kg of a 25% solution (412.5 mg/kg).
KEY COMMENTS:	Low sodium intravenous fluids are required to avoid sodium overload. If large amounts of sodium thiosulfate are required, hemodialysis may be necessary

POISON: DIMERCAPROL

ANTIDOTE:	NALOXONE
ADULT:	The single dose method is an intravenous bolus form with the initial adult and pediatric dose of 0.4 to 2 mg. IV.
PEDIATRIC:	The single dose method is an intravenous bolus form with the initial adult and pediatric dose of 0.4 to 2 mg. IV.
KEY COMMENTS:	It is safest drug to use when cause of respiratory depression is uncertain. Maintain adequate respirator and CV status all Time. Repeated doses are necessary due to short activity

POISON: ORGANOPHOSPHATE

ANTIDOTE:	PRALIDOXIME*
ADULT:	1-2gm I.V. in 100ml of saline over 15-30 minutes repeat after 1 hr. if no response
PEDIATRIC:	20-40mg/kg I.V. in 100ml of saline over 15-30 minutes may repeat after 1 hour
KEY COMMENTS:	Pralidoxime is best administered as soon as possible after exposure. Usually given By I.V 15-30 minutes rapid administration may produce tachycardia, laryngo spasm, muscle rigidity hypertension may occur.

POISON: PHYSOSTIGMINE

ANTIDOTE:	ATROPINE
ADULT:	1-2 mg/I.M. /I.V. additional 2 mg may be administered q5 to 60 minutes.
PEDIATRIC:	0.05mg/kg I.M. /I.V. q10 to 30 minutes.
KEY COMMENTS:	Monitor tachycardia. Give undiluted via rapid I.V. push high doses may cause hyperpyrexia, urine retention, CNS effects
ANTIDOTE:	GLYCOPYROLATE*
ADULT:	0.2mg I.V. for each 1mg of neostigmine/5mg pyridostigmine
PEDIATRIC:	0.2mg I.V. for each 1mg of neostigmine/5mg pyridostigmine
KEY COMMENTS:	Don't mix with I.V. containing sodium chloride and bicarbonate. Check all doses. Monitor vital signs watch closely for adverse effects
ANTIDOTE:	SCOPOLAMINE
ADULT:	0.3 mg-0.6mg I.M., S.C., /I.V. as a single dose
PEDIATRIC:	0.3 mg-0.6mg I.M., S.C., /I.V. as a single dose
KEY COMMENTS:	Monitor for adverse reactions. Some patient may have marked CNS disturbance

POISON: NITRATES

ANTIDOTE:	METHYLENE BLUE
ADULT:	1 to 2 mg/kg/dose (0.1 to 0.2 mL/kg/dose I.V. over 5 minutes as needed every 4 hours
PEDIATRIC:	1 to 2 mg/kg/dose (0.1 to 0.2 mL/kg/dose I.V. over 5 minutes as needed every 4 hours NEONATES: 0.3 to 1 mg/kg.
KEY COMMENTS:	CONTRAINDICATIONS: G-6-PD deficiency: methylene blue may cause hemolysis. Give slowly over several minutes, to avoid high concentrations and methemoglobin production. Maintain an open airway and assist ventilation or supplemental oxygen. Activated charcoal can be given promptly
ANTIDOTE:	DIAZEPAM
ADULT:	5 to 10 mg initially, repeats every 5 to 10 minutes as needed.
PEDIATRIC:	0.2 to 0.5 milligram per kilogram repeat every 5 minutes as needed.
KEY COMMENTS:	Dilute in NS slight precipitate may form but can be used. Drug interacts with plastic don't store in plastic syringe/administer in plastic set. IV route

is preferred because drug is absorbed rapidly and uniformly. IV Rate should not exceed 5mg/minute for adults and 0.25mg/kg/3minutes for children

ANTIDOTE: LORAZEPAM

ADULT: 2 to 4 mg I.V. Initial doses may be repeated in 10 to 15 minutes if seizures persist

PEDIATRIC: 0.05 to 0.1 mg/kg I.V. max.4mg/dose repeated twice at intervals of 10 to 15 minutes

KEY COMMENTS: Prior to IV use, lorazepam injection should be diluted with an equal volume of compatible solution
D5W, NS. Sterile water. Administer diluted solution immediately don't use discolored solution. Parenteral route is not recommended for neonates

POISON: NITROGLYCERIN, AMYL NITRATE, NITROGLYCERIN, POTASSIUM NITRATE, BUTYL NITRATE

ANTIDOTE: PHENOBARBITAL

ADULT: LOADING DOSE: 600 to 1200 mg IV. Initially 10 to 20 mg/kg.

MAINTENANCE DOSE: Additional doses of 120 to 240 mg may be given every 20 minutes.

PEDIATRIC: LOADING DOSE: 15 to 20 mg/kg I.V. at a rate of 25 to 50 milligrams per minute.

MAINTENANCE DOSE: Repeat doses of 5 to 10 mg/kg may be given every 20 minutes

KEY COMMENTS: Reconstitute powder for injection with water for injection roll vial in hands doesn't shake. Use a larger vein for I.V. to prevent extravasations. Avoid I.V. rate exceeding 60mg/minute to prevent hypotension and respiratory depression. Don't use injectable solution if it contains precipitate. Administer within 30 minutes of reconstitution

POISON: SALICYLATES

ANTIDOTE: SODIUM BICARBONATE

ADULT: to 2 meq/kg NaHCO₃ by I.V. bolus and begin urinary alkalinization

PEDIATRIC: to 2 meq/kg NaHCO₃ by I.V. bolus and begin urinary alkalinization

KEY COMMENTS: Treatment done depending on toxic symptoms:
Over dosage: induce emesis and/ lavage with saline, followed with activated charcoal.
Dehydration: I.V. fluids with KCL.

Metabolic acidosis: Sodium bicarbonate don't exceed 8 meq/kg I.V. slow administration 4.2% solution preferred.
Hyperthermia: cooling blankets/ sponge
Coagulopathy/hemorrhage: vitamin K I.V.
Hypoglycemia: dextrose 25 g I.V.
Seizures: diazepam 5-10 mg I.V.

ANTIDOTE: POTASSIUM

ADULT: Require large amounts of potassium supplementation due to renal potassium wasting.

POISON: DIGOXIN

ANTIDOTE: DIGOXIN IMMUNE FAB (OVINE) *

ADULT: 760 mg can be administered. 152 mg to 228 mg will be adequate to treat. Digoxin toxicity. 76 mg dose of digoxin immune Fab will neutralize approximately 1 mg digoxin or digitoxin

PEDIATRIC: For infants and small children weight 20kg /less 38mg may be sufficient average dose for more than 20kg is 228 mg

KEY COMMENTS: RECONSTITUTED: Reconstituted product should be used within 4 hours.

Potassium levels must be checked repeatedly.

Closely monitor temperature, blood pressure, ECG.

Check for volume for over dose in children infants may require smaller dose.

To determine appropriate dose, divide the total digitalis in body load by 0.5 the resultant estimates number of vials required.

POISON: SNAKE BITE

ANTIDOTE: ANTIVENOM

ADULT: 40ml of antivenom in 5 ml of isotonic physiological /kg/body weight infuse 30-60 minutes can be used undiluted @rate of 4/ml minute.
(ANTIVENOM PRODUCED BY NATIONAL GUARD HEALTH AFFAIRS)
(PLS. REFER MFR. INSERTS)

PEDIATRIC: Generally, antivenom dosing for children should be the same as an adult dose

KEY COMMENTS: Never inject into a finger or toe. IV route is preferred and is mandatory if patient is in shock. Use antivenom within 4 hours of the bite. Find out when patient got tetanus immunization. Monitor vital signs every 30

minutes. Also monitor hemoglobin level, hematocrit CBC, coagulation studies.

Keep epinephrine 1:1,000 to treat allergic reactions.

POISON: SCORPION BITE

ANTIDOTE: ANTIVENOM

ADULT: Five 1 ml ampoules diluted in 20-25 ml 0.45 NS. Infuse I.V over period 30 minutes Dose can be repeated up to 20 ampoules.

(PLS. REFER MFR. INSERTS)

PEDIATRIC: Generally, antivenom dosing for children should be the same as an adult dose. $\frac{1}{4}$ volume of saline is to be used for children up to 6 yrs.

KEY COMMENTS: Doses of 5 to 20 milliliters as an intravenous infusion were needed to control venom effects.

POISON: DOG BITES (RABIES)

ANTIDOTE: ANTIRABIES

ADULT: The recommended single dose of HRIG is 20 International Units/kilogram. Use half to infiltrate area around and into the wound(s) remaining volume should be administered IM at an anatomical site distant from vaccine administration.

(PLS. REFER MFR. INSERTS)

PEDIATRIC: Same as adult

KEY COMMENTS: A tetanus shot should be given.

In infants and children, I.M. Should be given in the thigh.

Don't give more than 5 ml at any one I.M. site.

Keep epinephrine 1:1,000 solution nearby in case of allergic reaction.

Asterisk * denotes not available in Almoosa General Hospital

REFERENCES

Guide to the management of poisoning, 11nd edition Abdulaziz al Saddique, King Saud university press - 1997

The national antivenom & vaccine production center Riyadh, K.S.A. – (INSERTS)

Hand book of drug information 11nd edition with international index – 2003

Poisoning and drug over dose III rd edition 1999, by the faculty, staff and associates of the California poison Control system.

DRUGS AND PREPARATIONS

ANAESTHESIA AND NEUROMUSCULAR BLOCKERS

ATACURIUM BESILATE (Atacure, Tracrium®)

P/P:	Tracrium 10mg/ml, 5ml inj, 5's, Tracrium 5mg/ml, 5ml inj, 5's Atacure 10mg/ml, 5ml inj, 5's
Category:	Muscle Relaxants
Indications:	An adjunct to general anaesthesia, to facilitate endotracheal intubation & to provide skeletal muscle relaxation during surgery or mechanical ventilation.
Caution:	Clinically significant CV or respiratory disease. History of severe anaphylactoid reactions or asthma, myasthenia gravis. Lactation.
Contra-Ind:	Long-term basis for maintenance intubation & muscle paralysis in tetanus, chest trauma. Pregnancy.
D/I:	Depolarising muscle relaxants. Effects enhanced by inhalation anaesthesia, aminoglycoside, polypeptide antibiotics, lithium, Mg salts, procainamide & quinidines.
Side effects:	Skin flush & hypotension, wheezing, bronchial secretions, erythema, itching, hives. Bronchospasm, tachycardia. Anaphylactoid reactions.
Dosage:	Adults: 0.4 to 0.5 mg/kg, given as an intravenous bolus injection. Pediatric Patients: No atracurium dosage adjustments are required for pediatric patients two years of age or older. An atracurium besylate dose of 0.3 to 0.4 mg/kg is recommended as the initial dose for infants (1 month to 2 years of age) Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

ATROPINE SULPHATE (Atropine sulphate®)

P/P:	Atropine sulphate 0.5mg/ml, 2ml Injection
Category:	Antispasmodics, Antidotes, Detoxifying Agents, Other Cardiovascular Drugs
Indications:	Antidote to over dosage w/ cholinergic substances e.g., organophosphate insecticides & nerve gases, & poisonous mushroom. Pre-operative medication to reduce salivary & resp tract secretions. Severe bradycardia.
Caution:	Infants, small children, elderly & debilitated patients.
Contra-Ind:	Glaucoma, unstable cardiac rhythm, prostatic hypertrophy, reflux esophagitis, severe coronary artery disease, paralytic ileus, obstructive GI disorders.
D/I:	Additive anticholinergic effects w/ antihistamines, phenothiazines, tricyclic antidepressants, neuroleptics. Enhances bronchodilation produced by adrenergic drugs. Decreases the effects of levodopa & antagonizes the effects of metoclopramide.
Side effects:	Dryness of the mouth associated w/ difficulty in swallowing, pupillary dilatation w/ loss of accommodation producing blurring of vision, flushed skin, tachycardia, urinary retention, constipation, agitation & restlessness, hyperthermia.
Dosage:	Pre-anaesthetic medication: Intravenous administration immediately before surgery; if necessary an intramuscular administration, 30-60 minutes before surgery is possible. Adults: 0.3 – 0.6 mg IV (3 – 6 ml) Pediatric population: The usual dose in children is between 0.01-0.02 mg/kg body weight (maximum 0.6 mg per dose), dosage should be adjusted according to the patient's response and tolerance
	Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

BUPIVACAINE HYDROCHLORIDE (Marcain, Bucaine®) (Restricted)

P/P:	Marcain heavy 0.5%, 20mg/4ml, 5's Bucaine 0.25% vial, 20ml, Bucaine 0.5% vial, 20ml
Category:	Anaesthetics - Local
Indications:	Spinal anaesthesia
Caution:	Hypovolemia, aortocaval occlusion, coronary or CV disease, chronic neurological disorders. May impair ability to drive or operate machinery. Pregnancy.
Contra-Ind:	Acute active CNS disease. Septicaemia, pernicious anemia w/ subacute combined degeneration of the spinal cord. Pyrogenic infection of the skin. Cardiogenic or hypovolemic shock. Coagulation disorders or ongoing anticoagulant treatment.
D/I:	Patients receiving MAOIs or tricyclic antidepressants may produce severe, prolonged hypertension. Vasopressor & ergot-type oxytoxic drugs may cause severe, persistent

hypertension. Phenothiazines & butyrophenones may reduce or reverse pressor effect of epinephrine.

Side effects: Hypotension, bradycardia, post-spinal headache. Rarely, high or total spinal blockade resulting in CV & resp depression, neurological complication.

Dosage:

- Epidural anesthesia: 0.5% and 0.75% solutions should be administered in 3 to 5 mL increments with sufficient time between doses to detect toxicity or accidental intravascular or intrathecal injection
- Epidural anesthesia in obstetrics: Only 0.5% and 0.25% concentrations should be used; 0.5% solution should be administered in 3 to 5 mL increments not exceeding 50 to 100 mg at any dosing interval.
- Spinal anesthesia: 7.5 to 10.5 mg (1 to 1.4 mL)
- Renal Dose Adjustments: Data not available
- Liver Dose Adjustments: Dosages of bupivacaine should be reduced for patients with liver disease.

CISATRACURIUM (Nimbex®) (Restricted)

P/P:

- Nimbex 5mg/ml, 30ml vial
- Nimbex 5mg/2.5ml amp, 5's
- Nimbex 20mg/10ml amp, 5's

Category: Muscle Relaxants

Indications: Muscle relaxation during surgical procedures eg cardiac surgery, other procedures & in intensive care. Adjunct to general anesth, or sedation in the ICU, to relax skeletal muscles & to facilitate tracheal intubation & mechanical ventilation.

Caution: Allergic hypersensitivity to other neuromuscular blocking agents. Patients w/ myasthenia gravis & other forms of neuromuscular disease.

Side effects: Cutaneous flushing or rash, bradycardia, hypotension, bronchospasm.

Dosage: Adult: initial dose: 0.15 mg/kg, Maintenance doses of 0.03 mg/kg

Children: 0.1 to 0.15 mg/kg.

Infants: 1 month to 23 months is 0.15 mg/kg

Renal and Hepatic Disease: No dose adjustment recommended.

DANTROLENE (Dantrium, Dantrolene®)

P/P:

- Dantrolene 20mg injection
- Dantrium 20mg injection

Category: Muscle relaxants

Indications: Malignant hyperthermia

Caution: Increased risk of liver injury in patients above 30 yrs old, female patients' esp. those on oestrogen therapy, history of liver disease. Cardiac or pulmonary disorders. Pregnancy.

D/I: CNS depressants; oestrogens; calcium-channel blockers. CNS effects enhanced by alcohol or CNS depressants.

Side effects: Fatigue, muscle weakness/pain. GI disturbances, CNS effects, tachycardia, unstable blood pressure, dyspnea, drowsiness, rashes, pruritus, chills and fever, visual disturbances, dysphagia, speech disturbances; haematuria, crystalluria, urinary frequency, retention and incontinence.

Dosage: IV: 2.5 mg/kg IV
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Active hepatic disease (including hepatitis and cirrhosis) is a contraindication to the use of dantrolene.

DEXMEDETOMIDINE (Precedex®) (Restricted)

P/P: Precedex 100 mcg /ml vial

Category: Alpha2 agonist Sedative

Indications: sedation of critically ill or injured patients in an intensive care unit setting an adjunct for sedation and general anesthesia in the setting of certain operations and invasive medical procedures, such as colonoscopy. Analgesic, sympatholytic, and anxiolytic effects that blunt many of the cardiovascular responses in the perioperative period. It reduces the requirements for volatile anesthetics.

Side effects: Hypotension, hypertension, bradycardia, atrial fibrillation, nausea, dry mouth, Respiratory depression hypoxia, pleural effusion, bradypnea, and pulmonary edema Acute Respiratory Distress Syndrome and respiratory failure have been associated With infusions greater than 24 hours in duration.

Dosage: Initiation of Procedural Sedation: a loading infusion of one mcg/kg over 10 minutes. For less invasive procedures such as ophthalmic surgery, a loading infusion of 0.5 mcg/kg given over 10 minutes may be suitable.
Maintenance of Procedural Sedation: the maintenance infusion is generally initiated at 0.6 mcg/kg/hour and titrated to achieve desired clinical effect with doses ranging from 0.2 to 1 mcg/kg/hour.

Renal Dose Adjustments: Data not available
For adult patients with impaired hepatic function: a dose reduction should be considered.

FLUMAZENIL (Anexate®)

P/P: Anexate 0.5mg/5ml, 5's

Category: Antidotes, Detoxifying Agents & Drugs Used in Substance Dependence

Indications: Termination of general anaesthesia induced & maintained w/ benzodiazepines. Reversal of benzodiazepine sedation in short diagnostic & therapeutic procedures. Antidote & diagnostic tool in benzodiazepine intoxication.

Caution: Patient's psychomotor performance may still be affected during 1st 24 hr after administration of Anexate. Pregnancy. Severe head injury, epilepsy.

Contra-Ind: Hypersensitivity. Patients receiving benzodiazepines for control of a potentially life-threatening condition such as status epilepticus and control of intracranial pressure. Severe intoxication w/ tricyclic and related antidepressants.

D/I: Toxic effects w/ cyclic antidepressants. Reverses effects of benzodiazepines

Side effects: During anesth, flushing & GI upsets may occur rarely. Anxieties, palpitation, fear may occur occasionally after rapid inj.

Dosage: Usual Adult Dose: Initial dose: 0.2 mg IV one time over 15 seconds.
Repeated doses: 0.2 mg may be given every minute until the desired level of consciousness is achieved. Maximum total dose 1 mg.
Resedation doses: 0.2 mg every minute to a total of 1 mg/dose and 3 mg/hour.

Usual Pediatric Dose: Initial dose: 0.01 mg/kg (maximum dose: 0.2 mg) given over 15 seconds; may repeat 0.01 mg/kg (maximum dose: 0.2 mg) after 45 seconds, and then every minute to a maximum total cumulative dose of 0.05 mg/kg or 1 mg, whichever is lower; usual total dose: 0.08 to 1 mg (mean: 0.65 mg).

Renal Dose Adjustments: No adjustments recommended
Liver Dose Adjustments: using the smallest effective doses with the longest effective interval under close medical observation is recommended for this patient.

ISOFLURANE (Floran®)

P/P: **Floran 100ml liquid**

Category: General Anaesthesia

Indications: Induction & maintenance of general anaesthesia.

Caution: Raised intracranial pressure; cardiac, respiratory, renal or hepatic impairment. Concomitant use w/ adrenaline or other sympathomimetics.

Contra-Ind: Known or suspected susceptibility to malignant hyperthermia. Porphyria.

D/I: Enhance effects of neuromuscular blockers; CNS depressants. Enhanced hypotensive effects of ACE inhibitors, tricyclic antidepressants (TCAs), MAOIs, antihypertensives, antipsychotic, b-blockers

Side effects: Respiratory depression, hypotension, arrhythmias, malignant hyperthermia. Shivering, nausea and vomiting

Dosage: Inspired concentrations of 1.5 to 3.0% Isoflurane usually produce surgical anesthesia in 7 to 10 minutes. Surgical levels of anesthesia may be sustained with a 1.0 to 2.5%

concentration when nitrous oxide is used concomitantly. An additional 0.5 to 1.0% may be required when Isoflurane is given using oxygen alone

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

KETAMINE (Tekam®) (Restricted)

P/P:	Tekam 50mg/ml, 10ml Inj
Category:	General anaesthetics
Indications:	Sole anaesthetic agent for diagnostic & surgical procedures; induction of anaesthesia prior to administration of other general anaesthetic agents; to supplement other anaesthetic agents.
Caution:	Glaucoma, elderly, alcoholics, epilepsy.
Contra-Ind:	Hypertension, history of CV accident; severe angina, MI; raised ocular and intracranial pressure, psychiatric disorders, hypersensitivity.
D/I:	Inhalational anaesthetics and cerebral depressants may prolong effect of ketamine and delay recovery. Prolonged recovery w/ concomitant use of barbiturates and/or opioids. Sustained hypertension w/ thyroid hormones. Ergometrine.
Side effects:	Temporary elevation of BP, hypotension, bradycardia, arrhythmia; resp depression, laryngospasm; diplopia, nystagmus; emergence reactions; tonic/clonic movement; anaphylaxis, local pain & exanthema at inj site.
Dosage:	IV: Induction: 1 to 4.5 mg/kg IV; alternatively, 1 to 2 mg/kg IV at a rate of 0.5 mg/kg/min; (2 mg/kg dose provides 5 to 10 minutes of surgical anesthesia within 30 seconds). IM: Induction: 6.5 to 13 mg/kg IV; (9 to 13 mg/kg IV provides 12 to 25 minutes of surgical anesthesia) Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

LIDOCAINE (Lidocaine®)

P/P:	Lidocaine 1%, 2ml vial Lidocaine 2%, 2ml vial Lidocaine 2%, 5ml pre-fill syringe
Category:	Anaesthetics - Local
Indications:	Production of local or regional anaesthesia by infiltration techniques; IV regional anaesth, by peripheral nerve block techniques eg intercostal blocks; major plexus blocks eg brachial plexus blocks & by epidural & subarachnoid blocks.
Caution:	Inj should always be made slowly w/ frequent aspirations. Debilitated, elderly or acutely ill patients. Patients w/ preexisting abnormal neurological conditions, severe bradycardia,

cardiac conduction disturbances or severe digitalis intoxication, hepatic &/or renal impairment, genetic predisposition to malignant hyperthermia. Paracervical blocks during pregnancy. Avoid intravascular inj.

Contra-Ind: Known hypersensitivity to local anaesthesia of the amide-type, or methyl parahydroxybenzoate. Not to be used for epidural or spinal anaesthesia in patients w/ uncorrected hypotension or w/ coagulation disorders or receiving anti-coagulation treatment. Not to be used when there is inflammation &/or sepsis in the region of proposed inj or in the presence of septicaemia.

D/I: Antiarrhythmic drugs, β-blockers, cimetidine, anticonvulsive agents such as phenobarbarbitone, primidone, carbamazepine & diphenylhydantoin, amiodarone, inhalational anaesthesia, skeletal muscle relaxants, structurally-related local anaesthesia.

Side effects: CNS reactions, either excitatory or depressant. CV reactions, mainly depressant. Maternal hypotension.

Dosage: Anesthesia, local injectable: Dose varies with procedure, degree of anesthesia needed, maximum dose: 4.5 mg/kg/dose; do not repeat within 2 hours.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: Adults: Reduce dose in acute hepatitis and decompensated cirrhosis by 50%. Pediatrics: Use continuous infusion dose of 20 mcg/kg/minute in hepatic disease.

LIDOCAINE+ADRENALINE (Xylocaine+Adrenaline®)

P/P: Xylocaine+Adrenaline 1%, 1gm/50ml vial (Lidocaine 1% w/ adrenaline 1:200,000)
Xylocaine+Adrenaline 2%, 2gm/50ml vial (Lidocaine 2% w/ adrenaline 1:100,000)

Category: Anaesthetics - Local

Indications: Production of local or regional anaesth by the following techniques: Infiltration &epidural block.

Caution: Contra-Ind: D/I: Side effects: See lidocaine

Dosage: Adults and children above 12 years of age: 20-150 mg, the maximum single dose of Xylocaine when given with adrenaline is 500 mg.
Pediatric patients 1 to 12 years of age: Weight-based doses in ml/kg, up to 0.7 ml (7 mg/kg).
Renal Dose Adjustments Use with caution
Liver Dose Adjustments: Use with caution

NALOXONE HYDROCHLORIDE (Narcant®)

P/P: Narcan 0.4mg/ml inj

Category: Antidotes, Detoxifying Agents & Drugs Used in Substance Dependence

Indications: Treatment of opioid over dosage, opioid-induced depression in neonates due to obstetric analgesia; reversal of central depression from opioid use during surgery

Caution: Patients who received large doses of opioids or those physically dependent on opioids. Preexisting CV disease or receiving potentially cardiotoxic drugs. Lactation.

D/I: Reverses alcohol intoxication. Enhances postoperative analgesia w/ buprenorphine.

Side effects: Abrupt reversal of narcotic depression: Nausea, vomiting, sweating, tachycardia, hyperventilation, increased BP. Post-op: Hypotension, HTN, ventricular tachycardia & fibrillation, hyperventilation & pulmonary oedema.

Dosage:

- Usual Adult Dose for Opioid Overdose: 0.4 mg to 2 mg IV; alternatively, may give IM or subcutaneously
- Usual Adult Dose for Reversal of Opioid Sedation: 0.1 to 0.2 mg IV at 2 to 3 minute intervals to the desired degree of reversal
- Usual Pediatric Dose for Opioid Overdose:
 - Neonates: 0.01 mg/kg IV, IM, or subcutaneously; repeat dose every 2 to 3 minutes as needed
 - Children: 0.01 mg/kg IV; if desired response is not obtained, may give 0.1 mg/kg IV
- Usual Pediatric Dose for Reversal of Opioid Sedation:
 - Neonates: 0.01 mg/kg IV, IM or subcutaneously at 2 to 3 minute intervals to the desired degree of reversal
 - Children: 0.005 mg to 0.01 mg IV at 2 to 3 minute intervals to the desired degree of reversal
- Renal Dose Adjustments Use with caution
- Liver Dose Adjustments: Use with caution

NEOSTIGMINE METISULPHATE (Neostigmine, Epistigmin®)

P/P: **Neostigmine 2.5mg/ml amp, 10's**
Epistigmin 2.5 mg vial, 1's

Category: Neuromuscular Disorder Drugs

Indications: Myasthenia gravis, antagonist to non-depolarising neuromuscular blockade, paralytic ileus, post-op distension, urinary retention, paroxysmal supraventricular tachycardia.

Caution: Bronchial asthma, spastic bronchitis; vagotonia; recent coronary occlusion; hypotension; bradycardia; peptic ulcer; epilepsy; Parkinsonism. Pregnancy & lactation.

Contra-Ind: Mechanical intestinal or urinary tract obstruction, peritonitis.

D/I: Suxamethonium, cyclopropane or halothane.

Side effects: Increased salivation, nausea & vomiting, abdominal cramps & diarrhea. Allergic reaction. Increased muscular weakness.

Dosage:

- Adults and children above 12 years of age:
- Reversal of Neuromuscular Blockade: 0.03–0.07 mg/kg
- Myasthenia Gravis: Diagnosis: IM Single dose of 0.02 mg/kg has been recommended
- Treatment: IV, IM, or Sub-Q: Some experts recommend 0.5–2.5 mg every 1–3 hours as needed up to a maximum of 10 mg
- Hepatic Impairment: Dosage adjustment not necessary.

Renal Impairment: Dosage adjustment not necessary

PANCURONIUM BROMIDE (Alpax®)

P/P:	Alpax 4mg/2ml amp, 6's
Category:	Muscle Relaxants
Indications:	Adjunct to anesth when adequate skeletal muscle relaxation is needed for surgical procedures.
Caution:	Preexisting pulmonary, renal disease; pregnancy & neonate acidosis; severe electrolyte disturbances.
Contra-Ind:	Myasthenia, myopathy
Dosage:	Adult: dosage range is 0.04 to 0.1 mg/kg. Dosage in Children: 0.02 mg/kg Renal Dose Adjustments Use with caution Liver Dose Adjustments: Use with caution

PROPOFOL (Restricted) (Recofol, Propofol®)

P/P:	Recofol 10mg, 20ml Amp, 5's Propofol 1% 20 ml Amp, 5's
Category:	General anaesthetics
Indications:	Induction & maintenance of general anaesth. Sedation of ventilated adult patients receiving intensive care, for a period of up to 3 days. Sedation for surgical & diagnostic procedures.
Caution:	Pediatrics; elderly; hypovolaemia; epilepsy; lipid disorders; patients w/ increased intracranial pressure.
Contra-Ind:	Hypersensitivity. Electroconvulsive therapy; obstetrics; children <3 yrs. Pregnancy, lactation.
D/I:	Cardiorespiratory depression may be increased w/ CNS depressants. Reduce dose if given w/ nitrous oxide or halogenated anaesthetics
Side effects:	Involuntary muscle movements; nausea, vomiting, headache, fever; pain, burning, or stinging at Inj site.
Dosage:	Usual Adult Dose: Less than 55 years: Anesthetic Induction: 40 mg IV every 10 seconds until induction onset. Total dose required is 2 to 2.5 mg/kg with a maximum of 250 mg. Maintenance of Anesthesia: IV infusion: 100 to 200 mcg/kg/min. Maximum dose 20,000 mcg/min. Maximum dose 10,000 mcg/min. Usual Geriatric Dose: Induction: 20 mg every 10 seconds until induction onset (1-1.5 mg/kg). Maximum dose 200 mg, Maintenance: 50-100 mcg/kg/min.

Usual Pediatric Dose: 3 years to 16 years: Induction: 2.5 to 3.5 mg/kg over 20 to 30 seconds.
Maintenance: 125 to 300 mcg/kg/min.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

ROCURONIUM BROMIDE (Esmeron®)

P/P: Esmeron 50mg/5ml, 12's

Category: Muscle Relaxants

Indications: Adjunct to general anaesthesia to facilitate endotracheal intubation, to provide muscle relaxation during surgery.

Caution: Ventilatory support is mandatory until adequate spontaneous respiration is restored. Hepatic &/or biliary tract disease, renal failure. Neuromuscular disease or after poliomyelitis. Surgery under hypothermic conditions, obese patients, hypokalaemia, hypermagnesaemia, hypocalcemia, hypoproteinaemia, dehydration, acidosis, hypercapnia, cachexia. Severe electrolyte disturbances, burns.

D/I: Increased effect: Halothane, ether, enflurane, isoflurane. Decreased effect: Neostigmine, edrophonium, pyridostigmine, aminopyridine derivatives.

Side effects: Rare anaphylactic reactions. Itching & erythematous reactions at the site of inj &/or generalized histaminoid reactions eg bronchospasm & CV changes.

D/I: Thiopental, halothane, halogenic volatile anest drugs. Paromomycin or polymyxin can increase both intensity & effect of neuromuscular block.

Side effects: Local reaction at inj site. Rise in mean arterial pressure; increased pulse rate & cardiac output; decreased intraocular pressure & induced miosis.

Dosage: Adults: Continuous Infusion: IV 10 to 12 mg/kg/min initiated only after early evidence of spontaneous recovery from the intubating dose. Upon reaching the desired level of neuromuscular block, the infusion must be individualized to a dose range of 4 to 16 mcg/kg/min.

Rapid Sequence Intubation: IV 0.6 to 1.2 mg/kg.

Tracheal Intubation: IV 0.45 or 0.6 mg/kg initially. Maintenance dosing is 0.1, 0.15, and 0.2 mg/kg.

Children: IV 0.45 or 0.6 mg/kg, Maintenance dosing of 0.075 to 0.15 mg/kg.

Renal Dose Adjustments Use with caution

Liver Dose Adjustments: Use with caution

ROPIVacaine (Readyfusor®) [High Alert] [LASA]

P/P: Readyfusor: 2 mg/mL

Adm: Epidural

Administered via local infiltration, epidural block and epidural infusion, or intermittent bolus. Avoid rapid administration of large volumes of ropivacaine; use fractional (incremental) doses with the lowest effective dose and concentration required to produce the desired result. Prior to epidural anesthesia or induction of complete block, a test dose (eg, 3 to 5 mL) of short-acting local anesthetic with epinephrine should be administered. The On-Q infusion pump is used to slowly administer local anesthetics (eg, bupivacaine, lidocaine, ropivacaine) to or around surgical wound sites and/or in close proximity to nerves for pre- or postoperative regional anesthesia. When infused directly into the shoulder, destruction of articular cartilage (chondrolysis) has occurred. On-Q pumps should never be placed directly into any joint.

Category	Local Anesthetic.
Indications	Surgical anesthesia, Labor pain management, Postoperative pain management
Caution	CNS toxicity, Intra-articular infusion related chondrolysis, Methemoglobinemia, Respiratory arrest, Seizures, hypotension, hypovolemia, heart block, Use with caution in patients with hepatic impairment and severe renal impairment, Porphyria. Pregnancy Considerations: approved for use in obstetric analgesia/anesthesia. Breastfeeding Considerations: local anesthetics are considered compatible with breastfeeding, but consider the risk of infant exposure.
Contra-Ind	Hypersensitivity to ropivacaine, amide-type local anesthetics (eg, bupivacaine, mepivacaine, lidocaine), or any component of the formulation Canadian labeling: Additional contraindications (not in US labeling): Intravenous regional anesthesia (Bier block); obstetric paracervical block anesthesia
Side effects	Cardiovascular: Bradycardia (6% to 20%), hypotension (32% to 69%) Gastrointestinal: Nausea (13% to 25%), vomiting (7% to 12%) Neuromuscular & skeletal: Back pain (4% to 16%)
Dosage	Postoperative pain management: Peripheral nerve block: Continuous infusion dose: 5 to 10 mL/hour of 0.2% solution Lumbar or thoracic epidural: Continuous infusion dose: 6 to 14 mL/hour of 0.2% solution Infiltration/minor nerve block: 1 to 100 mL dose of 0.2% solution 1 to 40 mL dose of 0.5% solution

SEVOFLURANE (Sevorane, Floran®)

P/P:	Sevorane 250ml Floran 250ml
Category:	General anaesthetics
Indications:	Induction & maintenance of general anaesthesia for in- & out-patient surgery in both adult & children.
Caution:	Renal insufficiency. May impair ability to drive or operate machinery. Pregnancy & lactation.

Contra-Ind: Known or suspected genetic susceptibility to malignant hyperthermia.

D/I: Potentiates action of nondepolarising muscle relaxants.

Side effects: Dose-dependent cardioresp depression, nausea, vomiting, hypotension, agitation, increased cough.

Dosage: 0.5 - 3 % Sevoflurane with or without the concomitant use of nitrous oxide.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SUXAMETHONIUM CHLORIDE (Succinyl asta®)

P/P: **Succinyl asta 500mg Inj, 5's**

Category: Muscle Relaxants (Depolarising)

Indications: Muscle relaxation during general anaesthesia.

Caution: Neuromuscular diseases, liver & renal insufficiency. Penetrating eye injuries & glaucoma.

Contra-Ind: Malignant hyperthermia, existing hyperkalaemia or disposition to hyperkalaemia, severe liver dysfunction & decompensated renal insufficiency.

D/I: Aminoglycosides, polypeptide antibiotics, propanidid, quinidine, thiotepea& azathioprine potentiate the neuromuscular blockage.

Side effects: Increase in intraocular pressure & intragastric pressure, muscle fasciculations, post-op muscle pain, allergic skin reactions, dysrhythmia.

Dosage: The usual single dose for an adult is in the range of 20 to 100mg intravenously,
A suggested dose for children is in the range of 1 to 2mg/kg body weight, intravenously.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

THIOPENTAL SODIUM (Thiopental®)

P/P: **Thiopental 0.5gm Inj**

Category: General anaesthetics

Indications: Anaesthesia of short duration. Induction of anaesthesia, control of convulsive states, narcotic-assisted psychoanalysis & synthesis in psychiatry.

Caution: Elderly, CV disease, bronchial asthma, adrenocortical insufficiency, hypovolemia, sepsis & muscle dystrophies.

Contra-Ind: Acute intoxication by alcohol, analgesics or psychoactive drugs, myasthenia gravis, respiratory failure or vagotonia, status asthmaticus, severe dyspnea, severe myocardiopathies, cardiac dysrhythmias, severe shock, hepatic porphyria, severe hepatic or renal failure, severe metabolic dysfunction.

D/I: Alcohol, antihistamines & other CNS depressants. Phenothiazines, reserpine, drugs metabolised by microsomal liver enzymes, valproic acid, methotrexate, drugs w/ circulatory depressant effects, aminophylline.

Side effects: Cough, sneezing, hiccups, laryngospasms, bronchospasms, central respiratory depression, apnoea, reflex hyperexcitability, respiratory or circulatory depression, cardiac dysrhythmias, immunohemolytic anaemia w/ renal failure & radial nerve palsy.

Dosage:

- Usual Adult Dose for Anesthesia: 210 to 280 mg (3 to 4 mg/kg) is usually.
- Usual Adult Dose for Seizures: 75 to 125 mg (3 to 5 mL of a 2.5% solution).
- Usual Adult Dose for Coma Induction: 1.5 to 3.5 mg/kg of body weight
- Usual Adult Dose for Psychosis: After a test dose, thiopental is injected at a slow rate of 100 mg/min (4 mL/min of a 2.5% solution).

Usual Pediatric Dose for Anesthesia:

Induction anesthesia:

- less than 1 month: 3 to 4 mg/kg intravenously
- less than 1 year: 5 to 8 mg/kg intravenously
- 1 year to 12 years: 5 to 6 mg/kg intravenously
- over 12 years: 3 to 5 mg/kg intravenously

Maintenance anesthesia:

- 1 year and older: 1 mg/kg intravenously as needed

Usual Pediatric Dose for Seizures

- 1 year or older: 2 to 3 mg/kg/dose intravenously, repeat as needed.

Usual Pediatric Dose for Head Injury: 1 year or older: 1.5 to 5 mg/kg/dose intravenously

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

ANTI INFECTIVE DRUGS

ACYCLOVIR (Zovirax, Virustat ®) (Restricted)

P/P:

- Zovirax 200mg tab, 25's
- Virustat 200mg tab, 30's
- Zovirax 400mg tab, 70's, Zovirax 800mg tab, 35's
- Zovirax 200mg/5ml susp, 125ml
- Zovirax 250mg Inj, 5's

Adm: Oral prep may be taken with or without food

Category: Antiviral

Indications: Treatment of herpes simplex & herpes zoster infections

Caution: Renal impairment patients receiving potentially nephrotoxic agents. Pregnancy, lactation. Elderly, children <2 yr.

Contra-Ind: Hypersensitivity. Rapid or bolus injection.

D/I: Probenecid decreases urinary excretion and increases half-life. Risk of renal impairment increased by other nephrotoxic drugs.

Side effects: Fever, headache, pain, peripheral edema & rarely, anaphylaxis, confusion, dizziness, hallucinations, paresthesia, seizure, somnolence, GIT disturbances

Dosage:

- Usual Adult Dose: recommended 200 mg to 800mg orally 800 mg orally every 4 hours (5 times a day) 5-10 days. IV: 5 to 10 mg/kg IBW IV every 8 hours for 5 to 14 days.
- Usual Pediatric Dose: Neonatal HSV infection: Less than 3 months: 10 to 20 mg/kg or 500 mg/m² IV every 8 hours for 10 to 21 days. Some clinicians recommend 10 mg/kg every 12 hours for premature neonates.
- 3 months to 11 years: 40 to 80 mg/kg orally per day in 3 to 4 divided doses for 5 to 10 days.
- 12 years or older, over 40 kg: Adult dose
- IV: Less than 1 year: 10 mg/kg IV every 8 hours for 7 to 10 days
- 1 year to 11 years: 10 to 20 mg/kg or 500 mg/m² IV every 8 hours for 7 to 10 days
- 12 years or older: Adult dose.

Renal Dose Adjustments Adults and adolescents:

- Oral: Normal dose 200 mg every 4 hours: CrCl less than 10 mL/min/1.73 m²: 200 mg every 12 hours
- Normal dose 400 mg every 12 hours: CrCl less than 10 mL/min/1.73 m²: 200 mg every 12 hours.
- Normal dose 800 mg every 4 hours: CrCl 10 to 25 mL/min/1.73 m²: 800 mg every 8 hours
- CrCl less than 10 mL/min/1.73 m²: 800 mg every 12 hours
- IV: CrCl 25 to 50 mL/min/1.73 m²: 100% of normal dose every 12 hours
- CrCl 10 to 25 mL/min/1.73 m²: 100% of normal dose every 24 hours
- CrCl less than 10 mL/min/1.73 m²: 50% of normal dose every 24 hours

ADEFEOVIR (Hepsra®) (Restricted)

P/P: **Hepsra 10 mg tab, 30"s**

Adm: may be taken with or without food

Category: Antiviral

Indications: Treatment of chronic hepatitis B with evidence of active viral replication

Contra-Ind: Hypersensitivity

Caution: HIV virus, lacticacidosis, hepatomegaly, renal impairment.

Side effects: Headache, abdominal pain, weakness, hematuria

Dosage:

- Usual Adult Dose: 10 mg orally once a day.
- Usual Pediatric Dose: Less than 12 years: Not recommended.
- 12 years or older: 10 mg orally once a day, without regard to food
- Renal Dose Adjustments: CrCl 30 to 49 mL/min: 10 mg orally every 48 hours
- CrCl 10 to 29 mL/min: 10 mg orally every 72 hours
- CrCl less than 10 mL/min, non-hemodialysis: Data not available
- Liver Dose Adjustments: No adjustment recommended.

ALBENDAZOLE (Albenda®)

P/P:	Albenda 200mg tab, 2's, Albenda 400mg susp, 20ml
Adm:	Should be taken with food
Category:	Anthelmintics
Indications:	Infestations of all common worms e.g., roundworm, whipworm, hookworm, pinworm, threadworm& tapeworm
Caution:	Women of child bearing age should initiate treatment during 1st wk of menstruation or after a -ve pregnancy test.
Contra-Ind:	Pregnancy and lactation. Neonates. Hypersensitivity, liver impairment.
D/I:	Concomitant use of phenytoin &/or carbamazepine may lower the plasma conc of albendazole
Side effects:	GI discomfort, headache, nausea, dizziness, allergic reactions, pruritus, raised liver enzymes, alopecia and dry mouth.
Dosage:	Usual Adult Dose: Less than 60 kg: 15 mg/kg/day orally in divided doses twice a day Maximum dose: 800 mg/day. 60 kg or more: 400 mg orally twice a day. Usual Pediatric Dose: Less than 60 kg: 15 mg/kg/day orally in divided doses twice a day Maximum dose: 800 mg/day. 60 kg or more: 400 mg orally twice a day Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

AMIKACIN (Miacin®) (Restricted)

P/P:	Miacin 500mg/2ml Inj, 6's IV/IM; Miacin 100mg/2ml Inj, 6's IV/IM
Category:	Aminoglycosides
Indications:	Treatment of infections due to gm+ve & gm-ve bacteria including Pseudomonas aeruginosa.
Caution:	Myasthenia gravis, renal & hepatic impairment. Pregnancy & lactation. Premature & neonatal infants.
Contra-Ind:	Hypersensitivity to aminoglycosides.
D/I:	Blood substitutes, anesth & muscle relaxants, neurotoxic & nephrotoxic drugs. Loop diuretics
Side effects:	Ototoxicity, renal impairment, paresthesia, arthralgia, rash, fever, cyanosis, chest pain & hypotension.

Dosage: Usual Adult Dose: 15 to 22.5 mg/kg/day IV or IM in 1 to 3 divided doses, depending on severity of infection (initial maximum of 1.5 g/day, then adjust dose based on desired serum levels)
Usual Pediatric Dose: Doses ranging from 15 to 30 mg/kg/day in 1 to 3 divided doses.
Renal Dose Adjustments: Adults: CrCl 60 to 80 mL/min: 22 mg/kg every 36 hours, CrCl 40 to 60 mL/min: 20 mg/kg every 36 hours, CrCl 20 to 40 mL/min: 20 mg/kg every 48 hours, CrCl 10 to 20 mL/min: 17 mg/kg every 48 hours
Liver Dose Adjustments: No adjustment recommended

AMOXICILLIN (Amoxil, Ospamox, E-mox, Amoxydar, Glomox, Ultramox, Hymox®)

P/P: 250mg caps, 20's (Amoxil, Ospamox, E-mox)
500mg caps, 20's (Amoxil, Ospamox, E-mox, Amoxydar, Glomox, Ultramox, Hymox)
125mg susp, 100ml (Amoxil, Ospamox, E-mox, Hymox)
250mg susp, 100ml (Amoxil, Ospamox, E-mox, Hymox)
500mg susp, 100ml (Ospamox)
100mg/ml, 20ml drops (Flemoxin)
250mg Inj, 1's (Amoxil)
500mg Inj, 1's (Amoxil)

Adm: Oral prep may be taken with or without food

Category: Penicillin

Indications: Amoxicillin susceptible Resp tract, skin, & soft tissue, venereal, pelvic, severe systemic infections, UTI, dental abscess, prophylaxis of endocarditis.

Caution: Hypersensitivity to cephalosporins. Renal or hepatic impairment. Avoid prolonged use. Maintain adequate fluid intake esp. w/ high doses.

Contra-Ind: Hypersensitivity to penicillins & other β-lactams.

D/I: Probenecid, OCP, allopurinol, anticoagulants.

Side effects Nausea, vomiting, diarrhea, rash, pruritus, and urticaria. Rarely, erythema multiforme, Stevens-Johnson syndrome,

Dosage: Usual Adult Dose: 250 to 1 g 3 times a day.
Usual Pediatric Dose: 4 weeks to 3 months: 20 to 30 mg/kg/day in divided doses every 12 hours, 4 months to 12 years: 20 to 50 mg/kg/day in divided doses every 8 to 12 hours. 12 years or older: 250 to 500 mg orally 3 times a day.
Renal Dose Adjustments: CrCl 10 to 30 mL/min: 250 to 500 mg orally every 12 hours
CrCl 9 mL/min or less: 250 to 500 mg orally every 24 hours
Liver Dose Adjustments: Data not available

AMPICILLIN (Penbritin, Ampidar, Epicocillin®)

P/P: 250mg caps, 20's (Penbritin, Ampidar, Epicocillin)
500mg caps, 20's (Penbritin, Ampidar, Epicocillin)

**0.5gm Inj (Standacillin, Epicocillin)
1gm Inj (Standacillin, Epicocillin)**

Adm: Oral prep should be taken on an empty stomach (i.e., At least one hour before food or four hours after food) (Take on an empty stomach 1 hr before or 2 hr after meals.)

Category: Penicillin

Indications: Ampicillin sensitive Resp tract, GIT, skin, soft tissue & other infections

Caution: Renal failure; patients with lymphatic leukaemia or HIV infections; pregnancy and lactation.

Contra-Ind: Hypersensitivity to penicillins, Cephalosporins; Infectious mononucleosis.

D/I: Probenecid impairs drug excretion. Decreases efficacy of OCP. Allopurinol increases risk of skin rashes.

Side effects: GI disturbances, allergic reactions, anaphylaxis, blood disorders, superinfection.

Dosage: Usual Adult Dose: Parenteral: 250 to 500 mg IM or IV every 6 hours, Oral: 250 to 500 mg orally every 6 hours.
Usual Pediatric Dose: Parenteral: Less than 40 kg: 25 to 50 mg/kg/day IM or IV in equally divided doses every 6 to 8 hours, 40 kg or more: 250 to 500 mg IM or IV every 6 hours.
Oral: 20 kg or less: 25 mg/kg orally every 6 hours, Greater than 20 kg: 500 mg orally every 6 hours.

Renal Dose Adjustments: Adults: CrCl 10 to 50 mL/min: Usual dose every 6 to 12 hours
CrCl less than 10 mL/min: Usual dose every 12 to 24 hours
Liver Dose Adjustments: No adjustment required.

AMPICILLIN+SULBACTAM (Unasyn®)

P/P: **Unasyn 750mg Inj, 1's; Unasyn 1500mg Inj, 1's**

Category: Penicillins

Indications: Treatment of infections caused by susceptible gm+ve & gm-ve microorganisms (Intra-abdominal infections, bacterial septicaemia, & meningitis. Post-op wound infections, post-op sepsis)

Caution: Overgrowth of nonsusceptible organism. Check periodically for organ system dysfunction during prolonged therapy. Pregnancy & lactation.

Contra-Ind: History of allergic reaction to any penicillin.

D/I: Probenecid impairs drug excretion. OCP, allopurinol.

Side effects: GI disturbances. Phlebitis, skin rashes, itching, blood disorders, anaphylaxis, & superinfection.

Dosage: Usual Adult Dose: 1.5 to 3 g IV or IM every 6 hours.
Usual Pediatric Dose: 1 year or older: Less than 40 kg: 50 mg/kg IV every 6 hours
At least 40 kg: 1.5 to 3 g IV every 6 hours.
Renal Dose Adjustment: CrCl at least 30 mL/min: 1.5 to 3 g IV or IM every 6 to 8

hours CrCl 15 to 29 mL/min: 1.5 to 3 g IV or IM every 12 hours
CrCl 5 to 14 mL/min: 1.5 to 3 g IV or IM every 24 hours
Liver Dose Adjustments: Liver dysfunction: Hepatic function should be monitored regularly. History of cholestatic jaundice/liver dysfunction associated with this drug: Contraindicated.

ANIDULAFUNGIN (Restricted) (Ecalta®)

P/P: **Ecalta 100 mg vial, 1's**

Category: Systemic Antifungal

Adm: IV infusion

Indications: Candidemia, Candidal Peritonitis, Intra-Abdominal Abscess, Esophageal Candidiasis

Caution: Monitor for potential hepatic problems, may cause bronchospasm

Contra-Ind: Hypersensitivity to any component or other echinocandins

Side effects: Diarrhea, Hypokalemia, Headache, Nausea, Neutropenia, Rash

Dosage: Usual Adult Dose: 50 to 100 mg IV once a day.

Renal Dose Adjustments: No adjustment recommended.

Liver Dose Adjustments: No adjustment recommended.

AZITHROMYCIN (Zithromax, Zetron, Azi-once, Azomycin, Zimax, Azimac®) (Restricted)

P/P: **250mg caps, 6's (Zithromax, Zetron, Azi-once, Azomycin, Zimax, Azimac)**

500mg tab, 3's (Azimac)

250mg caps, 4's (Zithromax)

200mg/5ml susp, 15ml (Zithromax, Zetron, Azi-once, Azomycin)

300mg/5ml susp, 22.5ml (Zithromax, Zetron, Azi-once, Zimax)

400mg/5ml susp, 30ml (Zithromax, Azi-once, Zimax)

500mg Inj (Zithromax)

Adm: May be taken with or without food (May be taken w/ meals to reduce GI discomfort.).

Category: Macrolides

Indications: Treatment of infections of the upper & lower resp tract, skin & soft tissues & infections of the genitals due to Chlamydia trachomatis.

Caution: Impaired hepatic & renal function. Pregnancy & lactation. Do not administer as IV bolus or IM inj.

Contra-Ind: Known hypersensitivity to azithromycin, erythromycin or any of the macrolides

D/I: Antacids, ergot derivatives. Monitor patients on concurrent warfarin, digoxin, cyclosporin, nelfenavir

Side effects: GI disturbances, mild neutropenia, abnormal liver function, rash & angioedema, hearing impairment, dyspepsia, arthralgia, headache, abnormal vision, pain & inflammation at inj site

Dosage: Usual Adult Dose: Oral: 500 mg orally as a single dose, IV: 500 mg IV once a day for at least 2 days followed by 500 mg orally once a day to complete a 7- to 10-day course of therapy.
Usual Pediatric: 6 months or older: 10 mg/kg (maximum: 500 mg/dose) orally as a single dose on the first day followed by 5 mg/kg (maximum: 250 mg/dose) orally once a day on days 2 thru 5
16 years or older: 500 mg orally as a single dose on the first day followed by 250 mg orally once a day on days 2 through 5 for mild infections
IV: 16 years or older: 500 mg IV once a day for at least 2 days followed by 500 mg orally once a day to complete a 7- to 10-day course of therapy.
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: No adjustment recommended.

BENZATHINE BENZYLPCNILLIN (Retarpen®)

P/P: Retarpen 1.2 million IU Inj, 1's, Retarpen 2.4 million IU Inj, 1's

Adm: Deep Intramuscular Injection

Category: Penicillins

Indications: Treatment & prophylaxis of infections caused by organisms w/ high penicillin sensitivity, either local (bronchopulmonary, cutaneous, meningeal) or general (septicaemia, endocarditis).

Caution: History of allergy, renal impairment

Contra-Ind: Hypersensitivity to penicillins & cephalosporins.

D/I: Bacteriostatic antibiotics; Probenecid prolongs half-life of benzylpenicillin.

Side effects: Sensitivity reactions including urticaria, fever, joint pains, angioedema, anaphylactic shock.

Dosage: Usual Adult Dose: 2,400,000 units IM once. Alternatively, one-half the total dose may be given on days 1 and 3.
Usual Pediatric Dose: Less than 14 kg: 600,000 units IM once
14 to less than 27 kg: 900,000 to 1,200,000 units IM once
27 kg or more: 2,400,000 units IM once
Alternatively, one-half the total dose may be given on days 1 and 3
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CASPOFUNGIN (Caspofungin®) (Restricted)

P/P: CASPOFUNGIN 50 MG VIAL

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Adm:	Important Administration Instructions for All Patients (2.1): Administer by slow intravenous (IV) infusion over approximately 1 hour. Do not administer by intravenous (IV) bolus administration. Do not mix or co-infuse caspofungin acetate for injection with other medications. Do not use diluents containing dextrose (α -D-glucose)
Category:	ANTI-FUNGAL
Indications:	Empirical Therapy for Presumed Fungal Infections in Febrile, Neutropenic Patients. Treatment of Candidemia and Other Candida Infections. Treatment of Esophageal Candidiasis Treatment of Invasive Aspergillosis in Patients Who Are Refractory to or Intolerant of Other Therapies
Caution:	Hypersensitivity: Anaphylaxis has been reported. Possible histamine-mediated adverse reactions, including rash, facial swelling, angioedema, pruritus, sensation of warmth or bronchospasm have been reported. • Hepatic Effects: Can cause abnormalities in liver enzymes. Isolated cases of hepatic dysfunction, hepatitis, or hepatic failure have been reported. • Abnormal Liver Enzymes during Concomitant use with Cyclosporine: Limit use to patients for whom potential benefit outweighs potential risk. Monitor patients who develop abnormal liver function tests (LFTs) during concomitant use with caspofungin.
Contra-Ind:	Caspofungin is contraindicated in patients with known hypersensitivity to any component of this product.
Side effects:	Adults: Most common adverse reactions (incidence 10% or greater) are diarrhea, pyrexia, ALT/AST increased, blood alkaline phosphatase increased, and blood potassium decreased. Pediatric patients: Most common adverse reactions (incidence 10% or greater) are pyrexia, diarrhea, rash, ALT/AST increased, blood potassium decreased, hypotension, and chills.
Dosage:	For Injection: 50 or 70 mg lyophilized powder (plus allowance for overfill) in a single dose vial for reconstitution.

CEFACLOR (Ceclor, Tabiclor, Cloracef, Medacef ®)

P/P:	250mg caps, 15's (Ceclor, Tabiclor) 250mg caps, 16's (Cloracef) 500mg caps, 15's (Ceclor, Tabiclor) 500mg caps, 16's (Cloracef) 500mg caps, 20's (Medacef) 375mg MR tab, 10's (Ceclor) 750mg MR tab, 10's (Ceclor, Tabiclor) 125mg/5ml susp (Ceclor, Tabiclor, Medacef) 250mg/5ml susp (Ceclor, Tabiclor, Medacef) 375mg/5ml susp (Tabiclor)
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Adm: May be taken with or without food.

Category:	Cephalosporins
Indications:	Respiratory tract infections, otitis media, skin, & skin structure, bone & GUT infections, acute prostatitis.
Caution:	Monitor renal & hematological status during prolonged & high-dose therapy, pseudomembranous colitis.
Contra-Ind:	Hypersensitivity to cephalosporins.
D/I:	Probenecid slows tubular excretion.
Side effects:	Skin rashes, urticaria, eosinophilia, fever, serum sickness-like anaphylactic reactions, hemolytic anemia & acute interstitial nephritis. Overgrowth of nonsusceptible organism.
Dosage:	Usual Adult Dose: Immediate-release: 250 to 500 mg orally every 8 hours Extended-release: 500 mg orally every 12 hours. Usual Pediatric Dose: 1 month or older: 20 to 40 mg/kg/day orally in divided doses every 8 or 12 hours; do not exceed 1 g/day. Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: No adjustment recommended

CEFADROXIL (Ultracet, Roxil, Biodroxil®)

P/P:	500mg caps, 20's (Ultracet, Roxil, Biodroxil) 500mg caps, 12's (Droxil) 1000mg caps, 12's (Biodroxil) 250mg/5ml susp (Ultracet, Roxil, Biodroxil) 500mg/5ml susp (Ultracet, Biodroxil)
Adm:	May be taken with or without food (May be taken w/ meals to reduce GI discomfort.).
Category:	Cephalosporins
Indications:	Infections caused by susceptible strains of organisms in UTI, skin & skin structure infections, pharyngitis &/or tonsillitis.
Caution:	Impaired renal function; pregnancy and lactation.
Contra-Ind:	Hypersensitivity to cephalosporins.
D/I:	Prothrombin time prolonged; bleeding may occur when taken with anticoagulants. Decreased elimination with probenecid.
Side effects:	Nausea, vomiting, diarrhea, abdominal discomfort; skin rash, angioedema; elevated liver enzyme values
Dosage:	Usual Adult Dose: 1 to 2 g/day orally in 1 to 2 divided doses. Usual Pediatric Dose: 1 month or older: 15- 30 mg/kg/day orally in 1 to 2 divided doses, not to exceed 2 g per 24 hours. Renal Dose Adjustments: CrCl 25 to 50 mL/min: 1 g orally followed by 500 mg orally every 12 hours, CrCl 10 to 25 mL/min: 1 g orally followed by 500 mg orally every 24 hours, CrCl 0 to 10 mL/min: 1 g orally followed by 500 mg orally every 36 hours Liver Dose Adjustments: No adjustment recommended.

CEFAZOLIN (Zolecin®)

P/P: Cefazolin 1gm, 1's IM/IV Inj, Cefazolin 0.5gm, 1's IM/IV Inj
Zolecin 1gm, 1's IM/IV Inj

Category: Cephalosporin

Indications: Treatment of biliary tract infections, staphylococcal endocarditis and peritonitis, prophylaxis of infection during surgery including prophylaxis of endometriosis during caesarian section

Caution: Hypersensitivity to penicillin. Severe renal impairment, poor oral nutrition. Patients receiving parenteral nutrition, elderly, debilitated patients.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Probenecid prolongs cephalosporin blood levels.

Side effects: Shock, hypersensitivity, haematologic reactions, hepatic disorder, renal impairment, GI disorder, resp disorders, CNS signs including convulsions.

Dosage: Usual Adult Dose: Mild infections: 250 to 500 mg IV or IM every 8 hours.
Moderate to severe infections: 500 mg to 1 g IV or IM every 6 to 8 hours
Severe, life-threatening infections (e.g., endocarditis, septicemia): 1 to 1.5 g IV every 6 hours; in rare cases, up to 12 g/day has been used.
Usual Pediatric Dose: 1 month or older: Mild to moderate infections: 25 to 50 mg/kg/day IV or IM in 3 or 4 equally divided doses, Severe infections: 100 mg/kg/day IV or IM in 3 or 4 equally divided doses, Maximum dose: 6 g/day
Neonates: (Not approved by FDA).
Renal Dose Adjustments: Adults:
CrCl 35 to 54 mL/min: Normal doses may be given, but intervals should not be more often than every 8 hours.
CrCl 11 to 34 mL/min: An initial loading dose followed by 50% of the usual dose every 12 hours.
CrCl 10 mL/min or less: An initial loading dose followed by 50% of the usual dose every 18 to 24 hours.
Pediatrics:
CrCl 40 to 70 mL/min: An initial loading dose followed by 60% of the normal daily dose given in equally divided doses every 12 hours.
CrCl 20 to 40 mL/min: An initial loading dose followed by 25% of the normal daily dose given in equally divided doses every 12 hours.
CrCl 5 to 20 mL/min: An initial loading dose followed by 10% of the normal daily dose every 24 hours.
Liver Dose Adjustments: Data not available

CEFDINIR (Omnicef®)

P/P: Omnicef 300mg caps, 10's, Omnicef 125mg susp, 40ml, Omnicef 125mg susp, 80ml

Adm: May be taken with or without food

Category: Cephalosporins

Indications: Treatment of infections caused by susceptible bacteria

Caution: Penicillin-sensitive patients; superinfection; seizure; pseudomembranous colitis; pregnancy, lactation; renal or hepatic insufficiency.

Contra-Ind: Hypersensitivity.

D/I: Concomitant administration with antacids and iron reduce the rate and extent of absorption. Probenecid reduces renal elimination. Antacids reduce rate and extent of absorption.

Side effects: Headache, dizziness, fever; nausea, vomiting, diarrhea, abdominal pain; rash; leukopenia, thrombocytopenia, hemolytic anaemia.

Dosage: Usual Adult Dose: 13 years or older :300 mg orally every 12 hours.
Usual Pediatric Dose: 6 months through 12 years: 7 mg/kg orally every 12 hours or 14 mg/kg orally every 24 hours Maximum dose: 600 mg/day.
Renal Dose Adjustments: Adults: CrCl less than 30 mL/min: 300 mg orally every 24 hours
Pediatric patients: CrCl less than 30 mL/min: 7 mg/kg orally every 24 hours, Maximum dose: 300 mg/day
Liver Dose Adjustments: Data not available

CEFDITORIN PIVOXIL (Meiact®)

P/P: Meiact 200mg tab, 20's

Adm: Administer each dose with food to increase absorption

Category: Cephalosporin

Indications: Treatment of mild to moderate infections of acute bacterial exacerbation of chronic bronchitis, pharyngitis/tonsillitis, and uncomplicated skin and skin-structure infections caused by susceptible strains of specific microorganisms.

Caution: Pregnancy, prolonged treatment, hepatic impairment

Contra-Ind: Hypersensitivity to cephalosporins or milk protein; carnitine deficiency or inborn errors of metabolism that result in clinically important carnitine deficiency.

D/I: Probenecid May increase plasma levels and the duration of activity of cefditoren.

Side effects: Headache; mild diarrhea; nausea; stomach pain or upset; vomiting.

Dosage: Usual Adult Dose and children 12 years or older: 200mg-400mg twice a day.
Renal Dose Adjustments: CrCl 30 to 49 mL/min: Not more than 200 mg orally twice a day, CrCl less than 30 mL/min: 200 mg orally once a day, End-stage renal disease: Data not available
Liver Dose Adjustments: Mild to moderate hepatic impairment: No adjustment recommended., Severe hepatic impairment: Data not available

CEFEPIME (Maxipime, Protec®) (Restricted)

P/P:	Maxipime 1gm IM/IV Inj, Maxipime 2gm IV Inj Protec 1gm IM/IV Inj, Protec 2gm IV Inj
Category:	Cephalosporin
Indications:	Mild to moderate, uncomplicated or complicated UTI, including pyelonephritis; Empiric therapy for febrile neutropenic patients; Moderate to severe pneumonia, complicated intra-abdominal infections; Moderate to severe uncomplicated skin and skin structure infections
Caution:	Hypersensitivity, pseudomembranous colitis, impaired renal function.
Contra-Ind:	Hypersensitivity to cephalosporins, penicillins or other β-lactam antibiotics.
D/I:	Aminoglycosides, frusemide& other nephrotoxic drugs.
Side effects:	GI disturbances including diarrhea & pseudomembranous colitis, hypersensitivity reactions, rash, headache. Local inj site reactions (IV).
Dosage:	Usual Adult Dose: 1 to 2 g IV every 8 to 12 hours. Usual Pediatric Dose: 2 months up to 16 years and up to 40 kg: 50 mg/kg IV every 12 hours. Renal Dose Adjustments: Initial doses of cefepime in renally impaired patients (except hemodialysis patients) should be the same as in patients with normal renal function Maintenance Dosing
Mild infections:	CrCl 61 mL/min or more: 500 mg IV every 12 hours CrCl 30 to 60 mL/min: 500 mg IV every 24 hours CrCl 11 to 29 mL/min: 500 mg IV every 24 hours CrCl 10 mL/min or less: 250 mg IV every 24 hours
Moderate infections:	CrCl 61 mL/min or more: 1 g IV every 12 hours CrCl 30 to 60 mL/min: 1 g IV every 24 hours CrCl 11 to 29 mL/min: 500 mg IV every 24 hours CrCl 10 mL/min or less: 250 mg IV every 24 hours
Severe infections:	CrCl 61 mL/min or more: 2 g IV every 12 hours CrCl 30 to 60 mL/min: 2 g IV every 24 hours CrCl 11 to 29 mL/min: 1 g IV every 24 hours CrCl 10 mL/min or less: 500 mg IV every 24 hours
Life threatening infections:	CrCl 61 mL/min or more: 2 g IV every 8 hours CrCl 30 to 60 mL/min: 2 g IV every 12 hours CrCl 11 to 29 mL/min: 2 g IV every 24 hours CrCl 10 mL/min or less: 1 g IV every 24 hours
Liver Dose Adjustments:	No adjustment recommended

CEFIXIME (Suprax, Winex, Magnacef)®

P/P:	200mg caps, 8's (Suprax, Winex) 400mg caps, 6's (Suprax, Winex, Magnacef) 400 mg Disp.tab (Suprax) 200mg susp, 60ml (Suprax, Winex, Magnacef)
Adm:	Should be taken with food.
Category:	Cephalosporins
Indications:	Acute infections caused by susceptible microorganisms e.g., upper & lower resp tract infection, otitis media, sinusitis, pharyngitis, tonsillitis, bronchitis, UTI, cystitis, cystourethritis, uncomplicated pyelonephritis, & uncomplicated gonorrhea.
Caution:	Penicillin-sensitive patients. Preexisting renal impairment when combined w/ aminoglycoside antibiotics, polymyxin B, colistin or high-dose loop diuretics. Pregnancy & lactation.
Contra-Ind:	Hypersensitivity to cephalosporins, penicillins.
D/I:	May increase prothrombin time with anticoagulants. Increase concentration with probenecid. Increases carbamazepine concentration.
Side effects:	Hypersensitivity reactions, GI effects, hepatic & renal effects, CNS effects, hematologic & lymphatic systems disorders.
Dosage:	Usual Adult Dose: 400 mg orally once a day or 200 mg orally every 12 hours Usual Pediatric Dose: 6 months to 12 years (weighing 45 kg or less): 8 mg/kg orally once a day or 4 mg/kg orally every 12 hours. Children weighing more than 45 kg or older than 12 years: 400 mg orally once a day or 200 mg orally every 12 hours. Renal Dose Adjustments: Adults, children weighing more than 45 kg or older than 12 years: CrCl 21 to 59 mL/min: Oral suspension: 260 mg orally once a day Tablets, Dis. tablets: Not recommended. CrCl 20 mL/min or less: -100 mg/5 mL oral suspension: 172 mg orally once a day -200 mg/5 mL oral suspension: 176 mg orally once a day -500 mg/5 mL oral suspension: 180 mg orally once a day -Tablets, Dis. tablets: 200 mg orally once a day Liver Dose Adjustments: Data not available

CEFOPERAZONE (Cefobid®)

P/P:	Cefobid 1gm Injection
Category:	Cephalosporins
Indications:	Treatment of infections caused by susceptible bacteria including pseudomonas spp.
Caution:	Penicillin-sensitive patients. Severe biliary obstruction, severe hepatic disease or coexistent renal dysfunction. Pregnancy & lactation.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Disulfiram-like reaction with alcohol. Potentiates anticoagulants.

Side effects: Hypersensitivity reactions e.g., rash, urticaria, fever; neutropenia (reversible), hypoprothrombinaemia (occasional); GI effects & local reactions; vit K deficiency (rare).

Dosage: The usual adult daily dose is 2 to 4 grams per day administered in equally divided doses every 12 hours.
Renal Dose Adjustments: patients with renal failure require no adjustment in dosage when usual doses are administered. When high doses are used, concentrations of drug in the serum should be monitored periodically.
Liver Dose Adjustments: Data not available

CEFTAZIDIME (Fortum, Negacef, Zidime®) (Restricted)

P/P: Fortum 1 gm IM/IV, Negacef 1gm IM/IV
Zidime 1 gm IM/IV

Category: Cephalosporin

Indications: Infection due to sensitive Gram positive and Gram-negative Bacteria

Caution: Hypersensitivity to penicillins. Renal impairment. Pregnancy.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Concomitant administration of nephrotoxic drugs, Chloramphenicol. Probenacid decreases ceftazidime elimination time, OCP

Side effects: GI upsets, CNS & genitourinary effects, phlebitis or thrombophlebitis at IV inj site, pain &/or inflammation after IM inj, very rarely, hypersensitivity reactions. Transient hematological changes

Dosage: Usual Adult Dose: 2 g IV every 8 hours.
Usual Pediatric Dose:
0 to 4 weeks, birthweight 1199 g or less: 30 to 50 mg/kg IV every 12 hours
0 to 7 days, birthweight 1200 to 2000 g: 30 to 50 mg/kg IV every 12 hours
0 to 7 days, birthweight 2001 g or more: 30 to 50 mg/kg IV every 8 to 12 hours
7 days to 4 weeks, birthweight 1200 g or more: 30 to 50 mg/kg IV every 8 to 12 hours
1 month to 12 years: 30 to 50 mg/kg IV every 8 hours; maximum dose is 6 g/day
13 years or older: Adult dosage.
Renal Dose Adjustments:
CrCl 31 to 50 mL/min: 1 g IV every 12 hours
CrCl 16 to 30 mL/min: 1 g IV every 24 hours
CrCl 6 to 15 mL/min: 500 mg IV every 24 hours
CrCl less than 5 mL/min: 500 mg IV every 48 hours
Liver Dose Adjustments: Data not available

CEFTOLOZANE / TAZOBACTAM (Zerbaxa®) (Restricted)

P/P: **Zerbaxa 1.5 GM VIAL**

Adm: Zerbaxa (ceftolozane/tazobactam) for Injection, 1.5 g (1 g/0.5 g) every 8 hours by intravenous infusion administered over 1 hour for patients 18 years or older with creatinine clearance (CrCl) greater than 50 mL/min.

Category: ANTI-BACTERIAL.

Indications: ZERBAXA (ceftolozane/tazobactam) is a combination product consisting of a cephalosporin-class antibacterial drug and a beta-lactamase inhibitor indicated for the treatment of the following infections caused by designated susceptible microorganisms:
Complicated Intra-abdominal Infections, used in combination with metronidazole
Complicated Urinary Tract Infections, including Pyelonephritis

Caution: Decreased efficacy in patients with baseline CrCl of 30 to ≤50 mL/min. Monitor CrCl at least daily in patients with changing renal function and adjust the dose of ZERBAXA accordingly.
Serious hypersensitivity (anaphylactic) reactions have been reported with beta-lactam antibacterial drugs. Exercise caution in patients with known hypersensitivity to beta-lactam antibacterial drugs.
Clostridium difficile-associated diarrhea (CDAD) has been reported with nearly all systemic antibacterial agents, including ZERBAXA. Evaluate if diarrhea occurs. (5.3)

Contra-Ind: ZERBAXA is contraindicated in patients with known serious hypersensitivity to ceftolozane/tazobactam, piperacillin/tazobactam, or other members of the beta-lactam class

Side effects: The most common adverse reactions (≥ 5% in either indication) are nausea, diarrhea, headache and pyrexia.

Dosage: ZERBAXA for Injection (ceftolozane/tazobactam) 1 g/0.5 g powder for reconstitution in single-dose vials containing 1 g ceftolozane (equivalent to 1.147 g ceftolozane sulfate) and 0.5 g tazobactam (equivalent to 0.537 g tazobactam sodium)

CEFTRIAXONE (Rocephin, Cefaxone, Mesporin, Triaxone®)

P/P: **1gm IV (Rocephin, Cefaxone, Mesporin, Triaxone)
0.5gm IV (Rocephin, Cefaxone Mesporin, Triaxone)
0.25gm IV/IM (Megion)
1gm IM (Rocephin, Cefaxone, Mesporin, Triaxone)
0.5gm IM (Rocephin, Cefaxone, Mesporin, Triaxone)
2gm IV (Mesporin)**

Category: Cephalosporin

Indications: Resp tract, renal, bone & joint, soft tissue, skin & wounds, abdominal & genital infections. Gonorrhoea, UTI, sepsis, meningitis. Pre-op prophylaxis of infections.

Caution: History of penicillin allergy; severe renal impairment; pregnancy and lactation; superinfection.

Contra-Ind: Hypersensitivity to cephalosporins; hyperbilirubinaemic neonates.

D/I: Disulfiram-like reaction with alcohol. Nephrotoxicity with aminoglycosides and furosemide.

Side effects: Superinfection; anaphylaxis; local reactions; GI upsets, haematological changes, skin reactions, phlebitis

Dosage: Usual Adult Dose: to 2 g IV or IM once a day (or in equally divided doses twice a day). Usual Pediatric Dose: 1 month or older: 50 to 75 mg/kg IV or IM once a day (or in equally divided doses twice a day), Maximum dose: 2 g/day. Neonates: 50 mg/kg IV or IM every 24 hours.
 Renal Dose Adjustments: Renal dysfunction alone: No adjustment recommended.
 Significant renal dysfunction plus liver dysfunction: Caution recommended; dose should not exceed 2 g/day.
 Liver Dose Adjustments: Liver dysfunction alone: No adjustment recommended.

CEFUROXIME (Zinnat, Zinoximore, Daroxim®)

P/P: 125mg tab, 14's (Zinnat, Zinoximore)
 250mg tab, 14's (Zinnat, Zinoximore, Daroxim)
 500mg tab, 10's (Zinnat, Zamur, Daroxim)
 500mg tab, 14's (Zinoximore)
 125mg/5ml susp (Zinnat.)
 250mg/5ml susp (Zinnat)
 750mg Inj (Zinacef, Zinoxime)
 1500mg Inj (Zinacef, Zinoxime)

Adm: Oral prep should be taken with food (Take immediately after food.).

Category: Cephalosporins

Indications: Lower & upper resp tract infections, GUT infections, skin & soft tissue infections, gonorrhea including acute uncomplicated gonococcal urethritis & cervicitis.

Caution: Anaphylactic reaction to penicillins. Pseudomembranous colitis.

Contra-Ind: Hypersensitivity to cephalosporins

D/I: Diuretics e.g., furosemide or aminoglycosides; Probenecid.

Side effects: GI disturbances, occasionally pseudomembranous colitis; hypersensitivity reactions, Eosinophilia, Headache, Superinfection

Dosage: Usual Adult Dose: 250 to 500 mg orally twice a day or 750 mg to 1.5 grams IV or IM every 8 hours.

Usual Pediatric Dose: Parenteral: 50 to 100 mg/kg/day IV or IM in divided doses every 6 to 8 hours (maximum daily dose 6 g), Oral: Suspension: 10 to 15 mg/kg orally twice a day (maximum dose 1000 mg/day)
Tablets: 250 mg orally twice a day.
Renal Dose Adjustments: Oral: No dose adjustments are recommended.
Parenteral: CrCl 10 to 20 mL/min: 750 mg every 12 hours, CrCl less than 10 mL/min: 750 mg every 24 hours
Liver Dose Adjustments: No adjustment recommended.

CLOXACILLIN (Cloxa, Orbenin®)

P/P: Cloxa Inj 500mg vial,1's, Cloxa Inj 1000mg vial,1's
Orbenin Inj 500mg vial, 1's

Category: Penicillins

Indications: Infections caused by gm+ve organisms, including infections caused by β-lactamase producing Staph.

Caution: Renal impairment; pregnancy and lactation.

Contra-Ind: Penicillin hypersensitivity, ocular administration.

D/I: Increased hypoprothrombinaemic effects of oral anticoagulants Co-administration of probenecid and disulfiram results in higher Cloxacillin concentration.

Side effects: Nausea & vomiting, abdominal discomfort, diarrhea; rash. Phlebitis w/ IV administration.

Dosage: Usual Adult Dose: 250-500 mg every 6 hours, Maximum dose: 4 g/day.
Usual Pediatric Dose: 1 year to 18 years: 50 to 100 mg/kg/day orally divided every 6 hours. Maximum dose: 4 g/day.

CEFOTAXIME (Ceftax, Primocef, Foxim®)

P/P: 1gm Inj (Ceftax, Primocef, Foxim)
500 mg, IM Inj (Ceftax, Primocef, Foxim)

Category: Cephalosporins

Indications: Infection due to sensitive Gram positive and Gram-negative Bacteria; Surgical prophylaxis, Haemophilus epiglottis and meningitis

Caution: History of penicillin allergy; colitis; impaired renal function; pregnancy and lactation.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Nephrotoxicity with furosemide and aminoglycosides. Probenecid decreases cefotaxime elimination.

Side effects: Pain at injection site; hypersensitivity reactions, rash, pruritus; diarrhea, nausea, vomiting; candidiasis; eosinophilia, neutropaenia, leucopenia, thrombocytopenia.

Dosage: Usual Adult Dose: 1 to 2 g IV every 6 to 8 hours, Maximum dose: 2 g IV every 4 hours
Usual Pediatric Dose: 1 month or older: 150 to 200 mg/kg/day IV in 3 or 4 divided
Renal Dose Adjustments: CrCl 10 to 50 mL/min: Increase interval to every 8 to 12
hours, CrCl 9 mL/min or less: Increase interval to every 24 hours.
Liver Dose Adjustments: No adjustment recommended doses, Maximum dose: 6 g/day.

CEFPROZIL (Cefzil, Cefproz®)

P/P: **Cefzil 125mg/5ml susp, Cefproz 125mg/5ml susp**
Cefzil 250mg/5ml susp, Cefproz 125mg/5ml susp
Cefzil 250mg tab, 10's
Cefzil 500mg tab, 10's

Adm: May be taken with or without food (May be taken w/meals to reduce GI discomfort.).

Category: Cephalosporins

Indications: Susceptible infections including upper and lower respiratory infections; skin and soft tissue infections

Caution: Penicillin-sensitive patients; renal impairment; history of GI disease esp. colitis; superinfection. Pregnancy, lactation.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Potent diuretics; probenecid; aminoglycosides.

Side effects: GI disorders, hypersensitivity, CNS reactions.

Dosage: Usual Adult Dose: 250-500 mg orally every 12 hours.
Usual Pediatric Dose: 6 months to 12 years: 15 mg/kg orally every 12 hours, do not exceed 1 g/day.
Renal Dose Adjustments: CrCl 29 mL/min or less: The dose should be 50% of the standard dose at the same dosing interval and duration.
Liver Dose Adjustments: No adjustment recommended.

CEFTIZOXIME (Cefizox®)

P/P: **Cefizox 1gm Inj, 1's**

Category: Cephalosporin

Indications: Treatment of uncomplicated gonorrhoea, UTI, and other susceptible infections

Caution: Hypersensitivity to penicillins; severe renal impairment; pregnancy, lactation.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Nephrotoxicity with aminoglycosides and furosemide.

Side effects: Burning; rash, pruritus, fever; anorexia, nausea, vomiting, diarrhea; rarely neutropaenia, leucopenia, thrombocytopenia, nephrotoxicity

Dosage:

- Usual Adult Dose: 500mg to 4 g IV or IM every 8 to 12 hours
- Pediatric: not recommended
- Renal Dose Adjustments: CrCl 50 to 79 mL/min:
 - Less severe infections: 500 mg to 1 g IV or IM every 8 hours
 - Life-threatening infections: 750 mg to 1.5 g IV every 8 hours
- CrCl 5 to 49 mL/min:
 - Less severe infections: Loading dose of 500 mg to 1 g followed by 250 to 500 mg IV or IM every 12 hours
 - Life-threatening infections: 500 mg to 1 g IV every 12 hours
- CrCl 0 to 4 mL/min:
 - Less severe infections: Loading dose of 500 mg to 1 g followed by 500 mg IV or IM every 48 hours or 250 mg IV or IM every 24 hours
 - Life-threatening infections: 500 mg to 1 g IV every 48 hours or 500 mg IV or IM every 24 hours
- Liver Dose Adjustments: No adjustment recommended

CEPHALEXIN (Keflex, Ospexin, Cephadate, Cephalex®)

P/P:

- 250mg caps, 20's (Keflex, Ospexin, Cephadate)
- 500mg caps, 20's (Keflex, Ospexin, Cephadate, Cephalex)
- 1000mg caps, 12's (Ospexin)
- 125mg/5ml susp (Keflex, Ospexin, Cephadate)
- 250mg/5ml susp (Keflex, Ospexin, Cephadate, Cephalex)

Adm: May be taken w/ meals to reduce GI discomfort.

Category: Cephalosporins

Indications: Treatment of UTI, otitis media; resp, skin & other infections due to sensitive organisms.

Caution: Hypersensitivity to penicillins, renal impairment, superinfection.

Contra-Ind: Hypersensitivity to cephalosporins.

D/I: Concurrent treatment w/ high doses of cephalosporins & aminoglycosides or potent diuretics may adversely affect renal function. Probenecid may increase or prolong plasma level & toxicity of cephalosporins. Bacteriostatic antibiotics.

Side effects: GI discomfort, diarrhea, skin rashes, urticaria, eosinophilia, angioedema, anaphylaxis.

Dosage:

- Usual Adult Dose: 250 mg- 500 mg orally every 6 hours.
- Usual Pediatric Dose: Over 1 year of age: 12.5 to 25 mg/kg orally every 12 hours
- Renal Dose Adjustments: CrCl 10 to 40 mL/min: The usual dose should be administered every 8 to 12 hours, CrCl 9 mL/min or less: The usual dose should be administered every 12 to 24 hours
- Liver Dose Adjustments: Data not available

CEPHRADINE(Velosef, Eskacef®)

P/P:	250mg caps, 12's, 500mg caps, 12's (Velosef) 250mg caps, 20's, 500mg caps, 20's (Eskacef) 125mg/5ml susp (Velosef, Eskacef) 250mg/5ml susp (Velosef, Eskacef)
Adm:	May be taken with or without food (May be taken w/ meals to reduce GI discomfort.).
Category:	Cephalosporins
Indications:	GI & resp tract & skin & soft tissue infections caused by susceptible organisms.
Caution:	Renal impairment; history of penicillin sensitivity; pregnancy; lactation.
Contra-Ind:	Hypersensitivity to cephalosporins
D/I:	Probenecid. Nephrotoxic antibiotics & potent diuretics.
Side effects:	Diarrhea, nausea, vomiting; pseudomembranous colitis; leukopenia, neutropenia, eosinophilia, rash, pruritus; joint pain; increased BUN and creatine; dizziness.
Dosage:	Usual Adult Dose: 250mg-500 mg orally every 6 hours or 1 g orally every 12 hours. Usual Pediatric Dose: 9 months or older: 25 to 50 mg/kg/day in divided doses every 6 to 12 hours, Maximum dose: 4 g per day. Renal Dose Adjustments: CrCl 21 mL/min or more: 500 mg orally every 6 hours, CrCl 5 to 20 mL/min: 250 mg orally every 6 hours, CrCl 4 mL/min or less: 250 mg orally every 12 hours. Liver Dose Adjustments: Data not available.

CIPROFLOXACIN (Ciprobay, Emicipro, Ciproxen, Bactall, Ciprogen, Ciproxe, Cipromid, Cipromax®)

P/P:	250mg tab, 10's (Ciprobay, Emicipro, Ciproxen) 500mg tab, 10's (Ciprobay, Emicipro, Ciproxen, Bactall, Ciprogen, Ciproxe, Cipromid, Cipromax) 750mg tab, 10's (Ciprobay, Emicipro, Ciproxen) 200mg/100ml Infusion (Ciprobay, Ciproton, Cipro-sol, Ciflox) (Restricted)
Adm:	Oral prep may be taken with or without food (May be taken w/ meals to minimize GI discomfort. Do not take w/ antacids, Fe or dairy products.).
Category:	Quinolones
Indications:	Upper & lower resp tract infections, uncomplicated & complicated UTI; skin & soft tissue, bones & joints infections.
Caution:	Epilepsy, CNS disorders, tendonitis.

Contra-Ind:	Children <12 yrs and adolescents; except where benefit clearly exceeds risk. Pregnancy and lactation; avoid exposure to sunlight or sun lamps.
D/I:	Decreased absorption with concurrent sucralfate, magnesium-aluminum antacids, calcium, iron, zinc and multivitamins
Side effects:	GI disturbances; headache, tremor, confusion, convulsions; rashes; joint pain. Transient increases in serum creatinine. Haematological, hepatic and renal disturbances
Dosage:	<p>Usual Adult Dose: IV: 400 mg IV every 12 hours, Oral: 500 to 750 mg orally every 12 hours.</p> <p>Usual Pediatric Dose: 1 month or older: IV: 10 mg/kg IV every 12 hours, Maximum dose: 400 mg/dose Oral: 15 mg/kg orally every 12 hours, Maximum dose: 500 mg/dose.</p> <p>Renal Dose Adjustments: Adult Patients: IV: CrCl 5 to 29 mL/min: 200 to 400 mg IV every 18 to 24 hours. Oral: CrCl 30 to 50 mL/min: 250 to 500 mg orally every 12 hours, CrCl 5 to 29 mL/min: 250 to 500 mg orally every 18 hours</p> <p>Pediatric Patients: CrCl less than 50 mL/min: Data not available</p> <p>Liver Dose Adjustments: Data not available</p>

CLARITHROMYCIN(Klacid, Claritt, Clarex, Clarimac, Claridar, Clamycin®)

P/P:	250mg tab, 14's (Klacid, Claritt, Clarex, Clarimac) 500mg tab, 14's (Klacid, Claritt, Clarex, Clarimac, Claridar, Clamycin) 500mg tab XL, 7's (Klacid, Claritt) 500mg tab XL, 14's (Klacid, Claritt) 125mg/5ml susp, 60ml (Klacid, Claritt) 250mg/5ml susp, 70ml (Claritt, Klarimid)
Adm:	May be taken with or without food.
Category:	Macrolides
Indications:	Resp tract infection, mild to moderate skin & soft tissue infection, otitis media, H. pylori eradication.. Also, for treatment of leprosy & prophylaxis & treatment of opportunistic mycobacterial infections. Odontogenic infection.
Caution:	Impaired hepatic function & moderate to severe renal impairment.
Contra-Ind:	Concomitant therapy w/ terfenadine in patients w/ preexisting cardiac abnormalities or electrolyte disturbances. Pregnancy & lactation.
D/I:	May increase theophylline, carbamazepine, & terfenadine levels. Potentiates effects of warfarin & digoxin.
Side effects:	Nausea, vomiting, diarrhea, abdominal pain, stomatitis, glossitis, headache, urticaria & mild skin rashes.
Dosage:	<p>Usual Adult Dose: Immediate-release: 250-500 mg orally every 12 hours Extended-release: 1000 mg orally every 24 hours</p> <p>Usual Pediatric Dose: Immediate-release: 6 months or older: 7.5 mg/kg orally every 12 hours, Maximum dose: 500 mg/dose.</p> <p>Renal Dose Adjustments: CrCl 30 to 60 mL/min: dose should be reduced by 50%, CrCl less than 30 mL/min: dose should be reduced by 75%.</p>

Liver Dose Adjustments: No adjustment recommended.

CLINDAMYCIN (Dalacin®)

- P/P:** Dalacin C 150mg caps, 16's, Dalacin C 300mg caps, 16's
Dalacin 75mg/5ml suspension, 80ml
Dalacin 300mg/2ml Inj, Dalacin 600mg/4ml Inj
- Adm:** Oral prep may be taken with or without food
- Category:** Other antibiotics
- Indications:** Upper & lower resp infections, skin & soft tissue infections, bone & joint infections, gynecological & intra-abdominal infections, septicaemia, endocarditis, dental infections, toxoplasmic encephalitis in patients w/ AIDS, Pneumocystis carinii pneumonia in patients w/ AIDS.
- Caution:** Premature infant. Hepatic or renal impairment, diarrhea. Patients receiving neuromuscular blockers. Atopic individuals, debilitated &/or elderly patients.
- Contra-Ind:** Hypersensitivity to Clindamycin or lincomycin. Patient's w/diarrhea.
- D/I:** Suxamethonium Cl, tubocurarine Cl, erythromycin
- Side effects:** Diarrhea occasionally associated w/ severe colitis, skin reactions, jaundice, and haematopoietic changes. Local irritation, pain at IM Inj site. Thrombophlebitis may occur w/ IV Inj.
- Dosage:** Usual Adult Dose: Oral: 150 to 300 mg orally every 6 hours
Parenteral: 600 to 1,200 mg via IV infusion or IM injection per day, Severe infection: 1,200 to 2,700 mg via IV infusion or IM injection per day,
Usual Pediatric Dose: Oral: Body weight 10 kg or less: Minimum recommended dose: 37.5 mg orally three times a day
Body weight 11 kg or more: 8 to 12 mg/kg orally per day, in 3 to 4 equally divided doses
Parenteral: Up to 1 month of age: 15 to 20 mg/kg via IV infusion per day in 3 to 4 equally divided doses. 1 month to 16 years: 20 to 40 mg/kg via IV infusion or IM injection per day, in 3 to 4 equally divided doses.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: No adjustment recommended; however, liver function monitoring is recommended in patients with severe liver disease.

CO-AMOXICLAV(Augmentin, Klavox, Curam, Megamox, Gloclov®)

- P/P:** 375mg tab, 20's (Augmentin, Klavox, Megamox)
625mg tab, 20's (Augmentin, Klavox, Curam, Megamox, Gloclov)
1gm tab, 14's (Augmentin, Klavox, Curam, Megamox)
1000mg/62.5mg tab, 16's (Augmentin SR)
62.5mg/ml drops (Augmentin, Klavox)
156mg/5ml susp (Augmentin, Klavox, Curam, Megamox)

**312mg/5ml susp (Augmentin, Klavox, Curam, Megamox)
228mg/5ml susp (Augmentin, Klavox, Curam, Megamox)
457mg/5ml susp (Augmentin, Klavox, Curam, Megamox,
642.9mg/5ml susp (Augmentin ES)
0.6gm Inj (Augmentin, Amoclan)
1.2gm Inj (Augmentin, Amoclan, Curam)**

Adm: Oral prep may be taken with or without food (May be given without regard to meals. Best taken at the start of meals for better absorption & to reduce GI discomfort.).

Category: Penicillins

Indications: Infections due to β -lactamase producing strains (where amoxicillin alone is not appropriate) including resp tract infections, GUT & abdominal infections, cellulitis, animal bites, severe dental infection w/ spreading cellulitis.

- Caution: Renal or hepatic impairment. Ensure adequate hydration esp. w/ parenteral therapy or high doses. Pregnancy.

Contra-Ind: Hypersensitivity to penicillins, possible cross sensitivity w/ other β -lactams. History of penicillin-associated cholestatic jaundice/hepatic dysfunction.

D/I: Probenecid, anticoagulants, OCP, allopurinol.

Side effects: Diarrhea, indigestion, nausea, vomiting, candidiasis, rash.

Dosage: Usual Adult Dose: Immediate release tablets: 250 to 500 mg orally every 8 hours or 875 mg orally every 12 hours, Extended-release tablets: 2 g (2 tablets) orally every 12 hours

Usual Pediatric Dose: Less than 12 weeks: 125 mg/5 mL oral suspension: 15 mg/kg orally every 12 hours.

3 months (12 weeks) or older: Less than 40 kg:

125 mg/5 mL or 250 mg/5 mL oral suspension: 6.67 to 13.33 mg/kg orally every 8 hours.

200 mg/5 mL or 400 mg/5 mL oral suspension or chewable tablets: 12.5 to 22.5 mg/kg orally every 12 hours

40 kg or more: Immediate release tablets: 250 mg orally every 8 hours or 500 mg orally every 12 hours, for more severe infections, 500 mg orally every 8 hours or 875 mg orally every 12 hours may be administered,

600 mg/5 mL oral suspension: 3 months or older: Less than 40 kg: 45 mg/kg orally every 12 hours ,40 kg or more: Data not available; other formulations are recommended

Renal Dose Adjustments: Adults and pediatric patients weighing 40 kg or more:

Immediate release tablets: CrCl less than 30 mL/min: The 875 mg tablet should not be used., CrCl 10 to 30 mL/min: 250 to 500 mg orally every 12 hours, CrCl less than 10 mL/min: 250 to 500 mg orally every 24 hours.

Extended-release tablets: CrCl less than 30 mL/min: Contraindicated

Liver Dose Adjustments: Caution and regular hepatic function monitoring is recommended

CO-TRIMOXAZOLE (Trimethoprim 80 mg, sulfamethoxazole 400 mg) (Bactrim, Septrin, Trimol, Lidaprim®)

P/P: Trimethoprim 80 mg, sulfamethoxazole 400 mg, Tab, 20's (Bactrim, Septrin, Trimol, Lidaprim)
Trimethoprim 160 mg, sulfamethoxazole 800 mg (Bactrim Forte tab, 10's)
Trimethoprim 40 mg, sulfamethoxazole 200 mg/5ml susp, 100ml (Bactrim, Septrin, Lidaprim)

Adm: Should be taken with food.

Category: Antibacterial Combinations

Indications: Resp tract & GUT infections, UTI, acute otitis media, shigellosis, & traveler's diarrhea.
Treatment & prophylaxis of Pneumocystis carinii pneumonia.

Caution: Hematological disorders; elderly; pregnancy; lactation; G6PD deficiency, folate deficiency, impaired renal function, porphyria, thyroid dysfunction, history of allergy or asthma.

Contra-Ind: Marked liver parenchymal damage; severe renal impairment; pregnancy. Hypersensitivity.

D/I: Methotrexate, phenytoin, sulfonylureas & warfarin. Cyclosporine. Thiazide diuretics.

Side effects: GI upsets stomatitis, reversible neutropenia & thrombocytopenia, Stevens - Johnson syndrome, Lyell's syndrome. Rarely, jaundice, aplastic & hemolytic anemia.

Dosage: Adults: Trimethoprim 160 mg/sulfamethoxazole 800 mg every 12 h
Children 2 mo of age and older: Trimethoprim 8 mg/kg and sulfamethoxazole 40 mg/kg daily in 2 divided doses every 12 h.
Renal Function Impairment: CrCl 15 to 30 mL/min: One-half the usual regimen.
CrCl less than 15 mL/min: Not recommended.
Liver Dose Adjustments: Caution and regular hepatic function monitoring is recommended

COLISTIN (Colomycin®) (Restricted)

P/P: Colomycin 1M IU vial, 10's. Colomycin 1M IU vial, 10's

Adm: IV infusion.

Category: polymyxin antibiotic

Indications: serious infections caused by Gram-negative bacteria, including chest infections and urinary tract infections that have not responded to treatment with other antibiotics

Caution: Impaired renal function, porphyrias

Contra-Ind: Hypersensitivity, myasthenia gravis, pregnancy, Lactation

Side effects: Nephrotoxicity, Breathing difficulties, Dizziness, Visual disturbances.

DOXYCYCLINE(Vibramycin, Doxydar, Tabocin, Doxycin®)

P/P: 100mg caps, 10's (Vibramycin, Doxydar, Tabocin, Doxycin)

Adm:	Should be taken with food. Avoid taking w/dairy products.
Category:	Tetracycline
Indications:	Respiratory tract, skin & soft tissue, ENT & GUT infections, otitis media, rickettsial pox, typhus infections.
Caution:	Impaired hepatic function; history or predisposition to oral candidiasis.
Contra-Ind:	Hypersensitivity to tetracycline. Renal impairment.
D/I:	Increases digoxin toxicity and effects of oral anticoagulants; Antacids, calcium, magnesium and iron reduce absorption.
Food / I	Serum levels may be slightly decreased if taken with food, milk, iron or calcium.
Side effects:	Permanent staining of teeth; rash, superinfection; nausea, GI upsets, glossitis; dysphagia; photosensitivity, hypersensitivity; haemolytic anaemia, thrombocytopenia, neutropaenia and eosinophilia.
Dosage:	<p>Usual Adult Dose: Oral: 100 mg orally per day, given once a day or in 2 divided doses, More severe infections: 100 mg orally every 12 hours.</p> <p>Usual Pediatric Dose: Oral: 45 kg or less: 2 mg/kg orally per day, given once a day or in 2 divided doses More severe infections: Up to 4.4 mg/kg orally per day More than 45 kg: 100 mg orally per day, given once a day or in 2 divided doses More severe infections: 100 mg orally every 12 hours Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: Data not available</p>

Daptomycin (Docine®)

P/P:	Docine 500mg Vial I.V 1"S
Category:	Antibiotic, Cyclic Lipopeptide
Adm:	intravenous: IV infusion over 30 minutes, IV push over 2 minutes Intraventricular (off-label route) Use preservative-free preparations only. When administered through a ventricular drain, clamp drain for 15 to 60 minutes before opening the drain to allow daptomycin solution to equilibrate in the cerebrospinal fluid
Adm:	Pediatric V: Intermittent IV infusion: Neonates: Infusion over 60 minutes Infants <3 months: Infusion over 30 or 60 minutes Infants ≥3 months: Infusion over 30 minutes Children 1 to 6 years: Infuse over 60 minutes. Children ≥7 years and Adolescents: Infuse over 30 minutes.
Indications:	Bloodstream infection, Skin and skin structure infections, complicated
Caution:	Superinfection: Prolonged use may result in fungal or bacterial superinfection,

Interstitial nephritis, Use with caution in patients with renal impairment, Myopathy and rhabdomyolysis: Monitor CPK levels, Persisting or relapsing *S. aureus* bacteremia or endocarditis

Contra-Ind: Hypersensitivity to daptomycin or any component of the formulation

Side effects: Clostridioides difficile infection, Eosinophilic pneumonia, Immediate hypersensitivity reactions (urticaria, angioedema, anaphylaxis), Delayed hypersensitivity reactions including skin rash, drug reaction with eosinophilia and systemic symptoms, Myopathy and rhabdomyolysis.

Dosage:

Adult Patients

Administer to adult patients intravenously in 0.9% sodium chloride, either by injection over a 2-minute period or by infusion over a 30-minute period. (2.1, 2.6)

Creatinine Clearance (CLCR)	Dosage Regimen	
	cSSSI	<i>S. aureus</i>
	For 7 to 14 days	Bacteremia For 2 to 6 weeks
≥30 mL/min	4 mg/kg once every 24 hours	6 mg/kg once every 24 hours
<30 mL/min, including hemodialysis and CAPD	4 mg/kg once every 48 hours*	6 mg/kg once every 48 hours*

*Administered following hemodialysis on hemodialysis days.

Recommended dosage regimen for adult patients (2.2, 2.4, 2.5):

Pediatric Patients

Unlike in adults, do NOT administer by injection over a two (2) minute period to pediatric patients. (2.1, 2.6)

Administer to pediatric patients intravenously in 0.9% sodium chloride, by infusion over a 30- or 60-minute period, based on age. (2.1, 2.6)

Recommended dosage regimen for pediatric patients (1 to 17 years of age) with cSSSI, based on age (2.3):

Age group	Dosage*	Duration of therapy
12 to 17 years	5 mg/kg once every 24 hours infused over 30 minutes	Up to 14 days
7 to 11 years	7 mg/kg once every 24 hours infused over 30 minutes	
2 to 6 years	9 mg/kg once every 24 hours infused over 60 minutes	

1 to <2 years	10 mg/kg once every 24 hours infused over 60 minutes	
* Recommended dosage is for pediatric patients (1 to 17 years of age) with normal renal function. Dosage adjustment for pediatric patients with renal impairment has not been established.		

Dosing: Hepatic Impairment: Adult
 (Child-Pugh class A or B): No dosage adjustment necessary
 (Child-Pugh class C): There are no dosage adjustments provided in the manufacturer's labeling
 Dosing: Hepatic Impairment: Pediatric
 Mild to moderate impairment: No dosage adjustment necessary.
 Severe impairment: There are no dosage adjustments provided in the manufacturer's labeling

ENOXACIN (Penetrex®)

- P/P: **Penetrex 200mg tab, 10's, Penetrex 400mg tab, 10's**
- Adm: Should be taken on an empty stomach
- Category: Quinolones
- Indications: UTI, uncomplicated gonorrhea
- Caution: Impaired hepatic or renal function; G6PD deficiency; myasthenia gravis; maintain adequate fluid intake; avoid excessive alkalinity of the urine, exposure to strong sunlight/sunlamp;
- Contra-Ind: Hypersensitivity; lactation; child; adolescent; pregnancy.
- D/I: May inhibit hepatic metabolism and clearance of drugs metabolized in the liver e.g. theophylline and antineoplastics.
- Side effects: GI disturbances; CNS effects; hypersensitivity-type reactions; reversible arthralgia; hepatic effects; haematological disturbances
- Dosage: Usual Adult Dose: 200 mg to 400 mg orally every 12 hours
 Pediatric Use: NO data available
 Renal Dose Adjustments: CrCl<30 mL/min/1.73 m²: After a normal initial dose, one-half the recommended dose orally every 12 hours.
 Liver Dose Adjustments: Data not available.

ENTECAVIR (Hepavir, Baraclude, Hepatab®)

- P/P: **(Hepavir, Baraclude, Hepatab)**

- Adm: Administer on an empty stomach (2 hours before or after a meal)

Category:	Antihepadnaviral, Reverse Transcriptase Inhibitor, Nucleoside
Indications:	Chronic hepatitis B in adults and pediatric patients ≥ 2 years Use: Off-Label: Adult: Hepatitis B virus reactivation prophylaxis, immunocompromised patients and post liver transplant.
Caution:	Lactic acidosis/hepatomegaly [US Boxed Warning], Severe acute exacerbations of hepatitis B virus infection after discontinuation, Co-infection with HIV not recommended unless the patient is also receiving HAART, Lactic acidosis and severe hepatomegaly with steatosis.
Contra-Ind:	There are no contraindications
Side effects:	nausea, vomiting, diarrhea, Increased serum bilirubin, headache
Dosage:	<p>Hepatitis B virus infection:</p> <p>Nucleoside-treatment naive, compensated liver disease: 0.5 mg once daily.</p> <p>Decompensated liver disease: 1 mg once daily.</p> <p>Hepatitis B virus reactivation prophylaxis, immunocompromised: 0.5 mg once daily</p> <p>Hepatitis B virus reactivation prophylaxis, post liver transplant: 0.5 mg or 1 mg once daily</p>
Dosing: Altered Kidney Function: Adult	<p>Altered kidney function: Note: Daily-dosage regimen preferred.</p> <p>$\text{CrCl} \geq 50 \text{ mL/minute}$: No dosage adjustment necessary.</p> <p>$\text{CrCl} 30 \text{ to } < 50 \text{ mL/minute}$: Administer 50% of usual indication-specific dose daily. Alternatively, administer the usual indication-specific dose every 48 hours.</p> <p>$\text{CrCl} 10 \text{ to } < 30 \text{ mL/minute}$: Administer 30% of usual indication-specific dose daily. Alternatively, administer the usual indication-specific dose every 72 hours.</p> <p>$\text{CrCl} < 10 \text{ mL/minute}$: Administer 10% of usual indication-specific dose daily. Alternatively, administer the usual indication-specific dose every 7 days.</p> <p>Hemodialysis, intermittent (thrice weekly): Not significantly dialyzed (13%): Administer 10% of usual indication-specific dose daily. Alternatively, administer usual indication-specific dose every 7 days</p> <p>Peritoneal dialysis: Not significantly dialyzed (0.3% over 7 days): Administer 10% of usual indication-specific dose daily. Alternatively, administer usual indication-specific dose every 7 days</p>
Dosing: Hepatic Impairment: Adult	

No dosage adjustment necessary.

ERTAPENEM (Invanz®)

P/P: **Invanz 1 GM Vial I.V 1"5**

Adm: IM, IV

Category: Antibiotic, Carbapenem

Indications: Intra-abdominal infection, Pelvic infection, Pneumonia, community acquired, Skin and skin structure infection, Urinary tract infection.

Caution: associated with CNS adverse effects, including confusional states and seizures, Anaphylaxis/hypersensitivity reactions, Use with caution in patients with renal impairment, Use may result in fungal or bacterial superinfection

Contra-Ind: Known hypersensitivity to product components or anaphylactic reactions to β -lactams

Side effects: Diarrhea, Clostridioides difficile infection, encephalopathy, seizures

Dosage:

Indication	Dosage	Duration
Community-Acquired Pneumonia	1 g/day IV/IM	Up to 14days, may switch to PO after improvement
Acute Pelvic Infection	1 g/day IV/IM	3-10 days
Complicated UTI	1 g/day IV/IM	Up to 14days, may switch to PO after improvement
Complicated intra-abdominal infections	1 g/day IV/IM	5-14 days
Complicated skin infections	1 g/day IV/IM	7-14 days may be continued up to 4weeks for diabetic foot INFX

Dosing: Altered Kidney Function: Adult

CrCl \leq 30 mL/minute: 500 mg once daily.

Hemodialysis and Peritoneal dialysis: 500 mg once daily.

Dosing: Hepatic Impairment: Adult

Adjustments cannot be recommended (lack of research in this patient population)

ERYTHROMYCIN (Erythrocin, Erythrodar®)

P/P: **Erythrocin (250mg tab, 20's, 500mg tab, 20's, 200mg, /5ml susp)
Erythrodar (200mg tab, 20's, 400mg tab, 20's, 200mg/5ml susp)**

Adm: Should be taken on an empty stomach (Best taken on an empty stomach 1 hr before or 2 hr after meals).

Category: Macrolide

Indications: Upper & lower resp tract, GIT, skin & soft tissue, urinary & genital infections. Pre & post-op dental procedures for patients hypersensitive to penicillin.

Caution: Impaired liver function.

Contra-Ind: Impaired liver function, patients who developed jaundice, symptoms of liver toxicity during previous treatment w/ erythromycin

D/I: Theophylline, warfarin, ergotamine, carbamazepine, Diltiazem,

Side effects: Abdominal discomfort & cramp, nausea, vomiting & diarrhea. Supra-infection w/ resistant organisms, pseudomembranous colitis.

Dosage: Usual Adult Dose: 250 to 500 mg orally every 6 hours. 1 to 4 g/day IV in divided doses every 6 hours.
Usual Pediatric Dose: 40-50 mg/kg/day, orally, divided every 6 hours; maximum dose: 2 g/day (not preferred agent for infants less than 1 month of age).
Renal Dose Adjustments: No adjustment required.
Liver Dose Adjustments: caution is advised when it is administered to patients with impaired hepatic function.

FAVIPIRAVIR (Favipiravir®)

P/P: Favipiravir 200mg tab 's

Category: Anti-Viral.

Indications: Coronavirus disease 2019 (COVID-19)

Caution: Hyperuricemia, Gout.

Contra-Ind: Hypersensitivity to favipiravir or any component of the formulation; severe renal or hepatic impairment; pregnancy; breastfeeding.

D/I: Influenza Virus Vaccine, Pyrazinamide, Repaglinide.

Side effects: Chest pain, Hyperurecemia, decrease appetite, decrease neutrophils, vomiting, diarrhea, hepatic injury, increase serum transaminase.

Dosage: Usual Adult Dose: 1.6gm twice daily on day 1 followed by 600mg BID for 7-14 days.
Usual Pediatric Dose: not recommended.
Renal Dose Adjustments: No adjustment required for mild to moderate impairment.
Severe impairment: use with contraindicated.
Liver Dose Adjustments: No adjustment required for mild to moderate impairment.
Severe impairment: use with contraindicated.

FAMCICLOVIR (Famvir®)

P/P: Famvir 125mg tab, 10's, Famvir 250mg tab, 10's

Adm: May be taken with or without food

Category:	Antiviral
Indications:	Treatment of acute Herpes zoster (shingles) infections, for acute treatment of genital herpes infections & suppression of recurrent genital herpes.
Caution:	Renal impairment. Pregnancy.
Contra-Ind:	Hypersensitivity. Lactation
D/I:	Increase effect/toxicity of cimetidine, digoxin, probenecid, and theophylline.
Side effects:	Dizziness, headache, diarrhea, constipation, nausea, vomiting, hallucinations, confusion, pruritus, abdominal pain, fever.
Dosage:	Usual Adult Dose: 125 mg to 1000mg twice or three times a day. Renal Dose Adjustments: CrCl 40 to 59 mL/min: 500 mg orally every 12 hours CrCl 20 to 39 mL/min: 125 mg orally every 12 hours CrCl less than 20 mL/min: 125 mg orally every 24 hours Liver Dose Adjustments Mild or moderate hepatic impairment: No adjustment recommended, severe hepatic impairment: Data not available.

FLUCONAZOLE (Diflucan, Flucand, Duracan, Flocazole, Candure, Fungimid®) (Restricted)

P/P:	150mg caps, 1's (Diflucan, Flucand, Duracan, Flocazole, Candure, Fungimid) 50mg caps, 7's (Diflucan, Flocazole, Fungimid) 2mg/ml, 100ml Infusion (Flucand)
Adm:	May be taken with or without food.
Category:	Antifungal
Indications:	Superficial mucosal (oropharyngeal, esophageal or vaginal) candidiasis & fungal skin infections. Prevention of fungal infections in immunocompromised patients.
Caution:	Pregnancy & lactation.
Contra-Ind:	Hypersensitivity to azoles. Co-administration w/ terfenadine or cisapride.
D/I:	Rifampicin, theophylline, OCPs.
Side effects:	Nausea, abdominal pain, vomiting, diarrhea, flatulence; elevated liver function values; headache
Dosage:	Usual Adult Dose: 150 mg orally as a single dose or 100 to 200 mg orally every 72 hours, 100 up to 400 mg IV once a day. Usual Pediatric Dose: 2 weeks or younger 6 to 12 mg/kg/day IV or orally Renal Dose Adjustments: Adults: Single-dose therapy: No adjustment recommended Multiple-dose therapy: CrCl 50 mL/min or less 50% of the usual daily dose Children: Dose reduction should parallel that recommended for adults. Liver Dose Adjustments: Caution is recommended.

FOSFOMYCIN (Monurol®)

P/P: **Monurol 3 gm sachets 1's**

Adm: Mix with cool water with or without food.

Category: Aminoglycosides

Indications: Treatment of uncomplicated urinary tract infection

Caution: Prolonged use may result in superinfection

Side effects: Headache, dizziness, rash, nausea, back pain, diarrhea

Dosage: Usual Adult Dose: 3 g (1 sachet) orally once as a single dose
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

GEMIFLOXACIN (Factive®)

P/P: **Factive 320mg tab, 5's, Factive 320mg tab, 7's**

Adm: May be taken with or without food

Category: Quinolones

Indications: Acute Bacterial Exacerbation of Chronic Bronchitis, Community Acquired Pneumonia (Mild to Moderate)

Caution: Children < 18 yrs. Pregnancy and lactation.

Contra-Ind: Hypersensitivity.

D/I: Aluminum, magnesium containing antacids, Sucralfate, probenecid.

Side effects: Diarrhea, nausea, vomiting; headache, dizziness; rash, urticaria.

Dosage: Usual Adult Dose: 320 mg orally once a day
Renal Dose Adjustments: CrCl 40 mL/min or less: 160 mg orally every 24 hours
Liver Dose Adjustments: No adjustment recommended.

GENTAMICIN (Gentam, Genta®)

P/P: **20mg/2ml Inj (Gentam, Genta)
40mg/2ml Inj (Genta)
80mg/2ml Inj (Gentam, Genta)**

Category: Aminoglycosides

Indications: Bacterial neonatal sepsis, septicaemia, & serious bacterial infections of CNS, urinary, resp & GIT, bone, skin & soft tissues.

Caution: Pregnancy. Patients w/ neuromuscular disorders. Renal impairment;

Contra-Ind: Hypersensitivity to aminoglycosides.

D/I: Increased nephrotoxicity w/ aminoglycoside antibiotics & cephalosporin. Potentiation of toxicity w/ ototoxic or nephrotoxic drugs.

Side effects: Ototoxicity, renal impairment, paresthesia, arthralgia, rash, fever, cyanosis, chest pain & hypotension.

Dosage: Usual Adult Dose: 1.5 to 2 mg/kg loading dose, followed by 1 to 1.7 mg/kg IV or IM every 8 hours, or 5 to 7 mg/kg IV every 24 hours
Usual Pediatric Dose:
0 to 4 weeks, birthweight <1200 g: 2.5 mg/kg IV or IM every 18 to 24 hours
0 to 1 week, birthweight >=1200 g: 2.5 mg/kg IV or IM every 12 hours
1 to 4 weeks, birthweight 1200 to 2000 g: 2.5 mg/kg IV or IM every 8 to 12 hours
1 to 4 weeks, birthweight >=2000 g: 2.5 mg/kg IV or IM every 8 hours
>1 month: 1 to 2.5 mg/kg IV or IM every 8 hours
Renal Dose Adjustments:
CrCl >80 mL/min: 5 to 7 mg/kg every 24 hours
CrCl 60 to 70 mL/min: 4 to 5.5 mg/kg every 24 hours
CrCl 50 mL/min: 3.5 to 5 mg/kg every 24 hours
CrCl 30 to 40 mL/min: 2.5 to 3.5 mg/kg every 24 hours
CrCl 20 mL/min: 4 to 5 mg/kg every 48 hours
CrCl 10 mL/min: 3 to 4 mg/kg every 48 hours
Liver Dose Adjustments: No adjustment recommended.

Glecaprevir and Pibrentasvir (Mavyret®)

P/P: **Mavyret 100/40 mg F.C Tab 84"S**

Adm: Oral, Administer with food.

Category: Antihepaciviral, NS3/4A Inhibitor; NS5A Inhibitor

Indications: chronic hepatitis C virus, Hepatitis C virus–uninfected recipients of organs from hepatitis C virus–viremic donors (off-label use).

Caution: Hepatitis B virus reactivation, Hepatic decompensation and hepatic failure, therapy for hepatitis C may lead to improvement in glucose metabolism in patients with diabetes resulting in symptomatic hypoglycemia if antidiabetic agents are continued at the same dose.

Contra-Ind: Moderate or severe hepatic impairment (Child-Pugh class B or C); history of hepatic decompensation; coadministration with atazanavir or rifampin.

Side effects: Nausea, Fatigue, headache, Pruritus, skin rash, Increased serum bilirubin, Diarrhea.

Dosage: Recommended dosage: Three tablets (total daily dose: Glecaprevir 300 mg and Pibrentasvir 120 mg) taken orally once daily with food.
See recommended treatment duration in tables below.

Treatment-Naïve Patients

HCV Genotype	Treatment Duration	
	No Cirrhosis	Compensated Cirrhosis (Child-Pugh A)
1, 2, 3, 4, 5, or 6	8 weeks	12 weeks

Treatment-Experienced Patients

HCV Genotype	Patients Previously Treated With a Regimen Containing:	Treatment Duration	
		No Cirrhosis	Compensated Cirrhosis (Child-Pugh A)
1	An NS5A inhibitor ¹ without prior treatment with an NS3/4A protease inhibitor	16 weeks	16 weeks
	An NS3/4A PI ² without prior treatment with an NS5A inhibitor	12 weeks	12 weeks

Hepatitis C virus–uninfected recipients of organs from hepatitis C virus–viremic donors (off-label use): 3 tablets (glecaprevir 100 mg/pibrentasvir 40 mg per tablet) once daily for 8 weeks.

Dosing: Altered Kidney Function: Adult

No dosage adjustment necessary.

Dosing: Hepatic Impairment: Adult

Mild impairment (Child-Pugh class A): No dosage adjustment necessary.

Moderate or severe impairment (Child-Pugh class B or C): Use is contraindicated.

IMIPENEM 500 Mg+CILASTATIN 500Mg (Tienam®) (Restricted)

P/P: Tienam Inj, 1's (Imipenem 500 mg, Cilastatin 500 mg)

Category: Other Beta-lactams

Indications: Treatment of intra-abdominal, urinary tract (complicated & uncomplicated), lower resp tract, bone & joint, gynecologic, skin & skin structure infections, bacterial septicemia, endocarditis & polymicrobial infections.

Caution: Anaphylactic reactions w/ β -lactams; pseudomembranous colitis; shock. Caution in patients w/ CNS disorders &/or compromised renal function.

Contra-Ind: Hypersensitivity to amide-type local anaesth. Severe shock/heart block.

D/I: β -lactam antibiotics, penicillins, cephalosporins, & ganciclovir

Side effects: Nausea, diarrhea, vomiting, rash, fever, hypotension, seizures, dizziness, pruritus, urticaria, somnolence.

Dosage: Adults: 500 mg every 6 or 8 h or 1 g every 8 h.
Children 3 mo and older: IV 15 to 25 mg/kg every 6 hours
Infants 4 wk to 3 mo (weighing at least 1.5 kg): IV 25 mg/kg every 6 h
Neonates 1 to 4 wk (weighing at least 1.5 kg) IV 25 mg/kg every 8 h for
Neonates younger than 1 wk (weighing at least 1.5 kg): IV 25 mg/kg IV every 12 hours
Renal function impairment: Patients with CrCl less than 70 mL/min per 1.73 m² require dosage adjustment. Patients with CrCl of 5 mL/min per 1.73 m² or less should not receive imipenem/cilastatin IV unless hemodialysis is instituted within 48 h.
Liver Dose Adjustments: Nodata available.

ISAVUCONAZONIUM SULFATE (Cresemba®)

P/P: Cresemba 200mg Vial I.V 1"S

Adm: Must be administered through an in-line filter over a minimum of 1 hour

Category: Antifungal Agent, Azole Derivative.

Indications: Azole antifungal indicated for use in the treatment of: Invasive aspergillosis, and invasive mucormycosis

Caution: Hepatic Adverse Drug Reactions: Serious hepatic reactions have been reported. Evaluate liver-related laboratory tests at the start and during the course of CRESEMBA therapy
Infusion-related reactions were reported during intravenous administration of CRESEMBA. Discontinue the infusion if these reactions occur
Hypersensitivity Reactions: Serious hypersensitivity and severe skin reactions, such as anaphylaxis or Stevens Johnson syndrome, have been reported during treatment with other azole antifungal agents. Discontinue CRESEMBA for exfoliative cutaneous reactions
Embryo-Fetal Toxicity: CRESEMBA may cause fetal harm when administered to a pregnant woman. Advise pregnant women of the potential risk to the fetus. Advise females of reproductive potential to use an effective method of contraception
Drug Interactions: Review patient's concomitant medications. Several drugs may significantly alter Isavuconazole concentrations. Isavuconazole may alter concentrations of several drugs
Drug Particulates: Intravenous formulation may form insoluble particulates following reconstitution. Administer CRESEMBA through an in-line filter

Contra-Ind: Hypersensitivity to CRESEMBA
Coadministration with strong CYP3A4 inhibitors, such as ketoconazole or high-dose ritonavir
Coadministration with strong CYP3A4 inducers, such as rifampin, carbamazepine, St. John's wort, or long-acting barbiturates

Use in patients with familial short QT syndrome

Side effects: Most frequent adverse reactions: nausea, vomiting, diarrhea, headache, elevated, liver chemistry tests, hypokalemia, constipation, dyspnea, cough, peripheral edema, and back pain.

Dosage:

Loading Dose: 372 mg Isavuconazonium sulfate (equivalent to 200 mg of Isavuconazole) every 8 hours for 6 doses (48 hours) via intravenous administration (1 reconstituted vial)
Maintenance Dose: 372 mg Isavuconazonium sulfate (equivalent to 200 mg of Isavuconazole) once daily via intravenous administration (1 reconstituted vial) starting 12 to 24 hours after the last loading dose

ISONIAZID (Isoniazid®) (Restricted)

P/P: Isoniazid 100mg tab, 100's

Adm: Should be taken on an empty stomach (Best taken on an empty stomach 1 hr before or 2 hr after meals.)

Category: Antituberculous Agents

Indications: Treatment of all forms of tuberculosis

Caution: Liver or kidney impairment, patients taking other hepatotoxic agents. Convulsive disorders, diabetes mellitus, chronic alcoholism. Pregnancy, lactation.

Contra-Ind: Previous isoniazid-associated hepatic injury, drug fever, chills, or arthritis; acute liver disease.

D/I: Antagonizes hypoglycemic action of insulin. Pyridoxine antagonizes INH effects. Reduced oral absorption with aluminum-containing antacids; isoniazid should be given 1 hr before the antacid.

Side effects: Peripheral neuritis, optic neuritis; psychotic reactions, convulsions, nausea, vomiting, fatigue, epigastric distress, visual disturbances, fever, rash, pyridoxine deficiency.

Dosage: Usual Adult Dose: 300 mg orally once a day or 900 mg orally 2 to 3 times a week.

Usual Pediatric Dose: Infants, Children 40 kg or less, and Adolescents 14 years or less and less than 40 kg: 10 to 15 mg/kg/day once daily (maximum dose: 300 mg/day) or 20 to 30 mg/kg/dose (maximum dose: 900 mg/day) 2 times weekly.

Renal Dose Adjustments: CrCl less than 10 mL/min: Reduce dose by 50%.

Liver Dose Adjustments: If liver function tests exceed 3 to 5 times the upper limit of baseline or Symptoms of liver toxicity appeared discontinue use of isoniazid therapy and monitor until liver function tests return to baseline and symptoms of toxicity resolve.

ITRACONAZOLE(Sporanox, Itrazole, Tracon®)

P/P: 100mg caps, 4's (Sporanox, Itrazole, Tracon)
100mg caps, 15's (Sporanox, Itrazole, Tracon)

Adm: Should be taken with food.

Category: Antifungal

Indications: Oropharyngeal candidiasis, Vulvovaginal candidiasis, Pityriasis versicolour, Tinea corporis& tinea cruris, Tinea pedis& Tinea mannum, Nail infections

Caution: Renal insufficiency; monitor liver function; history of CHF.

Contra-Ind: Hypersensitivity to azole antifungal; pregnancy and lactation; hepatic disease

D/I: Plasma concentrations of ciclosporin, digoxin, and warfarin are increased. Atemizole and terfenadine levels may be increased causing cardiac arrhythmias.

Side effects: Hypertension; headache, abdominal pain, nausea, vomiting, diarrhea; loss of libido; rash, pruritus.

Dosag: Usual Adult Dose: 200 mg orally once or twice a day
Usual Pediatric Dose: 5-10 mg/kg orally per day Maximum dose: 400 mg/day
Renal Dose Adjustments: Caution is recommended.
Liver Dose Adjustments: Caution is recommended.

KETOCONAZOLE (Nizoral®)

P/P: Nizoral 200mg tab, 10's

Adm: Should be taken with food.

Category: Antifungal

Indications: Treatment of fungal infections of skin, hair, nails & folds, pityriasis versicolor, oral thrush, vag candidosis & subcutaneous mycoses.

Caution: Monitor liver function.

Contra-Ind: Hypersensitivity to azole antifungals. Hepatic impairment. Pregnancy & lactation.

D/I: Terfenadine, Atemizole, bepridil, probucol, Azole antifungal, macrolides

Side effects: Nausea, vomiting, rash & pruritus.

Dosage: Usual Adult Dose: 200 mg orally once a day, dose may be increased to 400 mg orally once a day.
Usual Pediatric Dose: 2 years or older: 3.3 to 6.6 mg/kg orally once a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Acute or chronic liver disease: Contraindicated

LAMIVUDINE (Zeffix®) (Restricted)

P/P: Zeffix 100mg tab, 28's

Adm: May be taken with or without food

Category: Antiviral

Indications: Treatment of Hepatitis B and HIV infection in combination with other appropriate drugs

Caution: Extreme caution should be exercised while treating patients with liver disease or hepatomegaly. Renal impairment.

Contra-Ind: Hypersensitivity to the drug or its components

D/I: Administration with zidovudine and co-trimoxazole might increase lamivudine exposure. Antagonistic action with zalcitabine

Side effects: Pancreatitis, neutropaenia, thrombocytopenia, paraesthesia, peripheral neuropathy, anaemia, Headache, fatigue, nausea, anorexia and/or decreased appetite, abdominal cramps, neuropathy, insomnia

Dosage: Usual Adult Dose: 100 mg to 300 orally once a day.
Usual Pediatric Dose: 14 to less than 20 kg: 75 mg orally twice a day or 150 mg orally once a day
20 to less than 25 kg: 75 mg orally in the morning and 150 mg in the evening, or 225 mg orally once a day
25 kg or more: 150 mg orally twice a day or 300 mg orally once a day.
Renal Dose Adjustments: Adults:
CrCl 30 to 49 mL/min: 100 mg orally as first dose, then 50 mg orally once a day
CrCl 15 to 29 mL/min: 100 mg orally as first dose, then 25 mg orally once a day
CrCl 5 to 14 mL/min: 35 mg orally as first dose, then 15 mg orally once a day
CrCl less than 5 mL/min: 35 mg orally as first dose, then 10 mg orally once a day

Pediatric patients: Insufficient data to recommend a specific dose
Liver Dose Adjustments: No adjustment recommended.

LAPATINIB (Tykerb®)

P/P: Tykerb 250 MG F.C Tab 70"S

Adm: Should be taken at least one hour before or one hour after a meal

Category: Antineoplastic Agent, Anti-HER2; Epidermal Growth Factor Receptor (EGFR) Inhibitor; Tyrosine Kinase Inhibitor

Indications: TYKERB, a kinase inhibitor, is indicated in combination with:
capecitabine, for the treatment of patients with advanced or metastatic breast cancer whose tumors overexpress HER2 and who have received prior therapy including an anthracycline, a taxane, and trastuzumab
letrozole for the treatment of postmenopausal women with hormone receptor positive metastatic breast cancer that overexpresses the HER2 receptor for whom hormonal therapy is indicated

Caution:

Decreases in left ventricular ejection fraction have been reported. Confirm normal LVEF before starting TYKERB and continue evaluations during treatment
Lapatinib has been associated with hepatotoxicity. Monitor liver function tests before initiation of treatment, every 4 to 6 weeks during treatment, and as clinically indicated. Discontinue and do not restart TYKERB if patients experience severe changes in liver function tests
Dose reduction in patients with severe hepatic impairment should be considered
Diarrhea, including severe diarrhea, has been reported during treatment. Manage with anti-diarrheal agents, and replace fluids and electrolytes if severe
Lapatinib has been associated with interstitial lung disease and pneumonitis. Discontinue TYKERB if patients experience severe pulmonary symptoms
Lapatinib may prolong the QT interval in some patients. Consider ECG and electrolyte monitoring
Fetal harm can occur when administered to a pregnant woman. Women should be advised not to become pregnant when taking TYKERB

Contra-Ind:

Known severe hypersensitivity (e.g., anaphylaxis) to this product or any of its components

Side effects:

The most common (>20%) adverse reactions during treatment with TYKERB plus capecitabine were diarrhea, palmar-plantar erythrodysesthesia, nausea, rash, vomiting, and fatigue. The most common ($\geq 20\%$) adverse reactions during treatment with TYKERB plus letrozole were diarrhea, rash, nausea, and fatigue

Dosage:

The recommended dosage of TYKERB for advanced or metastatic breast cancer is 1,250 mg (5 tablets) given orally once daily on Days 1-21 continuously in combination with capecitabine 2,000 mg/m² /day (administered orally in 2 doses approximately 12 hours apart) on Days 1-14 in a repeating 21-day cycle

The recommended dose of TYKERB for hormone receptor positive, HER2 positive metastatic breast cancer is 1500 mg (6 tablets) given orally once daily continuously in combination with letrozole. When TYKERB is coadministered with letrozole, the recommended dose of letrozole is 2.5 mg once daily

LEDIPASVIR AND SOFOSBUVIR (Harvoni®)

P/P: Harvoni 90mg/400mg Tab 28"S

Adm: Orally with or without food

Category: Antihepaciviral, NS5A Inhibitor; polymerase Inhibitor (Anti-HCV)

Indications: HARVONI is a fixed-dose combination of ledipasvir, a hepatitis C virus (HCV) NS5A inhibitor, and sofosbuvir, an HCV nucleotide analog NS5B polymerase inhibitor, and is indicated for the treatment of chronic hepatitis C (CHC) genotype 1 infection in adults

Caution:	Use with other drugs containing sofosbuvir, including SOVALDI, is not recommended
Contra-Ind:	None
Side effects:	The most common adverse reactions (incidence greater than or equal to 10%, all grades) observed with treatment with HARVONI for 8, 12, or 24 weeks are fatigue and headache
Dosage:	<p>One tablet (90 mg of ledipasvir and 400 mg of sofosbuvir) taken orally once daily with or without food</p> <p>Recommended treatment duration:</p> <ul style="list-style-type: none"> Treatment-naïve with or without cirrhosis: 12 weeks Treatment-experienced without cirrhosis: 12 weeks Treatment-experienced with cirrhosis: 24 weeks <p>A dose recommendation cannot be made for patients with severe renal impairment or end stage renal disease</p>

LEVOFLOXACIN (Tavanic, Levonic, Levox®) (Restricted)

P/P:	Tavanic 500mg F.C tab, 5's, Tavanic 500mg/100ml Infusion Levonic 500 mg tab, 5's, Levoflox 500 mg tab, 5's Levox 500 mg tab, 5's, Levox 750 mg tab, 5's
Adm:	May be taken with or without food (Ensure adequate fluid intake.).
Category:	Quinolones
Indications:	Acute maxillary sinusitis, acute bacterial exacerbations of chronic bronchitis, community acquired pneumonia (CAP), complicated UTI & acute pyelonephritis, complicated skin & skin structure infections
Caution:	Severe renal disorder, seizures or w/ a history of convulsive disorders. Elderly.
Contra-Ind:	Hypersensitivity to quinolones. Pregnancy & lactation. Children.
D/I:	NSAIDs, antacids containing Al & Mg, Fe, warfarin.
Side effects:	Diarrhea & loose stools, gastric/abdominal discomfort, nausea/vomiting, rash, headache, dull headache, insomnia.
Dosage:	<p>Usual Adult Dose: 500 to 750 mg every 24 hours</p> <p>Usual Pediatric Dose: 6 months or older:</p> <ul style="list-style-type: none"> Less than 50 kg: 8 mg/kg orally every 12 hours; not to exceed 250 mg per dose 50 kg or more: 500 mg orally every 24 hours <p>Renal Dose Adjustments: CrCl 20 to 49 mL/min: 750 mg orally every 48 hours CrCl 10 to 19 mL/min: 750 mg once, followed by 500 mg orally every 48 hours</p> <p>Pediatrics: Data not available</p> <p>Liver Dose Adjustments: Data not available</p>

LINEZOLID (Zyvox®) (Restricted)

P/P:	Zyvox 2mg /ml injection
Adm:	IV infusion
Category:	Antibiotic (Oxazolidinone)
Indications:	severe infections caused by Gram-positive bacteria, vancomycin-resistant <i>Enterococcus faecium</i> infections, hospital-acquired pneumonia, Complicated skin and skin structure infections
Contra-Ind:	Hypersensitivity to the drug or its components, Pregnancy & lactation.
D/I:	MAOIs, serotonergic drugs, sympathomimetic drugs such as pseudoephedrine or phenylpropanolamine
Side effects:	Confusion, dizziness, fever, pale skin, rapid breathing, skin rash
Dosage:	Usual Adult Dose: 600 mg IV every 12 hours Usual Pediatric Dose: Less than 7 days, gestational age less than 34 weeks: 10 mg/kg IV or every 12 hours; may increase to every 8 hours based on clinical response Less than 7 days, gestational age 34 weeks or more: 10 mg/kg IV or every 8 hours 7 days through 11 years: 10 mg/kg IV or every 8 hours 12 years or older: 600 mg IV or every 12 hours Renal Dose Adjustments: Use with caution in patients with severe renal insufficiency (CrCl 30 mL/min or less). Dose adjustments are not recommended. Liver Dose Adjustments: Mild to moderate hepatic insufficiency: No adjustment recommended. Severe hepatic impairment: Data not available

LOMEFLOXACIN (Lomax®)

P/P:	Lomax 400mg tab, 5's
Adm:	May be taken with or without food
Category:	Quinolones
Indications:	Treatment of susceptible infections, UTI, treatment of bronchitis due to h. influenzae or moraxella catarrhalis
Caution:	Known or suspected CNS disorders; impaired renal function; exposure to excessive sunlight or artificial UV light; myasthenia gravis.
Contra-Ind:	Hypersensitivity to the drug or other quinolone antibacterials; children <18 yrs; pregnancy and lactation.
D/I:	Probenecid slows the renal elimination of the drug.

Side effects: Nausea, abdominal pain or discomfort, diarrhea; headache, dizziness, insomnia; rash, pruritus, photosensitivity; thrombocytopenia.
Dosage: Usual Adult Dose: 400 mg orally once a day.
Renal Dose Adjustments: CrCl 10 to 40 mL/min: Loading dose of 400 mg followed by 200 mg orally once a day.
Liver Dose Adjustments: No adjustment recommended

MEBENDAZOLE (Vermox®)

P/P: Vermox 100mg tab, 10's, Vermox 2% susp, 30ml
Adm: May be taken with or without food.
Category: Anthelmintics
Indications: Treatment of single or mixed GI worm infestations by roundworm, whipworm, hookworm, pinworm, threadworm & tapeworm.
Caution: Children <1 yr. Impaired hepatic function. Blood count during the treatment of Echinococcus granulosus infestation,
Contra-Ind: Pregnancy & lactation. Hypersensitivity.
D/I: Metronidazole, cimetidine. Fatty food increases absorption. Microfilaricidal effect in onchocerciasis is enhanced in conjunction with levamisole.
Side effects: Transient abdominal pain, diarrhea, slight headache, fever and dizziness.
Dosage: Usual Adult Dose: 100 mg to 200 mg orally twice a day
Usual Pediatric Dose: Greater than or equal to 2 years: 100 mg orally twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Dose reductions may be necessary in patients with liver dysfunction.

MEFLOQUIN (Mephaquin®)

P/P: Mephaquin 250mg tab, 6's
Adm: Should be taken with food
Category: Antimalarials
Indications: Therapy & prophylaxis of malaria, particularly caused by strains of P. falciparum resistant to 4-aminoquinolines.
Caution: Renal or hepatic impairment; early pregnancy; lactation; young children & babies.
Contra-Ind: History of psychiatric disturbances or convulsions, young children, lactation.
Hypersensitivity.
D/I: Quinine or related compound, valproic acid. Cardioactive agents e.g., β-blockers. Oral live typhoid vaccines.

Side effects: Dizziness, balance disturbance, GI disorders. Rarely, headache, bradycardia. Skin eruptions or pruritus, lassitude, psychological changes

Dosage: Usual Adult Dose: 1250 mg orally as a single dose
Usual Pediatric Dose: 6 months or older: 20 to 25 mg/kg orally as a single dose
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MEROPENEM (Meronem, Mepra, Ronem®) (Restricted)

P/P: **Meronem 500mg Inj, 1's, Meronem 1gm Inj, 1's
Mepra 500mg Inj, 1's, Merpra 1gm Inj, 1's, Ronem 500mg Inj, 1's, Ronem 1gm Inj, 1's**

Category: Other Beta-lactams

Indications: Aerobic and anaerobic Gram-positive and Gram-negative organism

Caution: History of hypersensitivity to carbapenem, penicillins or other beta-lactam antibiotics.
Infants <3 months; renal insufficiency; neurological disorders; pregnancy and lactation.

Contra-Ind: Hypersensitivity to meropenem

D/I: Probenecid increases elimination 1/2-life & plasma conc. May reduce serum valproic acid levels.

Side effects: Inflammation, thrombophlebitis & pain at the site of Inj. Rash, profils, urticaria. Abdominal pain, nausea, vomiting, diarrhea, headache, paresthesias; haemotological disorders.

Dosage: Usual Adult Dose: 500 mg to 1 g IV every 8 hours.
Usual Pediatric Dose: 3 months or older: 10 mg to 20 mg/kg IV every 8 hours.
Renal Dose Adjustments Adults: Greater than 50 mL/min: Recommended dose every 8 hours, CrCl greater than 25 to 50 mL/min: Recommended dose every 12 hours
CrCl 10 to 25 mL/min: One-half recommended dose every 12 hours
CrCl less than 10 mL/min: One-half recommended dose every 24 hours
Pediatric patients: Data not available
Liver Dose Adjustments: No adjustment recommended.

Methenamine, Piperazine, and Khellin (Jedcorene®)

P/P: **Jedcorene Eff Granules 5gm Sachet 12"S**

Adm: Given after meals

Category: Urinary antiseptic

Indications: Lower urinary tract infection

- Caution:** overdose may rarely produce nervous complication especially in patients suffering from disturbance in renal function
- Contra-Ind:** impairment of hepatic function, renal failure, severe dehydration, pregnancy (first trimester) and metabolic acidosis.
- Side effects:** Nausea, vomiting and skin rashes.
- Dosage:** One sachet (5 G) to be dissolve in half glass of water, three times daily.

METRONIDAZOLE (Flagyl, Flazol, Anazol, Riazole®)

- P/P:** 250mg tab, 20's (Flagyl, Flazol, Anazol, Riazole)
500mg tab, 14's (Flagyl)
500mg tab, 20's (Anazol, Flazol, Riazole)
125mg/5ml susp, 120ml (Flagyl, Flazol, Anazol)
200mg/5ml susp, 120ml (Anazol)
Metronidazole Infusion 500mg/100ml (PSI, B. Braun)
- Adm:** Oral prep should be taken with food.
- Category:** Antiamoebic
- Indications:** Treatment of anaerobic or protozoal infections e.g., amoebiasis, giardiasis, acute ulcerative gingivitis
- Caution:** Blood dyscrasias; active CNS diseases. Avoid high doses during pregnancy.
- D/I:** Alcohol may provoke a disulfiram-like reaction. Enhances anticoagulant effect of warfarin.
- Side effects:** Unpleasant taste, furry tongue, GIT disturbances, urticaria, drowsiness, dizziness, headaches, rash, darkening of urine, leucopenia
- Dosage:** Usual Adult Dose: IV: Loading dose: 15 mg/kg IV
Maintenance dose: 7.5 mg/kg IV every 6 hours
Oral: 7.5 mg/kg orally every 6 hours, Maximum dose: 4 g per day
Usual Pediatric Dose: Neonates:
7 days or less, 2000 g or less: 7.5 mg/kg IV every 24 to 48 hours
7 days or less, greater than 2000 g: 15 mg/kg IV every 24 hours
8 to 28 days, 2000 g or less: 15 mg/kg IV every 24 hours
8 to 28 days, greater than 2000 g: 15 mg/kg IV every 12 hours
- 1 month or older:
IV: 22.5 to 40 mg/kg/day IV in 3 divided doses
Maximum dose: 1.5 g/day
Oral: 30 to 50 mg/kg/day orally in 3 divided doses
Maximum dose: 2.25 g/day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Mild to moderate liver dysfunction: No adjustment recommended. Severe liver dysfunction: Dose should be reduced by 50%.

METRONIDAZOLE+DILOXANIDE FUROATE (Furazole®)

P/P: Furazole tab, 20's (Metronidazole 200mg+Diloxanide furoate 250mg)

Adm: Should be taken with food.

Category: Antiamoebic

Indications: Acute and chronic Amoebiasis; Treatment of asymptomatic cyst passer

Caution: Pregnancy and lactation.

Contra-Ind: Children <2 yrs

Side effects: Flatulence, anorexia, nausea, vomiting, pruritus, urticaria.

Dosage: Usual adult and adolescent dose: 2 to 3 tablets three times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Mild to moderate liver dysfunction: No adjustment recommended. Severe liver dysfunction: Dose should be reduced by 50%.

MICAFUNGIN (Megamento, Mycamine®) (Restricted)

P/P: Mycamine 50 mg vial

Adm: I V injection

Category: Antifungal

Indications: Esophageal candidiasis; *Candida* prophylaxis in patients undergoing hematopoietic stem cell transplant, treatment of candidemia, acute disseminated candidiasis

Caution: Pregnancy Risk Factor c

Contra-Ind: Hypersensitivity

Side effects: Fever, headache, Hypokalemia, hypomagnesemia, Diarrhea, nausea, vomiting,
Mucosal inflammation, constipation, Thrombocytopenia, neutropenia, Hypotension
Anemia, Abdominal pain, anorexia

Dosage: Usual Adult Dose: 50 to 150 mg via IV infusion once a day
Usual Pediatric Dose: 4 months or older: 30 kg or less: 3 mg/kg via IV infusion once a day
Greater than 30 kg: 2.5 mg/kg via IV infusion once a day
Maximum dose: 150 mg per day
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: No adjustment recommended.

MINOCYCLINE (SYSTEMIC) (Vulga®)

P/P:	Vulga 55Mg XR Tab 30"S, Vulga 80Mg XR Tab 30"S, Vulga 105Mg XR Tab 30"S
Adm:	Cab be taken with or without food. Take with food may help reduce the risk of esophageal irritation and ulceration
Category:	Tetracycline-class drug
Indications:	Treatment of inflammatory lesions of non-nodular moderate to severe acne vulgaris in patients 12 years of age and older
Caution:	<p>The use of during tooth development (last half of pregnancy, infancy, and childhood up to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown).</p> <p>discontinue minocycline if pseudomembranous colitis occurs, pseudotumor cerebri, autoimmune syndromes or liver injury is suspected</p> <p>Minocycline has been associated with anaphylaxis, serious skin reactions, erythema multiforme, and DRESS syndrome. Discontinue it immediately if symptoms occur.</p> <p>If renal impairment exists, doses may need to be adjusted.</p> <p>Minocycline may cause central nervous system side effects including light-headedness, dizziness, or vertigo. Advise patients</p>
Contra-Ind:	Hypersensitivity to any of the tetracycline
Side effects:	Headache, fatigue, dizziness, and pruritus
Dosage:	1 mg/kg once daily for 12 weeks

MIRABEGRON (Betmiga®)

P/P:	Betmiga 50mg Prolonged Release F.C Tab 30"S
Adm:	Swallow whole with water, with or without food, do not chew, divide or crush
Category:	Beta-3 adrenergic agonist
Indications:	Overactive bladder (OAB) with symptoms of urge urinary incontinence, urgency, and urinary frequency.

Caution:	Increases in blood pressure, urinary retention in patients with bladder outlet obstruction and in patients taking muscarinic antagonist drugs for overactive bladder, angioedema, patients taking drugs metabolized by CYP2D6.
Contra-Ind:	Hypersensitivity
Side effects:	Mono-therapy: hypertension, nasopharyngitis, urinary tract infection and headache. Combination with solifenacin: dry mouth, urinary tract infection, constipation, and tachycardia
Dosage:	25 mg once daily, alone or in combination with solifenacin succinate 5 mg, once daily

MOXIFLOXACIN (Avalox, Maxim®) (Restricted)

P/P:	Avalox 400mg tab, 5's, Avalox 400mg tab, 7's Avalox 400mg IV, 250ml Infusion Maxim 400mg tab, 5's, Maxim 400mg tab, 7's
Adm:	Oral prep may be taken with or without food.
Category:	Quinolones
Indications:	Treatment of bacterial infections caused by susceptible strains: Community-acquired pneumonia, complicated skin, & skin structure infections.
Caution:	Impaired hepatic or renal function; G6PD deficiency; myasthenia gravis. Maintain adequate fluid intake; avoid excessive alkalinity of the urine; exposure to strong sunlight/sunlamp.
Contra-Ind:	Hypersensitivity. Children, adolescent <18 yr. Pregnancy, lactation.
D/I:	Erythromycin, antipsychotic, tricyclic antidepressants.
Side effects:	GI disturbances, CNS effects, hypersensitivity-type reactions, reversible arthralgia, hepatic effects, haematological disturbances
Dosage:	Usual Adult Dose: 400 mg orally or IV every 24 hours Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: No adjustment recommended; caution is recommended.

NICLOSAMIDE (Yomesan®)

P/P:	Yomesan 0.5gm tab, 4's
Adm:	Should be taken with food
Category:	Anthelmintics
Indications:	Treatment of Pork tapeworm (<i>Taenia solium</i>); Beef tapeworm (<i>Taenia saginata</i>); Fish tapeworm;
Contra-Ind:	Hypersensitivity.

Side effects:	Nausea, vomiting, abdominal discomfort, loss of appetite, diarrhea, drowsiness, dizziness, headache, lightheadedness, pruritus
Dosage:	Usual adult and adolescent dose: 2 grams as a single dose Usual pediatric dose: Children 11 to 34 kg of body weight: Oral, 1 gram as a single dose, Children over 34 kg of body weight: Oral, 1.5 grams as a single dose

NITROFURANTOIN (Colifuran®)

P/P:	Colifuran 100mg tab, 20's
Adm:	Should be taken with food
Category:	Urinary Antiseptics
Indications:	Treatment and prevention of uncomplicated urinary tract infection
Caution:	Acidify urine. May cause hepatic damage. Elderly patients on long-term therapy, impaired hepatic or renal function.
Contra-Ind:	Severe oliguria, anuria; infants <1 month; renal failure; pregnancy (3rd trimester) and lactation.
D/I:	Absorption reduced by magnesium trisilicate. Probenecid reduces excretion thereby leading to increased toxicity. Urinary excretion of pyridoxine is increased. Antibacterial action potentiated by drugs which acidify the urine.
Side effects:	GI upsets diarrhea, dizziness, and headache. Peripheral neuropathy; anorexia, alopecia; pulmonary oedema.
Dosage:	Usual Adult Dose: 100 mg orally twice a day Usual Pediatric Dose: 1 month or older: 5 to 7 mg/kg/day (up to 400 mg/day) orally in 4 divided doses. Renal Dose Adjustments: Nitrofurantoin is contraindicated in patients with anuria, oliguria, or significant renal insufficiency (CrCl less than 60 mL/min or significantly elevated creatinine), due to the risk of toxicity. Liver Dose Adjustments: A dosage reduction may be necessary for patients with hepatic dysfunction.

NORFLOXACIN (Noroxin, Noracin®)

P/P:	Noroxin 400mg tab, 14's Noracin 400mg tab, 14's,
Adm:	Should be taken on an empty stomach
Category:	Quinolones
Indications:	Infections caused by sensitive pathogens in urinary tract, GI infections, urethritis, & gonorrhoea.
Caution:	Moderate renal impairment; history of CNS disorders; myasthenia gravis.

Contra-Ind:	Hypersensitivity to quinolones. Hepatic impairment. Pregnancy & lactation, infant & children since it causes arthropathy.
D/I:	Raises theophylline and ciclosporin levels. Effects of warfarin potentiated.
Food/I	Absorption reduced especially when with dairy products e.g., milk or yogurt
Side effects:	GIT disturbance; headache, dizziness; depression, insomnia and seizures. Rash, fever, arthralgia; elevated liver enzymes, urea and creatinine
Dosage:	Usual Adult Dose: 400 mg orally every 12 hours. Renal Dose Adjustments: CrCl 30 mL/min or less: 400 mg orally once a day Liver Dose Adjustments: No adjustment recommended.

OFLOXACIN (Tarivid, Oflacin®)

P/P:	200mg tab, 10's (Tarivid, Oflacin) 200mg Infusion (Tarivid)
Adm:	Oral prep should be taken on an empty stomach (Take on an empty stomach 1 hr before or 2 hr after meals.
Category:	Quinolones
Indications:	GUT, GIT, resp tract, soft tissue & skin, ophth infections.
Caution:	Hepatic or renal impairment, severe nephropathy, epilepsy or predisposition to convulsions, G6PD deficiency, myasthenia gravis, history of psychiatric illness
Contra-Ind:	Hypersensitivity to quinolones. Children. Pregnancy & lactation
D/I:	Antacids, sucralfate, cimetidine, cyclosporine, NSAIDs, theophylline, warfarin, antidiabetic agents
Side effects:	GI disturbances, dizziness, headache, rash, pruritus, photosensitivity, sleep disorders.
Dosage:	Usual Adult Dose: 200 to 400 mg orally every 12 hours Renal Dose Adjustments: CrCl 20 to 50 mL/min: After a normal initial dose, the usual recommended dose every 24 hours, CrCl 19 mL/min or less: After a normal initial dose, one-half the usual recommended dose every 24 hours Liver Dose Adjustments: Patients with severe liver function disorders should not exceed A maximum dose of 400 mg/day.

OSELTAMIVIR (Tamiflu, Oselta®)

P/P:	Tamiflu 75mg tab, 10's Oselta 75 mg tab, 10's
Adm:	May be taken with or without food
Category:	Antiviral

Indications: Treatment of uncomplicated acute illness due to influenza infection in patient's ≥1 yr that have been symptomatic for no more than 2 days. Prophylaxis of influenza in patients' ≥1 yr.

Caution: Severe renal impairment. Pregnancy, lactation.

Contra-Ind: Hypersensitivity, Children <1 yr.

D/I: Probenecid

Side effects: Nausea, vomiting, diarrhea & abdominal pain, bronchitis, dizziness, fatigue, headache, insomnia.

Dosage: Usual Adult Dose: 75 mg orally twice a day
Usual Pediatric Dose: 2 weeks to less than 1 year: 3 mg/kg orally twice a day
1 to 12 years: 15 kg or less: 30 mg orally twice a day
15.1 through 23 kg: 45 mg orally twice a day
23.1 through 40 kg: 60 mg orally twice a day
40.1 kg or more: 75 mg orally twice a day
13 years or older: 75 mg orally twice a day
Renal Dose Adjustments: Adults: Mild renal dysfunction (CrCl greater than 60 to 90 mL/min): 75 mg orally twice a day, Moderate renal dysfunction (CrCl greater than 30 to 60 mL/min): 30 mg orally twice a day, Severe renal dysfunction (CrCl greater than 10 to 30 mL/min): 30 mg orally once a day, ESRD not on dialysis (CrCl 10 mL/min or less): Not recommended.
Liver Dose Adjustments: Mild to moderate liver dysfunction: No adjustment recommended, Severe liver dysfunction: Data not available.

PHENOXYMETHYL PENICILLIN (Ospen®)

P/P: Ospen 500mg tab, 30's, Ospen 1000mg tab, 30's
Ospen 200(125mg) susp, Ospen 400(250mg) susp

Adm: Should be taken on an empty stomach (Take on an empty stomach 1 hr before or 2 hr after meals.).

Category: Penicillins

Indications: Treatment of infections caused by organisms w/ high penicillin sensitivity (tonsillitis, otitis media, erysipelas; rheumatic fever & pneumococcal infection prophylaxis)

Caution: Hypersensitivity to cephalosporins. Renal impairment.

Contra-Ind: Hypersensitivity to penicillins. Infectious mononucleosis.

D/I: Excretion delayed by probenecid. May decrease absorption of OCPs. Allopurinol increases risk of skin rashes.

Side effects: GI disturbances, skin rashes, pruritus, urticaria, fever, anaphylaxis, blood disorder, superinfection.

Dosage: Adults: The dosage is 250-500 mg every six hours.

Pediatric population: Children 1-5 years: 125 mg every six hours
6-12 years: 250 mg every six hours.
Renal Dose Adjustments: In renal impairment the safe dosage may be lower than usually recommended.
Liver Dose Adjustments: no data available.

PIPERACILLIN+TAZOBACTAM (Tazocin, Prizma, Piperacillin/ Tazobactam, Tazorex®) (Restricted)

P/P: Tazocin 4.5gm vial, 1's (Piperacillin Na 4 g, tazobactam Na 500 mg)
Prizma 4.5gm vial, 1's (Piperacillin Na 4 g, tazobactam Na 500 mg)
Piperacillin/ Tazobactam 4.5gm vial)
Tazorex 4.5gm vial, 1's (Piperacillin Na 4 g, tazobactam Na 500 mg)

Category: Penicillin's

Indications: Treatment of severe gm-ve infection & other susceptible bacteria; neutropenic patients; biliary tract infections; surgical infection prophylaxis; UTI.

Caution: Renal impairment, pregnancy & lactation.

Contra-Ind: History of allergic reactions to penicillins, cephalosporins, β -lactamase inhibitors.

D/I: Anticoagulants, probenecid, vecuronium, aminoglycosides, methotrexate.

Side effects: Nausea; indigestion, vomiting, diarrhea or constipation; rash, itchy or red skin, urticaria; sleeping difficulty, headache or dizziness. Superinfection.

Dosage: Usual Adult Dose: 3.375 g IV every 6 hours; 4.5 g IV every 8 hours has also been used.
Usual Pediatric Dose: to 9 months: 80 mg/kg IV every 8 hours.
9 months or older: 40 kg or less: 100 mg/kg IV every 8 hours
Greater than 40 kg: 3.375 g IV every 6 hours
Renal Dose Adjustments: Adults: CrCl greater than 40 mL/min: No adjustment recommended. CrCl 20 to 40 mL/min: 2.25 g IV every 6 hours
CrCl less than 20 mL/min: 2.25 g IV every 8 hours
Pediatric patients: There are no dosing recommendations for pediatric patients with impaired renal function.
Liver Dose Adjustments: No adjustment recommended.

PRAZIQUANTEL (Biltricide®)

P/P: Biltricide 600mg tab, 3's

Adm: Should be taken with food

Category: Anthelmintics

Indications: Treatment of schistosomiasis, liver fluke infections clonorchiasis and opisthorchiasis, tapeworm infections, neurocysticercosis

Caution: Driving or operating machinery during or for 24 hrs after treatment. Severe hepatic disease.

Contra-Ind: Hypersensitivity, ocular cysticercosis. 1st month of pregnancy. Do not breastfeed during or for 72 hrs after treatment.

D/I: Dexamethasone, antiepileptics, cimetidine.

Side effects: Headache, drowsiness, dizziness, malaise, abdominal discomfort, nausea, vomiting, diarrhea, urticaria, rashes, pruritus, fever, eosinophilia.

Dosage: Usual Adult Dose: 60 tom 75 mg/kg/day orally in 2 or 3 divided doses.
Usual Pediatric Dose: 4 years or older: 60 mg/kg/day orally in 3 divided doses
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: patients with moderate to severe liver dysfunction usual dose should be used with caution

RIBAVIRIN (Copegus®) (Restricted)

P/P: Copegus 200 mg capsule

Adm: Oral concurrently with interferon alfa-2a injection, capsule should not be opened, crushed or broken.

Category: Other Anti infective.

Indications: In combination with interferon alfa -2a injection for the treatment of hepatitis C

Contra-Ind: women of childbearing age who will not use contraception, pregnancy.

Side effects: Headache, fatigue, insomnia, depression, alopecia, dermatitis, vomiting, Anemia, weakness, myalgia, cough, dyspnea, and hemoglobin decreased.

Dosage: Usual Adult Dose: 75 kg or less: 400 mg orally in the morning and 600 mg in the evening Greater than 75 kg: 600 mg orally twice a day.
Usual Pediatric Dose: 3 years or older: Less than 47 kg: 15 mg/kg orally per day in 2 divided doses, 47 to 59 kg: 400 mg orally twice a day, 60 to 73 kg: 400 mg orally in the morning and 600 mg in the evening, Greater than 73 kg: 600 mg orally twice a day.

Renal Dose Adjustments: CrCl 30 to 50 mL/min: Alternating doses, 200 mg and 400 mg orally every other day, CrCl less than 30 mL/min: 200 mg orally once a day.
Liver Dose Adjustments: Data not available.

RIFAMPICIN (Rifadin®)

P/P: 150mg caps, 8's (Rifadin) 300mg caps, 8's (Rifadin)

Adm: Should be taken on an empty stomach (Take at least ½ hr before meals).

Category: Other Antibiotics / Antituberculous Agents

Indications: Combination w/ other antibiotic/chemotherapy agents in all forms of TB & leprosy. Non-mycobacterial infection w/ tetracycline in brucellosis. Prevention of meningococcal meningitis

Caution: Liver disease, undernourishment. Pregnancy, premature & newborn infant.

Contra-Ind: Hypersensitivity, jaundice.

D/I: Impairment of efficacy of many drugs, e.g., OCP, oral anticoagulant, digitalis, sulfonylureas.

Side effects: Reddish brown discolouration of body fluids, GI disturbances, hepatic toxicity, induction of porphyria, renal failure & blood dyscrasias.

Dosage: Usual Adult Dose: 10 mg/kg (not to exceed 600 mg) orally once a day.
Usual Pediatric Dose: Less than 1 month: 5 mg/kg orally every 12 hours for 2 days
1 month or older: 10 to 20 mg/kg (not to exceed 600 mg/dose) orally every 12 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Patients with impaired liver function should only be given rifampin in cases of necessity and then with caution and under strict medical supervision.

RIFAMPICIN + ISONIAZID (Rifinah®)

P/P: Rifinah 150mg tab, 8's (Rifampicin 150mg+Isoniazid 100mg)
Rifinah 300mg tab, 8's (Rifampicin 300mg+Isoniazid 150mg)

Adm: Should be taken on an empty stomach (Take at least 1/2 hr before or 2 hr after meals.).

Category: Antituberculous Agents

Indications: Treatment of TB

Caution: Hepatic & renal impairment; elderly; malnourishment; epilepsy

Contra-Ind: Hypersensitivity. Jaundice.

D/I: Hepatic enzyme inducer. Reduces activity of warfarin, corticosteroids, cyclosporin, quinidine, theophylline, OCP's, oral hypoglycemics

Side effects: Skin reactions, GI intolerance; hepatitis; thrombocytopenia; 'flu syndrome'; red discoloration of urine, sputum, tears, staining contact lenses; polyneuritis.

Dosage: Adults: Patients weighing less than 50kg: 3 tablets of 150mg.
Patients weighing 50kg or more: 2 tablets of 300mg.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Caution should be exercised in patients with liver impairment.

RIFAXIMIN (Xifaxan®)

P/P: Xifaxan 200mg film coated tablet.

Adm:	Can be taken with or without food.
Category:	Anti-Bacterial
Indications:	Traveler's diarrhea, irritable bowel disease (moderate or severe, without constipation), hepatic encephalopathy (treatment or prevention)
Caution:	Severe hepatic impairment (Efficacy for prevention of encephalopathy has not been established in patients with a Model for End-Stage Liver Disease (MELD) score >25; use caution in patients with severe hepatic impairment (Child-Pugh class C). Avoid use in diarrhea with fever and/or blood in the stool and in the treatment of diarrhea due to pathogens other than Escherichia coli, including <i>Campylobacter jejuni</i> , <i>Shigella</i> spp., and <i>Salmonella</i> spp. (efficacy has not been established). Consider alternative therapy if symptoms persist or worsen after 24 to 48 hours of treatment. Prolonged use may result in fungal or bacterial superinfection (including <i>Clostridioides difficile</i> -associated diarrhea (CDAD) and pseudomembranous colitis; CDAD has been observed >2 months postantibiotic treatment.).
Contra-Ind:	Hypersensitivity to rifaximin, other rifamycin antibiotics, or any component of the formulation, children (aged less than 18 years).
Special population:	<p>Pregnancy Considerations: Adverse events have been observed in some animal reproduction studies. Due to the limited oral absorption of rifaximin in patients with normal hepatic function, exposure to the fetus is expected to be low.</p> <p>Breastfeeding Considerations: It is not known if rifaximin is excreted in human milk. According to the manufacturer, the decision to breast-feed during therapy should take into account the risk of exposure to the infant and the benefits of treatment to the mother. Because of the limited oral absorption of rifaximin in patients with normal hepatic function, exposure to the nursing infant is expected to be low.</p>
D/I:	Ciclosporin, warfarin, oral contraceptive. Check drug-drug interactions before using the drug.
Side effects:	Rash, hives or itchy skin, shortness of breath, wheezing, headache, abdominal bloating, abdominal pain, constipation, diarrhea.
Dosage:	<p>Hepatic encephalopathy, treatment (off-label use) or prevention: Note: Use as an adjunct or alternative to nonabsorbable disaccharides (eg, lactulose) in patients intolerant of or with insufficient response to disaccharides.</p> <p>Oral: 550 mg twice daily or 400 mg 3 times daily. When used for treatment of an acute episode, continue therapy for at least 3 months.</p> <p>Irritable bowel syndrome, moderate to severe, without constipation (alternative agent): Note: Reserve for patients, particularly those with bloating, who have failed other therapies.</p> <p>Oral: 550 mg 3 times daily for 14 days.</p> <p>Travelers' diarrhea:</p> <p>Prophylaxis (off-label use): Note: Routine prophylaxis is not recommended. Reserve for select short-term travelers (eg, <2 weeks) at high risk of complications from diarrheal illness. Effectiveness for travelers to South and Southeast Asia may be reduced.</p>

Oral: 200 mg 1 to 3 times daily for the duration of travel; optimal dose and duration not well established.

Treatment, moderate to severe (alternative agent): Note: Avoid in patients with fever or bloody diarrhea. Most cases are self-limited and may not warrant antimicrobial therapy. Some experts reserve antimicrobial therapy for certain high-risk travelers (eg, those with an immunocompromising condition).

Oral: 200 mg 3 times daily for 3 days.

Renal Dose Adjustments: No dose adjustment required

Liver Dose Adjustments: No dose adjustment required.

SODIUM STIOGLUCONATE (Pentostam®)

P/P: **Pentostam 100 mg vial**

Adm: IV Injection

Category: Antiprotozoal

Indications: Treatment of cutaneous and visceral leishmaniasis.

Caution: IV injection must be slowly over 5 minutes

Side effects: Anorexia, nausea, vomiting, diarrhea.

TERBINAFINE (Lamisil, Lamifen®)

P/P: **250mg tab, 14's (Lamisil, Lamifen)
250mg tab, 28's (Lamisil)
250MG tab, 7's (Lamifen)**

Adm: May be taken with or without food.

Category: Antifungal

Indications: Fungal infections of the nail, hair, scalp, & skin including dermatophytoses & yeast infections caused by Candida sp.

Caution: Chronic or active liver disease, renal impairment. Pregnancy

Contra-Ind: Hypersensitivity; active or chronic liver disease; lactation

D/I: Caffeine, cyclosporine, rifampicin, cimetidine.

Side effects: GI symptoms, liver test abnormalities, rash, urticaria, pruritus & taste disturbances.

Dosage: Usual Adult Dose: 250 mg orally once a day.

Usual Pediatric Dose: 4 years or older: Less than 25 kg: 125 mg orally once a day

25 to 35 kg: 187.5 mg orally once a day, Greater than 35 kg: 250 mg orally once a day.

Renal Dose Adjustments: CrCl 50 mL/min or less: Data not available

Liver Dose Adjustments: Chronic or active liver disease: Not recommended.

TETRACYCLINE (Tetracycline®)

P/P: Tetracycline 250mg caps, 24's

Adm: Should be taken on an empty stomach (Take on an empty stomach 1 hr before or 2 hr after meals)

Category: Tetracycline

Indications: Rickettsial, chlamydial & mycoplasmal infections. Brucellosis, plaque, Tularaemia, malabsorption syndrome, UTI, severe acne, cholera, venereal diseases

Caution: Liver impairment. Long-term therapy.

Contra-Ind: Hypersensitivity. Renal impairment. Pregnancy. Children <8 yr.

D/I: Anticoagulants; Al-, Mg-, Ca-containing antacids; penicillins, hepatotoxic & nephrotoxic drugs.

Side effects: GI disturbances, bowel flora alterations, super-infection, hepatic impairment, renal tubular acidosis. Tooth discolouration, inhibition of bone growth.

Dosage: Usual Adult Dose: 500 mg orally every 6 hours.

Usual Pediatric Dose: Above 8 years of age: 25 to 50 mg/kg orally per day divided in 4 equal doses.

Renal Dose Adjustments: Total dosage should be decreased by reduction of recommended individual doses and/or by extending time intervals between doses.

Liver Dose Adjustments: Data not available.

TIGECYCLINE (Tygacil®) (Restricted)

P/P: Tygacil 50mg vial

Category: Glycylcyclines

Indications: Treatment of complicated skin and skin structure infections and complicated intra-abdominal infections caused by susceptible strains of specific microorganisms

Caution: Hepatic impairment, Pregnancy, lactation

Contra-Ind: Contraindicated for use in patients who have known hypersensitivity to tigecycline

D/I: Warfarin, OCP

Side effects: Diarrhea; dizziness; increased sweating; nausea; pain, swelling, or redness at the injection site; stomach upset; vomiting; weakness.

Dosage: Usual Adult Dose: 100 mg IV initial dose, followed by 50 mg IV every 12 hours

Usual Pediatric Dose: 8 to 11 years: 1.2 mg/kg IV every 12 hours

Maximum dose: 50 mg/dose
12 to 17 years: 50 mg IV every 12 hours.
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: Mild to moderate liver dysfunction: No adjustment recommended. Severe liver dysfunction :100 mg IV initial dose, followed by 25 mg IV every 12 hours; caution recommended.

TINIDAZOLE (Fasigyn, Protogyn®)

P/P: 500mg tab, 4's (Fasigyn, Protogyn)

Adm: Should be taken with food (Take during or immediately after meals.).

Category: Antiamoebic

Indications: Amoebiasis, trichomoniasis, Giardiasis, acute ulcerative gingivitis, anaerobic infection
Prophylaxis before surgery.

Caution: If abnormal neurological signs develop, discontinue therapy. Possibility of a disulfiram-like reaction w/ alcohol

Contra-Ind: History of blood dyscrasias. Patients w/ active organic neurological disorders. 1st trimester of pregnancy & lactation.

D/I: May cause alcohol intolerance; Synergism with ampicillin, doxycycline and co-trimoxazole

Side effects: Neurological disturbances, GI disturbances, anorexia & metallic taste; hypersensitivity; rarely, leucopenia, headache, tiredness, furry tongue, dark urine.

Dosage: Usual Adult Dose: 2 g orally once a day.
Usual Pediatric Dose: 3 years or older: 50 mg/kg (up to 2 g) orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: caution should be used in dosing patients with severe hepatic dysfunction.

VALACICLOVIR (Valtrex®) (Restricted)

P/P: Valtrex 500mg tab, 10's, Valtrex 500mg tab, 42's

Adm: May be taken with or without food

Category: Antiviral

Indications: Treatment of herpes simplex & herpes zoster infections

Caution: Dehydration; severe renal and hepatic impairment, liver transplant (high doses); immunocompromised patients; pregnancy, lactation, child.

Contra-Ind: Hypersensitivity.

D/I: Probenecid; nephrotoxic drugs

Side effects:	Headache, rash, GI disturbances, reversible neurological reactions
Dosage:	Adults and Adolescents (≥ 12 years): The dose is 500 mg of valaciclovir to be taken twice daily (1000 mg total daily dose). Children: The efficacy of valaciclovir in children below the age of 12 years has not been evaluated. Renal impairment: Caution is advised when administering valaciclovir to patients with impaired renal function. low dose and longer intervals are suggested. Hepatic impairment: dose modification is not required in patients with mild or moderate cirrhosis.

VANCOMYCIN (Vancolon®) (Restricted)

P/P:	Vancolon 500mg Inj
Category:	Other Antibiotics
Indications:	Treatment of Staph (esp. methicillin-resistant) or other gm+ve infections. Endocarditis, osteomyelitis, pneumonia, pulmonary thrombosis, & superficial secondary infections.
Caution:	Rapid infusion-related reactions. Hearing loss; renal impairment. Pregnancy & lactation.
Contra-Ind:	Hypersensitivity to the drug; history of impaired hearing; IM administration.
D/I:	Increased risk of ototoxicity w/ loop diuretics, aminoglycosides. Increased risk of nephrotoxicity w/ aminoglycosides & cephalosporin.
Side effects:	Thrombophlebitis, febrile reactions w/ rigor during administration, nephrotoxicity, ototoxicity
Dosage:	Usual Adult Dose: 15 to 20 mg/kg IV every 8 to 12 hours. Usual Pediatric Dose: Less than 7 days, less than 1200 g: 15 mg/kg IV every 24 hours Less than 7 days, 1200 to 2000 g: 10 to 15 mg/kg IV every 12 to 18 hours Less than 7 days, greater than 2000 g: 10 to 15 mg/kg IV every 8 to 12 hours 7 days up to 1 month, less than 1200 g: 15 mg/kg IV every 24 hours 7 days up to 1 month, 1200 to 2000 g: 10 to 15 mg/kg IV every 8 to 12 hours 7 days up to 1 month, greater than 2000 g: 10 to 15 mg/kg IV every 6 to 8 hours 1 month to 18 years: 10 to 20 mg/kg IV every 6 to 8 hours (total 40 to 60 mg/kg/day) Renal Dose Adjustments: CrCl 20 to less than 50 mL/min: Start with 15 to 20 mg/kg every 24 hours, CrCl less than 20 mL/min: longer intervals are suggested
	Liver Dose Adjustments: No adjustment recommended

VORICONAZOLE (Vfend®) (Restricted)

P/P:	Vfend 200 mg tab, 30's Vfend 200 mg vial, 1's
Adm:	May be taken before or after food
Category:	Antifungal

Indications: Treatment of invasive aspergillosis; esophageal candidiasis, candidemia, Disseminated *Candida* infections of the skin and viscera; treatment of serious fungal infections caused by *Scedosporium apiospermum*.

Side effects: Hallucinations, Visual changes, Tachycardia, Rash, Hypokalemia, Nausea, vomiting, Photophobia

D/I: Alfuzosin; Artemether, Barbiturates; CarBAMazepine, Ergot Derivatives, Simvastatin.

Dosage: Usual Adult Dose: IV: Loading Dose: 6 mg/kg IV every 12 hours for 2 doses
Maintenance Dose: 4 mg/kg IV every 12 hours.
Oral: Less than 40 kg: 100 mg orally every 12 hours
40 kg or more: 200 mg orally every 12 hours
Usual Pediatric Dose: 2 to 11 years: 9 mg/kg IV or orally every 12 hours
Maximum dose: 350 mg/dose
Renal Dose Adjustments: IV: Moderate or severe renal dysfunction Oral voriconazole should be used unless the benefit to risk ratio justifies IV use.
Oral: Mild to severe renal dysfunction: No adjustment recommended
Liver Dose Adjustments: Patients with baseline liver function tests up to 5 times the upper limit of normal: No adjustment recommended.

ZANAMIVIR (Relenza Rotadisk®)

P/P: Relenza Rotadisk 5 mg, 4 doses /disk, 5's.

Adm: Relenza is for administration to the respiratory tract by oral inhalation, using the Diskhaler device provided.

Category: Antiviral

Indications: Treatment of uncomplicated acute illness due to influenza A & B viruses in adult & paed >5 yr. Prophylaxis of both influenza A & B in healthy young adult where prophylaxis is justified.

Caution: Pregnancy. Underlying airways disease e.g., asthma, COPD.

Contra-Ind: Hypersensitivity, breast feeding

Side effects: GIT disturbances; rarely allergic-type reaction, including oropharyngeal oedema.
Bronchospasm, dyspnea

Dosage: Usual Adult Dose: 10 mg (2 inhalations) inhaled orally twice a day
Usual Pediatric Dose: 7 years or older: 10 mg (2 inhalations) inhaled orally twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CARDIOVASCULAR SYSTEM

ACETYL SALICYLIC ACID (Aspirin, Disprin, Aspicard®)

P/P:	Aspirin 100mg tab, 30's Disprin 81mg E.C tab, 100's Aspicard 81 mg, 120"tab
Adm:	Should be taken with food
Category:	Antiplatelet
Indications:	prophylaxis of cerebrovascular disease or myocardial infarction
Caution:	Asthma, uncontrolled hypertension, peptic ulcer, Renal/hepatic impairment.
Contra-Ind:	Active Peptic ulcer, Children< 16yrs, breast feeding, 3rd trimester of pregnancy, haemophilia or other bleeding disorders
D/I:	Alcohol, Anticoagulants, oral and heparin, methotrexate, valproic acid, Probenecid, sulfinpyrazone, Sulfonylureas, insulin
Side effects:	Hemorrhage, Bronchospasm, GI disturbances
Dosage:	Adults (including children 16 years and over): Two to three tablets every 4 hours. Do not exceed 13 tablets in 24 hours. Do not give to children aged under 16 years unless specifically indicated (e.g. for Kawasaki's disease). There is no indication that dosage need be modified in the elderly. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

ADENOSINE (Adenosine®)

P/P:	Adenosine "EBEWE" 6mg Inj, 6's
Adm:	Intravenous
Category:	Cardiac Drugs
Indications:	Rapid conversion to normal sinus rhythm of paroxysmal supraventricular tachycardias including those associated w/ Wolff-Parkinson-White syndrome; as an aid to diagnosis of QRS complex supraventricular tachycardias.
Caution:	Asthma; pregnancy & lactation.
Contra-Ind:	2nd & 3rd degree AV block, sick sinus syndrome, bronchial asthma.
D/I:	Effect antagonised by methylxanthines. Effects enhanced by dipyridamole. Increased degree of heart block by carbamazepine
Side effects:	Facial flush, headache, sweating, palpitations, chest pain, dyspnea, lightheadedness, nausea, metallic taste, tightness in throat, ventricular tachycardia, ventricular fibrillation, transient HTN, bronchospasm, bradycardia, transient asystole.

Dosage: Adults: Initial dose: 3mg given as a rapid intravenous bolus (over 2 seconds).
Second dose: If the first dose does not result in elimination of the supraventricular tachycardia within 1 to 2 minutes, 6mg should be given also as a rapid intravenous bolus.
Third dose: If the second dose does not result in elimination of the supraventricular tachycardia within 1 to 2 minutes 12mg should be given also as a rapid intravenous bolus.
Additional or higher doses are not recommended.
Pediatric population: The dosing recommended for the treatment of paroxysmal supraventricular tachycardia in the Pediatric population is: first bolus of 0.1 mg/kg body weight (maximum dose of 6mg).
increments of 0.1 mg/kg body weight as needed to achieve termination of supraventricular tachycardia (maximum dose of 12mg).
Elderly: See dosage recommendations for adults.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

EPINEPHRINE ACID TARTARATE (Adrenaline®)

P/P: Adrenaline acid tartarate (adrenaline 1mg/ml)

Category: Direct-acting sympathomimetic agent

Indications: Cardiac arrest, acute allergic reactions, life-threatening angioneurotic oedema, and anaphylactic shock

Caution: Elderly, diabetes, CV disease, hypertension, hyperthyroidism, pregnancy

Contra-Ind: Hyperthyroidism, hypertension, ischaemic heart disease, diabetes mellitus, narrow angle glaucoma and known sensitivity to sympathomimetic amines. Cardiac dilation. Shock (other than anaphylactic shock), women in labour, halogenated hydrocarbons or cyclopropane.

DI: Effects potentiated by diphenhydramine, anti-histamines

Side effects: Anxiety, restlessness, tachycardia, tremor, weakness, dizziness, headache, dyspnea, cold extremities, pallor, sweating, nausea, vomiting, sleeplessness.

Dosage: Adults: 500 micrograms (0.5ml) of 1:1000 adrenaline solution
Elderly: There are no specific dosage regimes for adrenaline injection in elderly patients.
Children: 12 years: 500 micrograms IM (0.5ml i.e., same as adult dose)
300 micrograms (0.3ml if the child is small or pre-pubertal)
6 -12 years: 300 micrograms (0.3ml)
6 months - 6 years: 150 micrograms (0.15ml)
<6 months: 150 micrograms (0.15ml).
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ALTEPLASE (Actilyse®) (Restricted)

P/P:	Actilyse 50mg vial
Category:	Fibrinolytic
Indications:	Thrombolytic treatment in acute MI & acute massive pulmonary embolism w/ hemodynamic instability.
Caution:	Risk of bleeding, external chest compression, pregnancy, abdominal aneurysm, diabetic retinopathy, recent or concurrent anticoagulation therapy.
Contra-Ind:	Active internal bleeding; recent cerebrovascular accident (within 2 months); intracranial or intraspinal surgery; intracranial neoplasm; severe uncontrolled hypertension
D/I:	Anticoagulants, agents that alter platelet function (eg, aspirin, other NSAIDs, dipyridamole), other thrombolytic agents, agents that alter coagulation
Side effects:	Bleeding or oozing from cuts, gums, wounds, or around the place of injection; fever; low blood pressure.
Dosage:	The recommended dose of alteplase is 0.9 mg/kg (not to exceed 90-mg total dose) infused over 60 minutes with 10% of the total dose administered as an initial bolus over 1 minute. Renal Dose Adjustments: No dosage adjustments required. Liver Dose Adjustments: No dosage adjustments required.

AMIODARONE HYDROCHLORIDE (Cordarone, Sedocoron®)

P/P:	200mg tab, 30's, (Cordarone, Sedocoron) 150mg/3ml Inj, 6's (Cordarone, Amiodarone), 150mg/3ml Inj, 5's (Sedocoron)
Adm:	To be taken by mouth with food
Category:	Antiarrhythmic, Class III agent
Indications:	Amiodarone is used for many serious arrhythmias of the heart including ventricular fibrillation, ventricular tachycardia, atrial fibrillation and atrial flutter
Caution:	Hypotension, severe respiratory failure, severe heart failure
Contra-Ind:	AV or SA block, sinus bradycardia, thyroid dysfunction, iodine intolerance, severe arterial hypotension, CV collapse, acute cardiac insufficiency, pregnancy, lactation
D/I:	Anti arrhythmics, stimulating laxatives, beta blockers, diuretics inducing hypokalaemia, Amphotericin B, Digitalis, Anti coagulants, phenytoin, cyclosporine.
Side effects:	Reversible corneal micro deposits, coloured halos, hypo or hyperthyroidism, photosensitization, pigmentation, reversible peripheral neuropathy.
Dosage:	Adults: Initial Stabilisation Treatment should be started with 200mg, three times a day and may be continued for 1 week. The dosage should then be reduced to 200mg, twice daily for a further week. Maintenance: After the initial period the dosage should be reduced to 200mg daily, or less if appropriate.

Pediatric population: The safety and efficacy of amiodarone in children has not been established.
Elderly: As with all patients it is important that the minimum effective dose is used. Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

AMILORIDE +HYDROCHLOROTHIAZIDE (Moduretic®)

P/P: **Moduretic tab, 30's** (Amiloride 5mg+hydrochlorothiazide 50mg)

Adm: Should be taken by mouth with food

Category: Potassium-sparing diuretic with other diuretics

Indications: Hypertension, CHF, oedema and ascites of cirrhosis of liver

Caution: Renal and liver impairment, diabetic nephropathy, gout, pancreatitis, lactation, BPH, pregnancy

Contra-Ind: Hyperkalemia, hypercalcaemia, Addison disease, renal and hepatic failure, pregnancy, hyponatraemia, lactation

D/I: Lithium, potassium salts, tacrolimus

Side effects: GIT upset, dry mouth, skin rashes, sexual problems, light-headedness, dry mouth, muscle cramps, gout or sensitivity to light

Dosage: The usual starting dosage is 1 tablet a day. The dosage may be increased to 2 tablets a day, if necessary.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

AMLODIPINE BESYLATE (Amlor, Amvasc, Lofral, Vascodipine, Amlodar®)

P/P: **2.5mg caps, 30's (Lotense, Vascodipine)**
5mg caps, 30's (Amlor, Amvasc, Lofral)
5mg caps, 28's (Amopress, Amlodar)
10mg caps, 30's (Amlor, Amvasc, Lofral, Amlodar)

Adm: May be taken with or without food

Category: Calcium channel blocker, anti-anginal, antihypertensive

Indications: Hypertension, prophylaxis of angina

Caution: Pregnancy, lactation, impaired liver function

Contra-Ind: Known hypersensitivity to dihydropyridines

Side effects: Dizziness; drowsiness; fatigue; flushing; headache; muscle cramps; nausea; stomach pain; weakness

Dosage: Adult: 5 to 10 mg orally once a day, Small or fragile patients may be started on 2.5 mg orally once a day.
Geriatric: 2.5 to 10 mg orally once a day.
Pediatric 6 to 17 years: 2.5 mg to 5 mg orally once a day, Doses in excess of 5 mg daily have not been studied in pediatric patients.
Renal Dose Adjustments: Data not available.
Liver Dose Adjustments: Patients with hepatic insufficiency may be started on 2.5 mg orally once a day; however, most patients require 10 mg for adequate effect.

ATENOLOL (Tenormin, Hypoten, Glormin®)

P/P: 25mg tab, 28's (Glormin)
50mg Tab, 14's (Tenormin, Hypoten,)
50mg Tab, 28's (Tenormin, Hypoten, Glormin)
50mg tab, 30's (Apo-atenolol)
100mg tab, 14's (Tenormin, Hypoten)
100mg tab, 28's (Tenormin, Glormin, Normotens)
100mg tab, 30's (Apo-atenolol)
5mg/10ml, 10's Inj (Tenormin)

Adm: May be taken with or without food

Category: Beta-adrenergic blocking agent

Indications: Hypertension, Angina, Arrhythmias

Caution:

Contra-Ind; D/I: Side effects: See Propranolol

Dosage: Adult: Initial dose: 50 mg - 200mg once a day

Geriatric Dose: Consider reducing the starting dose to 25 mg orally once a day.

Renal Dose Adjustments: Creatinine clearance 15 to 35 mL/min: Maximum dose is 50 mg per day, Creatinine clearance less than 15 mL/min: Maximum dose is 25 mg per day.

Liver Dose Adjustments: Use with caution.

ATENOLOL+CHLORTHALIDONE (Tenoretic®)

P/P: Tenoretic tab, 28's (Atenolol 100mg+chlorthalidone 25mg)

Adm: To be taken by mouth with or without food

Category: Antihypertensive combination

Indications: Treatment of hypertension

Caution: Pregnancy, lactation, avoid sudden stopping, see propranolol

Contra-Ind: Hypersensitivity to sulfonamide-derived drugs, sinus bradycardia, heart block greater than first degree, cardiogenic shock, overt cardiac failure, anuria. Not for initial therapy of hypertension.

D/I: Ca channel blockers, lithium, digitalis, class 1 antiarrhythmic agents,

Side effects: Diarrhea; dizziness; feeling of a whirling motion; headache; lack of energy; lightheadedness; mild drowsiness; nausea; unusual tiredness.

Dosage: Usual Adult Dose is 1table once a day.
Renal Dose Adjustments: Chlorthalidone: is not expected to be filtered into the renal tubule (its site of action) when the glomerular filtration rate is less than 10 mL/min.
Atenolol: Creatinine clearance 15 to 35 mL/min: Maximum dose is 50 mg per day
Creatinine clearance less than 15 mL/min: Maximum dose is 25 mg per day.
Liver Dose Adjustments: Data not available.

ATORVASTATIN (Lipitor, Astatin, Lipodar, Lorvast, Tovast®) (Restricted)

P/P: 10mg tab, 30's (Lipitor, Astatin, Lipodar, Lorvast, Tovast)
20mg tab, 30's (Lipitor, Astatin, Lipodar, Lorvast, Tovast)
40mg tab, 30's (Lipitor, Astatin, Lorvast, Tovast)
80mg tab, 30's (Atorva)

Adm: Can be taken with or without food

Category: Antilipemic Agent, Statins

Indications: Primary hypercholesterolemia, homozygous familial hypercholesterolemia or mixed hyperlipidemia in patients not responding to diet and other appropriate measures; prevention of cardiovascular events in patients with atherosclerotic cardiovascular disease or DM.

Caution: Contra-Ind: D/I, Side effects: see simvastatin

Dosage: Usual Adult Dose is 10 mg to 80 mg orally once a day.
Usual Pediatric Dose for 10 to 17 years: 10 mg per day (max dose is 20 mg per day).
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: Atorvastatin is contraindicated in patients with active liver disease.

ATORVASTATIN+AMLODIPINE (Caduet®) (Restricted)

P/P: Caduet 5/10mg tab, 30's (Amlodipine 5mg+Atorvastatin 10mg)
Caduet 10/10mg tab, 30's (Amlodipine 10mg+Atorvastatin 10mg)
Caduet 5/20mg tab, 30's (Amlodipine 5mg+Atorvastatin 20mg)
Caduet 10/20mg tab, 30's (Amlodipine 10mg+Atorvastatin 20mg)

Adm: May be taken with or without food

Indications: Indicated in patients for whom treatment with both amlodipine and atorvastatin is appropriate.

Category: Antilipemic Agent, anti-anginal, anti-hypertensive

Caution:	Pregnancy, lactation, impaired liver function
Contra-Ind:	Known hypersensitivity to dihydropyridines, active liver disease or persistent high liver enzyme, fibrate (eg, gemfibrozil), itraconazole, or an HIV protease inhibitor (eg, indinavir), pregnant or breast-feeding
Side effects:	Constipation; diarrhea; dizziness; drowsiness; flushing; gas; headache; nausea; stomach upset or pain; tiredness; weakness.
Dosage:	Usual Adult Dose: Amlodipine 5 mg to 10mg - Atorvastatin 10 to 20 mg orally once a day. Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: Contraindicated.

ALIROCUMAB (Praluent®) (Restricted)

P/P:	Praluent 75MG, 150MG Pre-Filled Pen Subcutaneous.
Adms:	Allow solution to come to room temperature for 30 to 40 minutes prior to administration; Do not reuse prefilled pens/syringes; single use only. Do not administer if window on pen/syringe is solid yellow (indicates pen/syringe has been used). Do not use prefilled syringe if blue cap is missing or loose, if it has been dropped, or if damaged; avoid touching yellow safety cover.
Indications:	Hyperlipidemia, primary: Adjunct to diet, alone or in combination with other lipid-lowering therapies (eg, statins, ezetimibe) for the treatment of adults with primary hyperlipidemia (including heterozygous familial hypercholesterolemia [HeFH]) to reduce low-density lipoprotein cholesterol (LDL-C). Secondary prevention of cardiovascular events.
Category:	lipid lowering agents, PCSK9 inhibitors, monoclonal antibody.
Caution:	Hypersensitivity reactions: Hypersensitivity reactions, including some severe reactions requiring hospitalization (eg, hypersensitivity vasculitis, angioedema), have been reported. Discontinue treatment and initiate supportive treatment in patients who develop serious allergic reaction. Other hypersensitivity reactions, including pruritus, rash, and urticaria, have been reported.
D/I:	There are no known significant interactions.
Special population:	<p>Pregnancy Considerations: Alirocumab is a humanized monoclonal antibody (IgG1). Human IgG crosses the placenta. Fetal exposure is dependent upon the IgG subclass, maternal serum concentrations, placental integrity, newborn birth weight, and GA, generally increasing as pregnancy progresses. The lowest exposure would be expected during the period of organogenesis and the highest during the third trimester.</p> <p>Breastfeeding Considerations: It is not known if alirocumab is present in breast milk. Alirocumab is a humanized monoclonal antibody (IgG1). Human IgG is present in breast milk; concentrations are dependent upon IgG subclass and postpartum age (Anderson 2021). Serum concentrations to a breastfeeding infant are not expected to be substantial.</p>

According to the manufacturer, the decision to breastfeed during therapy should consider the risk of exposure to the breastfed infant, and the benefits of treatment to the mother.

Contra-Ind: Serious hypersensitivity to alirocumab or any component of the formulation.

Side effects: Headache, hypertension, Upset stomach, diarrhea.

Dosage: Hyperlipidemia, primary: SubQ: Initial: 75 mg once every 2 weeks or 300 mg once every 4 weeks; for both regimens, if an adequate LDL-C response is not achieved, may increase or modify dosing regimen to a maximum of 150 mg every 2 weeks. Note: In patients with heterozygous familial hypercholesterolemia undergoing LDL apheresis, the recommended initial dose is 150 mg once every 2 weeks.

Secondary prevention of cardiovascular events: SubQ: Initial: 75 mg once every 2 weeks or 300 mg once every 4 weeks; for both regimens, if an adequate LDL-C response is not achieved, may increase or modify dosing regimen to a maximum dose of 150 mg every 2 weeks.

Hepatic impairment: No dosage adjustment necessary.

Renal impairment: No dosage adjustment necessary.

AZILESARTAN/CHLORTHALIDONE (Azilsartan medoxomil®)

P/P: Azilsartan medoxomil 40 mg and chlorthalidone 25 mg
Azilsartan medoxomil 40 mg and chlorthalidone 12.5 mg

Adm: Administer without regard to meals.

Category: Angiotensin II Receptor Blocker; Antihypertensive; Diuretic, Thiazide-Related

Indications: Hypertension: Management of hypertension (when blood pressure control is inadequate with monotherapy or as initial therapy when multiple agents are required to achieve satisfactory blood pressure control)

Caution: Aortic/mitral stenosis: Use azilsartan with caution in patients with significant aortic/mitral stenosis.

Ascites: Generally, avoid use in patients with ascites.

Bariatric surgery: Dehydration: Avoid diuretics in the immediate postoperative period.

Gout: gout can be precipitated with chlorthalidone.

Hepatic impairment: Use chlorthalidone with caution in patients with severe hepatic dysfunction

Hypercalcemia: chlorthalidone may decrease renal calcium excretion; consider avoiding use in patients with hypercalcemia.

Hypercholesterolemia: Use chlorthalidone with caution in patients with moderate or high cholesterol concentrations.

Hypokalemia: Use chlorthalidone with caution in patients with hypokalemia; correct before initiating therapy.

Renal impairment: Use azilsartan with caution in preexisting renal insufficiency.

Avoid chlorthalidone in severe renal disease (ineffective); contraindicated in patients with anuria.

Systemic lupus erythematosus (SLE): Chlorthalidone can cause SLE exacerbation or activation.

Contra-Ind: Concomitant use with aliskiren in patients with diabetes mellitus; anuria.
Hypersensitivity to azilsartan medoxomil, chlorthalidone
Refractory hyponatremia; anuria; pregnancy; breast-feeding

Side effects: Cardiovascular: Hypotension (2%)
Central nervous system: Dizziness (9%), fatigue (2%)
Renal: Increased serum creatinine (2%), increased blood urea nitrogen
Angioedema, nausea, pruritus, skin rash, syncope.

BEMIPARIN (Hibor®)

P/P: **Hibor (2500 IU,3500 IU,5000 IU,7500 IU) syring, 2s**

Category: Anticoagulant

Indications: Prophylaxis of venous thromboembolic disease, venous thromboembolism, Treatment of venous thromboembolic disease, unstable angina and non-Q-wave myocardial infarction, Prevention of thrombus formation in the extra-corporeal circulation during haemodialysis

Caution: Contra-Ind: D/I, Side effects: see Heparin

Dosage: Adults: Bemiparin 25,000 IU should be administered by the subcutaneous route at a dose of 115 IU anti-Xa/kg weight, once daily. Dose generally corresponds - depending on the body weight range- to the following doses and volumes of the product in prefilled syringes: < 50 kg, 0.2 ml (5,000 IU anti-Xa); 50-70 kg, 0.3 ml (7,500 IU anti-Xa), > 70 kg, 0.4 ml (10,000 IU anti-Xa). In patients weighing more than 100 kg body-weight, the dose should be calculated on the basis of 115 IU anti-Xa/kg/day, where the concentration of anti-Xa is 25,000 IU/ml.
Children: Bemiparin is not recommended for use in children due to a lack of data on safety and efficacy.
Elderly: No dose adjustment required.
Renal and hepatic impairment: There are insufficient data to recommend dose adjustment of bemiparin in this group of patients.

BETAXOLOL HCL (Kerlone®)

P/P: **Kerlone 20mg tab, 28's**

Adm: To be taken by mouth with or without food. Antacid that has aluminum not to be taken within 2 hours of Kerlone.

Category: Beta-adrenergic blocking agent

Indications: Hypertension, Angina

Caution: Contra-Ind; D/I; Side effects: See Propranolol

Dosage: Usual Adult Dose: 10 mg – 20 mg once a day, the maximum dose is 40 mg per day.
Renal Dose Adjustments: Mild to moderate renal impairment, no adjustment recommended, Severe renal impairment, Initial dose is 5 mg orally once a day; may increase in 5 mg increments every 2 weeks as needed to a maximum dose of 20 mg orally once a day.
Liver Dose Adjustments: No adjustment recommended.

BISOPROLOL (Concor, Selecta®)

P/P: Concor F.C tab, 30's (2.5mg, 5mg, 10mg)
Selecta F.C tab, 30's (2.5mg, 5mg, 10mg)

Adm: To be taken by mouth with or without food.

Category: Beta-adrenergic blocking agent

Indications: Hypertension, Angina, Moderate to severe heart failure

Caution; Contra-Ind; D/I; Side effects: See Propranolol

Dosage: Adult Dose: 2.5 mg - 10mg orally once a day, the maximum dose is 20 mg per day
Renal Dose Adjustments: CrCl less than 40 mL/min Initial dose: 2.5 mg orally once a day; use caution with dose-titration.
Liver Dose Adjustments-Initial dose: 2.5 mg orally once a day; use caution with dose-titration.

BISOPROLOL+HYDROCHLOROTHIAZIDE (Concor Plus, Selecta Plus®)

P/P: Concor plus 5mg F.C tab, 30's (Bisoprolol 5mg+Hydrochlorothiazide 12.5mg)
Concor plus 10mg F.C tab, 30's (Bisoprolol 10mg+Hydrochlorothiazide 25mg)
Selecta plus 5mg tab, 30's (Bisoprolol 5mg+Hydrochlorothiazide 12.5mg)

Adm: To be taken by mouth with or without food.

Category: Beta-adrenergic blocking agent

Indications: Hypertension

Caution: Heart failure, inhalational anaesthetics, asthma, pregnancy, lactation

Contra-Ind: Cardiogenic shock; overt cardiac failure; second- or third-degree AV block; marked sinus bradycardia; anuria; hypersensitivity to either component of product or other sulfonamide derivatives.

D/I: Lithium, digoxin, methyldopa, clonidine, Ca Channel blocker, ACE inhibitors

Side effects Cough; dizziness; lightheadedness; tiredness

Dosage: Adult Dose: Bisoprolol is an effective treatment of hypertension in once-daily doses of 2.5 mg to 40 mg, while hydrochlorothiazide is effective in doses of 12.5 to 50 mg.
Renal Dose Adjustments: used with caution in severe renal disease.

Liver Dose Adjustments: used with caution in patients with impaired hepatic function or progressive liver disease.

Bisoprolol and Perindopril (Coversyl, Cosyrel®)

P/P: **Cosyrel 5/10 MG, 5/5 MG TAB**

Adm: Administer once daily in the morning before meals. Scored tablet can be divided into equal doses.

Category: Anti-hypertensive

Indications: Coronary artery disease, Heart failure and Hypertension

Caution: Anaphylactic reactions, Angioedema, Cholestatic jaundice, Cough, Hematologic effects, hypotension, Hyperkalemia and Renal function deterioration

Contra-Ind: Hypersensitivity to bisoprolol, perindopril, other ACE inhibitors, or any component of the formulation; acute heart failure or during episodes of heart failure decompensation requiring IV inotropic therapy; cardiogenic shock; second or third degree atrioventricular (AV) block (without pacemaker); sick sinus syndrome or sinoatrial block; symptomatic bradycardia; symptomatic hypotension; severe bronchial asthma or severe chronic obstructive pulmonary disease; severe peripheral arterial occlusive disease or Raynaud syndrome; pheochromocytoma (untreated); metabolic acidosis; hereditary/idiopathic angioedema or history of angioedema related to previous treatment with an ACE inhibitor; second and third trimesters of pregnancy; concomitant use with aliskiren-containing drugs in patients with diabetes mellitus or renal impairment (GFR <60 mL/minute/1.73 m²); concomitant use with sacubitril/valsartan therapy; use within 36 hours of the last sacubitril/valsartan dose; extracorporeal treatments leading to contact of blood with negatively charged surfaces; bilateral renal artery stenosis or renal artery stenosis in a single functioning kidney.

Side effects: Headache, Cough, Chest pain, Diarrhea, Fatigue, Skin rash, hypoesthesia, Dyspnea, upper respiratory tract infection, otic infection, Bradycardia, palpitations, Asthenia Increased serum ALT

Dosage: Coronary artery disease, stable: Bisoprolol 5 or 10 mg/perindopril arginine 5 or 10 mg tablets: Oral: 1 tablet once daily.
Heart failure, chronic: Bisoprolol 5 or 10 mg/perindopril arginine 5 mg tablets: Oral: 1 tablet once daily.
Hypertension: Bisoprolol 5 or 10 mg/perindopril arginine 5 or 10 mg tablets: Oral: 1 tablet once daily.

BOSENTAN (Tracleer®)

P/P: **Tracleer 62.5 MG TABLET**

Adm: Patients older than 12 years of age: initiate at 62.5 mg orally twice daily; for patients weighing greater than 40 kg, increase to 125 mg orally twice daily after 4 weeks.
Patients 12 years of age and younger: dosage is based on weight.

Reduce the dose and closely monitor patients developing aminotransferase elevations more than 3 X Upper Limit of Normal (ULN).

Category: Anti-hypertensive

Indications: Tracleer is an endothelin receptor antagonist indicated for the treatment of pulmonary arterial hypertension (PAH) (WHO Group 1):
in adults to improve exercise ability and to decrease clinical worsening. Studies establishing effectiveness included predominantly patients with WHO Functional Class II-IV symptoms and etiologies of idiopathic or heritable PAH (60%), PAH associated with connective tissue diseases (21%), and PAH associated with congenital heart disease with left-to-right shunts (18%).
in pediatric patients aged 3 years and older with idiopathic or congenital PAH to improve pulmonary vascular resistance (PVR), which is expected to result in an improvement in exercise ability.

Caution: Fluid retention: May require intervention.

Pulmonary veno-occlusive disease (PVOD): If signs of pulmonary edema occur, consider the diagnosis of associated PVOD and consider discontinuing Tracleer.

Decreased sperm counts.

Decreases in hemoglobin and hematocrit: Monitor hemoglobin levels after 1 and 3 months of treatment, then every 3 months thereafter.

Contra-Ind: Pregnancy

Use with Cyclosporine A

Use with Glyburide

Hypersensitivity

Side effects: Common adverse reactions ($\geq 3\%$ more than placebo) for the film-coated tablet are respiratory tract infection and anemia. • Common adverse reactions ($\geq 15\%$) for the dispersible tablet are upper respiratory tract infections and pyrexia.

Dosage: Film-coated tablet: 62.5 mg and 125 mg (3) • Tablet for oral suspension: 32 mg

BUMETANIDE (Burinex®)

P/P: Burinex 1mg tab, 20's, Burinex 0.5mg, 5's Inj

Adm: Tablet may be taken by mouth with or without food, preferably in the morning.

Category: Loop diuretic

Indications: Oedema, oliguria due to renal failure

Caution: Hypotension, prostatic hypertrophy, hepatic and renal impairment, pregnancy

Contra-Ind: Breast feeding, renal failure with anuria, hepatic coma&pre coma

D/I: Aminoglycoside antibiotics, Aspirin and other salicylates, Ethacrynic acid, Indomethacin, Lithium, Norepinephrine

Side effects:	Myalgia, dizziness or lightheadedness, dryness of mouth; increased thirst; irregular heartbeat; mood or mental changes; muscle cramps or pain; nausea or vomiting; unusual tiredness or weakness
Dosage:	The usual total daily dosage is 0.5 mg to 2 mg and in most patients is given as a single dose. Bumetanide may be administered parenterally (IV or IM) to patients in whom gastrointestinal absorption may be impaired or in whom oral administration is not practical. Pediatric Use: Safety and effectiveness in pediatric patients below the age of 18 have not been established

CALCIUM DOBESILATE (Doxium®)

P/P:	Doxium 500mg caps, 30's
Adm:	Should be taken with food
Category:	Phlebotropic, Phlebitis & Varicose Preparations
Indications:	Non-diabetic microangiopathy, diabetic retinopathy, chronic venous insufficiency, haemorrhoidal syndrome, varicose vein.
Contra-Ind:	1st trimester of pregnancy, lactation.
Side effects:	Occasionally, GI disturbances.
Dosage:	Generally, 500 to 1000 mg once or twice a day.

CANDESARTAN CILEXETIL(Atacand, Biopress®)

P/P:	8mg tab, 28's (Atacand, Biopress) 16mg tab, 28's (Atacand, Biopress) 32 mg tab, 28's (Atacand)
Adm:	May be taken with or w/o food
Category:	Angiotensin II receptor antagonist
Indications:	Essential hypertension, Heart failure with left ventricular systolic function
Caution:	Renal artery stenosis, severe intravascular volume depletion,
Contra-Ind:	Pregnancy (second and third trimester), lactation, severe or end stage renal impairment
D/I:	Potassium preparations, potassium-sparing diuretics
Side effects:	Back pain, dizziness, respiratory tract infection
Dosage:	Administered once or twice daily with total daily doses ranging from 8 mg to 32 mg.

Use in Hepatic Impairment: Initiate with 8 mg in patients with moderate hepatic insufficiency. Dosing recommendations cannot be provided for patients with severe hepatic insufficiency.

Pediatric 1 to < 17 Years of age: may be administered once daily or divided into two equal doses.

Children 6 to < 17 years of age: - For those less than 50 kg, the recommended starting dose is 4 to 8 mg.- For those greater than 50 kg, The recommended starting dose is 8 to 16 mg.

Children 1 to < 6 years of age: The dose range is 0.05 to 0.4 mg/kg per day.

Children < 1 year of age: shuld not recive CANDESARTAN.

CANDESARTAN CILEXETIL+HYDROCHLOROTHIAZIDE (Atacand Plus®)

P/P: Atacand Plus tab, 28's (Candesartan Cilexetil 16mg+Hydrochlorothiazide 12.5mg)

Adm: May be taken with or w/o food

Category: Diuretics / Angiotensin II Antagonists

Indications: Essential HTN when monotherapy is insufficient.

Caution: Contra-Ind: D/I: Side effects: See Candesartan Cilexetil and Hydrochlorothiazide

Dosage: 1-2 tablets once or twice daily.

Use in Renal Impairment: Dosing recommendations in patients with creatinine clearance < 30 mg/min cannot be provided

Use in moderate to severe Hepatic Impairment: is not recommended.

CAPTOPRIL(Capoten, Miniten, Capocard®)

P/P: 25mg tab, 20's (Capoten, Miniten, Capocard)

25mg tab, 30's (Acetab)

50mg tab, 20's (Capoten, Miniten, Capocard)

50mg tab, 30's (Acetab)

Adm: Should be taken on empty stomach

Category: ACE inhibitor

Indications: Treatment of hypertension, CHF, left ventricular dysfunction after MI, diabetic nephropathy

Caution: Diabetes mellitus, renal impairment, breast feeding, aortic stenosis, concomitant treatment with Potassium preparations, potassium-sparing diuretics

Contra-Ind: Pregnancy (second and third trimester)

D/I: Indomethacin, salicylates, Lithium, Potassium preparations, potassium-sparing diuretics

Side effects: Cough; diarrhea; dizziness or lightheadedness when sitting or standing quickly; fatigue; fever; headache; itching; joint pain; nausea; taste changes; vomiting; weakness.

Dosage: Usual Adult Dose: 25mg-50mg 2 to 3 times a day. Maximum dose: 450 mg/day
Renal Dose Adjustments: This drug should be used at the lowest effective dose.
Liver Dose Adjustments: Data not available

CAPTOPRIL+HYDROCHLOROTHIAZIDE (Capozide®)

P/P: Capozide 20mg tab, 28's (Captopril 50mg+Hydrochlorothiazide 25mg)

Adm: Should be taken on empty stomach

Category: Antihypertensive combination

Indications: Treatment of hypertension

Caution; Contra-Ind; D/I; Side effects; See Co-renitec

Dosage: 1 tablet taken once daily; In general, daily doses of captopril should not exceed 150 mg and of hydrochlorothiazide should not exceed 50 mg.
Renal Dose Adjustments: Hydrochlorothiazide is generally not effective in patients with creatine clearance less than 25 mL/min. Captopril-hydrochlorothiazide should be used with caution in patients with severe renal disease.
Liver Dose Adjustments: Thiazide diuretics should be used with caution in patients with hepatic impairment.

CARVEDILOL (Dilatrend, Riacavilo®)

P/P: Dilatrend 6.25mg tab, 30's, Dilatrend 25mg tab, 30's
Riacavilo 12.5mg tab, 30's, Riacavilo 25mg tab, 30's
Riacavilo 6.25mg tab, 30's

Adm: To be taken by mouth with food.

Category: Beta-adrenergic blocking agent

Indications: Hypertension, Angina, Adjunct to diuretics, digoxin or ACE inhibitors in symptomatic chronic heart failure

Caution; Contra-Ind; See Propranolol

D/I: BP lowering drugs, reserpine, guanethidine, methyl dopa, clonidine, rifampicin

Side effects: Diarrhea; dizziness; dry eyes; headache; fatigue; lightheadedness; nausea; numbness or tingling of the hands or feet; vomiting; weakness.

Dosage: Adults: 6.25 mg – 25 mg once or twice a day, however the recommended maximum single dose is 25 mg and the recommended maximum daily dose is 50 mg.
Elderly: the recommended maximum daily dose 25 mg twice daily.
Children and adolescents (< 18 years): It is not recommended.
Renal insufficiency: there is no evidence that dose adjustment of carvedilol in patients with renal impairment is necessary.
Hepatic dysfunction: Dose adjustment may be required.

Cilostazol (Fancata®)

P/P: Fancata Tablet, Oral 50 mg, 100 mg

Adm: Immediate-release: Administer 30 minutes before or 2 hours after meals (breakfast and dinner).
Sustained-release [International product]: Administer 3 hours before or after a meal.

Category: Antiplatelet Agent; Phosphodiesterase-3 Enzyme Inhibitor; Vasodilator

Indications: Intermittent claudication
PCI
Secondary prevention of non-cardioembolic stroke or TIA

Caution: Concerns related to adverse effects:

Cardiovascular effects: May induce tachycardia, palpitation, tachyarrhythmia, and/or hypotension. Left ventricular outflow tract obstruction has been reported in patients with sigmoid shaped interventricular septum; monitor for the development of a new systolic murmur or cardiac symptoms after initiating therapy.

Hematologic effects: Cases of thrombocytopenia or leukopenia progressing to agranulocytosis, reversible upon discontinuation, have been reported when not immediately discontinued; monitor platelets and white blood cell counts periodically.

Disease-related concerns:

Hemostatic disorders: Avoid use in patients with active pathological bleeding or hemostatic disorders (has not been studied).

Cardiovascular disease: [US Boxed Warning]: Cilostazol is contraindicated in patients with heart failure of any severity. Phosphodiesterase inhibitors have caused decreased survival compared with placebo in patients with class III to IV heart failure. Patients with history of ischemic heart disease may be at increased risk for exacerbation of angina pectoris or myocardial infarction.

Hepatic impairment: Use with caution in patients with moderate to severe hepatic impairment (has not been studied).

Renal impairment: Use with caution in patients with severe renal impairment.

Other warnings/precautions:

Elective surgery: Time required to recover adequate platelet function is ~2 days (Hill 2011). Of note, bleeding times were not significantly altered by cilostazol after 3 to 14 days of treatment.

Contra-Ind: Hypersensitivity to cilostazol or any component of the formulation; heart failure of any severity.

Side effects: >10%:

Central nervous system: Headache (27% to 34%)

Gastrointestinal: Diarrhea (12% to 19%), abnormal stools (12% to 15%)

Infection: Infection (10% to 14%)

Respiratory: Rhinitis (7% to 12%)

1% to 10%:

Cardiovascular: Palpitations (5% to 10%), peripheral edema (7% to 9%), tachycardia (4%), atrial fibrillation (<2%), atrial flutter (<2%), cardiac arrest (<2%), cardiac failure (<2%), cerebral infarction (<2%), edema (<2%), facial edema (<2%), hypotension (<2%), myocardial infarction (<2%), nodal arrhythmia (<2%), orthostatic hypotension (<2%), supraventricular tachycardia (<2%), syncope (<2%), varicose veins (<2%), ventricular premature contractions (<2%), ventricular tachycardia (<2%)

Central nervous system: Dizziness (9% to 10%), vertigo (3%) , anxiety (<2%), chills (<2%), insomnia (<2%), malaise (<2%), neuralgia (<2%)

Dermatologic: Ecchymoses (<2%), furunculosis (eye: <2%), skin hypertrophy (<2%), urticaria (<2%), xeroderma (<2%)

Endocrine & metabolic: Albuminuria (<2%), diabetes mellitus (<2%), gout (<2%), hyperlipidemia (<2%), hyperuricemia (<2%), increased gamma-glutamyl transferase (<2%)

Gastrointestinal: Nausea (7%), dyspepsia (6%), abdominal pain (4% to 5%), flatulence (3%), anorexia (<2%), cholelithiasis (<2%), colitis (<2%), duodenal ulcer (<2%), duodenitis (<2%), esophageal hemorrhage (<2%), esophagitis (<2%), gastric ulcer (<2%), gastritis (<2%), gastroenteritis (<2%), gingival hemorrhage (<2%), hematemesis (<2%), melena (<2%), peptic ulcer (<2%), periodontal abscess (<2%)

Genitourinary: Cystitis (<2%), pelvic pain (<2%), urinary frequency (<2%), vaginal hemorrhage (<2%), vaginitis (<2%)

Hematologic & oncologic: Anemia (<2%), hemorrhage (<2%), hemorrhage (eye, <2%), iron deficiency anemia (<2%), polycythemia (<2%), purpura (<2%), rectal hemorrhage (<2%), retroperitoneal hemorrhage (<2%)

Hypersensitivity: Tongue edema (<2%)

Neuromuscular & skeletal: Back pain (7%), myalgia (3%), arthralgia (<2%), bursitis (<2%), neck stiffness (<2%), ostealgia (<2%)

Ophthalmic: Amblyopia (<2%), blindness (<2%), conjunctivitis (<2%), diplopia (<2%), retinal hemorrhage (<2%)

Otic: Otic pain (<2%), tinnitus (<2%)

Renal: Increased serum creatinine (<2%)

Respiratory: Pharyngitis (10%), cough (3% to 4%), asthma (<2%), epistaxis (<2%), hemoptysis (<2%), pneumonia (<2%), sinusitis (<2%)

Miscellaneous: Fever (<2%)

Post marketing and/or case reports: Abnormal hepatic function tests, agranulocytosis, anaphylaxis, angina pectoris, angioedema, aplastic anemia, cerebrovascular accident, cerebral hemorrhage, chest pain, coronary thrombosis (stent), fixed drug eruption, gastrointestinal hemorrhage, granulocytopenia, hematoma (extradural), hematuria, hemorrhagic diathesis, hepatic insufficiency, hot flash, hyperglycemia, hypersensitivity, hypertension, increased blood pressure, increased blood urea nitrogen, interstitial pneumonitis, intracranial hemorrhage, jaundice, left ventricular dysfunction (outflow tract obstruction; in patients with sigmoid-shaped interventricular septum), leukopenia, pain, pancytopenia, pulmonary hemorrhage, pruritus, prolonged QT interval on ECG, skin rash, Stevens-Johnson syndrome, subcutaneous hemorrhage, subdural hematoma, thrombocytopenia, thrombosis, torsade de pointes, vasodilation, vomiting

Dosage: Intermittent claudication: Oral:

Immediate-release: 100 mg twice daily. Note: The American College of Chest Physicians recommends use when refractory to exercise therapy and smoking cessation; use in combination with either aspirin or clopidogrel.

Sustained-release [International product]: 200 mg once daily.

Note: Discontinue treatment if symptoms are not improved after 3 months of therapy.

PCI (following elective stent placement) (off-label use): Oral: Immediate-release: 100 mg twice daily in combination with aspirin or clopidogrel. Note: Only recommended in patients with an allergy or intolerance to either aspirin or clopidogrel.

Secondary prevention of non-cardioembolic stroke or TIA: Oral:

Immediate-release (off-label use): 100 mg twice daily. Note: Clopidogrel or aspirin/extended-release dipyridamole recommended over the use of cilostazol.

Sustained-release [International product]: 200 mg once daily.

Dosing: Older Adult

Refer to adult dosing.

Dosing: Altered Kidney Function: Adult

No dosage adjustment necessary. Severe renal impairment increases metabolite concentrations; use with caution.

End-stage renal disease (ESRD) on dialysis: There are no dosage adjustments provided in the manufacturer's labeling (has not been studied). Not dialyzable.

Dosing: Hepatic Impairment: Adult
Mild impairment: No dosage adjustment necessary.

Moderate to severe impairment: There are no dosage adjustments provided in the manufacturer's labeling (has not been studied); use with caution.

CLOPIDOGREL (Plavix, Paletta, Cupido®) (Restricted)

- P/P: Plavix 75mg tab, 28's
Paletta 75mg tab, 28's
Cupido 75mg F.C tab 30's
- Adm: May be taken with or without food.
- Category: Antiplatelet
- Indications: Prevention of atherosclerotic events in peripheral arterial disease, or within 35 days of MI, Or within 6 months of ischemic stroke, or with aspirin in acute coronary syndrome without ST-segment elevation
- Caution: Patient who may be at risk of increased bleeding from trauma, surgery or other pathological conditions, hepatic impairment, pregnancy.
- Contra-Ind: Active pathological bleeding such as peptic ulcer or intracranial hemorrhage, breast feeding severe liver impairment
- D/I: NSAIDs (eg, aspirin, ibuprofen) or oral anticoagulants (eg, warfarin) because the risk of side effects, including the risk of bleeding, may be increased by Clopidogrel
- Side effects: Abdominal pain, back pain, bronchitis, bruising and bleeding under the skin, chest pain, coughing, depression, diarrhea, difficulty breathing, dizziness, fatigue, fluid retention and swelling, flu symptoms, headache, high blood pressure.
- Dosage: Adults and older people: given as a single daily dose of 75 mg.
Pediatric population: Clopidogrel should not be used in children.
- Renal impairment: Therapeutic experience is limited in patients with renal impairment. Therefore, clopidogrel should be used with caution in these patients
- Hepatic impairment: Therapeutic experience is limited in patients with moderate hepatic impairment. Caution in this population

CO-DERGOCRINE MESYLATE (Hydergine®)

- P/P: Hydergine 1.5mg tab, 30's (dihydroergocornine mesylate, dihydroergocristine mesylate, and dihydroergocryptine (dihydro-alpha-ergocryptine and dihydro-beta-ergocryptine in the proportion of 2:1) mesylate, representing a total of 1.5 mg.

Adm: Should be taken with food

Category: Peripheral vasodilators, cerebral activators

Indications: Peripheral vascular disease, venous leg ulcer

Caution: Pregnancy, lactation

Contra-Ind: Psychosis, acute or chronic, regardless of etiology.

DI: Macrolide antibiotics, Azole antifungal,

Side effects: Nasal stuffiness, GI disturbance, dizziness, headache

Dosage: Adult: 1.5mg-2 mg three times a day.

DABIGATRAN ETEXILATE (Pradaxa®) (Restricted)

P/P: Pradaxa 75 mg cap, 30's, Pradaxa 110 mg cap, 30's
Pradaxa 150 mg cap, 60's

Adm: Can be taken with food or without food.

Category: Anticoagulant

Indications: Prevention of stroke and systemic embolism in patients with nonvalvular atrial
Fibrillation

Caution: The most common complication is bleeding and sometimes fatal bleeding

Side effects: Bleeding, Anemia, hematoma, Hematuria

Dosage: Adult: 150 mg twice daily, dose reduction to 110 mg twice daily is recommended in
patients at increased risk of bleeding or Patients ≥ 80 years.

Elderly: Refer to adult dosing with extreme caution.

Renal impairment: CrCl 30 to 50 mL/minute: There is no dosage adjustments provided,
CrCl <30 mL/minute: Use is contraindicated.

Hepatic impairment: There is no dosage adjustments provided of patients with moderate
hepatic impairment, Use is not recommended in patients with severe.

DIGOXIN (Lanoxin®)

P/P: Lanoxin tabs, 100's (125mcg, 250mcg)
Lanoxin -PG tabs, 100's (62.5mcg)

**Lanoxin Pediatric elixir (0.05mg/ml, 60ml)
Lanoxin Inj 0.5mg/2ml, 5's**

- Adm: Oral prep may be taken with or without food at the same time every day.
- Category: Positive Inotropic drugs, Antiarrhythmic Agent, Cardiac Glycoside
- Indications: Congestive heart failure, atrial rhythm disturbances such as atrial fibrillation and atrial flutter; cardiogenic shock
- Caution: Sick sinus syndrome, renal impairment, pregnancy, hypercalcaemia, hypomagnesaemia, hypokalaemia, thyroid dysfunction
- Contra-Ind: Wolff-Parkinson-White syndrome, ventricular tachycardia, heart block, ventricular fibrillation, hypertrophy obstructive cardiomyopathy
- D/I: Potentially Hazardous Interactions (Toxicity increased by hypokalaemia (administration of potassium-losing diuretics, corticosteroids, etc). Blood levels increased by calcium channel blockers, spironolactone, quinidine and calcium salts.)
Others: ACE inhibitors, Anti-arrhythmics (amiodarone, propafenone, quinidine), St John's wort, amphotericin, antimalarials (quinine, hydroxychloroquine),
- Side effects: Potentially Life-threatening Adverse Drug Reactions (Cardiac arrhythmias in combination with heart block.)
Others: Apathy, blurred vision, breast development in males, change in heartbeat, confusion, diarrhea, dizziness, headache, loss of appetite, lower stomach pain, nausea, psychosis, rash, vomiting, weakness, yellow vision
- Dosage:
Adult Dose: Peak digoxin body stores of 8 to 12 mcg/kg generally provide a therapeutic effect with minimum risk of toxicity in most patients. The usual amount of digoxin tablets that a 70 kg patient requires to achieve 8 to 12 mcg/kg peak body stores is 750 to 1250 mcg. The usual amount of digoxin injection that a 70 kg patient requires to achieve 8 to 12 mcg/kg peak body stores is 600 to 1000 mcg.
Pediatric Dose: Premature:
Digitalizing (Loading) dose: Oral elixir: 20 to 30 mcg/kg; Intravenous: 15 to 25 mcg/kg
Maintenance dose: oral 5 to 7.5 mcg/kg; intravenous 4 to 6 mcg/kg
Full Term: Digitalizing (Loading) dose: Oral elixir: 25 to 35 mcg/kg; Intravenous: 20 to 30 mcg/kg
Maintenance dose: oral 6 to 10 mcg/kg; intravenous 5 to 8 mcg/kg
1-24 months: Digitalizing (Loading) dose: Oral elixir: 35 to 60 mcg/kg;
Intravenous: 30 to 50 mcg/kg.
Maintenance dose: 10 to 15 mcg/kg oral; intravenous 7.5 to 12 mcg/kg
3 to 5 years: Digitalizing (Loading) dose: Oral elixir: 30 to 40 mcg/kg; Intravenous: 25 to 35 mcg /kg.
Maintenance dose: oral 7.5 to 10 mcg/kg; intravenous 6 to 9 mcg/kg.
6 to 10 years: Digitalizing (Loading) dose: Oral elixir: 20 to 35 mcg/kg; Intravenous: 15 to 30 mcg/kg
Maintenance dose: oral 5 to 10 mcg/kg; intravenous 4 to 8 mcg/kg
11 years and older: Digitalizing (Loading) dose: Oral elixir: 10 to 15 mcg/kg;
Intravenous: 8 to 12 mcg/kg
Maintenance dose: oral 2.5 to 5 mcg/kg; intravenous 2 to 3 mcg/kg.

Renal Dose Adjustments: In general, a maintenance dose of 125 mcg orally once daily is

recommended in patients with impaired renal function, and at a dose of 62.5 mcg is recommended in patients with marked renal impairment.

Liver Dose Adjustments: No adjustment recommended

DILTIAZEM (Dilzem, Tildiem, Riazem®)

P/P:	60mg tabs, 30's (Dilzem, Tildiem, Riazem) 90mg retard tabs, 30's (Dilzem retard, Bi-tildiem) 120mg tab, 28's (Bi-tildiem) 200mg caps, 28's, 300mg caps, 28's (Mono tildiem) 25mg/5ml Injection, 10's (Diltiazem)
Adm:	Should be taken on an empty stomach
Category:	Calcium channel blocker, anti anginal, antihypertensive
Indications:	Hypertension, prophylaxis of angina
Caution:	Impaired liver/renal function, heart failure
Contra-Ind:	Sick sinus syndrome, 2nd or 3rd degree AV block, hypotension, pregnancy, Acute MI
Side effects:	Dizziness; drowsiness; fatigue; flushing; headache; muscle cramps; nausea; stomach pain; weakness
Dosage:	Adult Dose: usually Initial dose (oral): 30 to 60 mg orally 3 to 4 times a day Maintenance dose: 180 to 360 mg orally/day in divided doses. Initial dose (IV): 0.25 mg/kg actual body weight bolus over 2 minutes. If necessary, a second bolus of 0.35 mg/kg actual body weight may be given. Renal Dose Adjustments: Data not available Liver Dose Adjustments: not recommended

DIPYRIDAMOLE (Persantin®)

P/P:	Persantin 75mg tab, 50's
Adm:	Should be taken on an empty stomach
Category:	Antiplatelet
Indications:	Secondary prevention of ischaemic stroke and transient ischaemic attacks (alone or with aspirin); Adjunct to coumarin anticoagulants in prevention of postoperative thromboembolic complication of cardiac valve replacement (oral).
Caution:	Unstable angina, recent MI, left ventricular obstruction, haemodynamic instability, myasthenia gravis, and children.
D/I:	Adenosine, Cholinesterase Inhibitors

Side effects: Dizziness; fatigue; flushing; headache; nausea

Dosage: Adult Dose: 75mg-100mg orally 3 to 4 times a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DOBUTAMINE (Dobuject, Dobutamine®) (Restricted)

P/P: **Dobuject 250mg/5 ml, 5's Injection (50 mg/ml)
Dobutamine 250mg/5ml (Hospira)**

Category: Inotropic sympathomimetics

Note: Do not add this drug to IV solutions containing sodium bicarbonate or other alkaline solutions.

Indications: Inotropic support in infarction, cardiac surgery, cardiomyopathies, septic shock, cardiogenic shock.

Caution: Arrhythmias, hypovolaemia, aortic stenosis, acute phase - myocardial infarction, severe hypotension

Contra-Ind: Dobutamine hydrochloride is contraindicated in patients with idiopathic hypertrophic subaortic stenosis and in patients who have shown previous manifestations of hypersensitivity to Dobutamine

DI: Dobutamine may be ineffective if the patient has recently received a β-blocking drug. Concomitant use of Dobutamine and nitroprusside results in a higher cardiac output and, usually, a lower pulmonary wedge pressure than when either drug is used alone

Side effects: Headache, nausea or vomiting, restlessness, muscle cramps or weakness, chest pain, trouble breathing, dizziness, palpitation

Dosage: Adult Dose: The rate of infusion needed to increase cardiac output usually ranges from 2.5 to 15 mcg/kg/min. The initial dosage may be titrated upward by 2.5 mcg per kg per minute as tolerated to maintain systemic blood pressure and urine output. Administration rates greater than 40 mcg per kg per min may be necessary in serious situations.
Renal Dose Adjustments: Data not available.
Liver Dose Adjustments: Data not available.

DOPAMINE HCL (Dopamine®) (Restricted)

P/P: **Dopamine 5ml Injection (40 mg/ml)**

Category: Inotropic sympathomimetics

Note: Do not add this drug to IV solutions containing sodium bicarbonate or other alkaline solutions, oxidizing agents or IV iron products since this drug will be inactivated.

Indications: Dopamine hydrochloride is indicated for the correction of hemodynamic imbalances present in the shock syndrome due to myocardial infarctions, trauma, endotoxic septicemia, open heart surgery, renal failure and chronic cardiac decompensation as in congestive failure.

Caution: Hypovolaemia, occlusive vascular disease, DM, Avoid bolus administration

Contra-Ind: Pheochromocytoma.uncorrected tachyarrhythmias or ventricular fibrillation.

DI: Effects may be potentiated by MAO inhibitors.

Side effects: Nausea, vomiting or headache, tachycardia, chest pain, dizziness, trouble breathing.

Dosage: Adults and Children: IV Initial dose of 2 to 5 mcg/kg/min with incremental changes of 5 to 10 mcg/kg/min gradually until adequate response is noted.

DOXAZOSIN MESYLATE (Cardura, Doxagen®)

P/P: Cardura 1mg tab, 20's, Cardura 4mg tab, 20's
Doxagen 1mg tab, 20's, Doxagen 4mg tab, 20's

Adm: May be taken with or without food at bedtime for the first 4 nights to reduce the chances of dizziness. Thereafter usually taken once a day, each morning.

Category: Alpha-1 adrenergic blocker

Indications: Hypertension, Benign prostatic hyperplasia, Raynaud's disease

Caution: Heart problems, low blood pressure, pregnancy, breast feeding, surgery (including dental), kidney or liver problems

Contra-Ind: Hypersensitivity to doxazosin, prazosin, or terazosin

DI: Alpha-1 adrenergic blockers (including doxazosin) are contraindicated in patients receiving tadalafil or vardenafil. Antihypertensive drugs, diuretics

Side effects: Postural hypotension, Dizziness, lightheadedness or fainting may occur, especially when getting up quickly. Uneven heart beat, nausea, stuffy nose, blurred vision, impotence

Dosage: Adult dose: 1 to 16 mg orally once a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: should be used with caution in patients with hepatic impairment.

Edoxaban (Lixiana®)

P/P: Lixiana 60mg F.C Tab 28"S

Adm: Oral. Administer without regard to food. Patients unable to swallow whole tablets may crush tablets and mix with applesauce or 60 to 90 mL water; administer immediately. For patients with a gastric tube, mix crushed tablets with 60 to 90 mL water and administer immediately.

Category: Direct Oral Anticoagulant (DOAC)

Indications: Nonvalvular atrial fibrillation, deep vein thrombosis and pulmonary embolism.

Caution: May increase the risk of bleeding, Thromboembolic events, not recommended for patients with triple-positive antiphospholipid syndrome and for patient with severe hepatic impairment, patient with Nonvalvular atrial fibrillation with CrCl >95 mL/minute interruption is necessary before surgery or a procedure In patients with CrCl <30 mL/minute, may consider discontinuing therapy ~48 to 72 hours before surgery In patients with CrCl ≥30 mL/minute, discontinue therapy ~24 to 48 hours before surgery

Contra-Ind: Active pathological bleeding

Side effects: Hemorrhage, Gross hematuria, Anemia, Abnormal hepatic function tests

Dosage: Nonvalvular atrial fibrillation: 60 mg once daily.
Venous thromboembolism:
Patient weight >60 kg: 60 mg once daily.
Patient weight ≤60 kg: 30 mg once daily.
Dosing: Altered Kidney Function: Adult
Deep vein thrombosis and/or pulmonary embolism, treatment:
CrCl >50 mL/minute: No dosage adjustment necessary.
CrCl 15 to 50 mL/minute: Oral: 30 mg once daily.
CrCl <15 mL/minute: Use is not recommended.
Nonvalvular atrial fibrillation
CrCl >95 mL/minute: Use is not recommended due to increased risk of ischemic stroke
CrCl >50 to 95 mL/minute: No dosage adjustment necessary.
CrCl 15 to 50 mL/minute: Oral: 30 mg once daily
CrCl <15 mL/minute: Avoid use
Dosing: Hepatic Impairment: Adult
Mild impairment (Child-Pugh class A): No dosage adjustment necessary.
Moderate to severe impairment (Child-Pugh class B and C): Use is not recommended.

ENALAPRIL (Renitec, Vasopril®)

P/P: 5mg tab, 28's (Renitec)
5mg tab, 30's (Vasopril)
10mg tab, 28's (Renitec)
10mg tab, 30's (Vasopril)

**20mg tab, 28's (Renitec, Vasopril)
20mg tab, 30's (Vasopril,)**

- Adm: Should be taken on empty stomach
- Category: ACE inhibitor
- Indications: Treatment of hypertension; adjunctive therapy of CHF, Renovascular hypertension
- Caution: Renal insufficiency, Surgery/Anaesthesia, Hepatic impairment
- Contra-Ind: Pregnancy (second and third trimester), lactation, angioedema
- D/I: Indomethacin, salicylates, Lithium, Potassium preparations, potassium-sparing diuretics,
- Side effects: Cough; diarrhea; dizziness or lightheadedness when sitting or standing quickly; fatigue; fever; headache; itching; joint pain; nausea; taste changes; vomiting; weakness.
- Dosage: Adult dose: 2.5 to 20 mg daily in 2 divided doses,
Maximum dose: 40 mg orally per day in 2 divided doses.
Pediatric Dose: Children 1 month to 17 years: 0.08 mg/kg/day (up to 5 mg) in 1 to 2 divided doses, Doses greater than 0.58 mg/kg (40 mg) have not been evaluated in pediatric patients.
- Renal Dose Adjustments: CrCl 30 mL/min or less: 2.5 mg once a day titrated upward until blood pressure is controlled up to a maximum of 40 mg orally daily in single or 2 divided doses. There are no data on the safety and efficacy of enalapril in neonates and pediatric patients with CrCl of less than 30 mL/min.
- Liver Dose Adjustments: Data not available.

ENALAPRIL+HYDROCHLOROTHIAZIDE (Co-renitec®)

- P/P: **Co-renitec tab, 28's (Enalapril 20mg+Hydrochlorothiazide 12.5mg)**
- Adm: Should be taken on empty stomach
- Category: Antihypertensive combination
- Indications: Treatment of hypertension
- Caution: Renal insufficiency, aortic stenosis, Hepatic impairment, volume/salt depleted patients
- Contra-Ind: Pregnancy (second and third trimester), Hypersensitivity to any component or to other sulfonamide-derived drugs; history of angioedema related to previous treatment with ACE inhibitor; anuria.
- D/I: NSAID, Cox 2 inhibitors, Lithium, Potassium preparations, potassium-sparing diuretics,
- Side effects: Coughing; diarrhea; dizziness; headache; lightheadedness; nausea; persistent nonproductive cough; tiredness; vomiting.

Dosage: Adult Dose: Enalapril 5 to 10 mg-Hydrochlorothiazide 12.5 to 25 mg orally once a day.
Maximum dose: Enalapril 20 mg-Hydrochlorothiazide 50 mg per day.

Renal Dose Adjustments: Mild to moderate renal dysfunction (CrCl 30 mL/min or greater): No adjustment recommended, Severe renal dysfunction (CrCl less than 30 mL/min): Not recommended.

Liver Dose Adjustments: Use with caution.

ENOXAPARIN SODIUM (Clexane, Enoxa, Farinox®)

P/P: **Clexane prefilled syringe Subcutaneous Injection, 2's (20mg/0.2ml, 40mg/0.2ml, 60mg/0.2ml, and 80mg/0.2ml)**

Category: Anticoagulant

Indications: Prophylaxis of venous thromboembolic disease, venous thromboembolism, Treatment of venous thromboembolic disease, unstable angina and non-Q-wave myocardial infarction, Prevention of thrombus formation in the extra-corporeal circulation during haemodialysis

Caution: Contra-Ind: D/I, Side effects: see Heparin

Dosage: Usual adult dose: 1 mg/kg subcutaneously every 12 hours.
Usual geriatric Dose: 0.75 mg/kg subcutaneously every 12 hours.
Usual pediatric Dose: Premature neonates: 2 mg/kg/dose every 12 hours
Full term neonates: 1.7 mg/kg/dose every 12 hours
Infants less than 3 months: 1.8 mg/kg/dose every 12 hours
3 to 12 months: 1.5 mg/kg/dose every 12 hours
1 to 5 years: 1.2 mg/kg/dose every 12 hours
6 to 18 years: 1.1 mg/kg/dose every 12 hours

Renal Dose Adjustments: in patients with a creatinine clearance less than 30 mL/min:
1 mg/kg subcutaneously once daily

Liver Dose Adjustments: should be used with caution in patients with hepatic dysfunction.

ETHANOLAMINE OLEATE (Ethanolamine Oleate®)

P/P: **Ethanolamine oleate Inj 5%, 2ml**

Indications: Sclerotherapy of varicose vein, treatment of patients with esophageal varices that have recently bled, to prevent rebleeding.

Category: Local sclerosant

Caution: Extravasation may cause tissue necrosis

Contra-Ind: Inability to walk, acute phlebitis, oral contraceptive use, obese legs, severe cardiovascular disease

Side effects: Allergic reactions including anaphylaxis, Burning sensation, Muscle cramp

Dosage: Usual adult dose: 1.5 to 5.0 mL IV per varix up to a maximum of 20 mL per treatment session
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Consider the lowest possible effective dose in patients with severe hepatic dysfunction.

ETILEFRINE (Effortil®)

P/P: Effortil 5mg tab, 20's, Effortil drops 7.5mg/ml, (15drops/ml) 15ml

Adm: Preferably before meals.

Category: Direct-acting sympathomimetic agent

Indications: Symptomatic or orthostatic hypotension

Caution: Heart valve or aortal stenosis, severe cardiovascular disorders, pregnancy, lactation

Contra-Ind: Thyrotoxicosis, pheochromocytoma, narrow angle glaucoma, prostatic hypertrophy, hypertension, CHD, hypertrophic obstructive cardiomyopathy.

D/I: Tricyclic antidepressants, MAO inhibitors, Adrenergic blocking agents, halogenated aliphatic hydrocarbons.

Side effects: Palpitations, tachycardia, anxiety, sweating, insomnia

Dosage: Adult to adolescent and children up12 year: 5mg-10mg three times a day.
Etilefrine drops (1 ml solution contains 20 drops). Adults: 5-10 (up to 20) drops, 3-6 times daily; children: 5-10 drops 3-5 times daily; neonates – 2-5 drops, 2-3 times daily.

Evolocumab (Repatha®)

P/P: Repatha 140mg/ml Pref. Pen Subcut 2"S

Adm: Subcutaneous, Do not shake. If refrigerated, allow to stand at room temperature for at least 30 minutes

Category: PCSK9 Inhibitor; Monoclonal Antibody

Indications: Homozygous familial hypercholesterolemia, Hyperlipidemia, primary, Prevention of cardiovascular events in patients with established cardiovascular disease.

Caution: Rash and urticaria have occurred. If signs or symptoms of serious allergic reactions occur, discontinue treatment, Lymphopenia: most patients had preexisting lower grade lymphopenia

Contra-Ind: Serious hypersensitivity (eg, angioedema) to evolocumab or any component of the formulation.

Side effects: nasopharyngitis, upper respiratory tract infection, influenza, back pain, and injection site reactions, Hypertension, Diabetes mellitus, Urinary tract infection, Dizziness, Fatigue.

Dosage: Homozygous familial hypercholesterolemia: Initial: 420 mg once monthly; may increase to 420 mg once every 2 weeks.
Hyperlipidemia, primary: 140 mg every 2 weeks or 420 mg once monthly.
Prevention of cardiovascular events in patients with established cardiovascular disease: 140 mg every 2 weeks or 420 mg once monthly.

Dosing: Altered Kidney Function: Adult
No dosage adjustment necessary.

Dosing: Hepatic Impairment: Adult
No dosage adjustment

Ezetimibe (Ezetrol®)

P/P: **Ezetrol 10mg Tab 28"S , Lipizet 10mg Tab 28"S , Ezechol 10mg Tab 30"S**

Adm: Oral, May be administered without regard to meals. May be taken at the same time as a statin or fenofibrate. Administer ≥ 2 hours before or ≥ 4 hours after bile acid sequestrants.

Category: Antilipemic Agent, 2-Azetidinone.

Indications: Atherosclerotic cardiovascular disease, primary prevention and (secondary prevention off label use), Homozygous familial hypercholesterolemia(in combination with statin), Homozygous sitosterolemia.

Caution: Use with caution in patients with mild hepatic impairment (Child-Pugh class A); not recommended in patients with moderate or severe hepatic impairment (Child-Pugh classes B and C). Use with caution in patients with severe renal impairment ($\text{CrCl} \leq 30 \text{ mL/minute}/1.73 \text{ m}^2$).

Contra-Ind: Hypersensitivity to ezetimibe or any component of the formulation; concomitant use with an HMG-CoA reductase inhibitor (statin) in patients with active hepatic disease or unexplained persistent elevations in serum transaminases; pregnancy and breastfeeding (when used concomitantly with a statin).

Side effects: hepatotoxicity (Increased serum transaminases) a higher incidence with concurrent use of ezetimibe with statins, myalgia, myopathy and rhabdomyolysis

Dosage: 10 mg once daily.

Dosing: Altered Kidney Function: Adult
No dosage adjustment necessary

Dosing: Hepatic Impairment: Adult
Mild impairment (Child-Pugh class A): No dosage adjustment necessary.

Moderate to severe impairment (Child-Pugh class B or C): Use of ezetimibe not recommended.

Ezetimibe and Atorvastatin (Atozet®)

- P/P: Atozet 10/10mg F.C Tab 30"S
Atozet 10/20mg F.C Tab 30"S
Atozet 10/40mg F.C Tab 30"S
- Adm: oral, Administer without regard to meals. Do not crush, dissolve, or chew. Administer \geq 2 hours before or \geq 4 hours after bile acid sequestrants.
- Category: Antilipemic Agent, 2-Azetidinone, HMG-CoA Reductase Inhibitor.
- Indications: Homozygous familial hypercholesterolemia, Primary hyperlipidemia.
- Caution: Myopathy/rhabdomyolysis, Hepatotoxicity(if severe interrupt therapy promptly), Use with caution in patients who consume large amounts of ethanol or have a history of liver disease, Use with caution in patients with kidney impairment.
- Contra-Ind: Hypersensitivity to ezetimibe, atorvastatin, or any component of the formulation; active liver disease; unexplained persistent elevations of serum transaminases; pregnancy or patients who may become pregnant; breastfeeding.
- Side effects: increased ALT, increased AST, and musculoskeletal pain.
- Dosage: Homozygous familial hypercholesterolemia: Ezetimibe 10 mg/atorvastatin 40 mg or ezetimibe 10 mg/atorvastatin 80 mg once daily.
Primary hyperlipidemia: Ezetimibe 10 mg/atorvastatin 10 to 80 mg once daily.
- Dosing: Altered Kidney Function: Adult
No dosage adjustment necessary.
- Dosing: Hepatic Impairment: Adult
Contraindicated.

FELODIPINE (Plendil®)

- P/P: Plendil 5mg, 10 mg tabs, 30's
- Adm: May be taken with or without food
- Category: Calcium channel blocker, anti anginal, antihypertensive
- Indications: Hypertension, prophylaxis of angina

Caution:	Severe hypotension, Heart failure, Impaired Liver Function, Peripheral Edema
Contra-Ind:	Pregnancy, uncompensated heart failure, unstable angina, Acute MI
DI:	Phenobarbital, phenytoin, carbamazepine, Azole antifungal, tacrolimus
Side effects:	Dizziness, flushing, giddiness, headache, heat sensation, heartburn, palpitation, peripheral oedema.
Dosage	Usual adult dose: 2.5 to 20 mg orally once a day Usual geriatric dose: 2.5 to 10 mg orally once a day Usual pediatric dose: (Not approved by FDA)
	Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: Impaired liver function: 2.5 to 10 mg orally once a day.

FENOFIBRATE (Lipanthyl®)

P/P:	Lipanthyl 200mg cap, 30's Lipanthyl 145mg cap, 30's Fenogal 200 mg cap, 30s
Adm:	May be taken with or without food
Category:	Anti-cholesterol, Fibrates
Indications:	Hyperlipidaemia
Cautions:	Liver function tests recommended every 3 months for first year
Contra-Ind:	Gall bladder disease, pancreatitis, hepatic impairment, renal impairment.
Side effects:	Anorexia, weight gain, dizziness, headache, erectile dysfunction, urticaria, gallstones.
Dosage:	Usual Adult Dose: 145 mg-200mg once a day. Usual Geriatric Dose: 40mg-120mg once a day.
	Renal Dose Adjustments: CrCl less than or equal to 30 mL/min fenofibrate is contraindicated. Liver Dose Adjustments: Fenofibrate is considered contraindicated in patients with hepatic failure, including biliary cirrhosis and unexplained persistent liver function abnormality.

FLAVANOIDS (DIOSMIN 450MG, HISPERIDEN 50MG) (Daflon®)

P/P:	Daflon 500mg tab, 30's
Adm:	Should be taken with food
Category:	Phlebotropic

Indications: treatment of venous disease, i.e., chronic venous disease (CVD) and hemorrhoidal disease (HD).

Caution: Pregnancy, lactation

Side effects: Minor GI disturbance, Neurovegetative disorders

Dosage: For venous insufficiency, the dosage is 2 tablets daily. For acute hemorrhoidal attack, the dosage is 6 tablets daily for 4 days, followed by 4 tablets daily over the next 3 days.

Flecainide (Flecainide®)

P/P: **Flecainide Acetate 100mg Tab 1"S**

Adm: Oral, Administer once daily with a glass of water during or after meals. Do not open, chew, or crush.

Category: Antiarrhythmic Agent, Class Ic

Indications: Paroxysmal atrial fibrillation/flutter and paroxysmal supraventricular tachycardias (prevention), Ventricular arrhythmias (prevention).

Caution: Electrolyte imbalance, Use with caution in patients with significant hepatic and renal impairment, use with extreme caution in patients with structural heart disease.

Contra-Ind: Hypersensitivity to flecainide or any component of the formulation; pre-existing second- or third-degree AV block or with right bundle branch block when associated with a left hemiblock, cardiogenic shock, concurrent use of ritonavir.

Side effects: Proarrhythmic effects/conduction disturbances, atrioventricular (AV) conduction may occur, Fetal complication associated with structural heart disease, Ventricular arrhythmia, Dizziness, Visual disturbances, tremor, fatigue, headache

Dosage: Paroxysmal atrial fibrillation/flutter and PSVT, Ventricular arrhythmias: oral: 100 mg once daily may increase gradually, do not exceed 300mg/day.

Dosing: Altered Kidney Function: Adult
No dosage adjustment necessary
Peritoneal dialysis: Use with extreme caution

Dosing: Hepatic Impairment: Adult
There are no dosage adjustments. Use with caution.

FLUVASTATIN (Lescol®)

P/P: **Lescol XL 80mg tab, 28's**

Adm: Can be taken with or without food

Category: Anti cholesterol, Statins

Indications: Hypercholesterolemia (heterozygous familial and nonfamilial) and Mixed Dyslipidemia, Heterozygous Familial Hypercholesterolemia, Secondary Prevention of Coronary Events, to slow the progression of coronary atherosclerosis in patients with coronary heart disease as part of a treatment strategy to lower total and LDL cholesterol

Caution: Contra-Ind: D/I, Side effects: see simvastatin

Dosage: Usual adult dose: 20 to 80 mg once a day at bedtime.
Usual pediatric dose (9 to 16 years): 20 to 80 mg/day.

Renal Dose Adjustments: No adjustment is recommended in patients with mild to moderate renal impairment. Fluvastatin has not been studied at doses greater than 40 mg in patients with severe renal impairment

Liver Dose Adjustments: It is contraindicated in patients with active liver disease or elevations in liver function tests.

FONDAPARINUX SODIUM (Arixtra®)

P/P: Arixtra 2.5mg Prefilled Syringe, 10's

Category: Antiplatelets & Fibrinolytics

Indications: Prevention of venous thromboembolic events (VTE) in patients undergoing major orthopaedic surgery of the lower limbs e.g., hip fracture, major knee surgery or hip replacement surgery.; Treatment of acute DVT and acute pulmonary embolism (PE).

Caution: Patients w/ an increased risk of hemorrhage e.g., those w/ congenital or acquired bleeding disorders, active ulcerative GI disease & recent intracranial hemorrhage or shortly after brain, spinal or ophth surgery or in patients treated concomitantly w/ agents that may enhance the risk of hemorrhage; current use of spinal/epidural anesth or spinal puncture; elderly;

Contra-Ind: Severe renal impairment (Ccr less than 30 mL/min); body weight less than 50 kg; active major bleeding, bacterial endocarditis; thrombocytopenia associated with positive in vitro test for antiplatelet antibody in the presence of fondaparinux

D/I: Agents that increase the risk of hemorrhage (eg, other anticoagulants, NSAIDs, platelet inhibitors)

Side effects: Anaemia, bleeding, thrombocytopenia, purpura, abnormal liver function tests, oedema.

Dosage: Adult: Subcutaneous 5 mg if body weight is less than 50 kg, 7.5 mg if body Weight is 50 to 100 kg, and 10 mg if body weight is more than 100 kg, given once daily. As prophylaxis Subcutaneous 2.5 mg once daily.

FOSINOPRIL(Staril®)

P/P: 10mg tab, 30's (Staril)

Version 2024-2025
Jan.2025

20mg tab, 30's (Staril)

Adm: Should be taken on empty stomach

Category: ACE inhibitor

Indications: Treatment of hypertension; adjunctive therapy of CHF

Caution: Renal insufficiency, Hepatic impairment

Contra-Ind: Pregnancy (second and third trimester), lactation, angioedema

D/I: Antacids, NSAID, Lithium, Potassium preparations, potassium-sparing diuretics,

Side effects: Cough; diarrhea; hyperkalaemia, angioedema dizziness or lightheadedness when sitting or standing quickly; fatigue; fever; headache; itching; joint pain; nausea; taste changes; vomiting; weakness.

Dosage: Usual adult dose: 10 mg - 40 mg orally once a day.
Usual pediatric dose: In children, doses of fosinopril between 0.1 and 0.6 mg/kg.
Renal Dose Adjustments: In general, no adjustment of dosing is needed.
Liver Dose Adjustments: Data not available.

FUROSEMIDE(Lasix, Salurin, Fusix, Diusemide®)

P/P: **40mg tab, 20's (Lasix, Salurin)**
40mg tab, 30's (Fusix, Diusemide)
Inj 20mg/2ml, 5's (Lasix, Diusemide)
1mg/ml, 100ml syrup (Salurin)

Adm: Oral formulation may be taken by mouth with or without food

Category: Loop diuretic

Indications: Oedema, oliguria due to renal failure

Caution: Hypotension, Prostatic hypertrophy, hepatic and renal impairment, pregnancy

Contra-Ind: Breast feeding, renal failure with anuria, hepatic coma and pre coma

D/I: Aminoglycoside antibiotics, Aspirin and other salicylates, Ethacrynic acid, Indomethacin, Lithium, Norepinephrine

Side effects: Dizziness or lightheadedness, dryness of mouth; increased thirst; irregular heartbeat; mood or mental changes; muscle cramps or pain; nausea or vomiting; unusual tiredness or weakness

Dosage: **Usual Adult Dose:** Oral: 20 to 80 mg the usual dosage interval is once or twice daily, with a maximum daily dose of 600 mg. Intravenous/Intramuscular 10mg to 40mg. Continuous IV infusion: 0.1 mg/kg as an initial bolus dose, followed by 0.1 mg/kg/hour doubled every 2 hours to a maximum of 0.4 mg/kg/hour.
Usual Pediatric Dose: Neonatal: oral doses of 1 mg/kg/dose 1 to 2 times/day, Continuous IV infusion: 0.2 mg/kg/hour, increase in 0.1 mg/kg/hour increments every

12 to 24 hours to a maximum infusion rate of 0.4 mg/kg/hour.
Infants and Children: Oral: 2 mg/kg once daily; if ineffective, may increase in increments of 1 to 2 mg/kg/dose every 6 to 8 hours; not to exceed 6 mg/kg/dose. In most cases, it is not necessary to exceed individual doses of 4 mg/kg or a dosing frequency of once or twice daily, IM or IV: 1 to 2 mg/kg/dose every 6 to 12 hours
Continuous infusion: 0.05 mg/kg/hour.

Renal Dose Adjustments: If increasing azotemia and oliguria occur during treatment of severe progressive renal disease, furosemide should be discontinued.

Liver Dose Adjustments: Patients with cirrhosis and ascites should be given smaller doses of furosemide due to the risk of altered electrolyte balance, which can lead to hepatic encephalopathy.

GEMFIBROZIL(Lopid, Low-lip®)

P/P:	600mg tab, 30'S (Lopid, Low-lip)
Adm:	Half an hour before food with plenty of water
Category:	Anti-cholesterol, Fibrates
Indications:	Primary prevention of coronary heart disease and myocardial infarction in patients with hypercholesterolemia, mixed dyslipidemia and hypertriglyceridemia
Caution:	Renal impairment, lipid profile, blood counts, liver function test before initiating long term treatment, avoid use with statins
Contra-Ind:	Hepatic or renal dysfunction, including primary biliary cirrhosis, Pre-existing gallbladder disease, pregnancy,breast feeding, Combination therapy of Gemfibrozil with cerivastatin due to the increased risk of myopathy and rhabdomyolysis
D/I:	Warfarin, insulin or an oral diabetes medication, statins
Side effects:	Blurred vision; diarrhea; dizziness; gas; headache; indigestion; nausea; stomach pain; tiredness; vomiting.
Dosage:	Usual adult dose: 600 mg orally twice a day. Renal Dose Adjustments: It is contraindicated in patients with severe renal dysfunction Liver Dose Adjustments: It is contraindicated in patients with hepatic dysfunction

GLYCERYL TRNITRATE/NITROGLYCERINE (Nitroderm TTS®)

P/P:	Nitroderm TTS 5mg, 10's, Nitroderm TTS 5mg, 30's Nitroderm TTS 10mg, 10's
Adm:	Apply the patch to a clean, dry skin area with little or no hair and free of scars, cuts, or irritation. Remove the previous patch before applying a new one to a different area of skin
Category:	Anti anginal, vasodilator

Indications:	Prophylaxis and treatment of angina; Left ventricular failure
Caution:	Severe hepatic or renal impairment, hypothyroidism, recent MI,
Contra-Ind:	Acute circulatory failure associated with marked hypotension (shock). Conditions associated with elevated intracranial pressure. Myocardial insufficiency due to obstruction, as in aortic or mitral stenosis or constrictive pericarditis. Concomitant use with phosphodiesterase type 5 (PDE5) inhibitors such as sildenafil (Viagra), tadalafil (cialis, snafi), vardenafil (levitra) is contraindicated
D/I:	Concomitant treatment with phosphodiesterase type 5 (PDE5) inhibitors such as sildenafil (Viagra), tadalafil (cialis, snafi), vardenafil (levitra), calcium antagonists, ACE inhibitors, beta-blockers, diuretics, antihypertensive, tricyclic antidepressants and major tranquillisers may potentiate the blood-pressure-lowering effect of Nitroderm TTS
Side effects:	Dizziness or lightheadedness, especially when getting up from a lying or sitting position; fast pulse; flushing of face and neck; headache; nausea or vomiting; restlessness
Dosage:	Usual adult dose: 0.2 to 0.4 mg/hr patch applied topically once a day for 12 to 14 hours per day; titrate as needed and tolerated up to 0.8 mg/hr Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: Data not available

HEPARIN (Heparin®)

P/P:	Heparin 5000 iu/ml, 5ml, 10's
Category:	Parental anticoagulant
Indications:	Prophylaxis and treatment of thromboembolic disorders such as thrombophlebitis, pulmonary embolism and occlusive vascular disease, thromboembolic complications arising from cardiac and vascular surgery, frostbite, dialysis and other perfusion procedures. Anticoagulant in blood transfusions.
Caution:	Monitor platelet counts, Elderly, diabetes, CV disease, hypertension, hyperthyroidism, pregnancy
Contra-Ind:	Thrombocytopenia, peptic ulcer, esophageal varices, piles, recent surgery, haemorrhagic disease, haemophilia, subacute bacterial endocarditis, severe hypertension, severe liver disease
D/I:	Potentially Hazardous Interactions: Salicylates and dipyridamole enhance activity. Effect increased by oral anticoagulants, dextran, penicillins, cephalosporins, phenylbutazone, streptokinase and in combination with dihydroergotamine mesylate.
Side effects:	Potentially Life-threatening Adverse Drug Reactions: Thrombocytopaenia with or without thrombosis; bleeding. Others: Transient alopecia, diarrhea, osteoporosis, febrile or allergic reactions.
Dosage:	Recommended dosage: Prophylaxis of deep vein thrombosis and pulmonary embolism: Adults: 2 hours pre-operatively: 5,000 units subcutaneously followed by 5,000 units subcutaneously every 8-12 hours, for 7-10 days or until the patient is fully ambulant.

During pregnancy: 5,000 - 10,000 units every 12 hours, subcutaneously, adjusted according to APTT or anti-Xa assay.

Elderly: Dosage reduction and monitoring of APTT may be advisable.

Children: No dosage recommendations.

Treatment of deep vein thrombosis and pulmonary embolism:

Adults: Loading dose: 5,000 units intravenously (10,000 units may be required in severe pulmonary embolism)

Maintenance: 1,000-2,000 units/hour by intravenous infusion, or 10,000-20,000 units 12 hourly subcutaneously, or 5,000-10,000 units 4-hourly by intravenous injection.

Elderly: Dosage reduction may be advisable.

Children and small adults: Loading dose: 50 units/kg intravenously

Maintenance: 15-25 units/kg/hour by intravenous infusion, or 250 units/kg 12 hourly subcutaneously or 100 units/kg 4-hourly by intravenous injection

Treatment of unstable angina pectoris and acute peripheral arterial occlusion:

Adults: Loading dose: 5,000 units intravenously

Maintenance: 1,000-2,000 units/hour by intravenous infusion, or 5,000-10,000 units 4-hourly by intravenous injection.

Elderly: Dosage reduction may be advisable.

Children and small adults: Loading dose: 50 units/kg intravenously

Maintenance: 15-25 units/kg/hour by intravenous infusion, or 100 units/kg 4-hourly by intravenous injection

Prophylaxis of mural thrombosis following myocardial infarction

Adults: 12,500 units 12 hourly subcutaneously for at least 10 days.

Elderly: Dosage reduction may be advisable

In extracorporeal circulation and haemodialysis

Adults: Cardiopulmonary bypass: Initially 300 units/kg intravenously, adjusted thereafter to maintain the activated clotting time (ACT) in the range 400-500 seconds.

Haemodialysis and haemofiltration: Initially 1-5,000 units,

Maintenance: 1-2,000 units/hour, adjusted to maintain clotting time >40 minutes.

HYDRALAZINE HCL (Apresoline, Apo-Hydralazine®)

P/P:	Apresoline 20mg Inj, 5's Apo-Hydralazine 25mg tab, 100's
Category:	Antihypertensive
Indications:	Moderate to severe hypertension, heart failure, hypertensive crisis including during pregnancy
Caution:	Hepatic impairment, coronary artery disease, cerebrovascular disease, pregnancy, breast feeding
Contra-Ind:	Severe tachycardia, high output heart failure, high output heart failure, myocardial insufficiency due to mechanical obstruction, porphyria
D/I:	Beta-blocker, NSAID, Diazoxide,
Side effects:	Vasomotor reactions (tachycardia, CHF, hypotension), GIT disturbances, dizziness's like syndrome

Dosage: Usual adult dose: 25 mg- 50 mg orally 4 times a day, 20 to 40 mg IV or IM, repeated as necessary.

Renal Dose Adjustments: CrCl < 10 mL/min: The dosing interval should be increased to every 8 to 16 hours in fast acetylators and every 12 to 24 hours in slow acetylators.
CrCl 10-50 mL/min: The dosing interval should be increased to every 8 hours.

Liver Dose Adjustments: it is recommended that dose increments be made cautiously in patients with liver disease.

HYDROCHLOROTHIAZIDE (Esidrex, Monozide®)

P/P: **Esidrex 25mg tab, 20's, Monozide 25mg tab, 30's
Monozide 12.5mg tab, 30's**

Adm: To be taken same time after meals.

Category: Antihypertensive, Diuretic, Thiazide

Indications: Oedema, Hypertension

Caution: Pregnancy, breast feeding, renal impairment, hepatic impairment, gout, hyperparathyroidism

Contra-Ind: Recent cerebrovascular accident, severe hepatic impairment, sensitive to sulfa or other sulfonamide-derived drugs

D/I: Lithium, beta blockers, Ca channel antagonist, ACE inhibitors, Digoxin, Cyclosporine, Methyl dopa

Side effects: Abdominal cramping, diarrhea, dizziness upon standing up, headache, loss of appetite, low blood pressure, low potassium (leading to symptoms such as dry mouth, excessive thirst, weak or irregular heartbeat, muscle pain or cramps), stomach irritation, stomach upset, weakness

Dosage: Usual Adult Dose: 25 mg to 50 mg orally once or twice daily.

Usual Pediatric Dose: Less than 6 months: Up to 3 mg/kg/day (up to 1.5 mg/pound) orally in 2 divided doses, less than 2 years: 1 to 2 mg/kg/day (0.5 to 1 mg/pound) orally daily as a single dose or in 2 divided doses Maximum dose 37.5 mg per day, 2 to 12 years: 1 to 2 mg/kg/day (0.5 to 1 mg/pound) orally daily as a single dose or in 2 divided doses, Maximum dose 100 mg per day

Renal Dose Adjustments: CrCl less than 30 mL/min: Not recommended

Liver Dose Adjustments: Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease

ICOSAPENT ETHYL (Vascepa®)

P/P: **Vascepa Capsule 1 gm Capsule, Oral**

Adm:	Administer with food. Swallow whole; do not break, crush, dissolve, or chew.
Category:	Antilipemic Agent, Omega-3 Fatty Acids
Indications:	Cardiovascular risk reduction with hypertriglyceridemia, Hypertriglyceridemia
Caution:	Concerns related to adverse effects: Bleeding: Bleeding, including serious events, has been reported; risk may be increased with concomitant anticoagulant/antiplatelet use. Prolongation of bleeding time not exceeding normal limits has also been observed; use with caution in patients with coagulopathy. Monitor for signs and symptoms of bleeding. Fish allergy: Use with caution in patients with known allergy or sensitivity to fish and/or shellfish. Disease related concerns: Atrial fibrillation: Atrial fibrillation (AF) or flutter requiring hospitalization may occur; risk increased in patients with a history of AF or flutter. Conditions associated with abnormal lipids: Manage concurrent conditions (eg, diabetes, hypothyroidism, excessive alcohol intake) that may contribute to lipid abnormalities. Hepatic impairment: Studies have not been conducted in patients with hepatic impairment; however, ALT/AST levels should be monitored periodically during therapy in hepatically-impaired patients. Other warnings/precautions: Appropriate use: Should be used as an adjunct to diet therapy and exercise. Secondary causes of hyperlipidemia should be ruled out prior to therapy. A number of OTC formulations containing omega-3 fatty acids are marketed as nutritional supplements; these do not have FDA-approved indications and may not contain the same amounts of the active ingredient.
Contra-Ind:	Hypersensitivity (e.g., anaphylactic reaction) to Icosapent ethyl or any component of the formulation.
Side effects:	The following adverse drug reactions and incidences are derived from product labeling unless otherwise specified. >10%: Hematologic & oncologic: Hemorrhage (12%; major hemorrhage: 3%) 1% to 10%: Cardiovascular: Atrial fibrillation, atrial flutter, peripheral edema Endocrine & metabolic: Gout Gastrointestinal: Constipation

Neuromuscular & skeletal: Musculoskeletal pain

Frequency not defined:

Neuromuscular & skeletal: Arthralgia

Respiratory: Oropharyngeal pain

Post marketing:

Endocrine & metabolic: Increased serum triglycerides

Gastrointestinal: Abdominal distress, diarrhea

Neuromuscular & skeletal: Limb pain

Dosage: Note: All patients should receive general measures (ie, address modifiable causes, manage atherosclerotic cardiovascular disease [ASCVD] risk, implement lifestyle modification [e.g., dietary changes, reduction of alcohol consumption]) and optimal low-density lipoprotein (LDL) lowering therapy for 4 to 12 weeks before considering triglyceride lowering therapy.

Collapse All

Cardiovascular risk reduction with hypertriglyceridemia

Cardiovascular risk reduction with hypertriglyceridemia (adjunctive agent):

Note: For patients whose triglycerides remain ≥ 150 mg/dL after general measures and optimal LDL lowering therapy who warrant additional ASCVD risk reduction (e.g., those with established ASCVD or diabetes mellitus plus ≥ 2 risk factors for ASCVD), use Icosapent ethyl over other triglyceride lowering therapies.

Oral: 2 g twice daily with meals.

Hypertriglyceridemia

Hypertriglyceridemia (adjunctive agent):

Note: For patients whose triglycerides remain ≥ 500 mg/dL after general measures and optimal LDL lowering therapy who do not warrant additional ASCVD risk reduction, any prescription strength omega-3 fatty acid (including Icosapent ethyl) or a fibrate (fenofibrate preferred) is reasonable.

Oral: 2 g twice daily with meals.

Dosing: Older Adult

Refer to adult dosing.

Dosing: Altered Kidney Function: Adult

There are no dosage adjustments provided in manufacturer's labeling (has not been studied). Eicosapentaenoic acid is not renally eliminated.

Dosing: Hepatic Impairment: Adult

There are no dosage adjustments provided in manufacturer's labeling (has not been studied).

IMIDAPRIL HCL (Tanatril®)

- P/P:** Tanatril 5mg tab, 28's
Tanatril 10mg tab, 28's
- Adm:** Should be taken on an empty stomach (Take 15 mins before meals. However, when initiating therapy, 1st dose should be given at bedtime.).
- Category:** ACE inhibitor
- Indications:** HTN, renal parenchymal HTN. Diabetic nephropathy w/ type 1 diabetes mellitus, CHF.
- Caution:** Renal impairment, bilateral renal arterial stenosis, cerebrovascular disorders, elderly. Severe hypertension, patients who undergo hemodialysis, diuretic therapy, patients on strict dietary salt restriction.
- Contra-Ind:** History of angioedema due to an ACE inhibitor, patients who undergo LDL apheresis using dextran cellulose sulfate or hemodialysis w/ acrylonitrile methallyl sulfonate Na membrane. Pregnancy, lactation.
- D/I:** K supplements or K-sparing diuretics. May potentiate hypotensive effects when used w/ diuretics or other antihypertensives.
- Side effects:** Cough, dizziness, hypotension, headache, pharynx discomfort, rash. Rarely angioedema, thrombocytopenia, acute renal failure. Pancytopenia, pancreatitis.
- Dosage:** Usual adult dose 5 mg to 10 mg once a day, the recommended maximum dose is 20 mg
Older people (65 years or older): The initial dose is 2.5 mg once a day, the recommended maximum dose is 10 mg once a day.

Patients with renal impairment: Creatinine clearance between 30 ml/min and 80 ml/min it is recommended that treatment be initiated with 2.5 mg, Creatinine clearance between 10 ml/min and 29 ml/min: imidapril should not be administered to these patients.
Creatinine clearance below 10 ml/min: It is contraindicated in these patients

Patients with hepatic impairment: The recommended starting dose is 2.5 mg once a day, Imidapril should be used with caution in patients with hepatic impairment.

Inclisiran (Leqvio®)

- P/P:** Leqvio 284mg/1.5ml Pre-Filled Syringe Subcutaneous 1"S
- Adm:** A single subcutaneous injection initially, again at 3 months, and then every 6 months
- Category:** Antilipemic Small Interfering Ribonucleic Acid (siRNA) Agent

Indications:	LEQVIO is a small interfering RNA (siRNA) directed to PCSK9 (proprotein convertase subtilisin kexin type 9) mRNA indicated as an adjunct to diet and maximally tolerated statin therapy for the treatment of adults with heterozygous familial hyper-cholesterolemia (HeFH) or clinical atherosclerotic cardiovascular disease (ASCVD), who require additional lowering of lowdensity lipoprotein cholesterol (LDL-C)
Caution:	None
Contra-Ind:	None
Side effects:	Common adverse reactions in clinical trials ($\geq 3\%$): injection site reaction, arthralgia, urinary tract infection, diarrhea, bronchitis, pain in extremity, and dyspnea
Dosage:	<p>The recommended dosage of LEQVIO, in combination with maximally tolerated statin therapy, is 284 mg administered as a single subcutaneous injection initially, again at 3 months, and then every 6 months.</p> <p>LEQVIO should be administered by a healthcare professional.</p> <p>Inject LEQVIO subcutaneously into the abdomen, upper arm, or thigh.</p>

INDAPAMIDE (Natrilix®)

P/P:	Natrilix SR 1.5mg tab, 30's
Adm:	May be taken with or without food
Category:	Antihypertensive, Diuretic, Thiazide
Indications:	Essential hypertension
Caution:	Pregnancy, lactation, hypokaemia, gout, history of allergy to sulphonamides derivatives
Contra-Ind:	Hypersensitivity to sulphonamides; severe hepatic or renal failure, hepatic encephalopathy, hypokalemia
D/I:	Lithium, arrhythmic drugs causing wave burst arrhythmia (astemizole, erythromycin, halofantrine, pentamidine, terfenadine), other diuretics
Side effects:	Fatigue, orthostatic hypotension, hypokalemia, allergic manifestation
Dosage:	<p>Adult: One tablet per 24 hours.</p> <p>Elderly: the plasma creatinine must be adjusted in relation to age, weight and gender.</p> <p>Children and adolescents: is not recommended</p> <p>Renal failure: In severe renal failure (creatinine clearance below 30 ml/min), treatment is contraindicated.</p> <p>Patients with hepatic impairment: In severe hepatic impairment, treatment is Contraindicated.</p>

IRBESARTAN (Aprovel, Arena, Irbetel®)

P/P:	Aprovel 150mg tab, 28's, Aprovel 300mg tab, 28's Arena 150 mg tab, 30's, Arena 300 mg tab, 30's
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Irbetel 150 mg tab, 30's, Irbetel 300 mg tab, 30's
Adm: May be taken with or without food.
Category: Angitensin II receptor antagonist
Indications: Treatment of hypertension; nephropathy in type 2 diabetes
Caution: Renal impairment, severe intravascular volume depletion, hepatic impairment, renovascular hypertension, biliary cirrhosis
Contra-Ind: Pregnancy, lactation, biliary obstructive disease, severe hepatic impairment
D/I: Lithium, Digoxin, other anti-hypertensive drugs
Side effects: Back pain; diarrhea; dizziness; headache; indigestion; upper respiratory tract infection; sinus pain.
Dosage: Usual adult dose: 150 mg – 300 mg orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: No adjustment recommended

IRBERSRTAN+HYDROCHLOROTHIAZIDE (Co Aprovel, Co Irbetel ®)

P/P: **Co Aprovel 150/12.5mg tab, 28's, Co Aprovel 300/12.5mg tab, 28's, Co Aprovel 300/25 mg tab, 28's**
Co Irbetel 150/12.5mg tab, 30's, Co Irbetel 300/12.5mg tab, 28's, Co Irbetel 300/25 mg tab, 28's

Adm: May be taken with or without food
Category: Angitensin II receptor antagonist, thiazide combination
Indications: Treatment of hypertension
Caution: Contra-Ind: D/I, Side effects: see Irbesartan and hydrochlorothiazide
Dosage: Adults: irbesartan 150 mg/hydrochlorothiazide 12.5 mg, 300 mg/12.5 mg, and 300 mg/25 mg. once daily
Renal Function Impairment (CrCl less than 30 mL/min): Use is not recommended.

ISOSORBIDE DINITRATE (Isobid, Apo-Isosorbide Dinitrate®)

P/P: **Isobid 20mg, 20's, Isobid 40mg, 20's**
Isosorbide dinitrate 5mg S/L tab, 100's
Apo-Isosorbide Dinitrate 5 mg, 100's

Adm: Should be taken on an empty stomach half an hour before meals
Category: Anti anginal, vasodilator
Indications: Prophylaxis and treatment of angina; Left ventricular failure

Caution: Contra-Ind: D/I, Side effects: see Glyceryl trinitrate

Dosage: Usual Adult Dose: immediate release tablet 10 to 40 mg orally 2 or 3 times a day, extended-release tablet 40 to 160 mg/day orally ,2.5 to 5 mg sublingually.

Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: No adjustment recommended

ISOSORBIDE MONONITRATE (Isosorbide mononitrate®)

P/P: Isosorbide mononitrate 10mg tab, 56's, Isosorbide mononitrate20mg tab, 56's

Adm: Should be taken on an empty stomach half an hour before meals

Category: Anti anginal, vasodilator

Indications: Prophylaxis and treatment of angina; Left ventricular failure

Caution: Contra-Ind: D/I, Side effects: see Glyceryl trinitrate

Dosage: Usual Adult Dose: 5mg-20 mg twice a day, Doses above 20 mg twice daily have not been adequately studied.

Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: No adjustment recommended

LABETALOL HCL (Trandate®)

P/P: Trandate 100mg tab, 25's, Trandate 200mg tab, 25's
Trandate Inj, 5mg/ml, 20ml

Adm: Tablets to be taken preferably after food.

Category: Alpha-adrenergic blocker, Beta-adrenergic blocker

Indications: Hypertension (pregnancy), Hypertension w/Angina, Hypertension following acute MI, Hypertension crisis, Controlled Hypotension in anaesthesia

Caution: Contra-Ind: See Propranolol

D/I: Calcium channel blockers (eg, verapamil) or cimetidine, General anesthetics (eg, halothane) or nitroglycerin, Beta-agonists (eg, albuterol)

Side effects: Dizziness; indigestion; lightheadedness; nausea; pain, swelling, or redness at the injection site; stuffy nose; temporary tingling of the scalp; unusual tiredness.

Dosage: Usual adult dose: 100 to 400 mg orally twice a day. Parenteral: Repeated IV Injection: Initial dose: 20 mg (0.25 mg/kg) by slow IV injection over a 2-minute period. Additional injections of 40 to 80 mg can be given at 10-minute intervals until a desired supine blood pressure is achieved or a total of 300 mg of labetalol has been injected

Usual Geriatric Dose: 50 to 200mg orally twice a day.

Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: 50 mg orally twice a day in patients with liver disease.

LIDOCAINE 2% INJECTION (Xylocard, Lidocaine®)

P/P:	Xylocard 2% Injection, 5ml Lidocaine 2%, 5ml pre-fill syringe
Category:	Antiarrhythmic agent
Indications:	Ventricular arrhythmias especially after MI
Caution:	CHF, Hepatic and renal impairment, pregnancy
Contra-Ind:	Hypersensitivity to amide local anesthetics; Stokes-Adams syndrome; Wolff-Parkinson-White syndrome; severe degrees of sinoatrial, AV or intraventricular block in absence of pacemaker; ophthalmic use.
D/I:	Beta-adrenergic blockers, Cimetidine Class I antiarrhythmic agents (eg, tocainide, mexiletine) Procainamide, Succinylcholine
Side effects:	Dizziness; lightheadedness; nervousness; drowsiness, confusion, respiratory depression, hypotension, bradycardia
Dosage:	The dosage should be adjusted according to the response of the patient and the site of administration. The lowest concentration and smallest dose producing the required effect should be given. The maximum dose for healthy adults should not exceed 200 mg [or 500mg if given in solutions containing adrenaline (epinephrine)]. Children and elderly or debilitated patients require smaller doses, commensurate with age & physical status.

LISINOPRIL(Zestril, Zinopril, Lisdene®)

P/P:	5mg tab, 28's (Zestril, Zinopril, Lisdene) 5mg tab, 30's (Lisino) 10mg tab, 28's (Zestril, Zinopril, Lisdene) 10mg tab, 30's (Lisino, Riapril) 20mg tab, 28's (Zestril, Zinopril, Lisdene) 20mg tab, 30's (Lisino, Riapril)
Adm:	Should be taken on empty stomach
Category:	ACE inhibitor
Indications:	Treatment of hypertension; Acute MI, Renovascular hypertension, adjunctive therapy of CHF, renal complication of DM.

Caution: Renal insufficiency, Surgery/Anaesthesia, Hepatic impairment
Contra-Ind: Pregnancy (second and third trimester), lactation, angioedema
D/I: Indomethacin, salicylates, Lithium, Potassium preparations, potassium-sparing diuretics,
Side effects: Cough; diarrhea; dizziness or lightheadedness when sitting or standing quickly; fatigue; fever; headache; itching; joint pain; nausea; taste changes; vomiting; weakness.
Dosage:
 Usual Adult Dose: 5 mg to 40mg orally once a day
 Usual Geriatric Dose: 2.5 mg to 5 mg per day.
 Usual Pediatric Dose: 0.07 mg/kg orally once a day, Doses above 0.61 mg/kg or greater than 40 mg have not been studied in pediatric patients
 Renal Dose Adjustments: CrCl greater than 30 mL/min: No adjustment recommended
 CrCl 10 mL/min to less than or equal to 30 mL/min: Recommended initial dose is half Of the usual recommended dose
 CrCl less than 10 mL/min or on hemodialysis: Recommended initial dose is 2.5 mg Orally once a day.
 Liver Dose Adjustments: Patients who develop jaundice or marked elevations of hepatic enzymes should discontinue therapy and receive appropriate medical treatment.

LOSARTAN POTASSIUM (Cozaar, Sortiva Forte®)

P/P:
 50mg tab, 28's (Cozaar)
 100mg tab, 28's (Cozaar)
 50mg tab, 30's (Sortiva)
 100mg tab, 30's

Adm: May be taken with or w/o food
Category: Angiotensin II receptor antagonist
Indications: Treatment of hypertension; nephropathy in type 2 diabetic patients; reduce risk of stroke in patients with hypertension and left ventricular hypertrophy.
Caution: Renal impairment, severe intravascular volume depletion, hepatic impairment
Contra-Ind: Pregnancy (second and third trimester), lactation, severe or end stage renal impairment
D/I: Potassium preparations, potassium-sparing diuretics
Side effects: Cough, dizziness, upper respiratory infection
Dosage:
 Usual Adult Dose: 25 to 100 mg orally per day in 1 or 2 divided dose.
 Usual Pediatric Dose: 6 Years or Older: 0.7 mg/kg orally once a day (up to 50 mg total) Doses above 1.4 mg/kg (or 100 mg) daily have not been studied in pediatric patients.
 Renal Dose Adjustments: Adult: No adjustment recommended
 Pediatric: GFR less than 30 mL/min/1.73 m²: Not recommended
 Liver Dose Adjustments: Adult: Initial dose: 25 mg orally once a day
 Pediatric: Caution is recommended.

LOSARTAN + HYDROCHLOROTHIAZIDE (Hyzaar, Fortzaar, Sortiva-H®)

P/P:	50/12.5mg tab, 28's (Hyzaar) 100/25mg tab, 28's (Fortzaar) 50/12.5mg tab, 30's (Sortiva-H) 100/25mg tab, 30's (Sortiva-H) 100/25mg tab, 30's (Sortiva-H)
Adm:	May be taken with or without food
Category:	Angiotensin II receptor antagonist, thiazide combination
Indications:	Treatment of hypertension
Caution:	Contra-Ind: D/I, Side effects: see losartan and hydrochlorothiazide
Dosage:	Usual Adult Dose: Losartan 50 mg/hydrochlorothiazide 12.5 mg once daily is the usual dosage; maximum dosage is losartan 100 mg/hydrochlorothiazide 25 mg once daily

MANNITOL (Mannitol®)

P/P:	Mannitol Infusion 20%, 500ml
Category:	Osmotic diuretics
Indications:	Cerebral oedema, Mannitol also promotes the excretion of substances such as aspirin and barbiturates in overdose situations, glaucoma
Caution:	Extravasation causes inflammation and thrombophlebitis
Contra-Ind:	Congestive cardiac failure, pulmonary oedema
Side effects:	Chills, fever, nausea and vomiting
Dosage:	The dose range for adults is 50 to 200gm in a 24 hr period with a dosage limit of 50gm on any one occasion. In most instances an adequate response will be achieved at a dosage of approximately 100gm per 24hr period.

METHYLDOPA (Aldomet®)

P/P:	Aldomet 250mg tab, 30's
Category:	Antidiuretic, centrally acting antihypertensive
Adm:	To be taken by mouth with or without food
Indications:	Hypertension

Caution: Liver impairment, renal impairment, depression,

Contra-Ind: Active hepatic disease or previous hepatic disease associated with methyldopa therapy; co administration with MAOIs, phaeochromocytoma, porphyria

D/I: Lithium or MAOIs, antihypertensive drugs

Side effects: Dizziness; drowsiness; dry mouth; headache; weakness.

Dosage: Usual Adult Dose: 250 mg orally 2-3 times a day.
Renal Dose Adjustments: CrCl < 15 mL/min: The dosage interval should be every 12 to 24 hours. CrCl 15-50 mL/min: The dosage interval should be every 8 to 12 hours.
Liver Dose Adjustments: contraindicated in patients with active hepatic disease.

METOPROLOL TARTARATE (Lopressor®)

P/P: Lopressor 50mg tab, 40's, Lopressor 100mg tab, 20's

Adm: Preferably after food.

Category: Beta-adrenergic blocking agent

Indications: Hypertension, Angina, Arrhythmias, Migraine prophylaxis, Hyperthyroidism

D/I: Mibepradil, psychiatric drugs (phenothiazines such as chlorpromazine, thioridazine), alpha-blockers, anti-diabetic drugs, barbiturates, calcium channel blockers, cimetidine, other heart drugs (e.g., amiodarone, digoxin, propafenone, quinidine, intravenous lidocaine), other drugs to treat high blood pressure (e.g., clonidine, hydralazine, reserpine), medications for overactive thyroid disease (e.g., methimazole, propylthiouracil), paroxetine, rifamycins (e.g., rifampin), St. John's wort.

Caution; Contra-Ind; Side effects: See Propranolol

Dosage: Usual Adult Dose: 25 to 400 mg per day in single or divided doses.
Usual Pediatric Dose: 6 Years or Older: 1 mg/kg orally once a day (not to exceed 50 mg orally once a day). Maximum dose: 2 mg/kg (or 200 mg) orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: Initiate at low doses and titrate gradually according to clinical response.

MIDODRINE (Gutron, Midodrine®)

P/P: Gutron 2.5 mg tab, 50s
Midodrine 2.5 mg tab, 20s

Category: Alpha 1 agonist

Adm: Before or after breakfast or lunch

Indications: Orthostatic hypotension, prevention of hemodialysis –induced hypotension

Caution: Use with caution when adm. Concurrently with digoxin, betablockers.
Should not be taken after evening meals.

Contra-Ind: Sever organic heart disease, acute renal failure urinary retention

Side effects: Palpitation, headache, blurred vision, chest pain, painful urination, stomach discomfort

Dosage: Usual Adult Dose: 10 mg orally three times a day.
Renal Dose Adjustments: CrCl less than 80 mL/min: initiate treatment using 2.5 mg doses. Dose adjustments should be made cautiously.
Liver Dose Adjustments: Use with caution in patients with liver dysfunction.

MONOXIDINE (Physiotens®)

P/P: **Physiotens 0.2mg F.C tab, 28's, Physiotens 0.4mg F.C tab, 28's**

Adm: Tablets can be taken with or without food

Category: Centrally acting antihypertensive

Indications: Hypertension

Caution: Renal impairment, Avoid abrupt withdrawal, pregnancy, lactation

Contra-Ind: Sick sinus syndrome, bradycardia

D/I: Antihypertensives, thiazide diuretics, Calcium channel blockers, Tricyclic antidepressants

Side effects: Dizziness; drowsiness; dry mouth; headache; weakness.

Dosage: Adults (including the elderly): 200 micrograms to 400 micrograms, given as one dose or as divided doses, the dosage can be increased up to a maximum of 600 micrograms in divided doses.
In patients with moderate renal dysfunction (GFR above 30 ml/min, but below 60 ml/min), the single dose should not exceed 200 micrograms and the daily dose should not exceed 400 micrograms of moxonidine.
Pediatric population: It is not recommended for use in children and adolescents below 18 years.

Nebivolol (Nebilet®)

P/P: **Nebilet 5mg Tab 28"S**

Adm: Can be taken with and without food.

Category: Beta-adrenergic blocking agent

Indications: Hypertension treatment

Caution: Acute exacerbation of coronary artery disease upon cessation of therapy: Do not abruptly discontinue and diabetes

Contra-Ind: Severe bradycardia, Heart block greater than first degree, Patients with cardiogenic shock, decompensated cardiac failure, Sick sinus syndrome (unless a permanent pacemaker is in place), Patients with severe hepatic impairment (Child-Pugh >B) and Hypersensitive

Side effects: Headache, fatigue

Dosage: 5 mg once daily. Dose can be increased at 2-week intervals up to 40 mg.

Nimodipine (Nimodipine®)

P/P: Nimodipine 30mg Tab 1"S

Adm: Give one hour before a meal or two hours after a meal

Category: Dihydropyridine calcium channel blocker

Indications: Subarachnoid hemorrhage

Caution: Hypotension, Patients with Cirrhosis, CYP3A4 Strong Inhibitors: May significantly increase risk of hypotension and headache

Contra-Ind: None

Side effects: Hypotension, headache, nausea, and bradycardia

Dosage: 60 mg every 4 hours for 21 consecutive days.

NIFEDIPINE (Adalat, Epilat®)

P/P: Nifedipine caps 10mg (Adalat, Epilat)

Adm: May be taken with or without food

Category: Calcium channel blocker, anti-anginal, antihypertensive

Indications: Hypertension, prophylaxis of angina, Ranaud's Phenomenon

Caution: Severe hypotension, severe aortic stenosis, Heart failure

Contra-Ind: CV shock, Pregnancy, Lactation, Concomitant use of Rifampicin

DI: Effects enhanced by Antihypertensives, cimetidine, beta blockers, quinidine, digoxin

Side effects: Constipation; dizziness; flushing; giddiness; headache; heat sensation; heartburn; lightheadedness; nausea; weakness.

Dosage: Usual Adult Dose: Immediate release capsules: 10 mg orally 3 times a day, Extended-release tablets: 30 to 60 mg orally once a day.
Usual Pediatric Dose: Children: Immediate release capsules: 0.25 to 0.5 mg/kg/dose (maximum 10 mg/dose) repeated every 4 to 6 hours, if necessary, Extended-release tablets: Children: 0.25 to 0.5 mg/kg/day in 1 to 2 divided doses.
Adolescents: Initial dose: 30 mg orally once a day.
Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Cirrhotic patients: Careful monitoring and dose reduction may be needed. Initiating therapy with the lowest available dose should be considered.

NORADRENALINE BITARTARATE (Levophed®)

P/P: **Levophed Inj 8mg/4ml, 10's** (Noradrenaline 2mg/ml)

Category: Vasoconstrictor sympathomimetics

Indications: For blood pressure control in certain acute hypotensive states.
As an adjunct in the treatment of cardiac arrest and profound hypotension.

Caution: Extravasation, profound hypoxia or hypercarbia, concomitant MAOI or antidepressants, hypersensitivity to sodium metabisulfite.

Contra-Ind: Noradrenaline should not be given to patients who are hypotensive from blood volume deficits except as an emergency measure. Noradrenaline should also not be given to patients with mesenteric or peripheral vascular thrombosis, unless it is lifesaving.

DI: MAO inhibitors, tricyclic anti-depressants, cyclopropane and halothane anesthesia

Side effects: Bradycardia, arrhythmias, anxiety, headache, plasma volume depletion.

Dosage: Usual Adult Dose: the dose should be titrated in steps of 0.05 -0.1 µg/kg/min of noradrenaline base according to the pressor effect observed.
Elderly: As for adults but may be especially sensitive to the effects of noradrenaline.
Pediatric population: Not recommended.
Renal or hepatic impairment: Not recommended.

OLMESARTAN MEDOXOMIL (Olmetec®)

P/P: **Olmetec 20mg tab, 28's**
Olmetec 40mg tab, 28's

Adm: May be taken with or without food.

Category: Angiotensin II Antagonists

Indications:	Essential hypertension
Caution:	Intravascular vol depletion, renovascular HTN, aortic or mitral valve stenosis, or obstructive hypertrophic cardiomyopathy, primary aldosteronism.
Contra-Ind:	Biliary obstruction. 2nd & 3rd trimesters of pregnancy, lactation.
D/I:	Lithium, other antihypertensives, antacids, NSAIDs. Concomitant use of K-sparing diuretics, K supplements, salt substitutes containing K may lead to increase in serum K.
Side effects:	Dizziness, bronchitis, cough, pharyngitis, rhinitis, abdominal pain, diarrhea, dyspepsia, gastroenteritis, nausea, arthritis, back pain, skeletal pain, hematuria, UTI, chest pain, fatigue, influenza-like symptoms, peripheral edema & pain.
Dosage:	Usual Adult Dose: 20 to 40mg once daily. Children (6 to 16 y of age): Start with 10 mg once daily for patients who weigh 20 to less than 35 kg, or 20 mg once daily for patients who weigh 35 kg or more.

OLMESARTAN+ HYDROCHLOROTHIAZIDE (Olmetec Plus®)

P/P:	Olmetec plus tab 20/12.5mg tab, 28's Olmetec plus tab 40/12.5mg tab, 28's Olmetec plus tab 40/25mg tab, 28's
Adm:	May be taken with or without food
Category:	Angitensin II receptor antagonist, thiazide combination
Indications:	Treatment of hypertension. Patients whose BP is not adequately controlled on olmesartan medoxomil or hydrochlorothiazide alone.

Caution: Contra-Ind: D/I, Side effects: see olmesartan and hydrochlorothiazide

Dosage:	Usual Adult Dose: Hydrochlorothiazide 12.5 to 25 mg-Olmesartan 20 to 40 mg orally once a day. Renal Dose Adjustments: Mild to moderate renal dysfunction (CrCl greater than 30 mL/min): No adjustment recommended, Severe renal dysfunction (CrCl 30 mL/min or lower): Not recommended
	Liver Dose Adjustments: No adjustment recommended

OLMESARTAN+ AMLODIPINE (Sevikar®)

P/P:	Sevikar 20/5 mg tab, 28's, Sevikar 20/10 mg tab, 28's Sevikar 40/5 mg tab, 28's, Sevikar 40/10 mg tab, 28's
Adm:	May be taken with or without food.
Category:	Angiotensin II Antagonists, Calcium channel blocker comination

Indications: Essential hypertension, prophylaxis of angina

Caution: Contra-Ind: D/I, Side effects: see olmesartan and amlodipine

Dosage: Usual Adult Dose: Amlodipine 5 mg-Olmesartan 20 mg orally once a day, Maximum dose: Amlodipine 10 mg-Olmesartan 40 mg orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: not recommended

OMEGA-3-MARINE TRIGLYCERIDES (Omega-3, Pulse tri-omega, Maxepa forte, Omacor®)

P/P: Omega-3 fish oil caps, 60's (Wassen)
Pulse tri-omega caps, 30's
Maxepa forte caps, 30's (docosahexaenoic acid, eicosapentaenoic acid)
Omacor 1000 mg cap, 28s

Adm: May be taken with or after food

Indications: Hypertriglyceridemia in conjunction with dietary and other measures

Category: Antihyperlipidemic

Caution: Hemorrhagic disorders, anti-coagulant treatment, aspirin-sensitive asthma, DM, pregnant, breast feeding

Side effects: Feeling sick, diarrhea, belching with an odor or taste of fish, a bloated feeling in the tummy, constipation or skin rash such as eczema and acne.

Dosage: Usual Adult Dose: one capsule three times daily.

PENTOXIFYLLINE (Trental®)

P/P: Trental 400mg tab, 20's, Trental 400mg tab, 100's

Adm: Should be taken with food

Category: Blood flow agent

Indications: Peripheral vascular disease, venous leg ulcer

Caution: Hypotension, severe cardiac arrhythmias, MI, severe renal/hepatic insufficiency

Contra-Ind: Recent cerebral and/or retinal hemorrhage, pregnancy, lactation intolerance to methylxanthines such as caffeine, theophylline, and theobromine.

DI: Anticoagulants (eg, warfarin) or theophylline's.

Side effects: Belching; bloating; blurred vision; diarrhea; dizziness; flushing; gas; headache; indigestion; nausea; stomach discomfort.

Dosage: Usual Adult Dose: 400 mg orally 3 times a day
Renal Dose Adjustments: Creatine Clearance 10 to 50 mL/min: 400 mg orally twice a day. If adverse effects develop, reducing the dose to 400 mg once a day is recommended.
Creatine Clearance less than 10 mL/min: 400 mg orally once a day.
or 400 mg once every other day.
Liver Dose Adjustments: 400 mg orally twice a day. If adverse effects develop, reducing the dose to 400 mg once a day.

PERINDOPRIL ARGININE (Coversyl®)

P/P: **Coversyl 5mg tab, 30's, Coversyl 10mg tab, 30's**

Adm: Should be taken on empty stomach

Category: ACE inhibitor

Indications: See Fosinopril

Caution: See Fosinopril

Contra-Ind; D/I: See Fosinopril

Side effects: See Fosinopril

Dosage: Adult Dose: The recommended starting dose is 5 mg given once daily in the morning. The dose may be increased to 10 mg once daily after one month of treatment. In elderly patients' treatment should be initiated at a dose of 2.5 mg which may be progressively increased to 5 mg after one month then to 10 mg if necessary, depending on renal function. Pediatric population: The safety and efficacy of perindopril in children and adolescents aged below 18 years have not been established. Patients with renal impairment: the Recommended dose if Creatinine clearance \geq 60 (ml/min) is 5 mg per day, 30 < Creatinine clearance < 60: 2.5 mg per day, 15 < Creatinine clearance < 30 2.5 mg every other day, Hemodialysis patients: 2.5 mg on the day of dialysis. Patients with hepatic impairment: No dosage adjustment is necessary.

PERINDOPRIL+ AMLODIPINE (Coveram®)

P/P: **Coveram5/5mg tab, 30's, Coveram 5/10mg tab, 30's
Covearm10/5 mg tab, 30'Coveram10/10 mgtab, 30's**

Adm: Should be taken on empty stomach

Category: ACE inhibitor, calcium channel blocker combination

Indications; Caution; Contra-Ind; D/I; Side effects; See Fosinopril

Dosage: The recommended dose is: one tablet once daily as single dose. Patients with impaired renal function and elderly patients: a CrCl <60mL/min, adjustments using amlodipine 2.5mg or a dose of perindopril equivalent to perindopril arginine 2.5mg, as separate products should be considered until clinical stability is re-established

Patients with impaired hepatic function: Dosage recommendations have not been established

PERINDOPRIL+INDAPAMIDE (Preterax, Bi-Preterax®)

P/P:	Preterax tab, 30's (Perindopril 2mg+Indapamide 0.625mg) Bi-Preterax tab, 30's (Perindopril 4mg+Indapamide 1.25mg)
Adm:	Should be taken on empty stomach
Category:	Antihypertensive combination
Indications:	Essential hypertension
Caution:	Renal insufficiency, Hepatic impairment, electrolyte imbalance, gout
Contra-Ind:	Pregnancy (second and third trimester), lactation, angioedema, renal artery stenosis, hypo/hyperkalemia
D/I:	Lithium, Potassium preparations, potassium-sparing diuretics, Arrhythmogenic drugs
Side effects:	Cough; diarrhea; dizziness or lightheadedness; fatigue; fever; headache; itching; joint pain; GIT disturbance
Dosage:	The recommended adult dose: One tablet per day as a single dose. Pediatric population: The safety and efficacy of perindopril arginine/indapamide in the pediatric population have not yet been established. Patients with renal impairment: In severe renal impairment (creatinine clearance below 30 ml/min), treatment is contra-indicated. In patients with moderate renal impairment (creatinine clearance 30-60 ml/min), it is recommended to start treatment with the adequate dosage of the free combination. In patients with creatinine clearance greater than or equal to 60 ml/min, no dose modification is required. Patients with hepatic impairment: In severe hepatic impairment, treatment is contra-indicated. In patients with moderate hepatic impairment, no dose modification is required.

PHYTOMENADIONE (Konakion®)

P/P:	Konakion 10mg chewable tablet, 10's, Konakion 10mg/ml, 5's Inj
Adm:	Tablets should be taken with food
Category:	Antihemorrhagic, Antidote, to drug-induced hypoprothrombinemia, Prophylaxis and treatment of hemorrhagic disease in the newborn.
Indications:	Prevention and treatment of capillary hemorrhages associated with menorrhagia, hemoptysis, hematuria etc.
Caution:	Pregnancy, breast feeding
Contra-Ind:	Hypersensitivity
D/I:	Anti coagulants (warfarin)

Side effects:	Flushing of the face; an unusual taste in the mouth, allergic reactions
Dosage:	<p>Oral Dosage Forms: Usual adult and adolescent dose 2.5 to 10 mg, or up to 25 mg (Rarely up to 50 mg) subsequent doses should be determined by prothrombin time response and/or clinical condition.</p> <p>Usual pediatric dose: Safety and efficacy have not been established</p> <p>Parenteral Dosage Forms: Usual adult and adolescent dose: Subcutaneous, 2.5 to 25 mg or more (rarely up to 50 mg), the amount administered depends on the severity of the condition and the clinical and/or prothrombin time response obtained.</p> <p>Usual pediatric dose: Prophylaxis—Intramuscular, 0.5 to 1 mg within one hour of birth Treatment—Subcutaneous, 1 mg, higher doses may be required for infants whose mothers received oral anticoagulants or anticonvulsants during pregnancy</p>

PRASUGREL (Effient®)

P/P:	Effient, 5 mg & 10 mg, Oral Tablet
Adm:	Take it with or without food, crushing the tablet and mixing with 25 mL of water led to faster absorption and a quicker, more potent antiplatelet effect seen as early as 30 minutes.
Category:	Antiplatelet Agent; Thienopyridine, P2Y12 Antagonist
Indications:	Acute coronary syndrome (NSTEMI, unstable angina, or STEMI) managed by percutaneous coronary intervention (PCI)
Caution	<p>Bleeding: [US Boxed Warning]: May cause significant, sometimes fatal, bleeding. Do not use prasugrel in patients with active pathological bleeding or a history of TIA or stroke. Use with caution in patients with additional risk factors for bleeding include body weight <60 kg, propensity to bleed (eg, recent trauma, recent surgery, recent or recurrent GI bleeding, active peptic ulcer disease, severe hepatic impairment, or moderate to severe renal impairment), and concomitant use of medications that increase the risk of bleeding (eg, warfarin, heparin, fibrinolytic therapy, long-term use of NSAIDs). In patients ≥75 years, use is generally not recommended due to increased risk of fatal and intracranial bleeding and uncertain benefit, except in high-risk situations (patients with diabetes or a history of MI) in which its effect appears to be greater and its use may be considered. Management of bleeding episodes includes the use of PRBCs and platelet transfusion.</p> <p>Hypersensitivity: including angioedema, a cross-reactivity is possible among the thienopyridines (clopidogrel, prasugrel, and ticlopidine); use with caution or avoid in patients with previous history of thienopyridine hypersensitivity. Use of prasugrel is contraindicated in patients with hypersensitivity (eg, anaphylaxis) to prasugrel.</p> <p>Thrombotic thrombocytopenic purpura (TTP): Cases of TTP (usually occurring within the first 2 weeks of therapy), resulting in some fatalities, have been reported with prasugrel; urgent plasmapheresis is required.</p> <p>Surgical patients: [US Boxed Warning]: Do not initiate therapy in patients likely to undergo urgent CABG surgery; when possible, discontinue ≥7 days prior to any surgery; increased risk of bleeding. In patients undergoing noncardiac surgery that requires discontinuation of prasugrel, hold for 7 days preoperatively, continue aspirin and restart prasugrel as soon as possible (eg, ≤24 hours) after surgery.</p> <p>Discontinuation of therapy: For patients who undergo percutaneous coronary intervention with stenting, premature interruption of therapy may result in increased risk of myocardial infarction, stent thrombosis, stroke, or death. If therapy must be held temporarily (eg, bleeding, surgery), restart as soon as possible unless the reason for discontinuation is a stroke or TIA where subsequent use is contraindicated.</p>
Contra-Ind	Active pathological bleeding, including peptic ulcer and intracranial hemorrhage.

Hypersensitivity (eg, anaphylaxis) to prasugrel or any component of the product.
Stroke or TIA, history of; discontinue if stroke or TIA occurs with therapy.

Side effects Hypertension, atrial fibrillation, bradycardia, peripheral edema, headache, back pain, hyperlipidemia, leukopenia, major hemorrhage, epistaxis, angioedema, thrombotic thrombocytopenic purpura.

Dosage

Adult Dosing:

Loading dose: Oral: 60 mg once before PCI in combination with aspirin and a parenteral anticoagulant; followed by maintenance dosing.

Maintenance dose:

Oral: ≥60 kg: 10 mg once daily in combination with aspirin beginning the day after PCI.

East Asian descent: After 30 days, consider reducing to 5 mg once daily in patients of East Asian descent in order to decrease bleeding risk.

Oral: <60 kg: 5 mg once daily in combination with aspirin beginning the day after PCI. An alternative P2Y12 inhibitor may be considered if bleeding is major concern.

Duration of therapy: Preferred approach: Continue prasugrel plus aspirin (dual antiplatelet therapy [DAPT]) for ≥12 months.

Adult Dosing: Kidney Impairment:

No dosage adjustment necessary; use with caution in moderate to severe impairment (patients are generally at higher risk of bleeding).

Hemodialysis: Not dialyzable.

Adult Dosing: Hepatic Impairment:

Mild to moderate hepatic impairment (Child-Pugh class A and B): No dosage adjustment necessary for mild-to-moderate hepatic impairment.

Severe hepatic impairment (Child-Pugh class C): use with caution (patients are generally at higher risk of bleeding).

Older Adult Dosing:

Patients ≥75 years of age: Use is generally not recommended; may be considered in high-risk situations (eg, patients with diabetes or history of myocardial infarction).

Loading dose: Oral: 60 mg once before PCI in combination with aspirin and a parenteral anticoagulant; followed by maintenance dosing.

Maintenance dose: Oral: 5 mg once daily in combination with aspirin beginning the day after PCI. An alternative P2Y12 inhibitor may be considered if bleeding is a major concern.

PRAVASTATIN (Lipostat®)

P/P: Lipostat 10mg tab, 28's
Lipostat 20mg tab, 28's

Adm: Can be taken with or without food

Category: Antilipemic Agent, Statins

Indications: Primary hypercholesterolemia, homozygous familial hypercholesterolemia or mixed hyperlipidemia in patients not responding to diet and other appropriate measures; prevention of cardiovascular events, post transplantation hyperlipidemia.

Caution: Contra-Ind: D/I, Side effects: see simvastatin

Dosage: Usual Adult Dose: 40 to 80 mg once daily.
Usual Pediatric Dose: 8 to 13 years: 20 mg orally once daily,
14 to 18 years: 40 mg orally once daily
Renal Dose Adjustments: Significant renal dysfunction: Initial dose: 10 mg once daily.
Liver Dose Adjustments: 10 mg once daily Dosage increases should be done with careful monitoring for adverse reactions.

PROPRANOLOL (Inderal, Indicardin®)

P/P: 10mg tab, 50's, 40mg tab, 50's (Inderal)
Inj 1mg/ml, 10's (Inderal)
10 mg tab, 50's, 40 mg tab, 50's (Indicardin)

Adm: Can be taken by mouth with or without food

Category: Beta-adrenergic blocking agent

Indications: Angina pectoris; cardiac arrhythmias; essential tremor; hypertension; hypertrophic subaortic stenosis; migraine prophylaxis; MI; pheochromocytoma

Caution: Abrupt withdrawal in patients with angina pectoris or coronary artery disease (CAD), Obstructive airway disease, myasthenia gravis, renal and hepatic impairment, pregnancy, lactation

Contra-Ind: Hypersensitivity to beta-blockers; greater than first-degree heart block; CHF unless secondary to tachyarrhythmia or untreated hypertension treatable with beta-blockers; overt cardiac failure; sinus bradycardia; cardiogenic shock; untreated bronchial asthma or bronchospasm, including severe COPD.

D/I: Antiarrhythmics (eg, amiodarone, flecainide, quinidine), antipsychotic (eg, chlorpromazine, haloperidol), bupivacaine, calcium channel blockers (eg, mibepradil, nifedipine, verapamil) Barbiturates (eg, phenobarbital), clonidine, phenytoin, rifampin, or thyroid hormones (eg, levothyroxine) theophylline, rifampicin

Side effects: AV block; bradycardia; CHF; edema; hypotension; peripheral ischemia; torsades de pointes; worsening angina. GIT disturbances, sexual dysfunction

Dosage: Usual Adult Dose: Initial dose: 40 mg orally 2 times a day, Maintenance dose: 120 to 240 mg orally 2 to 4 times a day. Maximum dose: 640 mg orally per day. IV: 1 to 3 mg at a rate not exceeding 1 mg/min.
Usual Pediatric Dose: Neonates: Oral: 2 mg/kg/day in divided doses every 6 to 12 hours, Adolescents: Oral: 10 to 40 mg/dose every 6 hours. IV: Children: 0.01 to 0.1 mg/kg slow IV over 10 minutes; maximum dose: 1 mg (infants); 3 mg (children).
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: consideration should be given to lowering the dosage in patients with hepatic insufficiency.

PROTAMINE SULPHATE (Protamine Sulphate®)

P/P:	Protamine Sulphate 10mg/ml, 5ml
Category:	Heparin Antagonist
Indications:	Protamine sulphate is used to counteract the anticoagulant effect of heparin: before surgery; after renal dialysis; after open-heart surgery; if excessive bleeding occurs and when an overdose has inadvertently been given.
Caution:	Too rapid administration of protamine sulphate may cause severe hypotension and anaphylactoid reactions. Caution should be observed when administering protamine sulphate to patients who may be at increased risk of allergic reaction to protamine. These patients include those who have previously undergone procedures such as coronary angioplasty or cardio-pulmonary by-pass that may include use of protamine, diabetics who have been treated with protamine insulin, patients allergic to fish and men who have had a vasectomy or are infertile and may have antibodies to protamine.
D/I:	Protamine has been shown to be incompatible with certain antibiotics, including several of the cephalosporins and Penicillins
Side effects:	When used at doses in excess of that required neutralizing the anticoagulant effect of heparin, protamine sulphate exerts its own anticoagulant effects, hypotension bradycardia, pulmonary and systemic hypertension, flushing, nausea and vomiting, lassitude. Hypersensitivity reactions, including angioedema and fatal anaphylaxis
Dosage:	Dosage: Protamine Sulfate Injection should be given by very slow intravenous injection over a 10-minute period in doses not to exceed 50 mg.

QUINAPRIL(Acuitel®)

P/P:	10mg tab, 30's (Acuitel), 20 mg tabs, 30's (Acuitel)
Adm:	Should be taken on empty stomach
Category:	ACE inhibitor
Indications:	Treatment of hypertension; adjunctive therapy of CHF.
Caution:	Renal insufficiency, Surgery/Anaesthesia, Hepatic impairment
Contra-Ind:	Pregnancy (second and third trimester), lactation, angioedema
D/I:	Tetracycline, Indomethacin, salicylates, Lithium, Potassium preparations, potassium-sparing diuretics,
Side effects:	Cough; diarrhea; dizziness or lightheadedness when sitting or standing quickly; fatigue; fever; headache; itching; joint pain; nausea; taste changes; vomiting; weakness.
Dosage:	Usual Adult Dose: 10 to 40 mg orally per day administered in two equally divided doses Usual Geriatric Dose: 10 mg orally once a day

Renal Dose Adjustments: CrCl greater than 60 mL/min: Initial dose: 10 mg orally once a day, CrCl 30 to 60 mL/min: Initial dose: 5 mg orally once a day, CrCl 10 to 30 mL/min: Initial dose: 2.5 mg orally once a day, CrCl less than 10 mL/min: Data not available
Liver Dose Adjustments: Data not available

QUINAPRIL+HYDROCHLOROTHIAZIDE (Accuzide®)

P/P: **Accuzide 20mg tab, 30's** (Quinapril 20mg+Hydrochlorothiazide 12.5mg)

Adm: Should be taken on empty stomach

Category: Antihypertensive combination

Indications: Treatment of hypertension

Caution: Contra-Ind; D/I; Side effects; See Co-renitec

Dosage: Usual Adult Dose: Hydrochlorothiazide 12.5 to 25 mg-quinapril 10 to 20 mg orally once a day.

Renal Dose Adjustments: CrCl less than 25 mL/min: Not recommended

Liver Dose Adjustments: Caution is recommended.

RAMIPRIL (Ramipril®)

P/P: **Ramipril Sandoz 2.5 mg tab, 30's, Ramipril Sandoz 5 mg tab, 30's, Ramipril Sandoz 10 mg tab, 30's**

Adm: May be taken with or without food.

Category: ACE inhibitor

Indications: Treatment of hypertension, Congestive heart failure, Diabetic nephropathy

Contra-Ind: Renovascular disease, severe renal impairment, history of angioedema while on an

ACE inhibitor, pregnancy, and hypotension

Side effects: cough, diarrhea, dizziness, tiredness, dry mouth and impotence

Dosage: Usual Adult Dose: 2.5 to 20 mg/day in one or two equally divided doses.

Renal Dose Adjustments: CrCl 40 mL/min or less: Reduce usual dose by 25%

CrCl less than 90 mL/min and hypertension: Initial dose: 1.25 mg orally once a day; may titrate up until blood pressure controlled or to maximum dose of 5 mg/day. CrCl less than 90 mL/min and heart failure: Initial dose: 1.25 mg orally once a day; may increase to 1.25 mg twice daily and to maximum dose of 2.5 mg twice daily. Renal artery stenosis: Initial dose: 1.25 mg orally once a day

Liver Dose Adjustments: Data not available.

RANOLAZINE (Ranexa®) [LASA]

P/P:	Ranexa 375mg, 500mg, 750mg
Adm:	Granules: Sprinkle granules on 1 tablespoonful of soft food (eg, applesauce, yogurt) and swallow immediately; do not crush or chew. Tablet: Administer with or without meals. Swallow tablet whole; do not crush, break, or chew.
Category:	Antianginal agent, Cardiovascular, Miscellaneous
Indications:	Treatment of chronic angina.
Caution:	Acute coronary syndrome: Ranolazine will not relieve acute angina episode Hepatic impairment: Ranolazine plasma levels increase by 30% in patients with mild (Child-Pugh class A) and by 80% in patients with moderate (Child-Pugh class B) hepatic impairment. Use is contraindicated in patients with cirrhosis. Renal impairment: Acute renal failure has been observed in some patients with severe renal impairment ($\text{CrCl} < 30 \text{ mL/minute}$); if acute renal failure develops, discontinue ranolazine and manage appropriately.
Contra-Ind:	Hepatic cirrhosis; concurrent use of strong CYP3A inhibitors; concurrent use of CYP3A inducers. Significant drug interactions exist, requiring dose/frequency adjustment or avoidance. Canadian labeling: Hypersensitivity to ranolazine or any component of the formulation; concurrent use of class Ia antiarrhythmics (eg, quinidine, procainamide, disopyramide) or class III antiarrhythmics (eg, sotalol, ibutilide, amiodarone, dronedarone); severe renal impairment ($\text{GFR} \leq 30 \text{ mL/minute}/1.73 \text{ m}^2$); moderate or severe hepatic impairment.
Side effects:	QT prolongation
Dosage:	Angina, chronic stable: Oral: Initial: 500 mg twice daily; if necessary, may increase to 1,000 mg twice daily based on symptoms; maximum dose: 1,000 mg twice daily. Ventricular arrhythmias, hemodynamically stable (off-label use) (alternative agent): Oral: 500 mg twice daily; if necessary, may increase to 1,000 mg twice daily; maximum dose: 1,000 mg twice daily

ROSUVASTATIN (Crestor, Ivarin®)

P/P:	Crestor 10mg tab, 28's, Crestor 20mg tab, 28's Ivarin 10mg tab, 30's, Ivarin 20mg tab, 30's
Adm:	Can be taken with or without food

Category: Antilipemic Agent, Statins

Indications: Primary hypercholesterolemia, homozygous familial hypercholesterolemia or mixed hyperlipidemia in patients not responding to diet and other appropriate measures

Caution: Contra-Ind: D/I, Side effects: see simvastatin

Dosage: Usual Adult Dose: 5 mg to 40 mg once a day.
Usual Geriatric Dose: 5 mg to 20 mg once a day.
Usual Pediatric Dose: Pediatric patients 10 to 17 years of age: 5 to 20 mg orally once a day.
Renal Dose Adjustments CrCl less than 30 mL/min (not on hemodialysis): 5 mg to 10 mg once a day.
Liver Dose Adjustments: It is contraindicated

SIMVASTATIN (Zocor, Simvagen, Simvaten, Vasta, Simvahexal®)

P/P: 10 mg tab, 28's (Zocor)
10mg tab, 30's (Simvagen, Simvaten, Vasta, Simvahexal)
20mg tab, 30's (Zocor, Simvagen, Simvaten, Vasta, Simvahexal)
20mg tab, 28's (Zocor)
40mg tab, 30's (Zocor, Simvagen, Vasta, Simvahexal)

Adm: Can be taken with or without food

Category: Antilipemic Agent, Statins

Indications: Primary hypercholesterolemia, homozygous familial hypercholesterolemia or mixed hyperlipidemia in patients not responding to diet and other appropriate measures; prevention of cardiovascular events in patients with atherosclerotic cardiovascular disease or DM.

Caution: Liver impairment, active liver disease, liver function test before initiating long term treatment, Hyperthyroidism, having risk factor for myopathy or rhabdomyolysis

Contra-Ind: Active liver disease or unexplained persistent elevations of serum transaminases, Pregnancy and nursing,

D/I: Amiodarone, azole antifungal agents (eg, ketoconazole), cyclosporine, danazol, diltiazem, gemfibrozil, grapefruit juice, macrolide antibiotics (eg, erythromycin), nefazodone, niacin, protease inhibitors (eg, ritonavir), verapamil, warfarin

Side effects: GI disturbances, muscle pain, tenderness, or weakness with fever or flu symptoms and dark colored urine.

Dosage: Usual Adult Dose: 5 to 40 mg orally once a day.
Usual Pediatric Dose: 10 years or older: 10 to 40 mg orally once a day.
Renal Dose Adjustments: Mild to moderate renal dysfunction: No adjustment recommended, Severe renal dysfunction: Initial dose should be 5 mg orally once a day in the evening and should be closely monitored.
Liver Dose Adjustments: It is contraindicated

SIMVASTATIN+EZETIMIBE (Inegy®)

P/P:	Inegy 10/20mg tab, 28's (Simvastatin 10mg+Ezetimibe 10mg) Inegy 10/40mg tab, 28's (Simvastatin 40mg+Ezetimibe 10mg) Inegy 10/80mg tab, 28's (Simvastatin 80mg+Ezetimibe 10mg)
Adm:	Can be taken with or without food, preferably in the evening
Category:	Antilipemic Agent
Indications:	Primary hypercholesterolemia, homozygous familial hypercholesterolemia or mixed hyperlipidemia in patients not responding to diet and other appropriate measures
Caution:	Liver impairment, active liver disease, liver function test before initiating long term treatment, Hyperthyroidism, having risk factor for myopathy or rhabdomyolysis
Contra-Ind:	Active liver disease or unexplained persistent elevations of serum transaminases, Pregnancy and nursing,
D/I:	Amiodarone, azole antifungal agents (eg, ketoconazole), cyclosporine, danazol, diltiazem, gemfibrozil, grapefruit juice, macrolide antibiotics (eg, erythromycin), nefazodone, niacin, protease inhibitors (eg, ritonavir), verapamil, warfarin, Fibrates
Side effects:	Headache, URTI, GI disturbances, muscle pain, tenderness, or weakness with fever or flu symptoms and dark colored urine.
Dosage:	Usual Adult Dose: The dosage range is 10 mg-10 mg to 10 mg-40 mg per day. Renal Dose Adjustments: CrCl 60 mL/min or greater: No dosage adjustment recommended, CrCl less than 60 mL/min with chronic kidney disease: Dose should be 10 mg ezetimibe-20 mg simvastatin orally once a day, Doses higher than this should be used with caution and close monitoring. Liver Dose Adjustments: No dosage adjustment is recommended in patients with mild hepatic impairment the use of ezetimibe-simvastatin is not recommended in patients with moderate to severe hepatic impairment

SPIRONOLACTONE (Aldactone®)

P/P:	Aldactone 25mg tab, 20's, Aldactone 100mg tab, 10's
Adm:	May be taken by mouth with or without food
Category:	Potassium-sparing diuretics, Aldosterone antagonist
Indications:	Oedema and ascites in liver cirrhosis, malignant ascites, nephrotic syndrome, congestive heart failure, primary hyperaldosteronism
Caution:	Concomitant use with K retaining drugs, potassium supplements, lactation, renal impairment
Contra-Ind:	Acute renal insufficiency, anuria, hyperkalemia, pregnancy

D/I:	ACE inhibitors and Angiotensin-II Antagonists, inhibits clearance of digoxin, hyperkalemia (potassium sparing drugs, K supplements, tacrolimus), lithium
Side effects:	Abdominal cramping; change in sexual ability; clumsiness; confusion; diarrhea; dizziness; drowsiness; headache; frequent urination; nausea; vomiting.
Dosage:	Usual Adult Dose: 25 to 200 mg daily administered in either single or divided doses is recommended.

STREPTOKINASE (Sedonase®) (Restricted)

P/P:	Sedonase 1500000 iu/vial
Category:	Fibrinolytic
Indications:	Acute MI, deep-vein thrombosis, pulmonary embolism, acute arterial thromboembolism, central retinal venous or arterial thromboembolism.
Caution:	Risk of bleeding, external chest compression, pregnancy, abdominal aneurysm, diabetic retinopathy, recent or concurrent anticoagulation therapy.
Contra-Ind:	Active internal bleeding; recent cerebrovascular accident (within 2 months); intracranial or intraspinal surgery; intracranial neoplasm; severe uncontrolled hypertension
D/I:	Anticoagulants, agents that alter platelet function (eg, aspirin, other NSAIDs, dipyridamole), other thrombolytic agents, agents that alter coagulation
Side effects:	Bleeding or oozing from cuts, gums, wounds, or around the place of injection; fever; low blood pressure
Dosage:	Usual adult Dose: Acute Evolving Transmural MI: Infuse a total dose of 1,500,000 units within 60 min. Intracoronary infusion Administer 20,000 units by bolus followed by 2000 units/min for 60 min (total dose, 140,000 units). Pulmonary Embolism, Deep Vein Thrombosis (DVT), Arterial Thrombosis, or Embolism: Dose and duration of therapy (following the loading dose of 250,000 units/30 min): pulmonary embolism 100,000 units/h for 24 h (72 h if concurrent DVT is suspected); DVT 100,000 units/h for 72 h; arterial thrombosis or embolism 100,000 units/h for 24 to 72 h. Arteriovenous Cannulae Occlusion: Slowly instill 250,000 in 2 mL of solution into each occluded limb of the cannula. Clamp off cannula limb(s) for 2 h.

TELMISARTAN (Micardis®)

P/P:	Micardis 80mg tab, 28's
Adm:	May be taken with or without food.
Category:	Angitensin II receptor antagonist
Indications:	Essential hypertension

Caution: Renal impairment, severe intravascular volume depletion, hepatic impairment, renovascular hypertension, primary aldosteronism

Contra-Ind: Pregnancy, lactation, biliary obstructive disease, severe hepatic impairment

D/I: Lithium, Digoxin, other anti-hypertensive drugs

Side effects: Back pain; diarrhea; dizziness; headache; indigestion; upper respiratory tract infection; sinus pain.

Dosage: Usual Adult Dose: 40 to 80 mg orally once a day
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: Initiate at low doses and titrate slowly

TELMISARTAN+HYDROCHLOROTHIAZIDE(Micardis Plus®)

P/P: **Micardis plus 80/12.5mg tab, 28's**

Adm: May be taken with or w/o food

Category: Angiotensin II receptor antagonist, thiazide combination

Indications: Treatment of hypertension

Caution: Contra-Ind: D/I, Side effects: see Telmisartan and hydrochlorothiazide

Dosage: Usual Adult Dose: Hydrochlorothiazide 12.5 to 25 mg-Telmisartan 80 mg orally once a day, Maximum dose: Hydrochlorothiazide 25 mg-Telmisartan 160 mg orally once a day.
Renal Dose Adjustments: Mild to moderate renal dysfunction (30 mL/min or greater): No adjustment recommended, Severe renal dysfunction (CrCl less than 30 mL/min): Not recommended.
Liver Dose Adjustments: Mild to moderate liver dysfunction: Initial dose: Hydrochlorothiazide 12.5 mg-Telmisartan 40 mg orally once a day, Severe liver dysfunction: Not recommended

TENECTEPLASE (Metalysé®) (Restricted)

P/P: **Metalysé 50mg vial**

Category: Fibrinolytic

Indications: Acute myocardial infarction.

Caution: Contra-Ind: D/I, Side effects: see streptokinase

Dosage: IV: Adult: Recommended total dose should not exceed 50 mg and is based on patient's weight; administer as a single bolus over 5 seconds

Dosage adjustment in renal impairment: No dosage adjustment necessary.
Dosage adjustment in hepatic impairment: Mild to moderate impairment: No dosage adjustment.

Tirofiban (Aggrastat®) (Restricted)

P/P:	Aggrastat 0.25mg/50 ml vial
Category:	Antiplatelet agent
Indications:	treatment of acute coronary syndrome (ie, unstable angina/non-ST-elevation myocardial infarction).
Contra-Ind:	Active internal bleeding, history of intracranial hemorrhage, history of thrombocytopenia following prior exposure.
Caution:	Concerns related to adverse effect (bleeding, renal impairment)
Side effects:	Bleeding is the major drug-related side effect
Dosage:	Usual Adult Dose: Initial (IV): 25 mcg/kg over 3 minutes. Maintenance (IV): 0.15 mcg/kg/min constant infusion for up to 18 hours. Renal Dose Adjustments: CrCl 60 mL/min or less: Following usual bolus dose, initiate constant infusion at 0.075 mcg/kg/min. Liver Dose Adjustments: Data not available

ETHAMSYLATE/ETAMSYLATE (Dicynone®)

P/P:	Dicynone 250mg tab, 20's, Dicynone 250mg/2ml, 4's
Adm:	Tablets should be taken with food
Category:	Haemostatic, antifibrinolytic
Indications:	Prevention and treatment of capillary hemorrhages associated with menorrhagia, hemoptysis, haematuria etc.
Caution:	Pregnancy, breast feeding
Contra-Ind:	Hypersensitivity, Porphyria
Side effects:	Headache, Rashes, Nausea, Transient hypotension with i.v. injection
Dosage:	Oral: Adult: 250-500 mg every 4-6 hours as needed. May also be given via IV/IM inj Parenteral: Child: Low birth-weight neonate: 12.5 mg/kg IM/IV Inj every 4-6 hours.

TINZAPARIN SODIUM (Innohep®)

P/P:	Innohep prefilled syringe 3500 anti-Xa IU/ml*0.35ml*10's Innohep prefilled syringe 4500 anti-Xa IU/ml*0.45ml*10's
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**Innohep prefilled syringe 20000 IU anti-Xa 0.5ml*2's
Innohep prefilled syringe 20000 IU anti-Xa 0.7ml*2's
Innohep prefilled syringe 20000 IU anti-Xa 0.9ml*2's
Innohep prefilled syringe 10000 IU anti-Xa 0.25ml*10's
Innohep vial 10000 anti-Xa IU/ml*2ml*10's**

Category: Anticoagulant

Indications: For prevention of thromboembolic events including deep vein thrombosis, in patients undergoing general and orthopaedic surgery, treatment of deep vein thrombosis, treatment of pulmonary embolism and prevention of coagulation of blood in extra-corporeal circulation, such as hemodialysis.

Caution: Contra-Ind: D/I, Side effects: see Heparin

Dosage: Note: 1 mg of tinzaparin equals 70-120 units of anti-Xa activity
Adults: 50 anti-Xa units/kg to 175 anti-Xa units/kg once daily (maximum: 18,000 anti-Xa units/day).
Infants, Children, and Adolescents: Birth to 2 months: 275 anti-Xa units/kg once daily, 2-12 months: 250 anti-Xa units/kg once daily, 1-5 years: 240 anti-Xa units/kg once daily, 5-10 years: 200 anti-Xa units/kg once daily 10-16 years: 175 anti-Xa units/kg once daily
Dosage adjustment in renal impairment: CrCl \geq 30 mL/minute: No dosage adjustment
CrCl < 30 mL/minute: Use with caution.
Dosage adjustment in hepatic impairment: No dosage adjustment

TRANEXAMIC ACID (Cyklokapron®)

P/P: Cyklokapron 500mg tab, 20's Cyklokapron 500mg/5ml Inj, 10's

Adm: Tablets should be taken with food

Category: Haemostatic, antifibrinolytic

Indications: Prostatectomy and bladder surgery, Menorrhagia Epistaxis, dental extraction, Haematuria, gastrointestinal hemorrhage

Caution: Renal impairment, massive haematuria, pregnancy

Contra-Ind: Thromboembolic disease, severe renal impairment

Side effects: GI: nausea, vomiting, diarrhea, Thromboembolic events, impaired colour vision or other visual disturbances and dizziness

Dosage: Usual Adult Dose: 500mg to 1,300 mg orally three times a day (3,900 mg/day)
I.V dose: 10 mg per kg body weight three to four times daily.
Usual Pediatric Dose: 2 months to 15 years: not FDA approved
Renal Dose Adjustments: Oral: Serum creatinine above 1.4 mg/dL and less than or equal to 2.8 mg/dL: 1300 mg orally two times a day for a maximum of 5 days.
Serum creatinine above 2.8 mg/dL and less than or equal to 5.7 mg/dL: 1300 mg orally once a day for a maximum of 5 days, Serum creatinine above 5.7 mg/dL:

650 mg orally once a day for a maximum of 5 days during menstruation.
Intravenous: Serum creatinine 1.36 to 2.83 mg/dL: 10 mg/kg intravenously twice a day.
Serum creatinine 2.83 to 5.66 mg/dL: 10 mg/kg intravenously once a day.
Serum creatinine greater than 5.66 mg/dL: 5 mg/kg intravenously every 24 hours.
Liver Dose Adjustments: No dose adjustment

TROXERUTIN (Venoruton®)

P/P: **Venoruton 300mg caps, 20's**
Venoruton 40gm gel

Adm: Should be taken with food

Category: Blood flow agent

Indications: Relief of oedema and other symptoms of chronic venous insufficiency, varicose dermatitis, venous ulcers, hemorrhoids, adjunct in diabetic retinopathy

Contra-Ind: Hypersensitivity, pregnancy (1st trimester)

Side effects: GI disturbance, headache, flushing, skin rashes

Dosage: oral: 1 capsule 300 mg 2-3 times a day.
topical: The gel is applied to the affected area in the morning and evening, rubbing gently until completely absorbed. If necessary, gel can be applied under bandages or stockings

VALSARTAN (Diovan, Tabuvan®)

P/P: **Diovan tab, 28's (40mg, 80mg, 160mg, 320mg)**
Tabuvan tab, 30's (80mg, 160mg, 320mg)

Adm: May be taken with or without food.

Category: Angiotensin II receptor antagonist

Indications: Treatment of hypertension; treatment of heart failure; to reduce CV mortality in clinically stable patients with left ventricular failure or dysfunction after MI

Caution: Renal impairment, severe intravascular volume depletion, hepatic impairment, renovascular hypertension, biliary cirrhosis

Contra-Ind: Pregnancy, lactation, biliary obstructive disease, severe hepatic impairment

D/I: Lithium, Digoxin, other anti-hypertensive drugs

Side effects: Back pain; diarrhea; dizziness; headache; indigestion; upper respiratory tract infection; sinus pain.

Dosage: Usual Adult Dose: 20 mg to 160 mg twice a day.
Usual Pediatric Dose: 6 to 16 years: 1.3 mg/kg up to 2.7 mg/kg) once a day.
Renal Dose Adjustments: CrCl less than 30 mL/min: not recommended.

Liver Dose Adjustments Mild to moderate liver disease: No dosage adjustment recommended, severe liver disease: Data unavailable.

VALSARTAN+AMLODIPINE (Exforge, Lotevan®)

P/P: Exforge 5mg/160mg F.C tab, 28's, Exforge 10mg/160mg F.C tab, 28's
Lotevan 5mg/160mg F.C tab, 30's, Lotevan 10mg/160mg F.C tab, 30's

Adm: May be taken with or w/o food

Category: Angitensin II receptor antagonist, calcium channel blocker combination

Indications: Treatment of hypertension

Caution: Contra-Ind: D/I, Side effects: see Valsartan and Amlodipine

Dosage: Usual Adult Dose: Amlodipine 5 to 10 mg-Valsartan 160 to 320 mg orally once a day.
Renal Dose Adjustments: Mild to moderate renal dysfunction (CrCl 30 to 90 mL/min): No adjustment recommended, Severe renal dysfunction (CrCl less than 30 mL/min): Data not available.
Liver Dose Adjustments: not recommended

VALSARTAN+AMLODIPINE+HYDROCHLOROTHIAZIDE (Exforge HCT®)

P/P: Exforge HCT 5/160/12.5 MG F.C tab, 28's, Exforge HCT 5/160/25 MG F.C tab, 28's,
Exforge HCT 10/160/12.5 MG F.C tab, 28's, Exforge HCT 10/160/25 MG F.C tab, 28's,
Exforge HCT 10/320/25 MG F.C tab,

Adm: May be taken with or w/o food

Category: Angitensin II receptor antagonist, calcium channel blocker combination

Indications: Treatment of hypertension

Caution: Contra-Ind: D/I, Side effects: see Valsartan and Amlodipine

Dosage: Usual Adult Dose: 1 tablet orally once a day Maximum dose:
Amlodipine/hydrochlorothiazide/valsartan 10 mg/25 mg/320 mg orally once a day
Renal Dose Adjustments: CrCl 30 mL/min or less: Not recommended
CrCl 30 mL/min or more: No adjustment recommended
Liver Dose Adjustments: Amlodipine/hydrochlorothiazide/valsartan: Not recommended.

VALSARTAN+HYDROCHLOROTHIAZIDE (Co-Diovan, Co-Tabuvan®)

P/P: Co Diovan 80/12.5mg tab, 28's, Co Diovan 160/12.5mg tab, 28's,
Co Diovan 160/25mg tab, 28's, Co Diovan 320/12.5mg tab, 28's
Co Diovan 320/25mg tab, 28's
~~Co Tabuvan 80/12.5 mg tab, 30's, Co Tabuvan 160/12.5 mg tab, 30's~~

**Co Tabuvan 160/25 mg tab, 30's, Co Tabuvan 320/12.5 mg tab, 30's
Co Tabuvan 320/25 mg tab, 30's**

Adm: May be taken with or w/o food

Category: Angiotensin II receptor antagonist, thiazide combination

Indications: Treatment of hypertension

Caution: Contra-Ind: D/I, Side effects: see Valsartan and hydrochlorothiazide

Dosage: Usual Adult Dose: 1 tablet (12.5 mg-160 mg) orally once a day up to a maximum of 25 mg-320 mg orally once a day.
Renal Dose Adjustments: CrCl less than 30 mL/min it is not recommended.
Liver Dose Adjustments: caution is recommended

VERAPAMIL (Isoptin®)

P/P: Isoptin tab, 40mg, 50's, Isoptin tab, 80mg, 20's
Isoptin tab retard, 120mg, 20's, Isoptin tab S.R 240mg, 20's
Isoptin 5mg Inj, 5's

Adm: Should be taken with food

Category: Calcium channel blocker, anti anginal, antihypertensive

Indications: Hypertension, prophylaxis of angina, supraventricular arrhythmia

Caution: 1st degree AV block, bradycardia, hypotension, Pregnancy, lactation severe hepatic Impairment

Contra-Ind: Severe left ventricular dysfunction, Hypotension or cardiogenic shock. Sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker). Second- or third-degree AV block (except in patients with a functioning artificial ventricular pacemaker). atrial flutter or atrial fibrillation. known hypersensitivity to verapamil hydrochloride.

DI: Antihypertensives, Rifampicin, Phenobarbitone, Phenytoin, Cyclosporine, Carbamazepine, Theophylline, Quinidine and Digoxin

Side effects: Congestive heart failure, constipation, dizziness, fatigue, fluid retention, headache, low blood pressure, nausea, rash, shortness of breath, slow heartbeat, upper respiratory infection

Dosage: Usual Adult Dose:
Immediate release tablets: 40 mg to 80 mg orally 3 times a day
Sustained release or extended tablets: 120 mg to 240 mg orally once a day
IV: Initial dose: 2.5 to 5 mg If no response in 15 to 30 minutes and no side effects seen: 5 to 10 mg every 15 to 30 minutes to a maximum total dose of 20 mg
Usual Pediatric Dose:
I.V: Less than 1 year: Generally not recommended, 1 to 15 years: 0.1 to 0.3 mg/kg/dose (Usual single dose range: 2 to 5 mg/dose)
Renal Dose Adjustments: IV: In general, multiple doses in patients with renal failure should be avoided. If repeated injections are essential, smaller repeat doses are recommended

Oral: recommend caution when administering this drug to patients with renal dysfunction.
Liver Dose Adjustments: IV: In general, multiple doses in patients with hepatic failure should be avoided. If repeated injections are essential, smaller repeat doses are recommended.
Oral: recommend caution when administering this drug to patients with liver dysfunction. Approximately 30% of the usual dose could be used.

WARFARIN SODIUM (Coumadin, Apo-Warfarin®)

P/P:	Coumadin tab, 100's (2mg, 2.5mg, 5mg, 10mg) Apo-Warfarin tab, 100's (1mg, 2mg, 5mg)
Adm:	Should be taken on empty stomach
Category:	Oral anti-coagulant
Indications:	Prophylaxis and/or treatment of venous thrombosis and its extension, pulmonary embolism, atrial fibrillation with embolization, and as an adjunct in the prophylaxis of systemic embolism after myocardial infarction, including stroke, reinfarction and death, transient cerebral ischemic attacks
Caution:	Recent surgery, hepatic/renal impairment, breast feeding, avoid cranberry juice
Contra-Ind:	Peptic ulcer, severe hypertension, bacterial endocarditis, pregnancy
D/I:	Warfarin can interact with a very wide variety of drugs, both prescription and over-the-counter. Check with your doctor before taking ANY other medication including vitamin products or any herbal remedies and supplements.
Food/I:	Avoid alcohol. Avoid major changes in dietary intake of vit K (green vegetables e.g., broccoli, spinach). Grapefruit juice may increase effect of warfarin
Side effects:	Potentially Life-threatening Adverse Drug Reactions: Hemorrhage (narrow therapeutic index). Others: Necrosis of skin and other tissues, alopecia, urticaria, dermatitis, fever, nausea, diarrhea, abdominal cramping, hypersensitivity reactions.
Dosage:	Usual Adult dos: Initial: 2 to 5 mg orally once a day for 1 to 2 days, then adjust dose according to results of the International Normalized Ratio (INR) or prothrombin time (PT). Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: Cautious use of warfarin in these patients is recommended.

CENTRAL NERVOUS SYSTEM

AGOMELATINE (Valdoxan®)

P/P:	Valdoxan 25 mg tab, 28's
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Adm: May be taken with or without food

Category: Antidepressants

Indications: Treatment of major depressive episodes

Caution: It is not recommended for use in children and adolescents below 18 years of age
Hepatic impairment, renal impairment.

D/I: Other antidepressant, ciprofloxacin, fluvoxamine.

Dosage: The recommended dose is 25 mg once daily taken orally at bedtime.
Pediatric population: No data are available
Renal Dose Adjustments: caution should be exercised
Liver Dose Adjustments: is contraindicated in patients with hepatic impairment

ALPRAZOLAM (Xanax®) (Controlled)

P/P: Xanax 0.25mg tab, 50's, Xanax 0.5mg tab, 50's,
Xanax 1mg tab, 30's

Adm: May be taken with or without food

Category: Anxiolytics

Indications: Short-term treatment of moderate or severe anxiety states & anxiety associated w/
depression.

Caution: Avoid operating vehicles or machinery; abuse-prone individuals; pregnancy; lactation; renal
or hepatic dysfunction

Contra-Ind: Myasthenia gravis, acute narrow angle glaucoma & acute pulmonary insufficiency,
Pregnancy

D/I: Effects enhanced by CNS depressants, alcohol, barbiturates. Cimetidine & macrolides may
delay clearance

Side effects: Drowsiness. Less commonly, lightheadedness, blurred vision, coordination disorders; GI
effects; autonomic effects; dependence, w/drawal syndrome.

Dosage: Usual Adult Dose: 0.25 to 1mg 3 times a day. Maximum dose: 10 mg orally per day
Usual Geriatric Dose: 0.25 to 0.5 mg orally administered 2 or 3 times a day
Renal Dose Adjustments: Impaired renal function: Use with caution
Liver Dose Adjustments: Mild to moderate hepatic impairment: Use with caution
Severe hepatic impairment: 0.25 mg orally administered 2 or 3 times a day

AMANTADINE (PK-Merz®)

P/P: PK-Merz 100 mg tablet.
PK-Merz 0.4mg/ml bottle.

Adm: Should be Administer at bedtime with or without food if tablet.

Category: Anti-parkinson Agent.

Indications: Parkinson disease.

Caution: May cause CNS depression, Risk for melanoma development, IV form cause QTc prolongation.

Contra-Ind: Hypersensitivity to amantadine or any component of the formulation, end-stage renal disease, Severe decompensated heart failure.

D/I: Alcohol, Alizapride, Amisulpride and another Antipsychotic agent.

Side effects: Cardiovascular, Gastrointestinal, dizziness, falling, hallucination.

Dosage: Adult: doses 100mg twice daily.
Pediatric Dose: very limited data available.
Renal insufficiency: Need dose adjustment.
Hepatic insufficiency: dose adjustment not required.

AMISULPRIDE (Solian®)

P/P: Solian 50mg tab, 30's, Solian 200mg tab, 30's, Solian 100mg tab, 30's
Solian 400mg tab, 30's

Adm: Should be taken on an empty stomach

Category: Antipsychotic.

Indications: Schizophrenia

Caution: Renal impairment, Parkinson's disease, CV disease, history of epilepsy, elderly.

Contra-Ind: Pregnancy and lactation, pheochromocytoma, prolactin-dependent tumors. Children <15 yrs.

D/I: Other CNS depressants, alcohol, levodopa

Side effects: Weight gain, dizziness, postural hypotension, extra pyramidal symptoms, neuroleptic malignant syndrome. GI disorders and dry mouth. CNS effects.

Dosage: Adult: oral doses between 400 mg/day and 800 mg/day are recommended. In individual cases, the daily dose may be increased up to 1200 mg/day.
Children: from puberty to the age of 18 years is not recommended, in children up to puberty amisulpride is contraindicated.
Renal insufficiency: the dose should be reduced to half in patients with creatinine clearance (CRCL) between 30-60 ml/min and to a third in patients with CRCL between 10-30 ml/min.
As there is no experience in patients with severe renal impairment (CRCL < 10 ml/min) particular care is recommended in these patients
Hepatic insufficiency: since the drug is weakly metabolised a dosage reduction should not be necessary.

AMITRIPTYLINE HYDROCHLORIDE (Apo-Anitriptyline, Amitriptyline®)

P/P:	Apo-Anitriptyline 10 mg, 100's Apo-Anitriptyline 10 mg, 100's Amitriptyline 10 mg (100's) Amitriptyline 25 mg (100's)
Adm:	May be taken with or without food
Category:	Antidepressants
Indications:	Depression including that accompanied by anxiety, nocturnal enuresis
Caution:	CV diseases, Hyperthyroidism, Hepatic impairment, History of epilepsy, suicidal tendencies. Narrow-angle glaucoma, urinary retention, prostatic hypertrophy, Diabetes, Elderly
Contra-Ind:	Immediate recovery phase after MI, heart block. Mania. Patients receiving MAOIs. Acute CHF.
D/I:	Potentiates sedative effect of alcohol; antiparkinsonian agents and antipsychotic drugs increase risk of anticholinergic effects. Reduced effect of antihypertensive. Marked hyperpyrexia, convulsions, and coma with MAOIs.
Side effects:	Cardiac arrhythmias, Dry mouth, constipation, urinary retention, blurred vision, narrow-angle glaucoma, impotence, drowsiness, dizziness, sweating, weakness, fatigue, orthostatic hypotension, palpitation, tachycardia, cardiac arrhythmia, extra pyramidal symptoms, endocrine effects.
Dosage:	Usual Adult Dose: 75 mg orally per day in divided doses; this may be increased to a total of 150 mg per day if needed. Usual Geriatric Dose: 10 mg orally 3 times a day with 20 mg at bedtime. Usual Pediatric Dose: 12 years or older: 10 mg orally 3 times a day with 20 mg at bedtime. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Hepatic impairment: Use with caution

Aprepitant (Emend®)

P/P:	Emend 125mg Cap, Emend 80mg Cap
Adm:	EMEND is given for 3 days as part of the chemotherapy induced nausea and vomiting (CINV) regimen that includes a corticosteroid and a 5-HT3 antagonist. The recommended dose of EMEND is 125 mg orally 1 hour prior to chemotherapy treatment (Day 1) and 80 mg orally once daily in the morning on Days 2 and 3. EMEND (fosaprepitant dimeglumine) for Injection may be substituted for oral EMEND (125 mg) on Day 1 only as part of the CINV regimen.
Category:	EMEND® is a substance P/neurokinin 1 (NK1) receptor antagonist
Indicated:	in combination with other antiemetic agents for the: prevention of acute and delayed nausea and

vomiting associated with initial and repeat courses of highly emetogenic cancer chemotherapy (HEC) including high-dose cisplatin
prevention of nausea and vomiting associated with initial and repeat courses of moderately emetogenic cancer chemotherapy (MEC)
for the prevention of postoperative nausea and vomiting (PONV)

Caution: Coadministration of Aprepitant with warfarin (a CYP2C9 substrate) may result in a clinically significant decrease in International Normalized Ratio (INR) of prothrombin time. The efficacy of hormonal contraceptives during and for 28 days following the last dose of EMEND may be reduced. Alternative or back-up methods of contraception should be used. EMEND is a dose-dependent inhibitor of CYP3A4, and should be used with caution in patients receiving concomitant medications that are primarily metabolized through CYP3A4. Caution should be exercised when administered in patients with severe hepatic impairment.

Contra-Ind: Hypersensitivity to any component of this medication. EMEND should not be used concurrently with pimozide, terfenadine, astemizole, or cisapride, since inhibition of CYP3A4 by Aprepitant could result in elevated plasma concentrations of these drugs, potentially causing serious or life-threatening reactions.

Side effects: Clinical adverse experiences for the CINV regimen in conjunction with highly and moderately emetogenic chemotherapy (incidence >10% are: alopecia, anorexia, asthenia/fatigue, constipation, diarrhea, headache, hiccups, nausea). Clinical adverse experiences for the PONV regimen (incidence >5%) are: constipation, hypotension, nausea, pruritus, pyrexia.

Dosage: Recommended Dosage for Prevention of Chemotherapy Induced Nausea and Vomiting (CINV)
EMEND capsules in adults and pediatric patients 12 years of age and older: is 125 mg on Day 1 and 80 mg on Days 2 and 3.
Administer EMEND 1 hour prior to chemotherapy on Days 1, 2, and 3. If no chemotherapy is given on Days 2 and 3, administer EMEND in morning.

ARIPIPRAZOLE (Abilify®) (Restricted)

P/P: Abilify 15mg tab, 30's
Adm: May be taken with or without food.
Category: Antipsychotic
Indications: Treatment of schizophrenia, acute & mixed episodes associated w/ bipolar disorder. Maintenance therapy for bipolar I disorder.

Caution: Reduce or discontinue dose if signs or symptoms of tardive dyskinesia, neuroleptic malignant syndrome appear. History of seizure. Pregnancy & lactation. May impair ability to drive or operate machinery.

Contra-Ind: Known hypersensitivity to the product. Lactation.

D/I: Alcohol, antihypertensive agents, ketoconazole, quinidine, carbamazepine

Food/I: Ingestion with a high-fat meal delays time to peak plasma level.

Side effects: Headache, nausea, vomiting, constipation, anxiety, insomnia, lightheadedness, somnolence, akathisia.

Dosage: Usual Adult Dose: 10 to 15 mg per day, Maximum Dose: 30 mg per day.
Usual Pediatric Dose: 10 mg orally once a day, Maximum Dose: 15 mg orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: No adjustment recommended

ASPIRIN (ACETYLSALICYLIC ACID) (Aspirin®)

P/P: Aspirin 75 mg, 81 mg, 100 mg tab, 30's

Adm: Should be taken after food

Category: Analgesics & Antipyretics

Indications: headache, rheumatism, muscular pains, toothache, neuralgia, periodic pains & reduces fever & discomfort in colds & flu.

Caution: Renal disorders, G6PD deficiency. Pregnant women close to delivery, patients' w/ flu, chickenpox or hemorrhagic fever, GI ulceration or asthma. Onset of persistent vomiting may be a sign of Reye's syndrome

Contra-Ind: Hypersensitivity to aspirin or NSAIDs. Gastric & duodenal ulcers. Hemorrhagic diathesis. Children <16 yr.

D/I: Anticoagulants, corticosteroids, antirheumatics, sulfonylureas, methotrexate, spironolactone, furosemide, antigout agents.

Side effects: Gastric hemorrhage, hypersensitivity, thrombocytopenia

Dosage: Usual Adult Dose :12 year or older: 325 to 650 mg every 4 hours as needed, not to exceed 4 g/day.
Usual Pediatric Dose: 2 to 11 years: 10 to 15 mg/kg every 4 to 6 hours as needed, not to exceed 4 g/day.
Renal Dose Adjustments: Aspirin should be used with caution in chronic renal insufficiency, The use of aspirin in patients with severe renal impairment (CrCl less than 10 mL/minute) is not recommended
Liver Dose Adjustments: it is not recommended

ASPIRIN+ASCORBIC ACID (Aspirin plus C®)

P/P: Aspirin plus C effervescent tab, 10's (Acetylsalicylic acid 400mg+Ascorbic acid 240mg)

Adm: Should be taken after food

Category: Analgesics & Antipyretics

Indications: Headache, rheumatism, muscular pains, toothache, neuralgia, periodic pains & reduces fever & discomfort in colds & flu.

Caution: Renal disorders, G6PD deficiency. Pregnant women close to delivery, patients' w/ flu, chickenpox or hemorrhagic fever, GI ulceration or asthma. Onset of persistent vomiting may be a sign of Reye's syndrome

Contra-Ind: Hypersensitivity to aspirin or NSAIDs. Gastric & duodenal ulcers. Hemorrhagic diathesis. Children <16 yr.

D/I: Anticoagulants, corticosteroids, antirheumatics, sulfonylureas, methotrexate, spironolactone, furosemide, antigout agents.

Side effects: Gastric hemorrhage, hypersensitivity, thrombocytopenia

Dosage: usually: 1 effervescent tab three times daily.
Renal Dose Adjustments: Aspirin should be used with caution in chronic renal insufficiency, The use of aspirin in patients with severe renal impairment (CrCl less than 10 mL/minute) is not recommended. For ascorbic acid Data not available
Liver Dose Adjustments: aspirin is not recommended, for ascorbic acid Data not available

Atomoxetine (Strattera®)

P/P: Strattera 10, 18, and 25 mg cap, Axepta 10, 18, 25, 40, and 60 mg cap

Category: selective norepinephrine reuptake inhibitor

Indications: selective norepinephrine reuptake inhibitor indicated for the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD).

Caution: Suicidal Ideation – Monitor for suicidality, clinical worsening, and unusual changes in behavior. Severe Liver Injury – Should be discontinued and not restarted in patients with jaundice or laboratory evidence of liver injury.
Serious Cardiovascular Events – Sudden death, stroke and myocardial infarction have been reported in association with atomoxetine treatment. Patients should have a careful history and physical exam to assess for presence of cardiovascular disease. STRATTERA generally should not be used in children or adolescents with known serious structural cardiac abnormalities, cardiomyopathy, serious heart rhythm abnormalities, or other serious cardiac problems that may place them at increased vulnerability to its noradrenergic effects. Consideration should be given

- Contra-Ind:** Hypersensitivity to atomoxetine or other constituents of product.
 STRATTERA use within 2 weeks after discontinuing MAOI or other drugs that affect brain monoamine concentrations.
 Narrow Angle Glaucoma.
 Pheochromocytoma or history of pheochromocytoma
- Side effects:** Most common adverse reactions ($\geq 5\%$ and at least twice the incidence of placebo patients)
 Child and Adolescent Clinical Trials – Nausea, vomiting, fatigue, decreased appetite, abdominal pain, and somnolence.
 Adult Clinical Trials – Constipation, dry mouth, nausea, fatigue, decreased appetite, insomnia, erectile dysfunction, urinary hesitation and/or urinary retention and/or dysuria, dysmenorrhea, and hot flush.

Dosage:

Body weight	Initial Daily Dose	Target Total Daily Dose	Maximum Total Daily Dose
Children and adolescents up to 70 kg	0.5 mg/kg	1.2 mg/kg	1.4 mg/kg
Children and adolescents over 70 kg and adults	40 mg	80 mg	100 mg

Benserazide and Levodopa (MADOPAR®)

P/P: **250 MG TAB**

Adm: High-protein diets may decrease effect of levodopa

Category: Anti-parkinsonism

Indications: Parkinson Disease AND Restless Legs Syndrome

Caution: CNS effects: falling asleep
 Hypersensitivity

Contra-Ind: Hypersensitivity to benserazide, levodopa, or any component of the formulation; use with or within 14 days of MAO inhibitors; when administration of a sympathomimetic amine (eg, epinephrine, norepinephrine, isoproterenol) is contraindicated; clinical or laboratory evidence of decompensated cardiovascular, endocrine, renal, hepatic, hematologic, or pulmonary disease; psychiatric diseases with a psychotic component; angle-closure glaucoma; patients < 25 years of age; pregnancy or use in women of childbearing potential without adequate contraception

Side effects: $> 10\%$: Nervous system: Involuntary body movements ($\geq 30\%$; including athetosis, choreiform movements, dystonia), psychiatric disturbance (20%; including dementia, depression [including depression with suicidal tendencies], paranoid ideation, psychotic reaction)

Cardiovascular: Angina pectoris, cardiac arrhythmias, ECG changes (nonspecific), edema, flushing, hypertension, orthostatic hypotension, phlebitis

Dermatological: Alopecia, dark sweat, diaphoresis, pallor, pruritus, skin rash

Endocrine & metabolic: Change in libido (including increased libido with serious antisocial behavior), increased lactate dehydrogenase, increased protein-bound iodine, increased uric acid, weight changes

Gastrointestinal: Abdominal distress, abdominal pain, ageusia, anorexia, bitter taste, bruxism, constipation, diarrhea, discoloration of saliva, duodenal ulcer, dysphagia, epigastric discomfort, epigastric pain, eructation, flatulence, gastrointestinal hemorrhage, hiccups, nausea, oral mucosa changes (discoloration and staining), sialorrhea, staining of tooth, tongue discoloration, vomiting, xerostomia

Genitourinary: Hematuria, nocturia, urinary frequency, urinary incontinence, urinary retention, urine discoloration (including dark urine)

Dosage:

Parkinson disease

Initiation: Benserazide 25 mg/levodopa 100 mg once or twice daily; increase dose by benserazide 25 mg/levodopa 100 mg every 3 to 4 days or slower (eg, weekly) if problems with tolerance until adequate therapeutic effect without dyskinesias; reduce frequency of dosage adjustments to every 2 to 4 weeks as upper limits of dosing range is approached.

Usual maintenance dosage: Benserazide 100 mg/levodopa 400 mg to benserazide 200 mg/levodopa 800 mg daily given in 4 to 6 divided doses; after maintenance dose of benserazide/levodopa is established, slowly decrease dose of levodopa by 50 mg per month over a few months until a maintenance dose without dyskinesias is achieved.

Maximum: Total daily dose of levodopa during the first year of therapy should not exceed 1,000 mg to 1,200 mg/day. Following first year, the maximum recommended daily dose of levodopa is 600 mg/day.

Restless legs syndrome, intermittent

Initial: Benserazide 25 mg/levodopa 100 mg as needed before bedtime; may increase to benserazide 50 mg/levodopa 200 mg based on response and tolerability. Maximum: Levodopa 200 mg/day.

Benztropine (Benztropine®)

P/P: **Benztropine mesylate 2 mg tab**

Adm: Administer with or without food.

Category: Anticholinergic

Indications: as adjunctive therapy for all forms of Parkinsonism.
It is also useful for drug-induced extrapyramidal symptoms, the prevention of dystonic reactions, and acute treatment of dystonic reactions.

Caution: Anhidrosis/hyperthermia
Anticholinergic effects: constipation, xerostomia, blurred vision, urinary retention
CNS effects

Contra Ind: Hypersensitivity to benzotropine mesylate or any component of the formulation.

Children <3 years of age (due to atropine-like adverse effects including severe anhidrosis and fatal hyperthermia) and should be used cautiously in older children.

Side effects: Fever, Rash, General weakness, lethargy, and insomnia Nausea and vomiting

Headache and drowsiness, Insomnia, Paresthesia, Xerostomia, Mydriasis

Dosage: Parkinsonism

Idiopathic Parkinsonism: Initial: 0.5 to 1 mg/day as a single dose at bedtime or in 2 to 4 divided doses. Titrate in 0.5 mg increments every 5 to 6 days based on response and tolerability. Usual dose: 1 to 2 mg/day (range: 0.5 to 6 mg/day) although some patients may need 4 to 6 mg/day; maximum: 6 mg/day.

Postencephalitic Parkinsonism: Initial: 2 mg/day as a single dose at bedtime or in 2 to 4 divided doses; a lower initial dose of 0.5 mg at bedtime may be considered in highly sensitive patients. Titrate in 0.5 mg increments every 5 to 6 days based on response and tolerability. Usual dose: 1 to 2 mg/day (range: 0.5 to 6 mg/day); maximum: 6 mg/day.

Drug-induced extrapyramidal symptoms (eg, dystonia, parkinsonism):

Note: Diphenhydramine is not recommended for the management of akathisia

Acute treatment: IM, IV, Oral: Note: Parenteral administration is preferred for initial treatment of severe acute symptoms. Once severe symptoms have resolved, transition to oral treatment. Duration of therapy and prophylactic use should be based on severity of extrapyramidal symptoms (EPS) reaction, pharmacologic profile of the causative agent (eg, half-life, adverse effects), and patient risk factors Some experts recommend attempting taper and discontinuation after several weeks to months

General dosing recommendations: Initial: IM, IV, Oral: 1 to 2 mg 2 to 3 times daily; adjust dose based on response and tolerability in 0.5 mg increments at intervals >5 days up to a maximum daily dose of 6 mg.

Dystonic reactions:

Initial dose: IM, IV, Oral: 1 to 2 mg once.

Subsequent doses: Oral: 1 to 2 mg 1 to 2 times daily.

BETAHISTINE DIHYDROCHLORIDE (Betaserc, Betagen, Bertigo®)

P/P: **Betaserc 8mg tab,100's, Betaserc 16mg tab,40's, Betaserc 24mg tab,50's
Bertigo 8 mg tab 30's, Bertigo 16 mg tab 30's, Bertigo 24 mg tab 30's
Betagen 8mg tab, 50's, Betagen 16mg tab, 30's**

Adm: Should be taken with food

Category: Antiemetics & Antivertigo Drugs

Indications: Reduction of symptoms of vertigo in Meniere's disease

Caution: Active peptic ulcer, bronchial asthma, pregnancy, and lactation.

Contra-Ind: Hypersensitivity. Phaeochromocytoma; Children.

D/I: **May antagonize antihistamines. May decrease bronchodilator effects of beta-2 agonists.**

- Side effects: Rash, pruritus, urticaria, dyspepsia, nausea, peptic ulcer disease, headache, dizziness, insomnia
- Dosage: Adults, including the elderly: Initially 16 mg three times daily, taken preferably with meals. Maintenance doses are generally in the range 24 to 48 mg daily. Dosage should be altered according to clinical response.
Children: No dosage recommendations are made for children.

BROMAZEPAM (Lexotanil®) (Controlled)

- P/P: Lexotanil 1.5mg tab, 30's
Lexotanil 3.0mg tab, 30's
Lexotanil 6.0mg tab, 30's
- Adm: May be taken with or without food
- Category: Anxiolytics
- Indications: Acute tension & anxiety, agitation, insomnia, anxious agitated depressive reactions.
Psychosomatic disorders, adjuvant in psychoneurosis.
- Caution: Elderly & debilitated patients. May impair ability to drive or operate machinery.
- Contra-Ind: Myasthenia gravis.
- D/I: Neuroleptics, tranquilizers, antidepressants, hypnotics, analgesics, anesthetics, alcohol
- Side effects: Fatigue, drowsiness & rarely muscle weakness.

Dosage: Adults: The usual dosage in general practice is from 3 mg to 18 mg daily in divided doses.
Children: it should not be used in children less than 12 years of age.

Elderly and/or debilitated patients: doses should not exceed half those normally recommended
Patients with impaired hepatic and/or renal function; require lower doses because of individual variations in sensitivity and pharmacokinetics.

BUPROPION (Wellbutrin®)

- P/P: Wellbutrin 150 mg tab, 30's
Wellbutrin 300 mg tab, 30's
- Category: Antidepressants
- Adm: May be taken with or without food.
- Indications: Treatment of major depressive disorder
- Caution: May increase the risk of suicidal thinking
- Side effects: Tachycardia, Headache, insomnia, dizziness, Palpitation, arrhythmias

Dosage: Usual Adult Dose: Initial dose: 150 mg orally once a day in the morning, increase if necessary after 4 days to 300 mg orally once a day. Maintenance dose: 300 mg orally once a day, Maximum dose: 450 mg orally once a day

Renal Dose Adjustments: Renal impairment (GFR less than 90 mL/min): Consider reducing the dose and/or frequency.

Liver Dose Adjustments: Consider reducing the dose and/or frequency of dosing, in Severe liver dysfunction (Child-Pugh score 7 to 15): 150 mg orally every other day.

CARBAMAZEPINE (Tegretol®)

P/P: Tegretol 100mg chewable tab, 50's
Tegretol 200mg tab, 50's
Tegretol CR 200mg tab, 50's
Tegretol CR 400mg tab, 30's
Tegretol 20mg/ml, 100ml syrup

Adm: Should be taken with food (Avoid grapefruit juice.).

Category: Anticonvulsants

Indications: Epilepsy. Mania. Prophylaxis in manic-depressive disorder; Alcohol w/withdrawal syndrome; Trigeminal neuralgia; Diabetic neuropathy; Diabetes Insipidus

Caution: Pregnancy, lactation. Initial & periodic complete blood counts, liver function tests & urine analysis.

Contra-Ind: AV block. Concomitant use of MAOIs. History of bone marrow depression or acute intermittent porphyria.

D/I: Neurotoxic reactions when combined with lithium. doxycycline, anticoagulants, Oral contraceptive pills, phenytoin, phenobarbital.

Side effects: Frequently dizziness, ataxia, mild allergic skin reactions, mild leucopenia.

Dosage: Usual Adult Dose: 800 to 1200 mg/day.
Usual Pediatric: Less than 6 years of age 10 to 20 mg/kg/day orally in 2 to 3 divided doses (tablets) or 4 divided doses (suspension). 6 to 12 years of age: 400 to 800 mg per day.
Greater than 12 years of age: 800 to 1200 mg per day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CARIPRAZINE (Reagila®)

P/P: Reagila, 1.5MG, 3MG, 4.5MG, 6MG hard capsule

Category:	Second Generation (Atypical) Antipsychotic
Indications:	Bipolar disorder, Schizophrenia.
Caution:	Suicidal thoughts and behaviors.
Contra-Ind:	Hypersensitivity (rash, pruritus, urticaria, angioedema) to cariprazine or any component of the formulation.
Special Population:	Pregnancy: Use is not recommended. Breast- feeding: Risk –Benefit Ratio as Safety has not been established
D/I:	CYP3A4 Inducers, CYP3A4 Inhibitors, Cabergoline, Conivaptan, Cabergoline.
Side effects:	Sever adverse effects: Blood dyscrasias: Discontinue therapy at first signs of blood dyscrasias or if absolute neutrophil count <1,000/mm3. Common adverse effects: Weight gain, Constipation, diarrhea, stomach pain, throwing up, or feeling less hungry, Tooth pain, Headache, feeling dizzy, sleepy, tired, or weak, Trouble sleeping, Restlessness, Anxiety.
Dosage:	Bipolar disorder: Acute manic or mixed episodes: Initial: 1.5 mg once daily up to 12 mg/day Bipolar major depression: Initial: 1.5 mg once daily up to 3 mg/day Major depressive disorder, unipolar, augmentation of antidepressant (off-label use): Initial: 0.5 mg/day up to 4.5 mg/day Schizophrenia: Initial: 1.5 mg once daily up to 9 mg/day

Renal insufficiency:

Mild to moderate renal dysfunction (CrCl 30 mL/min or greater): No adjustment recommended.

Severe renal dysfunction (CrCl less than 30 mL/min): Not recommended.

Dosing in hemodialysis patients: Use not recommended

Hepatic dysfunction:

Mild to moderate liver dysfunction (Child-Pugh score 5 to 9): No adjustment recommended.

Severe liver dysfunction (Child-Pugh score 10 to 15): Not recommended.

CHLORAL HYDRATE (Chloral hydrate®) (Restricted)

P/P:	Chloral hydrate
Adm:	Chloral Hydrate may be taken with or without food.
Category:	Hypnotics & Sedatives
Indications:	Insomnia, Sedation & Premedication in surgery
Caution:	May impair ability to drive and operate machinery. Respiratory disease. Avoid contact with skin. History of Alcohol and drug abuse
Contra-Ind:	Hepatic or renal impairment, cardiac disease, hypersensitivity, porphyria, esophagitis, gastritis. Pregnancy and lactation.

D/I: Additive CNS depression with other CNS depressants such as paraldehyde, barbiturates.

Side effects: Gastric irritation, abdominal distention and flatulence, vertigo, ataxia, staggering gait, rashes, malaise, lightheadedness, headache, ketonuria, excitement, nightmares, delirium

Dosage: Usual Adult Dose: 500 mg to 1 g 30 minutes before bedtime or surgery.
Usual Pediatric dose: 25 to 50 mg/kg/day divided every 6 to 8 hours.
Renal Dose Adjustments it is contraindicated for use in patients with a creatinine clearance below 50 mL/min.
Liver Dose Adjustments: Contraindicated for use in patients with liver dysfunction.

CHLORPROMAZINE HYDROCHLORIDE (Largactil®)

P/P: **Largactil 25mg Inj, 5's**

Category: Antipsychotic

Indications: Relief of acute symptoms of Schizophrenia & other psychoses, mania & hypomania; anxiety, psychomotor agitation, excitement, violent or dangerously impulsive behavior. Intractable hiccup. Nausea & vomiting due to terminal disease. Induction of hypothermia (to prevent shivering)

Caution: Liver or renal dysfunction, epilepsy. Parkinson's disease, hypothyroidism, cardiac failure, pheochromocytoma, myasthenia gravis, prostate hypertrophy. History of narrow angle glaucoma.

Contra-Ind: Pregnancy, lactation.

D/I: CNS depressant actions intensified by alcohol, barbiturates, & other sedatives. Enhanced hypotensive effect of α-adrenoceptor blocking agents.

Side effects: Dyskinesia, dystonia, tremor, postural hypotension, xerostomia, insomnia, blocked nose, agitation, and cardiac arrhythmias#

Dosage: Adults and children older than 12 y: IM 25 to 50 mg 3 to 4 times daily
Children 6 month to 12 years of age: IM 0.55 mg/kg every 6 to 8 h as needed.
Elderly/Debilitated/Emaciated Patients: Lower initial doses and more gradual adjustments are recommended
Renal Function: Use with caution.
Hepatic Function: Use with caution

CloBAZam (Tapclo®)

P/P: **Tapclo 10mg/5ml Oral Suspension, Tapclo 5mg/5ml Oral Suspension**

Adm: Can be taken with or without food

Category: benzodiazepine

Indications:	indicated for adjunctive treatment of seizures associated with Lennox-Gastaut syndrome (LGS) in patients 2 years of age or older
Caution:	Somnolence or Sedation: Monitor for central nervous system (CNS) depression. Risk may be increased with concomitant use of other CNS depressants
	Withdrawal: Symptoms may occur with rapid dose reduction or discontinuation. Discontinue gradually
	Serious Dermatological Reactions (including Stevens-Johnson syndrome and toxic epidermal necrolysis): Discontinue ONFI at first sign of rash unless the rash is clearly not drug-related
	Physical and Psychological Dependence: Monitor patients with a history of substance abuse for signs of habituation and dependence Suicidal Behavior and Ideation: Monitor for suicidal thoughts or behaviors
Contra-Ind:	History of hypersensitivity to the drug or its ingredients
Side effects:	Adverse reactions that occurred at least 10% included constipation, somnolence or sedation, pyrexia, lethargy, and drooling
Dosage:	For doses above 5 mg/day administer in two divided doses Patients ≤30 kg body weight: Initiate at 5 mg daily and titrate as tolerated up to 20 mg daily Patients >30 kg body weight: Initiate at 10 mg daily and titrate as tolerated up to 40 mg daily Dosage adjustment needed in following groups: Geriatric patients Known CYP2C19 poor metabolizers Mild or moderate hepatic impairment; no information for severe hepatic impairment Reduce dose, or discontinue drug gradually Measure prescribed amount of oral suspension using provided adapter and dosing syringe.

CITALOPRAM (Cipram, Lopra, Lecital, Citalogen®)

P/P:	Cipram 20mg tab, 28's Lopra 20mg tab, 30's, Citapram 20 mg tab 30"s Citalogen 10mg F.C tab, 30's; Citalogen 20mg F.C tab, 30's Citalogen 40mg F.C tab, 30's Lecital 20 mg tab, 20" s
Adm:	May be taken with or without food.
Category:	Antidepressants
Indications:	Treatment of depression & prevention of relapse. Panic disorder w/ or w/o agoraphobia.
Caution:	Should not be given to patients on MAOIs, or for 14 days after discontinuation. Pregnancy, lactation, mania.

Contra-Ind: Hypersensitivity, concomitant administration with MAOIs; children and adolescents <18 yrs; treatment of depressive illness; lactation

D/I: MAOIs, sumatriptan

Side effects: Dry mouth, nausea, increased sweating, & tremor.

Dosage: Usual Adult Dose: 20 to 40 mg orally once a day.
Usual Geriatric Dose: Over 60 years of age: 20 mg orally once a day.
Renal Dose Adjustments: Mild to Moderate Renal Dysfunction: No adjustment recommended, Severe Renal Dysfunction: Use with caution
Liver Dose Adjustments: Liver dysfunction: Recommended dose: 20 mg orally once a day.

CLOMIPRAMINE HYDROCHLORIDE (Anafranil®)

P/P: Anafranil 10mg tab, 30's, Anafranil 25mg tab, 30's

Adm: Should be taken with food

Category: Antidepressants

Indications: Depression of varying etiology; obsessive-compulsive syndromes & phobias, adjunctive treatment of cataplexy associated with narcolepsy

Caution: Cardiovascular insufficiency; narrow-angle glaucoma; urinary retention; history of epilepsy; renal or hepatic dysfunction; electroconvulsive therapy; hypotension; hyperthyroidism or concomitant treatment with thyroid preparations; suicidal tendencies; surgery; pregnancy and lactation

Contra-Ind: Hypersensitivity. Concomitant use of MAOIs; recovery phase following MI, heart block or other arrhythmias; mania; children.

D/I: MAO inhibitors, Barbiturates increase metabolism of tricyclic antidepressants; conversely cimetidine, guanethidine, haloperidol, and phenothiazines block the tricyclic metabolism.

Side effects: Drowsiness, fatigue, restlessness, tremor, myoclonus, increased appetite, dry mouth, sweating, constipation, disturbances of micturition, visual disturbances, dizziness, headache, nausea, wt gain, and libido disturbance.

Dosage: Adults dose: 25 mg/day; gradually increase dose to 100 mg/day during first 2 wk. then may be gradually increased to max of 250 mg/day.
Children 10 yr of age and younger dose: 25 mg/day; gradually increase dose to 3 mg/kg/day or 100 mg/day (whichever is less) during first 2 wk; then slowly increase dose to max 3 mg/kg/day or 200 mg/day.

CLONAZEPAM (Rivotril®) (Controlled)

P/P: Rivotril 0.5mg tab, 50's, Rivotril 2mg tab, 30's
Rivotril drops 2.5mg/ml, 10ml

Adm: May be taken with or without food.

Category: Anticonvulsants

Indications: Epilepsy in infant & children especially typical & atypical absences, nodding spasms, generalized tonic-clonic seizures. Status epilepticus. Epilepsy of adult & in focal seizures.

Caution: Abrupt withdrawal, simultaneous administration of other antiepileptic may modify patient's reaction, drinking alcohol. Dependence. Infants & children, history of depression &/or suicide.

Contra-Ind: Neonates, respiratory insufficiency, hypersensitivity.

D/I: Use of multiple anticonvulsants, liver enzyme inducers, carbamazepine

Side effects: Drowsiness, fatigue, muscular hypotonia, coordination disturbances, dizziness, vertigo, anorexia, visual disturbances, loss of libido.

Dosage: Usual Adult Dose: 1mg to 1.5 mg per day divided into 3 doses.
Usual Pediatric Dose: Up to 10 years of age or 30 kg of body weight:
0.01 mg/kg/day to 0.05 mg/kg/day orally administered in 2 or 3 divided doses
10 years or older or 30 kg and over: See adult dosing
Renal Dose Adjustments: Impaired renal function: Use with caution
Liver Dose Adjustments: Impaired hepatic function: Use with caution

CLOZAPINE (Leponex®) (Controlled)

P/P: Leponex tab (25 mg 50's, 100 mg 50's)

Category: Antipsychotic

Adm: May be taken with or without food at bedtime.

Indications: Treatment of schizophrenia.

Caution: Bone marrow disorder, hypotension

Contra-Ind: History of agranulocytosis, uncontrolled epilepsy, severe renal or cardiac disease.

Side effects: Fatigue, sedation, dizziness, dry mouth, blurred vision, tachycardia, nausea, vomiting

Dosage: Usual Adult Dose: Initial dose: 12.5 mg orally once or twice a day. May increase total daily dose in increments of 25 mg to 50 mg per day to a target dose of 300 mg to 450 mg per day (administered in divided doses) by the end of week 2. Subsequent dose increases can be in increments of up to 100 mg once or twice weekly.
Maximum dose: 900 mg per day

Renal Dose Adjustments: Use with caution; dose reduction may be necessary in patients with significant renal impairment
Liver Dose Adjustments Use with caution; dose reduction may be necessary in patients with significant hepatic impairment.

Carbidopa + Levodopa (Sinemet®) (Restricted)

P/P:	Sinemet 275mg tab (levodopa 250mg, carbidopa 25mg), 100's Sinemet plus tab (levodopa 100mg, carbidopa 25mg), 100's
Adm:	Should be taken on an empty stomach (Take on an empty stomach if possible. If GI distress occurs, take w/ food. (L-dopa absorption may be impaired in patients on a high protein diet.)
Category:	Antiparkinsonian Drugs
Indications:	Treatment of Parkinson's disease & syndrome.
Caution:	CV diseases including history of MI or arrhythmias or pulmonary disease, bronchial asthma, renal, hepatic or endocrine disease, history of psychoses or convulsions, wide-angle glaucoma. History of active peptic ulcer. Patients on high protein diet. Children <18 yr, pregnancy, lactation.
Contra-Ind:	Narrow-angle glaucoma. Undiagnosed skin lesions or history of melanoma.
D/I:	Discontinue MAOIs 2 wk prior to therapy w/ Sinemet (except low doses of selective MAO-B inhibitors), tricyclic antidepressants, antihypertensives, phenothiazines, butyrophenones, phenytoin, and papaverine.
Side effects:	Dyskinesia including choreiform, dystonic & other involuntary movements. Mental changes including paranoid ideation & psychotic episodes; depression w/ or w/o development of suicidal tendencies; dementia & GI disturbances.
Dosage:	1-2 tablet three to four times a day. Use in children: is not recommended CO-CARELDOPA should be administered cautiously to patients with severe, renal, hepatic disease.

DALFAMPRIDINE (Fampyra®)

P/P:	Fampyra 10 mg tab.
Adm:	Take with or without food. Administer tablets whole; do not divide, crush, chew, or dissolve
Category:	Potassium Channel Blocker
Indications:	is a potassium channel blocker indicated to improve walking in adult patients with multiple sclerosis (MS). This was demonstrated by an increase in walking speed

Caution:	FAMPYRA can cause seizures; the risk of seizures increases with increasing FAMPYRA doses; discontinue FAMPYRA and do not restart if a seizure occurs Avoid concomitant use with other forms of 4-aminopyridine (4-AP, fampridine), since the active ingredient is the same FAMPYRA can cause anaphylaxis. Discontinue and do not restart FAMPYRA if this occurs
Contra-Ind:	History of seizure Moderate or severe renal impairment ($\text{CrCl} \leq 50 \text{ mL/min}$) (4) History of hypersensitivity to FAMPYRA.
Side effects:	The most common adverse events (incidence $\geq 2\%$ and at a rate greater than the placebo rate) for FAMPYRA were urinary tract infection, insomnia, dizziness, headache, nausea, asthenia, back pain, balance disorder, multiple sclerosis relapse, paresthesia, nasopharyngitis, constipation, dyspepsia, and pharyngolaryngeal pain
Dosage:	The maximum recommended dosage is 10 mg twice daily (approximately 12 hours apart). There is no evidence of additional benefit with doses greater than 10 mg twice daily. Adverse reactions, including seizures, were more frequent at higher doses.

Desvenlafaxine (Davlex®)

P/P:	Davlex 50mg F.C Tab 30"S , Pristiq 50mg Tab 28"S
Adm:	Administer at approximately the same time each day with or without food. Swallow tablet whole; do not crush, chew, divide, or dissolve <u>Bariatric surgery:</u> If deemed too large to swallow whole, consider converting to venlafaxine XR capsule since that capsule can be opened and sprinkled onto soft food of choice.
Category:	Antidepressant, Serotonin/Norepinephrine Reuptake Inhibitor
Indications:	Treatment of major depressive disorder, treatment of vasomotor symptoms (e.g. hot flashes) in postmenopausal patients(off-label use)
Caution:	May cause CNS depression, which may impair physical or mental abilities Use caution in patients with preexisting hypertension, cerebrovascular disease, hepatic cirrhosis, renal impairment and seizure disorders
Contra-Ind:	use of MAO inhibitors intended to treat psychiatric disorders (concurrently or within 14 days of discontinuing the MAO inhibitor); initiation of MAO inhibitor intended to treat psychiatric disorders within 7 days of discontinuing desvenlafaxine; initiation of desvenlafaxine in a patient receiving linezolid or intravenous methylene blue
Side effects:	Activation of mania or hypomania, Bleeding risk, blood pressure elevation, Fragility fracture, Hyponatremia, Pulmonary toxicities, serotonin syndrome, sexual dysfunction,

suicidal thinking, Withdrawal syndrome (dizziness, chills, light-headedness, vertigo, shock-like sensations, paresthesia, fatigue, headache, nausea, tremor).

Dosage:
Initial: Major depressive disorder
50 mg once daily. In patients who do not respond after 6 weeks (or 7 days in clinically urgent situations), may increase to 100 mg once daily
Vasomotor symptoms associated with menopause
50 mg once daily; increase daily dose in 25 to 50 mg increments every day to target dose of 100 mg once daily. Some patients may require doses up to 150 mg/day

DIAZEPAM (Valium®) (Controlled)

P/P: Valium 2mg tab, 30's, Valium 5mg tab, 25's
Valium 10mg/2ml Inj, 10's

Adm: Oral prep may be taken with or without food

Category: Anxiolytics / Anticonvulsants

Indications: Anxiety related to insomnia. Muscle relaxant for treatment of alcohol withdrawal & relief of epileptic seizures. To sedate patients undergoing certain uncomfortable medical procedures.

Caution: Pregnancy & lactation. Severe respiratory diseases. Impaired kidney or liver function.
Prolonged use

Contra-Ind: Acute close-angle glaucoma. Elderly or debilitated patients' w/ arteriosclerosis & renal, hepatic, or respiratory dysfunction

D/I: Alcohol, antidepressants, antihistamines, antipsychotic, general anesthetic, other hypnotics & sedatives, opioid analgesics enhance sedation, respiratory & CV depression.

Food/I: Grape juice may increase serum levels and toxicity.

Side effects: Drowsiness, confusional state in elderly, skin rashes.

Dosage: Adult: 2 to 15mg before retiring, diazepam 10mg may be given intravenously or intramuscularly and repeated after 4 hours.
Elderly or debilitated patients: Doses should not exceed half those normally recommended.
Hepatic/renal impairment: Dosage reduction may also be required in patients with liver or kidney dysfunction
Children: Not recommended.

DIMENHYDRINATE (Dizinil®)

P/P: Dizinil 50mg tab, 20's

Adm: May be taken with or without food

Category: Anticholinergic Antiemetics & Antivertigo Drugs

Indications:	Prevention and treatment of motion sickness, dizziness, nausea, vomiting.
Caution:	Asthma, glaucoma, emphysema, chronic pulmonary disease, shortness of breath, difficulty in breathing or urination due to enlargement of prostate gland.
Contra-Ind:	Acute porphyria, acute asthmatic attack
D/I:	Alcohol, sedatives & tranquilizers may increase drowsiness effect.
Side effects:	Visual disturbances, drowsiness, dizziness, dry mouth.
Dosage:	<p>Usual Adult Dose: 50 to 100 mg, every 4 to 6 hours, to a maximum of 400 mg in 24 hours.</p> <p>Usual Pediatric Dose: Greater than or equal to 2 to less than 6 years: 12.5 to 25 mg orally every 6 to 8 hours, to a maximum of 75 mg in 24 hours.</p> <p>Greater than or equal to 6 to less than 12 years: 25 to 50 mg orally every 6 to 8 hours, to a maximum of 150 mg in 24 hours.</p> <p>Greater than 12 years: 25 to 100 mg orally 30 to 60 minutes before starting activity, then 25 to 100 mg every 4 to 6 hours, to maximum of 400 mg in 24 hours.</p> <p>Renal Dose Adjustments: Data not available</p> <p>Liver Dose Adjustments: Data not available</p>

Dimethyl Fumarate (Sclera, Tecfidera®)

P/P:	Sclera, Tecfidera
Adm:	Swallow capsules whole and intact; do not crush, chew, or sprinkle contents on food. Administer with or without food; administering with food, especially high-fat, high-protein food (eg, yogurt or peanut butter) may decrease the incidence of flushing and GI effects.
Category:	Fumaric Acid Derivative
Indications:	Multiple sclerosis
Caution:	may cause lymphopenia. A recent CBC should be available before initiating treatment with TECFIDERA. A CBC is recommended annually, and as clinically indicated. Consider withholding treatment in patients with serious infections
Contra-Ind:	Known hypersensitivity (eg, anaphylaxis, angioedema) to dimethyl fumarate or any component of the formulation.
Side effects:	Flushing, Abdominal pain, diarrhea, nausea, Lymphocytopenia, Infections Serious cases of herpes zoster
Dosage:	initial: 120 mg twice daily; after 7 days, increase to the maintenance dose: 240 mg twice daily.
	Dosing: Altered Kidney Function: Adult No dosage adjustment necessary.
	Dosing: Hepatic Impairment: Adult Hepatic impairment prior to treatment initiation: No dosage adjustment necessary. Hepatotoxicity during treatment: Discontinue treatment.

Donepezil (Dementile, Poliza®)

P/P:	Dementile, Poliza,
Adm:	Administer at bedtime without regard to food.
Category:	Acetylcholinesterase Inhibitor
Indications:	Alzheimer disease
Caution:	Rare cases of rhabdomyolysis, Use with caution in patients at risk of ulcer disease, chronic obstructive pulmonary, seizure disorder and Urinary tract obstruction
Contra-Ind:	Hypersensitivity to any component of the formulation, patients with a history of contact dermatitis with the use of transdermal donepezil
Side effects:	Diarrhea, nausea, Insomnia, syncope, urinary incontinence, bradycardia, dizziness
Dosage:	<p>Alzheimer disease: Mild to moderate: Initial: 5 mg once daily; may increase to 10 mg once daily after 4 to 6 weeks Dementia (off-label use): Initial: 5 mg once daily; may increase to 10 mg once daily after 4 to 6 weeks</p> <p>Dosing: Altered Kidney Function: Adult Altered kidney function: Oral, transdermal: Mild to severe impairment: No dosage adjustment necessary Hemodialysis, intermittent (thrice weekly): Oral, transdermal: Unlikely to be dialyzed (highly protein bound): No supplemental dose or dosage adjustment necessary Peritoneal dialysis: Oral, transdermal: Unlikely to be dialyzed (highly protein bound): No supplemental dose or dosage adjustment necessary</p> <p>Dosing: Hepatic Impairment: Adult There are no dosage adjustments</p>

DOXYLAMINE / PYRIDOXINE (Xonvea®)

P/P:	Xonvea Tab (10, 10 mg)
Adm:	May be taken with or without food at bedtime.
Category:	Antiemetics (Ethanolamine Derivative; Histamine H1 Antagonist)
Indications:	Nausea and vomiting, pregnancy associated
Caution:	Avoid driving a car or operating machinery.
D/I:	CNS depressants including barbiturates, alcohol, tranquilizers, & sedatives

Side effects: Drowsiness; dry mouth, fatigue, vomiting; rarely, blurred vision.

Dosage: Day 1 - Take 2 tablets, by mouth at bedtime.

Day 2 - Take 2 tablets, by mouth at bedtime. - If your nausea and vomiting is better or controlled on Day 2, continue to take 2 tablets every night at bedtime. This will be your usual dose unless your doctor, pharmacist or nurse tells you otherwise.

Day 3 - If you still had nausea and vomiting on Day 2, take 1 tablet in the morning and 2 tablets at bedtime, by mouth on Day 3.

Day 4 - If your nausea and vomiting was better or controlled on Day 3 continue to take 1 tablet in the morning and 2 tablets at bedtime by mouth each day. This will be your usual dose unless your doctor, pharmacist or nurse tells you otherwise.

If you still had nausea and vomiting on Day 3, take 1 tablet in the morning, 1 tablet in the midafternoon, and 2 tablets at bedtime, by mouth on Day 4. This will be your usual dose unless your doctor, pharmacist or nurse tells you otherwise. Do not take more than 4 tablets each day (1 in the morning, 1 in the mid-afternoon, and 2 at bedtime).

DULOXETINE (Cymbalta, Delaxin®)

P/P: **Cymbalta 60 mg caps, 28's**
Delaxin 60 mg caps, 30's, Delaxin 30 mg caps, 30's

Adm: May be taken with or without food

Category: Antidepressants

Indications: Major depressive episodes & diabetic peripheral neuropathic pain in adults. Moderate to severe stress urinary incontinence in women

Caution: Suicidal tendency is inherent & may persist until significant remission occurs. Activation of mania/hypomania; mydriasis; renal or hepatic impairment. Elderly, children, & adolescent. Pregnancy & lactation.

Contra-Ind: Uncontrolled narrow-angle glaucoma. Concomitant use or within 2 wk of MAOIs. Renal and hepatic impairment.

D/I: MAOIs; SSRIs; drugs metabolized & inhibitors of CYP1A2 & CYP2D6 e.g., fluvoxamine, ciprofloxacin, enoxacin

Side effects: Nausea, dry mouth, constipation, decreased appetite, somnolence, fatigue, increased sweating.

Dosage: Usual Adult Dose: 60 mg once daily, the maximum dose studied was 120 mg per day.
Children and Adolescents (7 to 17 years of age): The recommended dose range is 30 to 60 mg once daily.
Hepatic Impairment: Avoid use in patients with chronic liver disease or cirrhosis
Severe Renal Impairment: Avoid use in patients with severe renal impairment, GFR < 30 mL/min.

ELETRIPTAN (Relpax®)

P/P:	Relpax 40mg tab, 3's, Relpax 40mg tab, 6's Relpax 20mg tab, 3's, Relpax 20mg tab, 6's
Adm:	May be taken with or without food.
Category:	Anti migraine
Indications:	Acute treatment of migraine with or without aura.
Caution:	Coronary artery disease, hepatic impairment, severe renal impairment
Contra-Ind:	Ischemic heart disease, previous MI, Coronary vasospasm, uncontrolled hypertension, peripheral vascular disease
D/I:	Co-dergocrine mesilate, ergometrine maleate, ergotamine, ergonovine, methysergide, sibutramine hcl, velnafaxine
Side effects:	Chest tightness or pressure, dizziness, dry mouth, headache, nausea, sleepiness, tingling, weakness
Dosage:	Usual Adult Dose: 20 mg to 40 mg once daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Eletriptan should not be administered to patients with severe liver impairment. However, eletriptan may be used and no dose adjustment is necessary if liver impairment is mild to moderate.

ENTACAPONE COMBINATION DRUGS (Stalevo®) (Restricted)

P/P:	Stalevo tab per 50 mg/12.5 mg/200 mg tab, 30's (Levodopa 50 mg, carbidopa 12.5 mg, entacapone 200 mg.) Stalevo tab per 100 mg/25 mg/200 mg tab, 30's (Levodopa 100 mg, carbidopa 25 mg, entacapone 200 mg.) Stalevo tab per 150 mg/37.5 mg/200 mg tab, 30's (Levodopa 150 mg, carbidopa 37.5 mg, entacapone 200 mg)
Adm:	May be taken with or without food.
Category:	Antiparkinsonian Drugs
Indications:	Parkinson's disease & end-of-dose motor fluctuations not stabilized on levodopa/dopa decarboxylase (DDC) inhibitor treatment.
Caution:	Severe CV or respiratory disease, bronchial asthma, renal, hepatic, or endocrine disease. History of peptic ulcer disease or convulsions, MI, current psychosis, chronic wide-angle glaucoma, orthostatic hypotension.
Contra-Ind:	Severe hepatic impairment, narrow-angle glaucoma, pheochromocytoma. Concomitant MAOI intake. History of neuroleptic malignant syndrome &/or nontraumatic rhabdomyolysis. Pregnancy & lactation.

D/I:	Dopamine receptor antagonists, phenytoin, papaverine, warfarin, amino acids, Fe, vit B6.
Side effects:	Insomnia, hallucinations, confusion, paranoia, dyskinesia, aggravated Parkinsonism, dizziness, dystonia, nausea, diarrhea, abdominal pain, dry mouth, and constipation
Dosage:	<p>The optimum daily dose must be determined by careful titration of levodopa in each patient. The daily dose should be preferably optimised using one of available tablet strengths. While the experience with total daily dose greater than 200 mg carbidopa is limited, the maximum recommended daily dose of entacapone is 2,000 mg.</p> <p>Pediatric population: The safety and efficacy data in children aged below 18 not available.</p> <p>Patients with hepatic impairment: It should be administered cautiously to patients' with mild to moderate hepatic impairment.</p> <p>Patients with renal impairment: it should be administered cautiously to patients in severe renal impairment including those receiving dialysis therapy.</p>

ESCITALOPRAM (Cipralex Entapro Depralex®) (Restricted)

P/P:	Cipralex 10mg F.C tab, 28's, Cipralex 10mg F.C tab, 28's Entapro 10 mg tab, 30's, Entapro 20 mg tab, 30's Depralex 10 mg tab, 28's, Depralex 20 mg tab, 28's
Adm:	May be taken with or without food.
Category:	Antidepressants
Indications:	Depressive illness, panic disorder, social anxiety disorder
Caution:	History of mania or seizure disorders; work requiring mental alertness e.g., operating hazardous machinery or driving; renal and hepatic impairment; pregnancy, lactation;
Contra-Ind:	Concomitant use with MAOIs; hypersensitivity to escitalopram or citalopram; children and adolescents <18 yrs
D/I:	MAOIs, sumatriptan.
Side effects:	Nausea, diarrhea, increased sweating, insomnia, impotence, ejaculation disorder, fatigue, somnolence; postural hypotension, sinusitis, taste disturbances.
Dosage:	<p>Usual Adult Dose: 10 to 20 mg orally once a day</p> <p>Usual Geriatric Dose: Recommended dose: 10 mg orally once a day</p> <p>Usual Pediatric Dose: 10 mg orally once a day increase, if necessary, after at least 3 weeks of treatment to 20 mg once a day.</p> <p>Renal Dose Adjustments: Mild to moderate renal impairment: No adjustment recommended Severe renal impairment: Use with caution</p> <p>Liver Dose Adjustments: Liver dysfunction: 10 mg orally once a day</p>

ESKETAMINE (Spravato®) [Restricted] [High Alert]

P/P:	Spravato (56 mg dose); Spravato (84 mg dose)
Adm:	Intranasal; avoid food two hours before administration and avoid drinking liquids at least 30 minutes prior to administration (Patient needs special education in first time use)
Category:	Antidepressant; N-Methyl-D-Aspartate (NMDA) Receptor antagonist
Indications:	1- depression, treatment-resistant 2- Major depressive disorder (unipolar) with suicidality
Caution:	Abuse and misuse; CNS depression; Dissociation; Blood pressure; Suicidal thoughts and behaviors; Ulcerative or interstitial cystitis.
Contra-Ind:	Hypersensitivity to esketamine, ketamine, or any component of the formulation; aneurysmal vascular disease (including thoracic and abdominal aorta, intracranial, and peripheral arterial vessels) or arteriovenous malformation; history of intracerebral hemorrhage. Canadian labeling: Additional contraindications (not in US labeling): Recent (within 6 weeks) major cardiovascular event (such as myocardial infarction or cerebrovascular accident).
Side effects:	The most commonly observed adverse reactions (incidence ≥5% and at least twice that of placebo plus oral antidepressant) were dissociation, dizziness, nausea, sedation, vertigo, hypoesthesia, anxiety, lethargy, blood pressure increased, vomiting, and feeling drunk.
Dosage:	Depression, treatment resistant: Intranasal: Induction: 56 mg twice weekly; may increase dose (after first dose) based on response and tolerability to 84 mg twice weekly. After 4 weeks, evaluate for evidence of therapeutic benefit to determine need for continued treatment. Maintenance: Beginning on week 5, using the previously established dose (56 or 84 mg) decrease the dosing frequency to once weekly. At week 9 and onward, continue effective dose (56 or 84 mg) once weekly or decrease to every 2 weeks. Major depressive disorder (unipolar), with suicidality: Intranasal: Initial: 84 mg twice weekly for 4 weeks; may reduce dosage to 56 mg twice weekly based on tolerability. After 4 weeks, evaluate for evidence of therapeutic benefit to determine need for continued treatment; use beyond 4 weeks has not been evaluated.

ESZOCLOPINE (Zonam®) (Restricted)

P/P:	Zonam 3mg F.C tab, 28's
Adm:	Take immediately prior to bedtime, not with or immediately after Heavy or high-fat meal.
Category:	Hypnotic
Indications:	Treatment of insomnia & sleep disorder.

Caution: Abnormal thinking / behavior changes; CNS depression, complex sleep behaviors, hypersensitivity reactions, drug abuse, hepatic impairment, respiratory disease, Elderly.

Contra-Ind: Hypersensitivity to eszopiclone; patients who have experienced complex sleep behaviors after taking eszopiclone.

D/I: Alizapride, Aprepitant, Azelastine (Nasal), Blonanserin

Side effects: Nausea, diarrhea, Vomiting, Skin rash, depression, confusion, neuralgia, viral infection
Chest pain, peripheral edema.

Dosage: Usual Adult Dose: 3 mg orally once a day
Usual Geriatric Dose: Not Recommended.
Usual Pediatric Dose: Not Recommended.
Renal Dose Adjustments: No dosage adjustment necessary.
Liver Dose Adjustments:
Mild to moderate impairment: No dosage adjustment necessary.
Severe impairment: Initial: 1 mg immediately before bedtime (maximum dose: 2 mg); use with caution; systemic exposure is doubled in severe impairment.

FENTANYL (Fentanyl®) (Controlled)

P/P: Fentanyl 0.1mg Inj, 10's

Category: Opioid analgesic

Indications: Premedication, Adjunct to general anesthetic induction, regional anesthesia, & maintenance of anesthesia

Caution: Pulmonary function impairment, liver/kidney dysfunction, cardiac arrhythmias, myasthenia gravis

Contra-Ind: Children <2 yr, bronchial asthma, resp depression & head injury. Patients who received MAOIs w/in previous 14 days.

D/I: CNS depressants, MAOIs, neuroleptics

Side effects: Resp depression, apnea, muscle rigidity, & bradycardia.

Dosage: Usual Adult Dose for Anesthesia: Premedication for Anesthesia: 50 to 100 mcg IM, 30 to 60 minutes prior to surgery.
General Anesthesia: Maintenance moderate dose: 25 to 100 mcg IV/IM.
Adjunct to Regional Anesthesia: 50 to 100 mcg IM or slow IV over 3 to 5 minutes as required.
Postoperative: 50 to 100 mcg IM. May repeat dose in 1 to 2 hours as needed.
Usual Pediatric Dose for Anesthesia: Neonates: 0.5 to 2 mcg/kg/hour, younger infants: 1 to 4 mcg/kg/dose. Older Infants and Children 1 to 12 years: 1 to 2 mcg/kg/dose (maximum: 100 mcg/dose).
Renal Dose Adjustments: No specific dose adjustment guidelines
Liver Dose Adjustments: No specific dose adjustment guidelines

Fingolimod (Gilenya, Eligon, Olican®)

P/P: Gilenya 0.5mg Cap 28"S , Eligon 0.5mg Cap 30"S, Olican 0.5mg Cap 28"S

Adm: Oral, Administer with or without food.

Category: Sphingosine 1-Phosphate (S1P) Receptor Modulator.

Indications: Multiple sclerosis, relapsing

Caution: Infections, Progressive Multifocal Leukoencephalopathy (PML), Macular Edema: Examine the fundus before and 3-4 months after treatment start, Liver Injury, Posterior Reversible Encephalopathy Syndrome (PRES): If suspected, discontinue, Respiratory Effects: Evaluate when clinically indicated, Fetal Risk, Severe Increase in Disability After Stopping fingolimod, Malignancies: Suspicious skin lesions should be evaluated, Increased Blood Pressure, risk of bradycardia and AV conduction delays, an ECG is required prior to initiation of therapy.

Contra-Ind: Hypersensitivity to fingolimod or any component of the formulation myocardial infarction, unstable angina, stroke, transient ischemic attack, decompensated heart failure requiring hospitalization, or New York Heart Association class III/IV heart failure in the past 6 months; Mobitz Type II second- or third-degree atrioventricular block or sick sinus syndrome (unless patient has a functioning pacemaker); baseline QTc interval \geq 500 msec; concurrent use of a class Ia or III antiarrhythmic; concurrent use with other products containing fingolimod

Side effects: Headache, liver transaminase elevation, diarrhea, cough, influenza, sinusitis, back pain, abdominal pain, and pain in extremity, hypertension, Bradycardia, dyspnea.

Dosage: 0.5 mg once daily

Dosing: Altered Kidney Function: Adult

There are no dosage adjustments

Dosing: Hepatic Impairment: Adult

No dosage adjustment necessary

FLUOXETINE HYDROCHLORIDE (Prozac, Salipax, Linz®)

P/P: Prozac 20mg caps, 28's
20mg caps, 30's (Salipax, Linz)

Adm: May be taken with or without food.

Category: Antidepressants

Indications: Symptomatic relief of depressive illness, bulimia nervosa, obsessive-compulsive disorder.

Caution: Underweight depressed patients, history of convulsive disorders, anorexia nervosa.

Contra-Ind: Combination w/ MAOIs. Pregnancy & lactation.

D/I:	Should not be used in combination w/ MAOI or w/in 14 days of discontinuing MAOI.
Side effects:	Headache, nervousness, insomnia, drowsiness, fatigue, asthma, anxiety, tremor & dizziness or lightheadedness, nausea, diarrhea, dry mouth, anorexia & excessive sweating.
Dosage:	Adults and the elderly: The recommended dose is 20mg daily, the dose may be increased gradually up to a maximum of 60mg Hepatic impairment: A lower or less frequent dose is recommended Renal Dose Adjustments: No specific dose adjustment

FLUPENTHIXOL (Fluanxol®) (Restricted)

P/P:	Fluanxol 0.5mg tab, 50's, Fluanxol 1mg tab, 50's, Fluanxol 1mg tab, 50's Fluanxol depot amp 20mg/ml, Fluanxol depot amp 40mg/2ml
Adm:	Oral prep may be taken with or without food.
Category:	Antipsychotic
Indications:	Depression involving anxiety, asthenia, & lack of initiative. Chronic neuroses w/ anxiety, depression, & inactivity. Psychosomatic disorders w/ asthenic reactions.
Caution:	Severe hepatic, renal, CV or resp diseases. Phaeochromocytoma & epilepsy.
Contra-Ind:	Hypersensitivity. Extremely excitable and overactive patients; mania; porphyria; coma; preexisting CNS depression; bone-marrow suppression; phaeochromocytoma. Lactation
D/I:	Potentially Hazardous Interactions; Potentiates CNS effects of alcohol, general anaesthetics, hypnotics, anxiolytics, and opioids. Blocks antihypertensive effect of guanethidine.
Side effects:	Potentially Life-threatening Adverse Drug Reactions; Neuroleptic malignant syndrome, restlessness & or insomnia. Rarely, extrapyramidal symptoms. Sedation & antimuscarinic effects may also occur.
Dosage:	Adult: 1 mg up to a maximum of 3 mg daily. Older patients: should receive half the recommended dosages Children: Flupentixol is not recommended Patients with reduced renal function: no data available Patients with reduced hepatic function: no data available

FLUVOXAMINE MALEATE (Faverin®) (Restricted)

P/P:	Faverin 50mg tab, 60's, Faverin 100mg tab, 30's
Adm:	May be taken with or without food.
Category:	Antidepressants
Indications:	Depressive illness & obsessive-compulsive disorder.

Caution:	History of mania or seizures; liver dysfunction; presence of depressive symptoms; smokers. Pregnancy, elderly; operating hazardous machinery; withdraw gradually.
Contra-Ind:	Hypersensitivity; children and adolescents <18 yrs for treatment of depressive illness; lactation.
D/I:	Should not be used in combination with MAOIs, or within 14 days of discontinuing treatment with MAOIs. Co-administration of terfenadine, astemizole
Side effects:	Anxiety; constipation; diarrhea; dizziness; drowsiness; dry mouth; gas; headache; increased sweating; loss of appetite; nausea; nervousness; stomach upset; stuffy nose; taste changes; trouble sleeping; vomiting; weakness.
Dosage:	Adult: The recommended dose is 100 mg daily. Patients should start on 50 or 100 mg, given as a single dose in the evening. maximum of 300 mg a day Children/adolescents: The starting dose is 25 mg per day. The maximum dose in children should not exceed 200 mg/day Hepatic or renal insufficiency: should start on a low dose and be carefully monitored.

GABAPENTIN (Gabapet, Neuroplex, Neurontin®) (Restricted)

P/P:	Neurontin 300mg tab, 50's Neurontin 400mg tab, 50's Neurontin 600mg tab, 50's, Neurontin 800mg tab, 50's Gabapet 300 mg cap, 48's, Gabapet 400 mg cap, 48's Neuroplex 300 mg cap, 50's, Neuroplex 400 mg cap, 50's
Adm:	May be taken with or without food
Category:	Anticonvulsants
Indications:	Treatment of neuropathic pain in adults' ≥18 yr. Monotherapy or adjunctive therapy in the treatment of partial seizures w/ & w/o secondary generalization in adults.
Caution:	Discontinuation or transfer from other antiepileptic, history of psychotic illness; renal impairment; pregnancy, children <12 yrs.
Contra-Ind:	Hypersensitivity, Lactation.
D/I:	Cimetidine may reduce gabapentin clearance. Absorption reduced with antacids.
Side effects:	Somnolence, dizziness, ataxia, fatigue, nystagmus, headache, tremor, diplopia, nausea &/or vomiting, rhinitis, amblyopia.
Dosage:	Usual Adult Dose: 300 mg or 400 mg capsules three times a day up to 1800 mg/day. Usual Pediatric Dose: Greater than or equal to 3 and less than 12 years: 10 to 15 mg/kg/day in 3 divided doses. Greater than 12 years: 300 mg or 400 mg capsules three times a day up to 1800 mg/day. Renal Dose Adjustments: For patients greater than or equal to 12 years: CrCl less than 15 mL/min: 300 mg orally every other day CrCl 15 to 30 mL/min: 300 mg orally once a day CrCl 30 to 60 mL/min: 300 mg orally twice a day CrCl greater than 60 mL/min: 400 mg orally 3 times a day Liver Dose Adjustments: Data not available

Galcanezumab (Emgality®)

P/P: Emgality 120mg prefilled syringe Subcutaneous Injection.

Category: Antimigraine Agent; Calcitonin Gene-Related Peptide (CGRP) Antagonist; Monoclonal Antibody

Indications: Cluster headache prevention, Migraine prophylaxis.

Caution: Patient with cardio vascular disease and peripheral cardiac disease are excluded from clinical trial, use with caution in these patients, immunogenicity: Anti-Galcanezumab antibodies and neutralizing antibodies may develop.

Contra-Ind: Serious hypersensitivity to Galcanezumab or any component of the formulation.

D/I: There are no known significant interactions.

Side effects: Hypersensitivity reactions, including anaphylaxis, angioedema, dyspnea, rash, and urticaria, injection side reactions.

Dosage: Usual Adult Dose: Cluster headache (prevention): SubQ: 300 mg at the onset of the cluster period and then once monthly until the end of the cluster period.
Migraine prophylaxis: SubQ: Initial: 240 mg as a single loading dose, followed by 120 mg once monthly.
Renal Dose Adjustments: No dose adjustment required
Liver Dose Adjustments: No dose adjustment required

GALANTAMINE HYDROBROMIDE (Reminyl®)

P/P: Reminyl 4mg tab,14's, Reminyl 8mg tab,56's, Reminyl 12mg tab,56's
Reminyl 4mg/ml, 100ml syrup

Adm: Should be taken with food

Category: Neurodegenerative Disease Drugs

Indications: Mild to moderate dementia in Alzheimer's disease

Caution: Mild-moderate hepatic impairment; supraventricular conduction abnormalities; asthma; COPD; pregnancy; peptic ulcers.

Contra-Ind: Hypersensitivity; severe liver or kidney dysfunction; lactation; urinary retention or GI obstruction. Lactation.

D/I: Amiodarone, beta-blockers, diltiazem or verapamil; NSAIDs; Digoxin

Side effects: GI disturbances; bradycardia, CNS disturbances; tremor, anorexia, weight loss; urinary tract infection; anaemia; rhinitis.

Dosage: Usual Adult Dose: 4 to 12 mg twice a day, Maximum dose: 16 to 24 mg/day.

Renal Dose Adjustments: Moderate renal impairment: The dose should generally not exceed 16 mg/day. Severe renal impairment (CrCl less than 9 mL/min): The use of galantamine is not recommended

Liver Dose Adjustments: Moderately Impaired Hepatic Function: The dose should generally not exceed 16 mg/day. Severe Hepatic Impairment: The use of galantamine is not recommended.

GINKO BILOBA EXTRACTS (Ginexin-F, Gincosan®)

P/P: **Ginexin-F 40 mg tab, 40's**
Gincosan cap, 30s

Adm: May be taken with or without food

Indications: Treatment of cerebral circulatory disorders, hearing disorders, mental disorder due to anxiety.

Caution: Hypersensitivity and patient under 16 years old.

Side effects: Gastrointestinal discomfort, headache and skin rash.

Dosage: From two tablets twice daily up to two tablets three times daily.

HALOPERIDOL (Haldol, Serenace®)

P/P: **Serenace 5mg tab, 50's**
Serenace 1.5mg tab, 50's

Adm: May be taken with or without food (May be taken w/ meals to minimize GI irritation.).

Category: Antipsychotic

Indications: Treatment of anxiety & tension states

Caution: Epilepsy, thyrotoxicosis, pregnancy. Use of lithium salts w/ high dose haloperidol. Patients receiving combined therapy must be closely monitored, if signs of neurologic toxicity appear, discontinue. Arteriosclerosis. Severe CV disorders. Elderly, debilitated.

Contra-Ind: Comatose states, CNS depression, Parkinson's disease, patients' w/ lesions of the basal ganglia, lactation, children <3 yr.

D/I: CNS depressants, methyldopa, anticonvulsants, phenindione, coumarin anticoagulants, alcohol, sedatives, tranquilizers, anesthetics, lithium.

Side effects: Neurological, CNS, CV, endocrine, hematological & dermatological effects, persistent tardive dyskinesia, neuroleptic malignant syndrome.

Dosage: Usual Adult Dose: 1 to 30 mg/day in 2 to 3 divided doses.
Usual Pediatric Dose: 2 years or younger or less than 15 kg: Use is not recommended. 3 to 12 years and 15 to 40 kg: usual range is 0.05 to 0.15 mg/kg/day in 2 to 3 divided doses.
13 to 18 years and greater than 40 kg: 1 to 30 mg/day in 2 to 3 divided doses.
Renal Dose Adjustments: caution is recommended
Liver Dose Adjustments: caution is recommended

IMIPRAMINE HYDROCHLORIDE (Tofranil®)

P/P: **Tofranil 10mg tab, 60's, Tofranil 25mg tab, 50's**

Adm: May be taken with or without food.

Category: Antidepressant

Indications: Depressive illness, nocturnal enuresis

Caution: Patients w/ thrombosis, angina pectoris, CHF, disorders of cardiac rate, rhythm or conduction, prostatic disorders, urinary retention, glaucoma, hyperactive or agitated patients, epileptics, patients w/ suicidal tendencies. Elderly, children, & those w/ circulatory liability or CV disease. Lactation.

Contra-Ind: Concurrent MAOI or w/in 14 days of cessation of MAOIs. 1st trimester of pregnancy.

D/I: Barbiturates, alcohol, tranquilizers, anticholinergics, adrenergic neuron blockers, catecholamines, cimetidine, methylphenidate

Side effects: Dry mouth, urinary retention, constipation, blurred vision, drowsiness, dizziness, mental confusion, allergic effects, tinnitus, postural hypotension, tachycardia, palpitations, arrhythmias, endocrine effects.

Dosage: Usual Adult Dose: Hospitalized Patients – Initially, 100 mg/day in divided doses gradually increased to 200 mg/day as required. If no response after two weeks, increase to 250 to 300 mg/day.
Outpatients – Initially, 75 mg/day increased to 150 mg/day. Dosages over 200 mg/day are not recommended. Maintenance, 50 to 150 mg/day.
Adolescent and Geriatric Patients – Initially, 30 to 40 mg/day; it is generally not necessary to exceed 100 mg/day.
Childhood Enuresis: 25mg to 75 mg per day, A dose of 2.5 mg/kg/day should not be exceeded.

Lacosamide (Lazure®)

P/P: **Lazure 200mg/20ml Vial I.V 5"S; Lazure 50mg F.C Tab 60"S; Lazure 100mg F.C Tab 60"S; Lazure 200mg F.C Tab 60"S; Vimpat 50Mg Tab 56"S; Vimpat 100 Mg Tab 56" S**

Adm: Oral: may be administered with or without food. IV: Administer over 15 to 60 minutes; infusions over 30 to 60 minutes are preferred to minimize adverse effects

Category: Antiseizure Agent, Miscellaneous

Indications: VIMPAT is indicated for the treatment of partial-onset seizures in patients 4 years of age and older. As the safety of VIMPAT injection has not been established in pediatric patients, VIMPAT injection is indicated for the treatment of partial-onset seizures only in adult patients (17 years of age and older)

Caution:

Monitor patients for suicidal behavior and ideation
It may cause dizziness and ataxia and syncope
Cardiac Rhythm and Conduction Abnormalities: Obtaining ECG before beginning and after titration to steady-state maintenance is recommended in patients with underlying proarrhythmic conditions or on concomitant medications that affect cardiac conduction; closely monitor these patients
Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)/ Multi-Organ Hypersensitivity: Discontinue if no alternate etiology

Contra-Ind:

None

Side effects:

Adjunctive therapy: Most common adverse reactions in adults ($\geq 10\%$ and greater than placebo) are diplopia, headache, dizziness, nausea
Monotherapy: Most common adverse reactions are similar to those seen in adjunctive therapy studies
Pediatric patients: Adverse reactions are similar to those seen in adult patients

Dosage:

Adults (17 years and older): Initial dosage for monotherapy is 100 mg twice daily; initial dosage for adjunctive therapy is 50 mg twice daily; maximum recommended dosage for monotherapy and adjunctive therapy is 200 mg twice daily
Pediatric Patients 4 Years to less than 17 years: The recommended dosage is based on body weight and is administered orally twice daily. Increase dosage based on clinical response and tolerability, no more frequently than once per week
Injection: for intravenous and adult use only when oral administration is temporarily not feasible; dosing regimen is the same as oral regimen; administer over 15 to 60 minutes; obtaining ECG before initiation is recommended in certain patients
Dose adjustment is recommended for severe renal impairment
Dose adjustment is recommended for mild or moderate hepatic impairment; use in patients with severe hepatic impairment is not recommended

LAMOTRIGINE (Loxol, Lamictal®) (Restricted)

P/P: Lamictal tab, 30's (25mg, 50mg, 100mg)
Lamictal 5mg Liquitab, 28's, Lamictal 50mg Liquitab, 56's
Lamictal 100mg Liquitab, 56's
Loxol tab, 30's (25mg, 50mg, 100mg, 200 mg)

Adm: May be taken with or without food

Category: Anticonvulsants

Indications: Treatment of epilepsy, partial, seizures, & generalized seizures, including tonic-clonic seizures & seizures associated w/ Lennox-Gastaut syndrome. Prevention of mood episodes in patients w/ bipolar disorder.

Caution: Hepatic and renal impairment. Close monitoring during long-term therapy is required. Do not drive or operate machinery. Elderly, pregnancy, and lactation.

Contra-Ind: Hypersensitivity; abrupt withdrawal; avoid alcohol.

D/I: Phenytoin, carbamazepine, phenobarb, and primidone enhances the metabolism of lamotrigine. Na valproate reduces the metabolism of lamotrigine.

Side effects: Skin rash, irritability, headache, drowsiness, insomnia, dizziness, tremor, nystagmus, ataxia, diplopia, blurred vision, nausea, vomiting, diarrhea, tiredness, arthralgia, pain, back pain.

Dosage: Usual Adult Dose: 25 mg to 400mg per day (in 2 divided doses).
Usual Pediatric Dose: 4.5 to 7.5 mg/kg/day (maximum 300 mg per day in 2 divided doses).
Renal Dose Adjustments: caution and a reduced dose should be considered in patients with renal dysfunction
Liver Dose Adjustments: Doses should generally be reduced by approximately 25% in patients with moderate and severe liver impairment without ascites and 50% in patients with severe liver impairment with ascites

LEVETIRACETAM (Keppra, Vales®)

P/P: Keppra 500mg tab, 30's, Keppra 250 mg tab, 30's, Keppra 1000mg tab, 30's,
Keppra 100 mg oral solution 300 ml
Vales 500mg tab, 30's, Vales 250 mg tab, 30's Vales 1000mg tab, 30's,
Vales 100 mg oral solution 300 ml

Adm: May be taken with or without food.

Category: Anticonvulsants

Indications: Adjunctive therapy in the treatment of partial onset seizures w/ or w/o secondary generalization in adults & children ≥4 yr w/ epilepsy.

Caution: Avoid abrupt withdrawal. Renal impairment. May impair ability to drive or operate machinery. Pregnancy & lactation. Children <4 yr.

Contra-Ind: Hypersensitivity. Pregnancy, lactation.

D/I: Probenecid.

Side effects: Somnolence, asthenia. Less frequently: dizziness, vertigo, convulsion, depression, emotional instability, hostility, insomnia, nervousness, ataxia, tremor, amnesia, headache, nausea, dyspepsia, diarrhea, anorexia, rash, and diplopia.

Dosage: Usual Adult Dose: 16 years of age and older: 1000 mg orally daily given as 500 mg orally 2 times a day to a maximum of 3000 mg daily.
Usual Pediatric Dose: Children 4 to less than 16 years: 10 mg/kg/dose orally 2 times a day; Maximum dose: 3000 mg/day
Renal Dose Adjustments: CrCl greater than 80 mL/min: 500 to 1500 mg every 12 hours, CrCl 50 to 80 mL/min: 500 to 1000 every 12 hours, CrCl 30 to 50 mL/min: 250 to 750 mg every 12 hours, CrCl less than 30 mL/min: 250 to 500 mg every 12 hours
ESRD PATIENTS USING DIALYSIS: 500 to 1000 mg every 24 hours

Liver Dose Adjustments: Data not available.

LITHIUM CARBONATE (Camcolit®)

P/P:	Camcolit 250mg tab, 100's Camcolit 400mg tab, 100's
Adm:	Should be taken with food
Category:	Antimanic, Antidepressant
Indications:	Mania, manic depressive illness& recurrent depression.
Caution:	Elderly, Diuretic therapy, Pregnancy, Baseline & periodic routine clinical monitoring is essential
Contra-Ind:	Severe renal & CV disease; debilitation or dehydration; lactation. Addison's disease.
D/I:	Tricyclic antidepressants, NSAIDs, tetracycline.
Food/I:	Limit caffeine intake. Do not take a low salt diet.
Side effects:	Mild GI effects, nausea, vertigo, muscle weakness, dazed feeling, fine hand tremors, polyuria, thyroid function disturbances, mild cognitive impairment
Dosage:	Usual Adult Dose: Usual dose: 1800 mg/day Usual Pediatric Dose: 6 to 12 years: 15 to 60 mg/kg/day in 3 to 4 divided doses. Renal Dose Adjustments: CrCl less than 10 mL/min: The dosage should be 25% to 50% of the normal dose. CrCl 10 to 50 mL/min: The dosage should be 50% to 75% of the normal dose. Liver Dose Adjustments: Data not available

LORAZEPAM (Ativan®) (Controlled)

P/P:	Ativan 1mg tab, 20's, Ativan 2mg tab, 20's
Adm:	May be taken with or without food
Category:	Anxiolytics, Anticonvulsants
Indications:	Anxiety disorders, short-term relief of anxiety associated w/ depressive symptoms. Short-term treatment of insomnia associated w/ anxiety; Premedication for general or dental surgery. Prophylaxis of symptoms in antineoplastic-induced emesis
Caution:	Hepatic and renal dysfunction; pulmonary insufficiency; may impair ability to drive or operate machinery; elderly or debilitated patients.
Contra-Ind:	Hypersensitivity to benzodiazepines; severe hepatic impairment; acute narrow-angle glaucoma; pregnancy and lactation.
D/I:	Potentiation of CNS depression produced by Alcohol, general anesthetics, narcotic analgesics, tricyclic antidepressants, and MAOIs.

Side effects: Drowsiness, headache, dizziness, confusion; blurred vision; nausea; ataxia

Dosage: Usual Adult Dose: 1 to 2 mg orally 2 to 3 times a day.
Usual Pediatric Dose: 12 years or older: 1 to 2 mg orally 2 to 3 times a day
Renal Dose Adjustments: Renal impairment: Use with caution
Liver Dose Adjustments: Hepatic impairment: Use with caution

LURASIDONE HYDROCHLORIDE (Debilur®) (**Restricted**)

P/P: Debilur

Adm: Oral, Administer with food (≥ 350 calories).

Category: Second Generation (Atypical) Antipsychotic.

Indications: Schizophrenia, Bipolar major depression

Caution: Suicidal thinking/behavior, increased mortality in elderly patients with dementia-related psychosis.

Contra-Ind: Hypersensitivity to lurasidone or any component of the formulation.

Special Population: Pregnancy: The FDA has classified lurasidone as a Pregnancy Category B agent, although no adequate or well-controlled studies of the drug's use have been conducted during pregnancy.
Breast- feeding: It is not known if lurasidone is excreted in breast milk. According to the manufacturer, the decision to continue or discontinue breast-feeding during therapy should take into account the risk of infant exposure, the benefits of breast-feeding to the infant, and benefits of treatment to the mother.

D/I: Concomitant use with strong CYP3A4 inhibitors (eg, ketoconazole, clarithromycin, ritonavir, voriconazole, mibefradil) and inducers (eg, rifampin, avasimibe, St. John's wort, phenytoin, carbamazepine).
Alprazolam, Anti diabetic Agents, Blood Pressure Lowering Agents, Acetyl cholinesterase Inhibitors (Central).

Side effects: Severe adverse effects: Drooling is the unintentional spillage of saliva from the mouth.
Trouble swallowing (Partial or complete loss of consciousness with interruption of awareness, signs of infection (such as persistent cough, fever) agitation, hostility, confusion, thoughts about hurting yourself, seizures (convulsions), Common adverse effects: Weight gain, tremors, muscle stiffness, slow muscle movement, feeling restless or being unable to sit still, nausea, vomiting, and runny nose; sleep problems (insomnia).

Dosage: Schizophrenia: Initial: 40 mg once daily, maximum dose of 160 mg/day.
Bipolar major depression: Initial: 20 mg once daily, maximum dose of 120 mg/day.
Renal insufficiency: CrCl < 50 ml/min: initial 20 mg daily, maximum dose 80 mg/day
Dosing in hemodialysis patients: Not recommended
Hepatic dysfunction:
Moderate impairment (Child-Pugh class B): 20 mg daily to 80 mg daily.
Severe impairment (Child-Pugh class C): 20 mg daily to 40 mg daily.

MAPROTILINE HYDROCHLORIDE (Ludiomil®)

P/P: Ludiomil 10mg tab,50's, Ludiomil 25mg tab,30's, Ludiomil 50mg tab,30's

Adm: May be taken with or without food

Category: Antidepressants

Indications: Depressive illness, particularly where sedation is required

Caution: Hepatic & renal insufficiency, urinary retention, history of increased intraocular pressure, Pregnancy& lactation. Schizophrenia, cyclic affective disorders, caution in road/ machinery users.

Contra-Ind: Preexisting CV insufficiency; severe liver disease; epilepsy or lowered seizure threshold.

D/I: Alcohol, CNS drugs, anticholinergic agents, antihypertensive, MAOIs.

Side effects: Mild CNS & anticholinergic reactions. Occasional: Sinus tachycardia, postural hypotension, allergic skin reactions

Dosage: Usual Adult Dose: 75 to 150 mg orally as a single or divided daily dose
Usual Geriatric Dose: 50 to 75 mg as a single or divided daily dose
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MECLIZINE / PYRIDOXINE (Navidoxine®)

P/P: Navidoxine tab, 10's (meclizine hydrochloride 25mg+Vit B₆ 50mg)

Adm: May be taken with or without food at bedtime.

Category: Antiemetics & Antivertigo Drugs

Indications: Pregnancy nausea and vomiting

Caution: Avoid driving a car or operating machinery.

D/I: CNS depressants including barbiturates, alcohol, tranquilizers, & sedatives

Side effects: Drowsiness; dry mouth, fatigue, vomiting; rarely, blurred vision.

Dosage: Adult: Up to 100 mg daily in divided doses.
Child: for Motion sickness 2-6 yr: 6.25 mg once daily; 6-12 yr: 12.5 mg once daily.
>12 yr: 25-50 mg 1 hr before travelling and repeat every 24 hr if needed.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Melatonin (JP Melatonin, Melatonin®)

P/P: JP Melatonin 5mg Cap 60"S, MELATONIN 3MG 100 TAB

Adm: Take it with food and 1-2 hours before bedtime

Category: Exogenous hormone

Indications: Treatment of insomnia

Caution: Hypersensitivity, driving and using machine

Contra-Ind: Pregnancy and lactated women (un-known safety)

Side effects: Drowsiness, chest pain, loss of consciousness or fainting, feeling your heartbeat, depression, visual impairment, blurred vision and disorientation.

Dosage: 3-5 mg orally once daily

MIDAZOLAM (Dormicum, Midazolam, Hikma Midazolam®) (Restricted)

**P/P: Dormicum 15mg/ml Amp I.M/I.V Vial
Hikma Midazolam 15mg/3ml I.M/I.V Vial
Midazolam 2mg/ml 50ml I.V Vial.**

Adm: administer by slow IV injection over at least 2 minutes, undiluted deep IM into large muscle.

Category: Anticonvulsant, Benzodiazepine.

Indications: General anesthesia, mechanically ventilated patients in the ICU, sedation, Procedural sedation, outside the operating room, Seizures

Caution: Patients with heart failure, glaucoma, renal impairment, respiratory disease.

Contra-Ind: Hypersensitivity to midazolam or any component of the formulation, protease inhibitors, pregnant and breast feeding , infant less than 6 months.

D/I: Alcohol, Abametapir, Alizapride, Antihepaciviral Combination Products, Aprepitant, Azelastine (Nasal).

Side effects: Headache, nausea, vomiting, bradypnea, decreased tidal volume, Injection site reaction, apnea, and cough.

Dosage: Usual Adult Dose: 0.5 to 2 mg per day, Maximum Dose: 10 mg per day.
Usual Pediatric Dose: I.M 0.1 – 0.15 mg/kg once a day, Maximum Dose: 0.5mg/kg
I.V 0.05-0.01 mg/kg once, Maximum Dose: 0.6mg/kg.
Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: No adjustment recommended

MEMANTINE HYDROCHLORIDE (Ebixa, Tabixa®) (Restricted)

P/P:	Ebixa 10mg F.C tab, 28's Tabixa 10mg coatedtab, 28's
Adm:	May be taken with or without food
Category:	Neurodegenerative Disease Drugs
Indications:	Moderate to severe dementia in Alzheimer's disease
Caution:	Renal impairment; pregnancy; epilepsy.
Contra-Ind:	Lactation; severe renal impairment.
D/I:	Amantadine, Dextromethorphan, Ketamine
Side effects:	Dizziness, confusion, headache, hallucinations, tiredness, vomiting, anxiety, hypertension, cystitis, and increased libido.
Dosage:	Adults: The recommended dose is 20 mg per day. Pediatric population: it is not recommended for use in children below 18 years. Renal impairment: In patients with mildly impaired renal function (creatinine clearance 50 – 80 ml/min) no dose adjustment is required. In patients with moderate renal impairment (creatinine clearance 30 - 49 ml/min) daily dose should be 10 mg per day. In patients with severe renal impairment (creatinine clearance 5 – 29 ml/min) daily dose should be 10 mg per day. Hepatic impairment: In patients with mild or moderate hepatic impaired function, (no dose adjustment is needed. it is not recommended in patients with severe hepatic impairment

METHYL PHENIDATE HYDROCHLORIDE (Ritalin, Concerta®) (CONTROL DRUG)

P/P:	Ritalin 10mg tab, 30's Concerta 18mg Ext. Release tab, 30's, Concerta 36mg Ext. Release tab, 30's
Adm:	Should be taken on an empty stomach
Category:	CNS Stimulants & Agents for ADHD
Indications:	Narcolepsy, adjunct to psychological, educational, and social measures in the treatment of hyperactivity disorders
Caution:	Preexisting structural cardiac abnormalities, CV conditions (severe HTN), misuse of stimulants, Pregnancy & lactation
Contra-Ind:	Anxiety, tension, hyperthyroidism, cardiac arrhythmia, severe angina pectoris, glaucoma, diagnosis of motor tics or tics in sibling &/or of family history of Tourette's syndrome.
D/I:	Potentially Hazardous Interactions; MAOIs; beta-blockers; guanethidine and similar drugs.

Side effects:	Headache, drowsiness, dizziness, dyskinesia, tachycardia, palpitation, arrhythmias, BP & heart rate changes (usually increased), abdominal pain, nausea, vomiting, dry mouth, rash
Dosage:	Usual Adult Dose: Initial Dose: 10 mg orally 2- or 3-times daily Doses may be increased weekly in increments of 5 to 10 mg up to a maximum of 60 mg per day. Usual Pediatric Dose 6 years or older: Initial Dose: 2.5 to 5 mg orally twice daily, Doses may be increased weekly in increments of 5 to 10 mg up to a maximum of 60 Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

MIRTAZAPINE (Remeron, Mirzagen®)

P/P:	Remeron 30mg tab, 30's Mirzagen 15 mg tab, 30s Mirzagen 30 mg tab, 30s
Adm:	May be taken with or without food
Category:	Antidepressants
Indications:	Major depression
Caution:	Epilepsy, organic brain syndrome, hepatic or renal insufficiency, CV disease. Pregnancy, lactation.
Contra-Ind:	Hypersensitivity; lactation.
D/I:	Alcohol, benzodiazepines; Do not administer concomitantly or w/in 2 wk of cessation of MAOIs.
Side effects:	Increase in appetite, weight gain, and drowsiness/sedation. Rarely, orthostatic hypotension, mania, convulsions, tremor, myoclonus, edema
Dosage:	Usual Adult Dose: Initial dose: 15 to 45 mg per day. Renal Dose Adjustments: Use with caution in patients with renal insufficiency (CrCl <40 mL/min). Lower doses may be required Liver Dose Adjustments: Use with caution in patients with hepatic insufficiency. Lower doses may be required.

MODAFINIL (Provigil®)

P/P:	Provigil 100 mg & 200mg tablet.
Adm:	In general, administer in dose in the morning. Shift work sleep disorder: Administer dose ~1 hour prior to starts of work shift.
Category:	Central Nervous System Stimulant.

Indications:	Narcolepsy-related excessive daytime sleepiness, Obstructive sleep apnea-related excessive daytime sleepiness, Shift work sleep disorder-related excessive daytime sleepiness.
Caution:	Use with caution in patients with cardiovascular disease. Use with caution in patients with hepatic impairment: Dosage reduction is recommended in patients with severe hepatic impairment. Use with caution in patients with a history of psychosis, depression, or mania.
Contra-Ind:	Known hypersensitivity to modafinil, armodafinil, or any component of the formulation.
Special population:	<p><u>Pregnancy Considerations:</u> Fetal risk cannot be ruled out.</p> <p><u>Breastfeeding Considerations:</u> Armodafinil, the active metabolite of modafinil, is present in breast milk. Breast milk was sampled over 24 hours in a female 19 days postpartum following long-term use of modafinil 250 mg daily. The peak breast milk concentration of armodafinil was 2.4 mcg/mL 2 hours after the maternal dose and decreased to 0.43 mcg/mL prior to the next dose. Her infant was not breastfed (Aurora 2018). The manufacturer recommends that caution be exercised when administering modafinil to breastfeeding females.</p>
D/I:	Fezolinetant, Abemaciclib, Acebrophylline, Alcohol (Ethyl), Antihepaciviral Combination Products, Asunaprevir, Avacopan, Avanafil, Avapritinib, Axitinib, Bedaquiline, Capmatinib, Cariprazine, Cobimetinib, Daridorexant, Dasabuvir, Deflazacort, DOXOrubicin, Elacestrant, Elbasvir and Grazoprevir, Ivabradine; and others, check drug-drug interaction before use.
Side effects:	Headache, Decreased appetite, abdominal pain, nausea.
Dosage:	<p>Narcolepsy-related or obstructive sleep apnea-related excessive daytime sleepiness: Oral: Initial: 200 mg as a single daily dose in the morning. Note: Doses up to 400 mg once daily have been well tolerated, but there is no consistent evidence that this dose confers additional benefit.</p> <p>Shift work sleep disorder: 200mg PO as a single dose (1 hr prior to patient's work shift).</p> <p>Dosage modifications: severe hepatic impairment: 100mg PO qAM.</p>

MORPHINE SULPHATE (Morphine®) (Narcotic Drug)

P/P:	Morphine 10mg Inj, 10's, Morphine 15mg Inj, 25's
Category:	Opioid Analgesic
Indications:	Relief of moderate to severe pain
Caution:	Elderly; hypothyroidism; renal and liver disease; head injury, intracranial lesions; hypotension, circulatory shock; seizure-prone patients;

Contra-Ind: Respiratory depression, acute or severe asthma; paralytic ileus; obstructive airway disease; acute liver disease; comatose patients; pregnancy. Increased intracranial pressure; acute alcoholism.

D/I: Other CNS depressants, alcohol, muscle relaxants, MAOI potentiate morphine effects and respiratory depression.

Side effects: Convulsions; nausea, vomiting, dry mouth, constipation; urinary retention;

Dosage: Usual Adult Dose: Dose range: 5 to 20 mg every 4 hours as needed
Usual Pediatric Dose: 0.1 to 0.2 mg per kg as needed. Not to exceed 15 mg per dose.
Renal Dose Adjustments: End-stage renal disease: Start at the lower suggested dosage for the indication and the patient needs
Liver Dose Adjustments: Caution is recommended

Netupitant and Palonosetron (Akynzeo®)

P/P: **Akynzeo 300Mg/0.5Mg Capsule 1"S**

Adm: Administer 1 hour before chemotherapy. May administer with or without food.

Category: Antiemetic; Selective 5-HT3 Receptor Antagonist; Substance P/Neurokinin 1 Receptor Antagonist

Indications: Prevention nausea and vomiting associated with courses of cancer chemotherapy

Caution: Hypersensitivity, Serotonin syndrome

Contra-Ind: None

Side effects: Headache, fatigue, Erythema, Dyspepsia, constipation, Weakness

Dosage: Highly emetogenic chemotherapy: One capsule 1 hour before chemotherapy on day 1
Note: The antiemetic regimen should also include dexamethasone and olanzapine on days 1 to 4.
Anthracycline and cyclophosphamide-based chemotherapy and chemotherapy not considered highly emetogenic: One capsule 1 hour before chemotherapy on day 1.
Note: The antiemetic regimen also includes dexamethasone (on day 1).

Kidney Impairment:

CrCl 30 to 60 mL/minute: No dosage adjustment is necessary.

CrCl <30 mL/minute and ESRD: Avoid use.

Hepatic Impairment:
Mild or moderate impairment (Child-Pugh classes A and B): No dosage adjustment is necessary.
Severe impairment (Child-Pugh class C): Avoid use

NICOTINE (Nicotinell®)

P/P: Nicotinell TTS 10 Transdermal Patch, 7's (10cm², in vivo release 7mg/24hrs)
Nicotinell TTS 20 Transdermal Patch, 7's (20cm², in vivo release 14mg/24hrs)
Nicotinell TTS 30 Transdermal Patch, 7's (30cm², in vivo release 21mg/24hrs)

Adm: For transdermal route only

Category: Detoxifying Agents, Substance Dependence Prep

Indications: Treatment of nicotine dependence, as an aid to smoking cessation.

Caution: HTN, stable angina pectoris, cerebrovascular disease, occlusive peripheral arterial disease, heart failure, hyperthyroidism or diabetes mellitus, peptic ulcer, renal or hepatic impairment, circulatory problems, phaeochromocytoma.

Contra-Ind: Non-smokers, children & occasional smokers. Acute MI, unstable or worsening angina pectoris, severe cardiac arrhythmias, recent CVA, skin diseases. Pregnancy, lactation.

Side effects: Reaction at application site (usually erythema or pruritus), headache, cold, & flu-like symptoms, insomnia, nausea, myalgia, & dizziness.

Dosage: Adults: For individuals smoking 20 cigarettes or more a day, it is recommended that treatment be started with Nicotinell TTS 30 once daily. Those smoking less than this are recommended to start with Nicotinell TTS 20
Children and young adults: The above recommendation can be used for adolescences between 12 and 18 years of age.

OLANZAPINE (Zyprexa, Olazine, Laprex, Olana®) (Restricted)

P/P: Zyprexa 5mg tab, 28's, Zyprexa 10mg tab, 28's
Zyprexa 10mg Inj
Olazine coated tab, 28's (2.5 mg, 5 mg, 10 mg, 15 mg)
Laprex coated tab, 28's (5 mg, 10 mg)
Olana orodispersible tablets, 28's (5 mg, 10 mg)

Adm: May be taken with or without food

Category: Antipsychotic

Indications: Management of schizophrenia, treatment of acute manic episodes, management of schizophrenia

Caution: Impaired renal, hepatic, cardiovascular, cerebrovascular, and respiratory failure, prostatic hypertrophy; paralytic ileus; diabetes mellitus; Parkinsonism; pregnancy.

Contra-Ind: Hypersensitivity; angle-closure glaucoma; lactation.

D/I:	May antagonize the effects of levodopa and dopamine agonists
Side effects:	Postural hypotension; constipation; dizziness; weight gain; agitation, insomnia, akathisia, tremor, personality disorders; oedema; somnolence; increased appetite. Potentially Life-threatening Adverse Drug Reactions; Exacerbation of preexisting diabetes sometimes leading to ketoacidosis.
Dosage:	Usual Adult Dose: 5 to 10 mg orally once a day, Maximum dose: 20 mg orally once a day. Usual Pediatric Dose: Age 13 years or older: 2.5 to 5 mg orally once a day. Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: Use caution in patients with signs and symptoms of hepatic impairment, in case of hepatitis; consider drug discontinuation.

OnabotulinumtoxinA (Botox®)

P/P:	Botox 100 International Units Vial I.M/Intradermal 1"S (<i>Clostridium Botulinum Toxin A</i>)
Adm:	Do not exceed a total dose of 360 Units administered every 12 to 16 weeks or at longer intervals.
Category:	Acetylcholine release inhibitor and a neuromuscular blocking agent.
Indications:	Prophylaxis of headaches in adult patients with chronic migraine, treatment of upper limb spasticity in adult patients, cervical dystonia in adult patients, severe axillary hyperhidrosis, blepharospasm associated with dystonia and strabismus.
Caution:	Spread of toxin effects; swallowing and breathing difficulties can lead to death, concomitant neuromuscular disorder may exacerbate clinical effects of treatment, use with caution in patients with compromised respiratory function, corneal exposure and ulceration, retrobulbar hemorrhages and compromised retinal circulation, bronchitis and upper respiratory tract infections in patients treated for upper limb spasticity.
Contra-Ind:	Hypersensitivity to any botulinum toxin preparation, infection at the proposed injection site.
Side effects:	Chronic migraine, spasticity, cervical dystonia, dysphagia, back pain, upper respiratory infection, axillary hyperhidrosis, injection site pain and hemorrhage
Dosage:	<p>Chronic Migraine: Recommended total dose 155 Units, as 0.1 mL (5 Units) injections per each site divided across 7 head/neck muscles.</p> <p>Upper Limb Spasticity: Select dose based on muscles affected, severity of muscle activity, prior response to treatment, and adverse event history; Electromyographic guidance recommended.</p> <p>Cervical Dystonia: Base dosing on the patient's head and neck position, localization of pain, muscle hypertrophy, patient response, and adverse event history; use lower initial dose in botulinum toxin naïve patients.</p> <p>Axillary Hyperhidrosis: 50 Units per axilla.</p> <p>Blepharospasm: 1.25 Units-2.5 Units into each of 3 sites per affected eye.</p> <p>Strabismus: 1.25 Units-2.5 Units initially in any one muscle.</p>

ONDANSETRON (Zofran, Dansetron®) (Restricted)

P/P:	Zofran 4mg tab, 10's; Zofran 8mg tab, 10's, Ondansetron 8mg tab, 10's 4mg/2ml, injection 5's (Zofran, Dansetron) 8mg/4ml, injection 5's (Zofran, Dansetron)
Adm:	Oral prep may be taken with or without food.
Category:	Antiemetics & Antivertigo Drugs
Indications:	Postoperative nausea and vomiting, nausea and vomiting associated with cancer chemotherapy or radiotherapy
Caution:	Signs of subacute intestinal obstruction. Pregnancy & lactation.
Contra-Ind:	Hypersensitivity.
D/I:	Rifampicin and other enzyme inducers reduce concentration of ondansetron
Side effects:	Headache, sensation of warmth or flushing, hiccups, occasional & asymptomatic increase in liver function tests. Constipation.
Dosage:	Usual Adult Dose Recommended dose: Three 0.15 mg/kg doses (up to a maximum of 16 mg per dose) or 8 mg orally 3 times daily. Usual Pediatric Dose: Child 6 months to 18 years: 0.15 mg/kg (maximum of 16 mg per dose) as an IV infusion or 4to8 mg orally 3 times daily. Renal Dose Adjustments: No adjustments recommended Liver Dose Adjustments: A total daily dose of 8 mg should not be exceeded in patients with severe hepatic impairment

ORLISTAT (Xenical®)

P/P:	Xenical caps, 120mg, 84's
Adm:	Before, during or up to 1 hr after a fat-containing meal; omit dose if meal is occasionally missed or contains no fat.
Category:	Antibesity Agents
Indications:	Adjunct in obesity
Caution:	Fat-soluble vitamins to be taken 2 hrs before or after administration of orlistat. History of hyperoxaluria or calcium oxalate nephrolithiasis. Children <18 yrs. Diabetes, Pregnancy.
Contra-Ind:	Hypersensitivity. Chronic malabsorption syndrome. Cholestasis, Lactation.
D/I:	Decrease absorption of oral fat-soluble vitamins. May decrease plasma levels of cyclosporin.
Side effects:	Fecal urgency and incontinence, flatulence, fatty stools or discharge, increased defecation; headache, anxiety, fatigue

Dosage: Adults: The recommended dose of orlistat is one 120 mg capsule taken with water immediately before, during or up to one hour after each main meal.
Special populations: The effect of orlistat in patients with hepatic and/or renal impairment, children and elderly patients has not been studied.

OXCARBAZEPINE (Trileptal®)

P/P: Trileptal 300mg F.C tab, 50's, Trileptal 600mg F.C tab, 50's
Trileptal 60mg/ml, 250ml syrup

Adm: May be taken with or without food

Category: Anticonvulsants

Indications: Monotherapy or adjunctive therapy in the treatment of partial seizures with or without secondary generalized tonic-clonic seizures

Caution: Hypersensitivity to carbamazepine; do not discontinue abruptly; renal and hepatic impairment; pregnancy; hyponatremia; elderly; cardiac failure, cardiac conduction disorders.

Contra-Ind: Hypersensitivity to oxcarbazepine; lactation. AV block.

D/I: OCP, felodipine, carbamazepine, phenobarbital, phenytoin, immunosuppressant (cyclosporin).

Side effects: Diarrhea, constipation, abdominal pain; nausea, vomiting, dizziness, drowsiness, headache, agitation, amnesia, asthenia, ataxia, rash,

Dosage: Usual Adult Dose: 300 to 1,200 mg orally twice a day.
Usual Pediatric Dose: 4 to 5 mg/kg orally twice a day (up to 600 mg per day).
Renal Dose Adjustments: CrCl 29 mL/min or less: Initial dose: 150 mg orally twice a day;
increase at a slower than usual rate as clinically indicated
Liver Dose Adjustments: Mild to moderate liver dysfunction: No adjustment recommended.

OXYCODONE (Oxynorm®)

P/P: Oxynorm 20mg Cap 1"S; Oxynorm 5mg Cap 1"S

Adm: swallow tablets intact and not to cut, break, chew, crush, or dissolve tablets. Do not abruptly discontinue the medication.

Category: Opioid Agonist

Indications: Management of pain

Caution: Life-Threatening Respiratory Depression in Patients with Chronic Pulmonary Disease or in Elderly, Cachectic, or Debilitated Patients, Adrenal Insufficiency, Severe Hypotension, Risks of Use in Patients with Increased Intracranial Pressure, Brain Tumors, Head Injury,

or Impaired Consciousness, Risk of Obstruction in Patients who have Difficulty Swallowing or have Underlying GI Disorders that may Predispose them to Obstruction.

Contra-Ind: Significant respiratory depression, Acute or severe bronchial asthma, Known or suspected gastrointestinal obstruction, including paralytic ileus, Hypersensitivity to oxycodone.

Side effects: Constipation, nausea, vomiting, somnolence, dizziness, pruritus, headache, dry mouth, asthenia and sweating.

Dosage: Adults: For opioid-naïve and opioid non-tolerant patients, initiate with 10 mg orally every 12 hours.

Pediatric Patients 11 Years of Age and Older: Only in patients already receiving and tolerating opioids for at least 5 consecutive days with a minimum of 20 mg per day of oxycodone or its equivalent for at least two days immediately preceding dosing with OXYCONTIN.

Geriatric Patients: Initiate dosing at one third to one half the recommended starting dosage and titrate carefully.

Hepatic Impairment: Initiate dosing at one third to one half the recommended starting dosage and titrate carefully.

Paliperidone (Invega®)

P/P: Invega 3mg tab 28's, Invega 6 mg tab 28's,
Invega 9 mg tab 28's.

Adm: Take on an empty stomach.

Category: Atypical antipsychotic agent.

Indications: Schizophrenia.

Cautions: Hepatic impairment, renal impairment, pregnancy and lactation.

Side effects: Dry mouth, vomiting, hypersalivation, tachycardia, drowsiness, headache, menstrual disturbance, gynecomastia.

Dosage: Usual Adult Dose: Dose range: 3 to 12 mg per day, the recommended dose: 6 mg once a day, Maximum dose: 12 mg per day.

Usual Pediatric Dose: 12 to 17 years old: Recommended dose: 3 mg orally once a day
Dose range: 3 to 12 mg per day, Maximum dose: 12 mg per day.

Renal Dose Adjustments: CrCl less than 10 mL/min: Use not recommended
CrCl 50 mL/min to less than 80 mL/min: Initial dose: 3 mg orally once a day; may increase to a maximum of 6 mg orally once a day based on efficacy and tolerability.

CrCl 10 mL/min to less than 50 mL/min: Initial dose: 1.5 mg orally once a day; may increase to a maximum of 3 mg orally once a day based on efficacy and tolerability.

Liver Dose Adjustments Mild to moderate hepatic impairment: No dosage adjustments required

Severe hepatic impairment: Data not available

PARACETAMOL (Perfalgan, Adol, Panadol Actifast, Tylenol, Fevadol, Amol, Revanin®)

P/P:	500mg tab, 24's (Panadol Advance, Panadol coated, Emidol) 500mg tab, 20's (Panadol Actifast, Tylenol, Fevadol, Amol, Revanin) 100mg/ml, 15ml drops (Adol, Riagesic, and Amol) 160mg/5ml syrup 145ml (Tempra, Fevadol S.F, Amol, Adol, Defadol) 120mg/5ml syrup, 100ml (Riagesic, Adol, Emidol) 100mg rectal supp, 10's (Tylenol, Fevadol) 200mg rectal supp, 10's (Tylenol, Fevadol) 350mg rectal supp, 10's (Tylenol, Fevadol) 125mg rectal supp, 10's (Adol) 250mg rectal supp, 10's (Adol) 500mg rectal supp, 10's (Adol) 10 mg /100 ml infusion (Perfalgan)
Adm:	May be taken with or without food.
Category:	Analgesics & Antipyretics
Indications:	Relief of mild to moderate pain and fever
Caution:	Renal or hepatic impairment; alcohol-dependent patients.
Contra-Ind:	Hypersensitivity.
D/I:	Barbiturates, tricyclic antidepressants & alcohol. Liver enzyme inducers
Side effects:	Nausea, allergic reactions, skin rashes, acute renal tubular necrosis
Dosage:	<p>Usual Adult Dose: IV: Adults and adolescents weighing 50 kg and over: 1000 mg every 6 hours or 650 mg every 4 hours, with a maximum single dose of 1000 mg, a minimum dosing interval of 4 hours, and a maximum daily dose of acetaminophen of 4000 mg per day.</p> <p>Adults and adolescents weighing under 50 kg: 15 mg/kg every 6 hours or 12.5 mg/kg every 4 hours, with a maximum single dose of 15 mg/kg, a minimum dosing interval of 4 hours, and a maximum daily dose of acetaminophen of 75 mg/kg per day.</p> <p>Orally or Rectally: General Dosing Guidelines: 325 to 650 mg every 4 to 6 hours or 1000 mg every 6 to 8 hours.</p> <p>Usual Pediatric Dose: IV loading dose: 20 mg/kg followed by 10 mg/kg/dose every 12 hours.</p> <p>Oral: 10 to 15 mg/kg/dose every 6 to 8 hours. Rectal: 20 mg/kg/dose every 12 hours.</p> <p>Renal Dose Adjustments: IV: CrCl 30 mL/min or less: Use with caution;</p> <p>Oral: CrCl less than 10 mL/min: Administer every 8 hours CrCl 10 to 50 mL/min: Administer every 6 hours</p> <p>Liver Dose Adjustments: Use with caution</p>

PARACETAMOL COMPOUND PREPARATIONS (Panadol Extra tab, Fevadol Extra tab, Adol Extra, Amol Extra®)

Paracetamol 500mg, Caffeine 60mg (**Midrone Extra Tab, 30's**)

Paracetamol 500mg, Caffeine 65mg (**Panadol Extra tab, 24's**, **Fevadol Extra tab, 20's**, **Adol Extra Caplet, 24's**, **Amol Extra 20's**)

Paracetamol 500mg, Caffeine 30mg, Codeine phosphate 8mg (**Solpadine caps, 24's, Solpadine soluble tab, 24's, Fevadol Plus tab, 20's**)

PAROXETINE (Seroxat, Paroxat, Paxitab®) (Restricted)

P/P:	Seroxat 20mg tab, 30's, Seroxat CR 20mg tab, 30's Seroxat CR 12.5mg tab, 30's Paroxat 10 mg tab, 30s, Paroxat 20 mg tab, 30s, Paroxat 30 mg tab, 30s Paxitab 20 mg coatedtab, 30s
Adm:	May be taken with or without food
Category:	Antidepressants
Indications:	Depression, obsessive-compulsive disorders, panic disorder with, or without agoraphobia, social phobias, generalized anxiety disorder
Caution:	Epilepsy; glaucoma; elderly, history of mania, cardiac disease, and diabetes mellitus; renal and hepatic impairment, pregnancy
Contra-Ind:	Hypersensitivity. Concomitant use with MAOIs. Children <18 yrs. Not to be used if patient enters a manic phase. Lactation.
D/I:	Concomitant administration with MAOIs can cause fatal reactions.
Side effects:	Abnormal ejaculation, abnormal orgasm, constipation, decreased appetite, decreased sex drive, diarrhea, dizziness, drowsiness, dry mouth, gas, impotence, male and female genital disorders, nausea, nervousness, sleeplessness, sweating, tremor, weakness, vertigo
Dosage:	Usual Adult Dose: Immediate-release tablets 20 to 60 mg orally once a day Controlled-release tablets: 25 to 75 mg orally once a day. Renal Dose Adjustments: CrCl less than 30 mL/min: Immediate-release tablets: 10 to 40 mg orally once a day, Controlled-release tablets: 12.5 to 50 mg orally once a day Liver Dose Adjustments: Severe liver dysfunction: Immediate-release tablets: 10 to 40 mg orally once a day, Controlled-release tablets: 12.5 to 50 mg orally once a day

PERAMPANEL (Fycompa®)

P/P:	Fycompa 2mg F.C tab, 7's Fycompa 4mg F.C tab 28's Fycompa 6mg F.C tab 28's
Adm:	May be taken with or without food
Category:	Anticonvulsant
Indications:	Treatment of Primary generalized tonic-clonic seizures
Caution:	It is not recommended in case of neuropsychiatric disorders and renal impairment.
D/I:	Other antidepressant, Chlormethiazole, CYP3A4 Inducers.
Dosage:	The recommended dose is 2 mg once daily taken orally at bedtime.

Pediatric population: Children ≥4 years 2 mg once daily taken orally at bedtime
Renal Dose Adjustments: caution should be exercised
Liver Dose Adjustments: is contraindicated in patients with hepatic impairment

PETHIDINE HYDROCHLORIDE (Pethidine®) (Narcotic Drug)

P/P:	Pethidine 50mg Inj, 10's, Pethidine 100mg Inj, 10's
Category:	Narcotic analgesic
Indications:	Mild to moderate pain, obstetric analgesia, peri-operative analgesia
Caution:	CV disorders, hyperthyroidism, adrenocortical insufficiency, impaired liver function, prostatic hypertrophy, shock.
Contra-Ind:	Resp depression, head injuries, acute alcoholism, MAOI therapy.
D/I:	Cimetidine, phenothiazines, alcohol, CNS depressants.
Side effects:	GI disturbances; dependence, CNS disturbances; dry mouth, hypotension, raised intracranial pressure, resp depression.
Dosage:	Adults: Subcutaneous or intramuscular injection: 25 - 100mg. Intravenous injection: 25 - 50mg. Elderly or debilitated patients: The initial dose should not exceed 25mg. Children: The usual single dose is 0.5 to 2mg/kg body weight by intramuscular injection. Pethidine should only be used with caution and in reduced dosage in patients with severe hepatic or renal impairment.

PHENYTOIN SODIUM (Epanutin, Phentolep, Phenytoin®)

P/P:	Epanutin 100mg caps, 100's, Epanutin 30mg/5ml syrup, 125ml Phenytoin 250mg/5ml Inj, 5's Phentolep 250mg/5ml, 5's
Adm:	Should be taken with food
Category:	Anticonvulsants
Indications:	Idiopathic & symptomatic epilepsy (except petit mal), grand mal, psychomotor epilepsy, Jackson epilepsy.
Caution:	Severe myocardial insufficiency. Hypotension. Hepatic impairment. Abrupt withdrawal. Porphyria, diabetes. Elderly, debilitated. Pregnancy & lactation. Avoid alcohol.
Contra-Ind:	Hypersensitivity; acute intermittent porphyria; pregnancy; sinus bradycardia, heart block, Stokes-Adams syndrome.
D/I:	OCP, corticosteroids, methadone, amiodarone, oral anticoagulants, chloramphenicol, cimetidine, disulfiram, INH, neuroleptics, alcohol, methotrexate.
Food/I:	Food alters serum concentrations of phenytoin. Decreased serum concentration with enteral nutrition; decreases calcium, folic acid, and vitamin D levels.

Side effects: Gingival hyperplasia, hirsutism, hypertrichosis, allergic reactions, peripheral neuropathy, cerebellar ataxia, osteopathy, osteoporosis.

Dosage: Usual Adult Dose: Oral 100 mg orally 3 to 4 times a day. Suspension: 125 mg (one teaspoonful) of the suspension three times daily, 100 mg IV every 6 to 8 hours.
Usual Pediatric Dose: (IV or oral)
Less than or equal to 4 weeks: Initial: 5 mg/kg/day in 2 divided doses
Usual: 5 to 8 mg/kg/day IV in 2 divided doses (may require dosing every 8 hours).
Greater than or equal to 4 weeks: Initial: 5 mg/kg/day in 2 to 3 divided doses
Usual: (may require up to every 8 hour dosing)
6 months to 3 years: 8 to 10 mg/kg/day
4 to 6 years: 7.5 to 9 mg/kg/day
7 to 9 years: 7 to 8 mg/kg/day
10 to 16 years: 6 to 7 mg/kg/day
Renal Dose Adjustments: Patients with renal disease should not receive the oral loading regimen.
Liver Dose Adjustments: Patients with liver disease should not receive the oral loading regimen

PEGINTERFERON Beta-1 A (Plegridy®)

P/P: **Plegridy 125 meg/0.5ml pref. syringe, 2's
Plegridy 63-94 mcg (63 mcg / 0.5ml + 94 mcg/0.5ml 2's**

Category: Biological Response Modulator; Interferon

Indications: Multiple sclerosis, relapsing.

Caution: Autoimmune disorders, Bone marrow suppression, Hepatic effects and neuropsychiatric disorders

Contra-Ind: Hypersensitivity to natural or recombinant interferon beta or peginterferon, or any component of the formulation

D/I: Zidovudine, Pegvalinase, Pegloticase and Cladribine

Side effects: Central nervous system, Dermatologic, neuromuscular and respiratory disorder.

Dosage: Adult: Initial dose is 63 mcg SubQ on day 1 and 94 mcg on day 15.
Maintenance: 125 mcg every 14 days beginning on day 29.
Renal Dose Adjustments: No need for adjustment (partially removed 24% by hemodialysis).
Liver Dose Adjustments: No need for adjustment.

PIRACETAM (Nootropil®)

P/P: **Nootropil 800mg tab, 30's, Nootropil 200mg/ml, 200ml syrup
Nootropil Inj 1gm/5ml amp, 3gm/15ml amp, 4's, 12 gm/60ml Infusion'1's,**

Adm: Oral prep should be taken with food

Category: Peripheral Vasodilators & Cerebral Activators

Indications: Adjunct in the treatment of cortical myoclonus, cognitive enhancer, Treatment of sickle-cell anaemia

Caution: Do not withdraw abruptly. Impaired renal function. Cardiac disorders. Elderly.

Contra-Ind: Hepatic and severe renal impairment. Pregnancy and lactation

D/I: CNS stimulants, neuroleptics, thyroid hormones.

Side effects: Hyperkinesia, nervousness, depression, diarrhea, rashes. CNS stimulation, sleep disturbances, dizziness, excitement, insomnia, somnolence, weight gain.

Dosage: The daily dosage should begin at 7.2 g increasing by 4.8 g every three to four days up to a maximum of 24 g, in two or three sub-doses.
Patients with renal impairment: Creatinine Clearance(50-79 ml/min): 2/3 usual daily dose, 2 or 3 sub-doses, Creatinine Clearance (30-49 ml/min): 1/3 usual daily dose, 2 sub-doses

Creatinine Clearance (< 30 ml/min): 1/6 usual daily dose, 1 single intake, End-stage renal disease: contraindicated.

Patients with hepatic impairment: see 'Dosage adjustment in patients with renal impairment'above).

PIRIBEDIL (Trivastal®)

P/P: Trivastal retard 50mg tab, 30's

Adm: Should be taken with food

Category: Antiparkinsonian Drugs

Indications: Parkinson's disease, minor neurological disturbances related to aging, visual disorders of circulatory origin, adjunctive treatment of arteriopathy of the lower limbs.

Caution: Concurrent administration with central dopamine antagonists, lactation.

Contra-Ind: Hypersensitivity, cardiovascular collapse, acute myocardial infarction, pregnancy.

D/I: Dopamine antagonists e.g., phenothiazines and haloperidol may antagonize effects of piribedil.

Side effects: Nausea, vomiting, dizziness, confusion, drowsiness, hypothermia, dyskinésias, occasional changes in liver function.

Dosage: Adult: The recommended dose is 150-250mg daily in 3-5 divided doses.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PRAMIPEXOLE (Sifrol®)

P/P: Sifrol 0.7mg tab, 30's, Sifrol 0.18mg tab, 30's

Adm: May be taken with or without food (May also be taken w/ meals to minimize GI upset.).
 Category: Antiparkinsonian Drugs
 Indications: Treatment of signs & symptoms of idiopathic Parkinson's disease as monotherapy or in combination w/ levodopa.
 Caution: Renal impairment, severe CV disease. Avoid abrupt withdrawal. Pregnancy & lactation. May impair ability to drive or operate machinery.
 Contra-Ind: Lactation.
 D/I: Cimetidine, amantadine & other sedating drugs or alcohol.
 Side effects: Nausea, constipation, somnolence, hallucinations, confusion, dizziness, dyskinesias.
 Dosage: Usual Adult Dose: 1.5 to 4.5 mg per day
 Renal Dose Adjustments: Very severe renal impairment (CrCl less than 15 mL/min): Not recommended, Severe renal impairment (CrCl 15 to less than 30 mL/min): Initial dose: 0.125 mg orally once a day, maximum dose of 1.5 mg once a day
 Moderate renal impairment (CrCl 30 to 50 mL/min): Initial dose: 0.125 mg orally twice a day; Maximum dose: 2.25 mg per day
 Liver Dose Adjustments: No adjustment recommended.

PREGABALIN (Lyrica, Nervax®) (Restricted)

P/P: Lyrica 50mg,21's, Lyrica 75mg,14's, Lyrica 150mg,56's
 Nervax 75 mg cap, 20's, Nervax 150mg cap, 60's
 Adm: May be taken with or without food
 Category: Anticonvulsants
 Indications: Neuropathic pain in adults. Epilepsy, as adjunctive therapy of partial seizures w/ or w/o secondary generalization in patients ≥ 12 yr.
 Caution: May affect ability to drive or operate machinery.
 Contra-Ind: Pregnancy, lactation. Driving or working with machines, or do other dangerous activities.
 D/I: Concurrent use with oxycodone, lorazepam, and ethanol may increase the CNS effects.
 Side effects: Dizziness, somnolence. Appetite increase, euphoric mood, confusion, decreased libido, irritability. Blurred vision, diplopia, vertigo, dry mouth, GI disturbances, erectile dysfunction, fatigue, peripheral edema, feeling drunk, edema, gait abnormality, wt increase.
 Dosage: Usual Adult Dose: 50 to 100mg 2-3 times a day.
 Renal Dose Adjustments: If the CrCl is 30 to 60 mL/min, initiate with 25 mg 3 times a day. If the CrCl is 15 to 30 mL/min, initiate with 25 mg 1 or 2 times a day. If the CrCl is less than 15 mL/min, initiate with 25 mg once a day.
 Liver Dose Adjustments: Data not available

PROMETHAZINE (Promantine, Prometin, Promethazine®)

P/P:	5mg/ml, 125ml syrup (Promantine) 5mg/ml, 125ml syrup (Prometin) Inj 2.5 %, (Promethazine)
Adm:	Oral prep may be taken with or without food.
Category:	Antiemetics & Antivertigo Drugs / Antihistamines & Antiallergics
Indications:	Motion sickness, nausea,&vomiting associated w/ morning sickness, drug intolerance, & post-anaesth. Allergic disorder, hay fever& skin disorder, night sedation; Insomnia
Caution:	CV, hepatic disease, Children, acutely ill or dehydrated patients, Narrow-angle glaucoma, Prostatic hypertrophy, Epilepsy
Contra-Ind:	Coma, CNS depression, neonates, prematures MAOI therapy w/in 14 days.
D/I:	CNS depressants e.g. alcohol, barbiturates, hypnotics, narcotic analgesics, sedatives & tranquillisers, aminoglycosides, MAOIs
Side effects:	Sedation, inability to concentrate, lassitude, dizziness, hypotension, muscular weakness, incoordination, GI disturbances, headache, blurred vision
Dosage:	Usual Adult Dose: Parenteral: 25 mg IV or IM, Oral: 12.5 mg to 25 mg as single or dose three divided dose. Usual Pediatric Dose: Greater than or equal to 2 years:0.25-1mg /kg/dose. 4 to 6 times a day as needed. Renal Dose Adjustments: It is generally recommended that dosage selection for the elderly be started at the low end of the dosage range because of the greater frequency of decreased renal function reported in this population. Liver Dose Adjustments: It is generally recommended that dosage selection for the elderly be started at the low end of the dosage range because of the greater frequency of decreased hepatic function reported in this population.

QUETIAPINE (Seroquel, Rezal®) (Restricted)

P/P:	Seroquel 25mg tab,20's, Seroquel 100mg tab,60's, Seroquel 200mg tab,60's, Seroquel 300mg tab,30's Seroquel XL tab, 30's (300 mg, 400 mg) Rezal XR tab, 30's (50 mg, 200 mg, 300 mg)
Adm:	May be taken with or without food.
Category:	Antipsychotic
Indications:	Treatment of schizophrenia/psychoses
Caution:	Patients with known cardiovascular disease, cerebrovascular disease, or conditions that predispose to hypotension. History of seizures; neuroleptic malignant syndrome; tardive dyskinesia. Pregnancy and lactation.

Contra-Ind:	Hypersensitivity; severe CNS depression; bone marrow suppression; blood dyscrasias; severe hepatic impairment, coma.
D/I:	Carbamazepine, azole antifungals & macrolide antibiotics, centrally-acting drugs & alcohol, thioridazine, phenytoin, barbiturates, rifampicin, ketoconazole.
Side effects:	Dizziness, somnolence, tachycardia, constipation, dry mouth, dyspepsia, mild asthenia, orthostatic hypotension.
Dosage:	Usual Adult Dose: Immediate-release tablets: doses ranging from 150 to 750 mg/day. Maximum clinical effect has been reported at 300 mg/day. Extended-release tablets: 400 to 800 mg orally once daily. Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: A slower rate of dose titration and a lower therapeutic dose may be appropriate.

Rimegepant (Nurtec ODT®)

P/P:	Nurtec ODT: 75 mg
Adm:	Using dry hands, peel foil covering blister to remove tablet; do not push tablet through the foil. Immediately place tablet on or under tongue. The tablet will disintegrate in saliva (can be swallowed without additional liquid).
Category:	Antimigraine Agent; Calcitonin Gene-Related Peptide (CGRP) Receptor Antagonist
Indications:	Preventative treatment of migraine in adults
Caution:	Hypersensitivity reactions, including dyspnea, rash, and delayed serious reactions, have been reported; discontinue therapy if hypersensitivity occurs.
Contra-Ind:	Hypersensitivity (including delayed serious hypersensitivity) to Rimegepant or any component of the formulation.
Side effects:	Abdominal pain, dyspepsia, nausea, skin rash, hypersensitivity reaction, dyspnea
Dosage:	Migraine, moderate to severe, acute treatment (alternative agent): Oral: 75 mg as a single dose. Maximum: 75 mg per 24 hours Migraine, prevention (alternative agent): Oral: 75 mg every other day

RISPERIDONE (Risperdal, Respal, Ridon®) (Restricted)

P/P:	Risperdal 1mg tab, 6's Risperdal 2mg tab, 20's Risperdal 2mg tab, 20's Risperdal 3mg tab, 60's Risperdal 1mg/ml, 100ml sol Risperdal consta 25mg Inj, Risperdal consta 37.5mg Inj Risperdal consta 50mg Inj Respal 2mg cap, 20s Ridon 1 mg tab, 30's, Ridon 2 mg tam 30's
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Adm: Oral prep may be taken with or without food
Category: Antipsychotic
Indications: Treatment of schizophrenia, Chronic Psychosis
Caution: Preexisting cardiovascular diseases; discontinue use if signs and symptoms of tardive dyskinesia occur; renal and hepatic impairment, elderly, epilepsy; Parkinsonism; pregnancy.
Contra-Ind: Hypersensitivity; lactation
D/I: Potentially Hazardous Interactions; may enhance the effects of certain antihypertensive. May antagonize the effects of levodopa and dopamine agonists
Side effects: Insomnia, agitation, anxiety, headache rarely, somnolence, fatigue, dizziness, extrapyramidal symptoms.
 Potentially Life-threatening Adverse Drug Reactions; Neuroleptic malignant syndrome may occur rarely; seizures
Dosage: Usual Adult Dose: Oral Formulations: 2 to 8 mg per day, Maximum dose: 16 mg orally per day. Long-acting IM Injection: 25 mg IM every 2 weeks, Maximum dose: 50 mg IM every 2 weeks.
 Usual Pediatric Dose: 13 years or older: 0.5 mg to 3 mg per day, Maximum dose: 6 mg orally per day.
 Renal Dose Adjustments: Oral formulations: Severe renal impairment (CrCl less than 30 mL/min): Initial starting dose: 0.5 mg orally twice a day; increase in increments of 0.5 mg or less, administered twice a day. For doses above 1.5 mg twice a day, increase in intervals of 1 week or greater.
 Long-acting IM Injection: If a total daily oral dose of at least 2 mg once daily is well tolerated, the long-acting intramuscular formulation may be used.
 Liver Dose Adjustments: Oral formulations: Severe hepatic impairment: Initial starting dose: 0.5 mg orally twice a day; increase in increments of 0.5 mg or less, administered twice a day. For doses above 1.5 mg twice a day, increase in intervals of 1 week or greater.
 Long-acting IM Injection: If a total daily oral dose of at least 2 mg once daily is well tolerated, the long-acting intramuscular formulation may be used.

RIVASTIGMINE (Exelon®)

P/P: **Exelon 1.5mg caps, 28's, Exelon 3mg caps, 28's**
Exelon 4.5mg caps, 28's, Exelon 6mg caps, 28's
Exelon 4.6 mg patch, 30's, Exelon 9.6 mg patch, 30's
Adm: May be taken with or without food
Category: Neurodegenerative Disease Drugs
Indications: Mild to moderately severe dementia associated w/ Alzheimer disease or Parkinson's disease

Caution:	Sick sinus syndrome or conduction defects; history of asthma or obstructive pulmonary disease. May increase gastric acid secretion; exacerbate urinary obstruction or seizures. Pregnancy, lactation.
Contra-Ind:	Hypersensitivity to Rivastigmine or other carbamate derivatives. Lactation.
D/I:	Cholinomimetics, anticholinergics, succinylcholine-type muscle relaxants during anesthesia
Side effects:	Agitation, confusion, dizziness, headache, somnolence, tremor, nausea & vomiting, diarrhea, anorexia, abdominal pain & dyspepsia, increased sweating, fatigue & asthenia, malaise, weight loss.
Dosage:	<p>Usual Adult Dose: Oral: 1.5 mg to 3 mg twice a day, Transdermal: 4.6 mg/24-hour transdermal patch applied to the skin once daily, the dose can then be increased to 13.3 mg/24 hours.</p> <p>Renal Dose Adjustments: No dosage adjustment recommended, Moderate to severe renal impairment (glomerular filtration rate less than 50 mL/min): Patients may only be able to tolerate lower doses.</p> <p>Liver Dose Adjustments: No dosage adjustment recommended, because the dose is individually titrated to tolerability. Mild to Moderate liver dysfunction: 4.6 mg/24 hours transdermal patch for initial and maintenance dose, Mild to Moderate hepatic impairment: Patients may only be able to tolerate lower doses</p> <p>Severe hepatic impairment: No data available.</p>

SERTRALINE (Lustral, Riasertal®)

P/P:	Lustral 50mg tab, 30's Riasertal 50mg tab, 30's Riasertal 100mg tab, 30's
Adm:	May be taken with or without food.
Category:	Antidepressants
Indications:	Depression accompanied by symptoms of anxiety, in patients w/ or w/o history of mania, obsessive-compulsive disorder (OCD), panic disorder, post-traumatic stress disorder (PTSD), social phobia, premenstrual dysphoric disorder (PMDD).
Caution:	Activation of hypomania or mania. Unstable epilepsy, hepatic impairment, renal impairment. Pregnancy & lactation.
Contra-Ind:	MAOI therapy.
D/I:	MAOIs, cimetidine
Side effects:	Nausea, diarrhea, dyspepsia, tremor, dizziness, insomnia, somnolence, increased sweating, dry mouth, male sexual dysfunction.
Dosage:	<p>Usual Adult Dose: 50 to 200 mg orally once a day.</p> <p>Usual Pediatric Dose: 6 to 12 years: 25 to 200 mg orally once a day 13 to 17 years: 50 to 200 mg orally once a day</p> <p>Renal Dose Adjustments: No adjustment recommended</p>

Liver Dose Adjustments: Liver dysfunction: Use with caution; lower or less frequent dosing may be appropriate.

SODIUM VALPROATE (Depakine, Depakine chrono®)

- P/P: **Depakine 200mg tab, 40's, Depakine 500mg tab,40's, Depakine chrono 500mg tab,30's Depakine 285mg/5ml syrup, 150ml, Depakine 200mg/ml, 40ml drops**
- Adm: Should be taken with food.
- Category: Anticonvulsants
- Indications: All forms of epilepsy
- Caution: Unusual congenital disorders accompanied by mental retardation, organic brain disease. Patients w/ renal insufficiency. Children <3 yr. Pregnancy.
- Contra-Ind: Acute & chronic hepatitis, history of severe hepatitis, esp. drug-related. Hypersensitivity to sodium valproate or valproic acid, porphyria.
- D/I: Antiepileptic, CNS depressants, aspirin, barbiturates, warfarin, dicumarol.
- Side effects: Anorexia, nausea, vomiting, diarrhea, increased appetite, weight gain, nystagmus, ataxia, drowsiness, fatigue, bleeding and bruising (rare).
- Dosage: Usual Adult Dose: 10 to 60 mg/kg per day in divided doses.
Usual Pediatric Dose: 10 years of age or older: 10 to 60 mg/kg per day in divided doses,
Maximum dose: 60 mg/kg per day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Contraindicated in patient with Hepatic disease or significant hepatic dysfunction.

SULPIRIDE (Dogmatil, Genprid®)

- P/P: **50 caps, 30's (Dogmatil, Genprid)
200mg tab, 12's (Dogmatil-F, Genprid)**
- Adm: May be taken with or without food.
- Category: Antipsychotic
- Indications: Acute & chronic psychotic disorders (schizophrenia, nonschizophrenic chronic delusions). Short-term treatment of the symptoms of anxiety in adult if standard therapies have failed.
- Caution: Severe renal insufficiency, epilepsy. Pregnancy, lactation; elderly. Parkinson's disease
- Contra-Ind: Phaeochromocytoma; in combination w/ dopaminergic agonists except in the case of patients w/ Parkinson's disease & medicine-induced torsade's de pointes.
- D/I: Other CNS depressants, alcohol, levodopa; other dopaminergic agonists in patients w/ Parkinson's disease, medicines for bradycardia, hypokalemics, antihypertensive

- Side effects: Galactorrhea, gynecomastia, impotence or frigidity; amenorrhea; extra pyramidal reaction, orthostatic hypotension; tardive dyskinesias; sedation, somnolence.
- Dosage: Adults: usual starting dose is 400mg twice daily increasing if necessary to a suggested maximum of 1200 mg twice daily.
Elderly: Initially one quarter to one half of the adult dose.
Children: Not recommended for children under 14 years of age.
Renal impairment: The dosage should be reduced or the dosage interval increased.

SUMATRIPTAN (Imigran®)

- P/P: **Imigran 50mg tab, 2's, Imigran 50mg tab, 6's**
Imigran 100mg tab, 2's, Imigran 100mg tab, 6's
Imigran 20mg nasal spray
- Adm: Oral prep may be taken with or without food.
- Category: Anti migraine
- Indications: Acute treatment of migraine with or without aura.
- Caution: Cardiac arrhythmias, epilepsy, organic brain syndrome, renal or hepatic impairment; ability to drive or operate machinery may be impaired. Elderly. Pregnancy and lactation.
- Contra-Ind: MI, ischemic heart disease (IHD), Prinzmetal's angina/coronary vasospasm, peripheral vascular disease or patients who have symptoms or signs consistent w/ IHD; history of CVA or transient ischemic attack, uncontrolled hypertension, severe hepatic impairment.
- D/I: MAO inhibitors; increased risk of CNS toxicity with SSRIs. Ergotamine enhances vasospastic effect
- Side effects: Tingling heat sensation, heaviness, pressure or tightness in any body part, flushing, dizziness, weakness. Fatigue, drowsiness. Nausea, vomiting
- Dosage: Usual Adult Dose: 25 mg to 200 mg orally per 24 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Mild to moderate liver dysfunction: Maximum single dose of 50 mg should not be exceeded. Severe liver dysfunction: Contraindicated.

THIORIDAZINE (Melleril®)

- P/P: **Melleril 10mg, 30's, Melleril 25mg,30's, Melleril 100mg,30's**
- Adm: Should be taken with food
- Category: Antipsychotic
- Indications: Treatment of schizophrenia/psychoses
- Caution: Pregnancy, lactation; liver disease; perform ECG screening and electrolyte measurement before therapy, after each dose increase and at 6-month intervals.

Contra-Ind:	Hypersensitivity to phenothiazines; comatose states, severe CNS depression; severe CVS disorders; uncorrected hypokalemia or any electrolyte imbalance; known QT prolongation; history of ventricular arrhythmias including torsade's de pointes; porphyria.
D/I:	Potentially Hazardous Interactions; Avoid concomitant use with class IA and class II antiarrhythmics, TCAs and some antipsychotic which prolong the QT interval. Avoid co-administration with drugs that cause electrolyte imbalance.
Side effects:	Drowsiness, sedation, dry mouth, nasal congestion, blurring of vision, tremor, constipation, urinary retention, tachycardia, postural hypotension, sexual dysfunction; Potentially Life-threatening Adverse Drug Reactions; Neuroleptic malignant syndrome. Sudden deaths due to cardiac arrhythmias and arrest.
Dosage:	Usual Adult Dose: 200 to 800 mg/day in 2 to 4 divided doses. Usual Pediatric Dose: <2 years: Do not use. 2 to 12 years: : 0.5 mg/kg/day in 2 to 3 divided doses up to a maximum of 3 mg/kg/day in divided doses. 13 to 18 years: 50 to 100 mg orally 3 times a day.to 200 to 800 mg/day in 2 to 4 divided doses Dialysis: Hemodialysis: Not significantly removed. Hemoperfusion: Not significantly removed.

TOPIRAMATE (Topamax, Iprimax®)

P/P:	Topamax 25mg tab, 60's, Topamax 100mg tab, 60's, Topamax 200mg, 60's tab Iprimax 25 mg tab, 60's, Iprimax 100 mg tab, 60's
Adm:	May be taken with or without food
Category:	Anticonvulsants
Indications:	Adjunctive therapy for refractory partial seizures, seizures associated with the lennox-gastaut syndrome and primary generalized tonic-clonic seizures
Caution:	Decreased hepatic function, renal failure. Maintain adequate hydration to reduce the risk of renal calculi especially in predisposed patients; pregnancy; avoid abrupt withdrawal.
Contra-Ind:	Hypersensitivity; lactation.
D/I:	Should be used with extreme caution with alcohol or other CNS depressant drugs. Phenytoin, carbamazepine. Valproic acid, phenobarbital, primidone, agents predisposing nephrolithiasis. Lithium, glyburide.
Side effects:	Confusion; dizziness, drowsiness, generalized slowing of mental and physical activity, mood or mental changes, agitation, nervousness, abdominal pain, impotence.
Dosage:	Usual Adult Dose: Recommended dose: 400 mg orally per day in 2 divided doses of 200 mg each. Usual Pediatric Dose: patients 2 to less than 10 years: Up to 11 kg: Minimum dose: 150 mg per day; Maximum dose: 250 mg per day 12 to 22 kg: Minimum dose: 200 mg per day; Maximum dose: 300 mg per day 23 to 31 kg: Minimum dose: 200 mg per day; Maximum dose: 350 mg per day

32 to 38 kg: Minimum dose: 250 mg; Maximum dose: 350 mg
Greater than 38 kg: Minimum dose: 250 mg per day; Maximum dose: 400 mg per day
Renal Dose Adjustments: CrCl less than 70 mL/min: Reduce the usual starting and maintenance dose by 50%
Liver Dose Adjustments: Moderate to severe hepatic impairment: Use with caution

TRAMADOL HYDROCHLORIDE (Tramal®) (Narcotic Drug)

P/P: Tramal 50mg caps, (10's, 30's), Tramal 100mg caps, 10's
Tramal 100mg Inj, 5's

Adm: Oral prep may be taken with or without food.

Category: Opioid analgesic

Indications: Moderate to severe, acute, & chronic pain, painful diagnostic or therapeutic measures.

Caution: Patients known to suffer from convulsions. Pregnancy & lactation. May impair ability to drive or operate machinery. Reduce dose in renal or hepatic impairment.

Contra-Ind: Acute intoxication w/ alcohol, hypnotics, analgesics, or psychotropics.

D/I: Potentiates effects of alcohol, sedatives, hypnotics, & psychotropics. Avoid concurrent administration of MAOIs

Side effects: Sweating, dizziness, nausea, vomiting, dry mouth, fatigue, hypotension.
Dosage: Usual Adult Dose: 50 to 100 mg orally every 4 to 6 hours as needed for pain
Maximum dose: 400 mg per day
Usual Geriatric Dose: 65 years or older: Start at the low end of the dosing range
75 years or older: Maximum dose: 300 mg per day in divided doses.
Usual Pediatric Dose: 17 years or older: 50 to 100 mg orally every 4 to 6 hours as needed for pain Maximum dose: 400 mg per day.
Renal Dose Adjustments: CrCl less than 30 mL/min: Dosing interval should be increased to every 12 hours; maximum dose should not exceed 200 mg per day
Liver Dose Adjustments: Patients with cirrhosis: 50 mg orally every 12 hours
Severe hepatic impairment: Use is not recommended.

TRAMADOL + PARACETAMOL (Zaldiar®) (Controlled)

P/P: Zaldiar tab, 30's (Tramadol hcl 37.5mg, Paracetamol 325mg)

Adm: Oral prep may be taken with or without food.

Category: Opioid analgesic combination

Indications: Moderate to severe, acute, & chronic pain, painful diagnostic or therapeutic measures.

Caution: Contra-Ind: D/I: Side effects: See Tramadol and Paracetamol

Dosage: Adults and adolescents (12 years and older): An initial dose of two tablets of Tramadol hydrochloride/Paracetamol is recommended. Additional doses can be taken as needed, not exceeding 8 tablets (equivalent to 300 mg tramadol and 2600 mg paracetamol) per day.
Pediatric population: it is not recommended in children below the age of 12 years.
Renal insufficiency/dialysis: it is not recommended in patients with severe renal insufficiency (creatinine clearance < 10 ml/min). In cases of moderate renal insufficiency (creatinine clearance between 10 and 30 ml/min), the dosing should be increased to 12-hourly intervals
Hepatic impairment: dosage intervals should be carefully considered according to the Patient's requirements.

TRIHEXYPHENIDYL HYDROCHLORIDE, BENZHEXOL (Trihexyphenidyl®)

P/P: **Trihexyphenidyl hydrochloride tab, 84's**

Adm: Should be taken with food (Best taken w/meals. Take before meals if dry mouth occurs, after meals if drooling/nausea occurs)

Category: Antiparkinsonian Drugs

Indications: Parkinsonism, Drug induced extra-pyramidal symptoms (except tardive dyskinesia)

Caution: Children, elderly; tachycardia, thyrotoxicosis, MI, hyperpyrexia, renal & hepatic disease.

Contra-Ind: Prostatic enlargement, closed-angle glaucoma, paralytic ileus, pyloric stenosis. Pregnancy, lactation.

D/I: Imipramine, desipramine, other anticholinergic-like drugs.

Side effects: GI disturbances; glaucoma, mydriasis; urinary retention, mental disturbances, excitement.

Dosage: Usual Adult Dose: 6 to 10 mg/day in 3 to 4 divided doses; doses of 12 to 15 mg/day may be required.

Usual Pediatric Dose: Children 2 to 17 years old: 0.05 to 0.5 mg/kg/day in three divided doses. Maximum dose: 0.75 mg/kg/day.

Renal Dose Adjustments: in patients with renal disease if trihexyphenidyl is needed in this patient, therapy should be initiated with a low dosage. and should be monitored closely

Liver Dose Adjustments: in patients with renal disease if trihexyphenidyl is needed in this patient, therapy should be initiated with a low dosage. and should be monitored closely.

UBROGEPANT (Ubrelvy®)

P/P: Ubrelvy, 50 mg & 100 mg, Oral Tablet

Adm: Take it with or without food

Category: Antimigraine Agent, (Calcitonin Gene-Related Peptide (CGRP) Receptor Antagonist)

Indications: Migraine (moderate to severe or acute treatment) (as an alternative agent)

Caution: Hypersensitivity reactions: including anaphylaxis, dyspnea, facial or throat edema, pruritus, rash, and urticaria, have occurred minutes, hours, or days after administration; Discontinue therapy in patients with severe hypersensitivity.

	Severe hepatic impairment: Dose reduction required.
	Renal impairment: Use is not recommended in patients with end-stage renal impairment; dose reduction required in severe renal impairment.
Contra-Ind:	Concomitant use of strong CYP3A4 inhibitors. History of serious hypersensitivity (eg, anaphylaxis, dyspnea, facial or throat edema) to ubrogepant or any component of the formulation
Side effects:	Nausea, xerostomia, drowsiness, fatigue, hypersensitivity reaction (including anaphylaxis)
Dosage	Note: Consider use if triptans are contraindicated (eg, cardiovascular risk factors), ineffective, or poorly tolerated.
Adult Dosing	Oral: 50 to 100 mg as a single dose; if symptoms persist or return, may repeat dose after ≥2 hours. Maximum: 200 mg per 24 hours.
	Adult Dosing: Kidney Impairment:
	CrCl ≥30 mL/minute: No dosage adjustment necessary.
	CrCl 15 to 29 mL/minute: 50 mg as a single dose; if symptoms persist or return, may repeat dose after ≥2 hours. Maximum dose: 100 mg per 24 hours.
	CrCl <15 mL/minute: Avoid use.
	Adult Dosing: Hepatic Impairment:
	Mild to moderate impairment (Child-Pugh class A, B): No dosage adjustment necessary.
	Severe impairment (Child-Pugh class C): 50 mg as a single dose; if symptoms persist or return, may repeat dose after ≥2 hours. Maximum dose: 100 mg per 24 hours.

VASOPRESSIN (Vasopressin®)

P/P:	Vasopressin 20 international unit/1 ml amp. IV/SC/IM.
Category:	Antidiuretic hormone Analogue.
Indications:	Vasopressin injection is indicated to increase blood pressure in adults with vasodilatory shock who remain hypotensive despite fluids and catecholamines.
Caution:	Can worsen cardiac function. Reversible diabetes insipidus
Contra-Ind:	Vasopressin injection is contraindicated in patients with known allergy or hypersensitivity to 8-L-arginine vasopressin or chlorobutanol.
Side effects:	The most common adverse reactions include decreased cardiac output, bradycardia, tachyarrhythmias, hyponatremia and ischemia (coronary, mesenteric, skin, digital).

Dosage: Dilute vasopressin injection with normal saline (0.9% sodium chloride) or 5% dextrose in water (D5W) to either 0.1 units/mL or 1 unit/mL for intravenous administration. Discard unused diluted solution after 18 hours at room temperature or 24 hours under refrigeration.
Post-cardiotomy shock: 0.03 to 0.1 units/minute.
Septic shock: 0.01 to 0.07 units/minute.

VENLAFAXINE HYDROCHLORIDE (Efexor, Vexal®) (Restricted)

P/P: Efexor tab, 28's (37.5mg, 75mg)
Efexor XR tab, 14's (75mg, 150mg)
Vexal XR tab, 14's (37.5 mg, 75mg, 150 mg)

Adm: Should be taken with food

Category: Antidepressants

Indications: Depression, generalized anxiety disorder

Caution: Hypertension, moderate to severe renal or hepatic impairment. History of MI or unstable heart disease, history of epilepsy, hypomania, or mania.

Contra-Ind: Hypersensitivity. Concomitant MAO inhibitors or within 14 days of stopping it. Pregnancy and lactation.

D/I: Concomitant administration with lithium may result in serotonin syndrome

Side effects: Nausea, vomiting, anorexia, dry mouth, constipation, orthostatic hypotension; tremor; impotence, sweating, rash; loss of libido, anxiety, dizziness, fatigue

Dosage: Usual Adult Dose: Immediate release:
Initial dose: 37.5 mg orally twice a day or 25 mg orally 3 times a day
Maintenance dose: May increase in daily increments of up to 75 mg orally at intervals of no less than 4 days Maximum dose: 225 mg orally per day.
Extended release: Initial dose: 75 mg orally once a day
Maintenance dose: May increase in daily increments of up to 75 mg orally at intervals of no less than 4 days Maximum dose: 225 mg orally per day
Renal Dose Adjustments: Mild to moderate renal impairment (CrCl 30 to 89 mL/min):
Dosage should be reduced by 25% to 50%
Liver Dose Adjustments: Mild to moderate hepatic impairment: Dosage should be reduced 50%. Cirrhosis: Dosage should be reduced by at least 50%.

VIGABATRIN (Sabril®)

P/P: Sabril 500mg tab, 100's

Adm: May be taken with or without food

Category:	Anticonvulsants
Indications:	Patients with resistant partial epilepsy (with or without secondary generalization) as an adjunctive antiepileptic and for unresponsive therapy.
Caution:	History of psychosis or behavioral problems, preexisting clinically significant visual field defect; visual field function should be assessed before beginning treatment and during routine follow-up. Elderly patients, impaired renal function.
Contra-Ind:	Pregnancy, lactation, preexisting visual field defects, known hypersensitivity.
D/I:	Phenytoin. Other antiepileptic drugs.
Side effects:	Irreversible visual field defects. Drowsiness, fatigue, dizziness, nervousness, irritability, headache, confusion, mental depression, aggression, psychosis, excitation, and agitation in child, confusion, memory, and visual disturbance
Dosage:	<p>Usual Adult Dose: 3 g orally daily (1.5 g orally 2 times daily).</p> <p>Usual Pediatric Dose: 10 to 16 years of age and 25 to 60 kg: 500 mg orally daily (administered as one 250 mg orally 2 times daily)</p> <p>Maintenance dose: Total daily dose may be increased at weekly intervals to 2 gm orally daily (1 g orally 2 times daily).</p> <p>Patients weighing more than 60 kg should be dosed according to adult guidelines.</p> <p>Renal Dose Adjustments: Infants with renal impairment: Data not available</p> <p>Patients 10 years of age and older and adults:</p> <ul style="list-style-type: none"> Mild renal impairment (CrCl 51 to 80 mL/min): Decrease dose by 25% -Moderate renal impairment (CrCl 31 to 50 mL/min): Decrease dose by 50% Severe renal impairment (CrCl 11 to 30 mL/min): Decrease dose by 75% <p>Liver Dose Adjustments: Data not available</p>

ZOLPIDEM (Zolpigen®) (Controlled)

P/P:	Zolpigen 10mg tab, 20's
Adm:	May be taken with or without food.
Category:	Hypnotics & Sedatives
Indications:	Treatment of severe sleep disorders (occasional chronic insomnia& transient insomnia).
Caution:	Myasthenia gravis, resp, hepatic & renal insufficiencies.
Contra-Ind:	Severe hepatic & resp insufficiencies sleep apnoea syndrome. Children <15 yr. Pregnancy & lactation.
D/I:	Alcohol, other CNS depressants, buprenorphine, ketoconazole, rifampicin.
Side effects:	Occasional dizziness, drowsiness, nausea, & headache.
Dosage:	<p>Adults: 5 mg (women) or 5 to 10 mg (men) orally once daily immediately before bedtime</p> <p>Maximum dose: 10 mg orally daily.</p> <p>Usual Geriatric Dose: Recommended dose: 5 mg orally once daily immediately before bedtime.</p>

Renal Dose Adjustments: No dosage adjustment recommended
Liver Dose Adjustments: Recommended dose: 5 mg orally once daily immediately before bedtime.

ZUCLOPENTHIXOL /CLOPENTHIXOL (Clopixol®)

P/P:	Clopixol 10mg tab, 50's, Clopixol 25mg tab, 100's Clopixol depot 500mg/ml Inj, Clopixol depot 200mg/ml Inj
Adm:	Oral prep may be taken with or without food.
Category:	Antipsychotics
Indications:	Psychosis, behavioral disturbances in oligophrenic patients, behavioral disturbances, &confusion in senile patients
Caution:	Hepatic or renal impairment, CV insufficiency, convulsive disorders; may impair ability to drive or operate machinery.
Contra-Ind:	Comatose states, acute alcohol, barbiturate, & opiate intoxication. Pregnancy.
D/I:	Alcohol, barbiturates, CNS depressants, guanethidine, metoclopramide.
Side effects:	Extrapyramidal syndrome; drowsiness, dry mouth, urinary retention, disturbed accommodation, tachycardia, postural hypotension, dizziness. Tardive dyskinesia.
Dosage:	Adults: The usual maintenance dose is 20-50 mg/day. Maximum dosage per single dose is 40 mg. Older patients: initial dosage may need to be reduced to a quarter or half the normal starting dose in the frail or older patients. Pediatric population: it is not indicated for use in children Patients with renal impairment: should be reduced to half the normal dosage. Patients with hepatic impairment: Use with caution in patients with liver disease with compromised hepatic function should receive half the recommended dosages. Serum-level monitoring is advised

CHEMOTHERAPUTIC AGENTS (Restricted)

5 FU (5-FLUOUROURACIL) (Fluorouracil®)

P/P:	Fluorouracil 50 mg/ml Solution for injection/infusion
Category:	Pyrimidine analogues (antimetabolite)
Indications:	Fluorouracil is indicated in the treatment of the following malignancies and disease settings: in the treatment of metastatic colorectal cancer, as adjuvant treatment in colon and rectal cancer, in the treatment of advanced gastric cancer, in the treatment of

advanced pancreatic cancer, in the treatment of advanced esophageal cancer, in the treatment of advanced or metastatic breast cancer, as adjuvant treatment in patients with operable primary invasive breast cancer, in the treatment of inoperable locally advanced squamous cell carcinoma of the head and neck in previously untreated patients, in the treatment of locally recurrent or metastatic squamous cell carcinoma of the head and neck.

Contra-Ind:	Hypersensitivity to the fluorouracil or to any of the excipients, Serious infections (e.g., <i>Herpes zoster</i> , chickenpox), Seriously debilitated patients, Bone marrow depression after radiotherapy or treatment with other antineoplastic agents, Management of non-malignant disease, Serious liver impairment, Fluorouracil (5-FU) must not be given in combination with brivudin, sorivudin and analogues. Brivudin, sorivudin und analogues are potent inhibitors of the 5-FU-metabolising enzyme dihydropyrimidine dehydrogenase (DPD), Fluorouracil (5-FU) must not be given to patients homozygotic for dihydropyrimidine dehydrogenase (DPD), Fluorouracil is strictly contraindicated in pregnant or breast-feeding women.
Caution:	All patients should be admitted to hospital for initial treatment.
Side effects:	Myelosuppression, neutropenia, thrombocytopenia, leucopenia, agranulocytosis, anaemia and pancytopenia, Bronchospasm, immunosuppression with an increased risk of infection, Hyperuricemia, Ischemic ECG abnormalities, Mucositis (stomatitis, eosophagitis, pharyngitis, proctitis), anorexia, watery diarrhea, nausea, vomiting, Alopecia. Palmar-plantar erythrodysesthesia syndrome (hand-foot syndrome), Delayed wound healing, epistaxis, fatigue, general weakness, tiredness, lack of energy.
D/I	Various agents have been reported to biochemically modulate the anti-tumor efficacy or toxicity of fluorouracil. Common drugs include methotrexate, metronidazole, leucovorin interferon alpha and allopurinol. Both the efficacy and toxicity of 5-fluorouracil may be increased when 5-fluorouracil is used in combination with folinic acid. Side effects may be more pronounced and severe diarrhea may occur. Life-threatening diarrheas have been observed if 600 mg/m ² of fluorouracil (IV bolus once weekly) is given together with folinic acid. In combination with other myelosuppressive substances, dosage adjustment is necessary. Fluorouracil should be avoided in combination with clozapine due to increased risk of agranulocytosis. Increased incidence of cerebral infarction has been reported in oropharyngeal cancer patients treated with fluorouracil and cisplatin. Cimetidine, metronidazole and interferon may increase the plasma level of 5-fluorouracil, thereby increasing the toxicity of 5-fluorouracil. In patients receiving phenytoin and fluorouracil concomitantly, Vaccination with live vaccines should be avoided in immunocompromised patients.
Dosage	Colorectal cancer: The commonly used dose range of 5-fluorouracil varies from 200 - 600mg/m ² of body surface. The dose also varies depending administration as intravenous bolus or as continuous intravenous infusion. The dose schedules also vary depending on the chemotherapy regimen, and 5-fluorouracil dose could be repeated weekly, bimonthly or monthly. The number of cycles varies with the treatment regimens used and also depends on the clinical decision based on treatment success and tolerability.

Breast cancer: The usual dose range is 500 - 600 mg/m² body surface as an intravenous bolus and repeated every 3–4 weeks as necessary.

Gastric cancer and cancer of gasteresophageal junction: The recommended dose of 5-fluorouracil is 200 mg/m² body surface per day given as continuous intravenous infusion for 3 weeks. 6 cycles are recommended but this depends on treatment success and tolerability of medicinal product by the patient.

Esophageal cancer: Dose varies between 200-1000 mg/m² body surface per day as continuous intravenous infusion over several days and repeated cyclically depending upon regimen.

Pancreatic cancer: 5-fluorouracil is preferably used in combination with folinic acid or gemcitabine. Dose varies between 200 - 500 mg/m² body surface per day as intravenous bolus injection or intravenous infusion, depending on the regimen and repeated cyclically.

Head and neck cancer: 5-fluorouracil is preferably used in combination with cisplatin or carboplatin. Dose varies between 600 - 1200 mg/m² body surface per day as continuous intravenous infusion over several days and repeated cyclically depending upon regimen.

ACALABRutinib (Calquence®) [High Alert] [LASA]

P/P	Calquence: 100 mg Oral Capsule
Adm	May administer with or without food. Swallow whole with water. Do not chew, crush, dissolve, or cut tablets; do not open, break, or chew capsules.
Category	Antineoplastic Agent; Antineoplastic Agent, Bruton Tyrosine Kinase Inhibitor; Antineoplastic Agent, Tyrosine Kinase Inhibitor.
Indications	Chronic lymphocytic leukemia, Mantle cell lymphoma, previously treated.
Caution	Bone marrow suppression, Cardiovascular (AF), Hemorrhage, Infection, Secondary malignancies.
Contra-Ind	Severe hypersensitivity to Acalabrutinib or any component of the formulation, pregnancy & breastfeeding.
Side effects	Cardiovascular effects, Hemorrhage, Infection, Second primary malignancy.
Dosage	Single-agent therapy: Oral: 100 mg approximately every 12 hours; continue until disease progression or unacceptable toxicity. Combination therapy with obinutuzumab (previously untreated patients): Oral: 100 mg approximately every 12 hours; continue until disease progression or unacceptable toxicity; begin acalabrutinib at cycle 1 (each cycle is 28 days); obinutuzumab is administered for 6 cycles beginning at cycle 2.

ANASTRAzole (Arimidex®) [High Alert] [LASA]

P/P: Arimidex 1mg tablet.

Category:	Antineoplastic agents, Aromatase inhibitor.
Indication	<p>Adjuvant treatment of postmenopausal women with hormone receptor-positive early breast cancer.</p> <p>First-line treatment of postmenopausal women with hormone receptor positive or hormone receptor unknown locally advanced or metastatic breast</p> <p>Treatment of advanced breast cancer in postmenopausal women with disease progression following tamoxifen therapy.</p> <p>Patients with ER-negative disease and patients who did not respond to previous tamoxifen therapy rarely responded to ARIMIDEX.</p>
Contra-Ind:	Women with pre-existing ischemic heart disease an increased incidence of ischemic, cardiovascular events occurred with ARIMIDEX use compared to tamoxifen use.
Caution	Hypersensitivity and Women of premenopausal endocrine status, including pregnant.
Side effects	Hot flashes, asthenia, arthritis, pain, arthralgia, pharyngitis, hypertension, depression.
D/I	Estrogen Derivatives, Levomethadone, Methadone, Tamoxifen.
Dosage	1 mg tablet once daily

Axitinib (Inlyta®) [High Alert] [LASA]

P/P:	Inlyta: 1 mg, 5 mg Tablet, Oral
Adm:	Swallow tablet(s) whole with a full glass of water. May administer with or without food. A suspension may be prepared for NG administration.
Category:	Antineoplastic Agent, Tyrosine Kinase Inhibitor; Antineoplastic Agent, Vascular Endothelial Growth Factor (VEGF) Inhibitor.
Indications:	<p>Renal cell carcinoma, advanced, first-line combination therapy</p> <p>Renal cell carcinoma, advanced, second-line single-agent therapy</p> <p>Thyroid cancer, differentiated, advanced</p>
Caution:	Cardiac failure, cardiovascular events, major adverse cardiovascular events, GI perforation, fistulas, hemorrhagic events, hepatotoxicity, hypertension, proteinuria, reversible posterior leukoencephalopathy syndrome, arterial thrombotic events, venous thrombotic events, hypothyroidism, hyperthyroidism, wound healing complications.
Contra-Ind:	Hypersensitivity to Axitinib or any component of the formulation.
Side effects:	Hypertension, palmar-plantar erythrodysesthesia, skin rash, decreased serum bicarbonate, hyperglycemia, hyperkalemia, hypernatremia, hypoalbuminemia, hypocalcemia, hypoglycemia, hyponatremia, hypophosphatemia, hypothyroidism, weight loss, abdominal pain, constipation, decreased appetite, diarrhea, dysgeusia, increased serum amylase, increased serum lipase, mucosal swelling, nausea, stomatitis, vomiting, proteinuria, decreased absolute lymphocyte count, decreased platelet count, decreased white blood cell count, hemorrhage, increased serum alanine aminotransferase, increased serum

alkaline phosphatase, increased serum aspartate aminotransferase, asthenia, fatigue, headache, voice disorder, arthralgia, limb pain, increased serum creatinine, cough, dyspnea.

Dosage: In combination with pembrolizumab: Note: May be used regardless of risk stratification. Some experts may prefer axitinib in combination with pembrolizumab for patients with favorable-risk disease who have substantial disease burden; may also be used in patients with intermediate- or poor-risk disease who do not have symptomatic or life-threatening disease burden (eg, involving liver and/or bone).

Oral: Initial: 5 mg every 12 hours; if tolerated, at 6-week (or longer) intervals, may increase to 7 mg every 12 hours, and then to 10 mg every 12 hours, or may reduce to 3 mg every 12 hours and then to 2 mg every 12 hours based on adverse events; continue until disease progression or unacceptable toxicity.

In combination with avelumab: Note: May be used regardless of risk stratification; although may be considered for first-line treatment, other immunotherapy combinations are preferred since this combination has not demonstrated an overall survival benefit in randomized trials.

Oral: Initial: 5 mg every 12 hours; if tolerated, at 2-week (or longer) intervals, may increase to 7 mg every 12 hours, and then to 10 mg every 12 hours, or may reduce to 3 mg every 12 hours and then to 2 mg every 12 hours based on adverse events; continue until disease progression or unacceptable toxicity

APALUtamide (Erleada®) [High Alert] [LASA]

P/P: Erleada, Film-Coated Tablet, Oral, 60 mg,

Adm: Administer at the same time each day, either with or without food. Swallow tablets whole; do not crush or split.

Category: Antineoplastic Agent
Antiandrogen

Indications: Treatment of metastatic, castration-sensitive prostate cancer.
Treatment of nonmetastatic, castration-resistant prostate cancer.

Caution:

Cardiac events: Cerebrovascular and ischemic cardiovascular events

Dermatologic toxicity: Life-threatening (and fatal) cases of severe cutaneous adverse reactions

Falls: Evaluate patients for fall risk

Fractures: Fractures have occurred in patients receiving apalutamide

Seizures: Seizures occurred in patients receiving apalutamide

Thyroid dysfunction: Hypothyroidism and elevated thyroid stimulating hormone (TSH)

Contra-Ind: Hypersensitivity to apalutamide or any component of the formulation

Use in females who are or may become pregnant.

Side effects:

Cardiovascular: Hypertension (18% to 25%), peripheral edema (11%)
Dermatologic: Pruritus (6% to 11%), skin rash (25% to 28%; including maculopapular rash)
Endocrine & metabolic: Hot flash (14% to 23%), hypercholesterolemia (76%), hyperglycemia (70%), hyperkalemia (32%), hypertriglyceridemia (17% to 67%), increased thyroid stimulating hormone level (25%), weight loss (16%)
Gastrointestinal: Decreased appetite (12%), diarrhea (9% to 20%; grades 3/4: 1%), nausea (18%)
Hematologic & oncologic: Anemia (70%; grades 3/4: <1%), leukopenia (47%; grades 3/4: <1%), lymphocytopenia (41%; grades 3/4: 2%)
Nervous system: Falling (16%), fatigue (39%)
Neuromuscular & skeletal: Arthralgia (16% to 17%), bone fracture (9% to 12%)

Dosage:

Prostate cancer, metastatic, castration sensitive: Oral: 240 mg once daily (in combination with continuous androgen deprivation therapy); continue until disease progression or unacceptable toxicity. Note: Continuous androgen deprivation therapy is either treatment with a concurrent gonadotropin-releasing hormone analog agonist/antagonist or prior bilateral orchectomy.
Prostate cancer, nonmetastatic, castration resistant: Oral: 240 mg once daily (in combination with continuous androgen deprivation therapy); continue until disease progression or unacceptable toxicity. Note: Continuous androgen deprivation therapy is either treatment with a concurrent gonadotropin-releasing hormone analog agonist/antagonist or prior bilateral orchectomy.

AZACITIDINE (Vidaza®) [High Alert] [LASA]

P/P	Vidaza 25 mg/mL powder for suspension for injection
Category	Antineoplastic agents, pyrimidine analogues
Indications	Vidaza is indicated for the treatment of adult patients who are not eligible for hematopoietic stem cell transplantation (HSCT) with: intermediate-2 and high-risk myelodysplastic syndromes (MDS) according to the International Prognostic Scoring System (IPSS), chronic myelomonocytic leukemia (CMML) with 10-29 % marrow blasts without myeloproliferative disorder, acute myeloid leukemia (AML) with 20-30 % blasts and multi-lineage dysplasia, according to World Health Organization (WHO) classification, AML with >30% marrow blasts according to the WHO classification.
Contra-Ind	Hypersensitivity to the active substance or to any of the excipient Advanced malignant hepatic tumors Breast-feeding
Caution	Treatment with azacitidine is associated with anemia, neutropenia and thrombocytopenia. Patients with extensive tumor burden due to metastatic

disease have been reported to experience progressive hepatic coma and death during azacitidine treatment. Renal abnormalities ranging from elevated serum creatinine to renal failure and death were reported in patients treated with intravenous azacitidine in combination with other chemotherapeutic agents in patients with a known history of cardiovascular or pulmonary disease showed a significantly increased incidence of cardiac events with azacitidine. Necrotizing fasciitis, including fatal cases, have been reported in patients treated with Vidaza.

Side effects	The most commonly reported adverse reactions with azacitidine treatment were hematological reactions (71.4 %) including thrombocytopenia, neutropenia and leukopenia (usually Grade 3-4), gastrointestinal events (60.6 %) including nausea, vomiting (usually Grade 1-2) or injection site reactions (77.1 %; usually Grade 1-2).
D/I	No formal clinical drug interaction studies with azacitidine have been conducted.
Dosage	<p>The recommended starting dose for the first treatment cycle, for all patients regardless of baseline hematology laboratory values, is 75 mg/m² of body surface area, injected subcutaneously, daily for 7 days, followed by a rest period of 21 days (28-day treatment cycle).</p> <p>It is recommended that patients be treated for a minimum of 6 cycles.</p> <p>Treatment should be continued as long as the patient continues to benefit or until disease progression.</p>

ALPELISib (Piqray®) [High Alert] [LASA]

P/P	Piqray: 150mg
Adm Category	Administer with food at approximately the same time each day, cannot be crushed. Phosphatidylinositol 3-Kinase Alpha Inhibitor; Antineoplastic Agent, Phosphatidylinositol 3-Kinase Inhibitor
Indications	Breast cancer, advanced or metastatic, HR-positive, HER2-negative, PIK3CA-mutated. PIK3CA-related overgrowth spectrum.
Caution	Severe cutaneous adverse reactions, hyperglycemia, GI & pulmonary toxicity.
Contra-Ind	Severe hypersensitivity to Apelisib or any component of the formulation, pregnancy & breastfeeding.
Side effects	Peripheral edema, Alopecia, skin rash, hypoalbuminemia, hypocalcemia, hypomagnesemia, hypokalemia, hyperglycemia, weight loss, diarrhea, fever, thrombocytopenia & headache
Dosage	300 mg once daily continue until disease progression or unacceptable toxicity

ABEMAciclib (Verzenio®) [High Alert] [LASA]

P/P	Verzenio 150MG F.C tab
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Adm	<p>Administer at approximately the same times each day. May be administered with or without food. Swallow whole, do not crush, chew, or split tablets (do not ingest if tablets are broken, cracked, or not fully intact).</p> <p>Abemaciclib is associated with a moderate or high emetic potential; antiemetics may be necessary to prevent nausea and vomiting .</p> <p>Dietary Considerations</p> <p>Avoid grapefruit and grapefruit products. A high-fat, high-calorie meal (800 to 1,000 calories with 500 to 600 calories from fat) increases exposure.</p>
Category	Antineoplastic Agent, Cyclin-Dependent Kinase Inhibitor.
Indications	<p>Breast cancer, advanced or metastatic, HR-positive, HER2-negative.</p> <p>Breast cancer, early, high risk, HR-positive, HER2-negative, node-positive.</p>
Caution	<p>Concerns related to adverse effects:</p> <p>Bone marrow suppression: Neutropenia, including febrile neutropenia and fatal neutropenic sepsis, has occurred in patients treated with abemaciclib. Grade 3 or higher neutropenia has been observed. The median time to first episode of \geq grade 3 neutropenia was 29 to 33 days, and the median duration of \geq grade 3 neutropenia was 11 to 16 days.</p> <p>GI toxicity: Severe diarrhea associated with dehydration and infection has occurred in a majority of patients treated with abemaciclib; grade 3 diarrhea has occurred. Most patients experienced diarrhea during the initial month of abemaciclib; the median time to onset of the first diarrhea event was 6 to 8 days and the median duration of grade 2 and 3 diarrhea was 6 to 11 days and 5 to 8 days, respectively. Patients should initiate antidiarrheal medications (eg, loperamide) and increase oral fluid intake at the first sign of loose stools.</p> <p>Hepatotoxicity: Grade 3 or higher increases in ALT and AST have been reported with abemaciclib. The median time to onset of \geq grade 3 ALT elevation was 57 to 87 days and the median time to resolution (to < grade 3) was 13 to 14 days; the median time to onset of \geq grade 3 AST elevation was 71 to 185 days and the median time to resolution was 11 to 15 days.</p> <p>Pulmonary toxicity: Severe, life-threatening, and/or fatal interstitial lung disease (ILD) or pneumonitis may occur with abemaciclib (and other cyclin-dependent kinase inhibitors). Symptoms of ILD or pneumonitis may include hypoxia, cough, dyspnea, or interstitial infiltrates on radiologic exam. Exclude infectious, neoplastic, and other causes for pulmonary toxicity.</p> <p>Thromboembolism: Venous thromboembolic events (VTEs) have been reported in patients treated with abemaciclib. VTEs reported included deep vein thrombosis, pulmonary embolism, pelvic venous thrombosis, cerebral venous sinus thrombosis, subclavian and axillary vein thrombosis, and inferior vena cava thrombosis. Some VTEs were fatal. VTE may require treatment interruption. Abemaciclib has not been studied in patients with early breast cancer who had a history of VTE.</p> <p>Older Adult Considerations</p> <p>In clinical trials, approximately one-third of patients were \geq65 years, though <10% were \geq75 years. No overall difference in safety or effectiveness was noted between older and younger patients. In older, frail patients weigh the risks and benefits of treatment.</p> <p>Reproductive Considerations</p>

Verify pregnancy status prior to treatment in patients who could become pregnant. Patients who could become pregnant should use effective contraception during therapy and for 3 weeks after the last abemaciclib dose.

Pregnancy Considerations

Based on the mechanism of action and data from animal reproduction studies, in utero exposure to abemaciclib may cause fetal harm.

Breastfeeding Considerations

It is not known if abemaciclib is present in breast milk.

Due to the potential for serious adverse events in the breastfed infant, the manufacturer does not recommend breastfeeding during therapy and for 3 weeks after the last abemaciclib dose.

Contra-Ind

There are no contraindications listed in the manufacturer's US labeling.

Canadian labeling: Hypersensitivity to abemaciclib or any component of the formulation.

Side effects

The following adverse drug reactions and incidences are derived from product labeling unless otherwise specified. Reported adverse reactions are for monotherapy treatment in adults.

>10%:

Dermatologic: Alopecia (12%)

Endocrine & metabolic: Weight loss (14%)

Gastrointestinal: Abdominal pain (39%), constipation (17%), decreased appetite (45%), diarrhea (90%; grade 3: 20%), dysgeusia (12%), nausea (64% grade 3: 5%), stomatitis (14%), vomiting (35%; grade 3: 2%), xerostomia (14%)

Hematologic & oncologic: Anemia (69%), decreased neutrophils (88%; grade 3: 22%; grade 4: 5%), decreased platelet count (41%; grade 3: 2%), decreased white blood cell count (91%; grade 3: 28%), lymphocytopenia (42%; grade 3: 13%; grade 4: <1%)

Hepatic: Increased serum alanine aminotransferase (31%), increased serum aspartate aminotransferase (30%)

Infection: Infection (31%)

Nervous system: Dizziness (11%), fatigue (65%), headache (20%)

Neuromuscular & skeletal: Arthralgia (15%)

Renal: Increased serum creatinine (99%)

Respiratory: Cough (19%)

Miscellaneous: Fever (11%)

1% to 10%: Endocrine & metabolic: Dehydration (10%)

Frequency not defined:

Cardiovascular: Arterial thrombosis

Respiratory: Interstitial pulmonary disease, pneumonitis

Dosage

Breast cancer, advanced or metastatic, HR-positive, HER2-negative:

Initial endocrine-based therapy: Oral: 150 mg twice daily (in combination with an aromatase inhibitor); continue until disease progression or unacceptable toxicity. Pre/perimenopausal females or males receiving an aromatase inhibitor should also receive a gonadotropin-releasing hormone (GnRH) agonist according to current clinical practice standards.

Progressive disease following endocrine therapy and prior chemotherapy: Oral: 200 mg twice daily (as a single agent); continue until disease progression or unacceptable toxicity.

Progressive disease on prior endocrine therapy: Oral: 150 mg twice daily (in combination with fulvestrant); continue until disease progression or unacceptable toxicity.

Pre/perimenopausal females receiving fulvestrant should also receive a GnRH agonist according to current clinical practice standards.

Breast cancer, early, high risk, HR-positive, HER2-negative, node-positive:

Oral: 150 mg twice daily (in combination with endocrine therapy [eg, an aromatase inhibitor, tamoxifen]); continue until completion of 2 years of treatment or until disease recurrence or unacceptable toxicity. Pre/perimenopausal females or males receiving an aromatase inhibitor should also receive a GnRH agonist according to current clinical practice standards.

Dosing: Altered Kidney Function: Adult:

Kidney function estimated with Cockcroft-Gault equation.

CrCl ≥30 mL/minute: No dosage adjustment necessary.

CrCl <30 mL/minute: There are no dosage adjustments provided in the manufacturer's labeling (has not been studied). No need for dosage adjustment is expected .

End-stage renal disease or patients on dialysis: There are no dosage adjustments provided in the manufacturer's labeling (has not been studied). No need for dosage adjustment is expected .

Dosing: Hepatic Impairment: Adult:

Hepatic impairment at treatment initiation:

Mild or moderate impairment (Child-Pugh class A or B): No dosage adjustment necessary.

Severe impairment (Child-Pugh class C): Reduce the abemaciclib frequency to once daily.

Hepatotoxicity during treatment:

Grade 1 (ALT, AST >ULN to 3 times ULN): No abemaciclib dosage modification is required.

Grade 2 (ALT, AST >3 to 5 times ULN) without increase in total bilirubin >2 times ULN: No abemaciclib dosage modification required.

Persistent or recurrent grade 2, or grade 3 (ALT, AST >5 to 20 times ULN) without increase in total bilirubin >2 times ULN: Withhold abemaciclib until toxicity resolves to baseline or grade 1, then resume at the next lower dose.

AST and/or ALT >3 times ULN with total bilirubin >2 times ULN (in the absence of cholestasis): Discontinue abemaciclib.

Grade 4 (ALT, AST >20 times ULN): Discontinue Abemaciclib.

ATEZOLizumab (Tecentriq®) [High Alert] , [LASA]

P/P: Tecentriq 1200mg / 20ml Vial.

Adm: Infuse the initial dose over 60 minutes, if tolerated, may infuse subsequent doses over 30 minutes. May be infused with or without a 0.2- to 0.22-micron sterile, non-pyrogenic, low-protein binding in-line filter. Do not administer as an IV push or bolus. Do not administer other medications at the same time through the same IV line.

Category: Antineoplastic Agent, Monoclonal Antibody.

Indications: Alveolar soft part sarcoma, unresectable or metastatic, Hepatocellular carcinoma, unresectable or metastatic, Melanoma, unresectable or metastatic, Non-small cell lung cancer, adjuvant treatment, Non-small cell lung cancer (NSCLC), metastatic, Small cell lung cancer, extensive stage, first-line treatment.

Caution: For first-line treatment of metastatic NSCLC (as a single agent), select patients for atezolizumab therapy based on the PD-L1 expression on tumor cells or on tumor-infiltrating immune cells;

For adjuvant treatment of stage II to IIIA NSCLC (as a single agent), select patients for atezolizumab therapy based on the PD-L1 expression on tumor cells. For unresectable or

metastatic melanoma, select patients for atezolizumab therapy based on the presence of a BRAF V600 mutation

- Contra-Ind: Hypersensitivity to atezolizumab or any component of the formulation.
- Side effects: Cardiovascular toxicity, Dermatologic toxicity, Adverse reactions
Endocrinopathies, Thyroid disorders, Hepatotoxicity, Infusion-related reactions.
- Dosage: Per the manufacturer's labeling, atezolizumab may be dosed at 840 mg IV once every 2 weeks or 1,200 mg IV once every 3 weeks or 1,680 mg IV once every 4 weeks. Indication, combination, and/or trial-specific dosing is listed below; refer to protocols for further information.

BenDAMUSTine HCL (Squadion®) [High Alert] [LASA]

- P/P: **BENDAMUSTIN 100MG VIAL**
- Adm: Infuse over 30-60 minutes.
- Category: Antineoplastic Agent, Alkylating Agent.
- Indications: Chronic Lymphocytic leukemia.
Non-Hodgkin lymphoma indolent (refractory).
- Caution: Bone marrow suppression: Myelosuppression (neutropenia, thrombocytopenia, and anemia) is a common toxicity; nadirs typically occurred in the third week of treatment. Complications due to febrile neutropenia and severe thrombocytopenia have been reported (some fatal).
- Contra-Ind: Known hypersensitive.
- Side effects: Dermatologic toxicity, Extravasation, Hepatotoxicity, and infections.
- Dosage: Chronic Lymphocytic leukemia :100 mg/m² on days 1 and 2 of a 28-day treatment cycle (as a single agent) for up to 6 cycles.
Non-Hodgkin lymphoma: 90 mg/m² on days 2 and 3 of a 21-day treatment cycle (cycle 1), and then 90 mg/m² on days 1 and 2 of a 21-day treatment cycle for 5 cycles (cycles 2 through 6) (in combination with polatuzumab vedotin and rituximab).

BEVACIZUMAB (Avastin®)

- P/P: **AVASTIN 100 mg per 4 mL single-use vial**
AVASTIN 400 mg per 16 mL single-use vial

Category:	Avastin is classified as a "monoclonal antibody" and "anti-angiogenesis" drug
Indications:	Metastatic Colorectal Cancer, Non-Squamous Non-Small Cell Lung Cancer, Glioblastoma, Metastatic Renal Cell Carcinoma, Persistent, Recurrent, or Metastatic Carcinoma of the Cervix, Recurrent Epithelial Ovarian, Fallopian Tube, or Primary Peritoneal Cancer.
Contra-Ind:	NONE.
Caution:	GASTROINTESTINAL PERFORATIONS, SURGERY AND WOUND HEALING COMPLICATIONS, and HEMORRHAGE
Side effects:	Serious adverse reactions are Gastrointestinal Perforations and Fistulae, Non-Gastrointestinal Fistulae, Surgery and Wound Healing Complications, Haemorrhage, Arterial Thromboembolic Events, Venous Thromboembolic Even Hypertension, Posterior Reversible Encephalopathy Syndrome, Proteinuria, Embryo-fetal Toxicity, Ovarian Failure
D/I:	A drug interaction study was performed in which irinotecan was administered as part of the FOLFIRI regimen with or without Avastin. The results demonstrated no significant effect of bevacizumab on the pharmacokinetics of irinotecan or its active metabolite SN38. In a randomized study in 99 patients with NSCLC, based on limited data, there did not appear to be a difference in the mean exposure of either carboplatin or paclitaxel when each was administered alone or in combination with Avastin. In Study 8, there was no difference in the mean exposure of interferon alfa administered in combination with Avastin when compared to interferon alfa alone.
Dosage:	Metastatic Colorectal Cancer (mCRC) The recommended doses are 5 mg/kg or 10 mg/kg every 2 weeks. Non-Squamous Non-Small Cell Lung Cancer (NSCLC) The recommended dose is 15 mg/kg every 3 weeks. Glioblastoma The recommended dose is 10 mg/kg every 2 weeks. Metastatic Renal Cell Carcinoma (mRCC): The recommended dose is 10 mg/kg every 2 weeks. Cervical Cancer: The recommended dose of Avastin is 15 mg/kg every 3 weeks Platinum-Resistant Recurrent Epithelial Ovarian, Fallopian Tube or Primary Peritoneal Cancer: The recommended dose is 10mg/kg every 2 weeks Platinum-Sensitive Recurrent Epithelial Ovarian, Fallopian Tube or Primary Peritoneal Cancer: The recommended dose is 15 mg/kg every 3 weeks

BICALUTAMIDE (Casodex, Clamudex®)

P/P:	Casodex 50 mg tab and Clamudex 50 mg F.C. tab
Adm:	Dose should be taken at the same time each day, either in the morning or in the evening. May be administered with or without food.
Category:	Anti androgen

Indications: Prostate cancer, metastatic

Caution: Severe hepatic changes and hepatic Gynecomastia and breast pain, Glucose Tolerance

Contra-Ind: Hypersensitivity, Women and Pregnancy

Side effects: hot flashes, pain (including general, back, pelvic and abdominal), asthenia, constipation, infection, nausea, peripheral edema, dyspnea, diarrhea, hematuria, nocturia and anemia.

Dosage: Prostate cancer, metastatic: Oral: 50 mg once daily (in combination with an LHRH analogue).

BLEOMYCIN (Bleocin®)

P/P: Bleocin vial 15 mg 1" S I.V / I.M / S.C/ I.A INJ

Category: Chemotherapeutic agent

Indications: Palliation and treatment adjuvant to surgery and radiation therapy of the following neoplasms: Squamous cell carcinoma of the skin, head and neck, and esophagus (primary indication). Squamous cell carcinoma of the larynx, penis and uterine cervix. Squamous cell carcinoma of the bronchus (response infrequent). Choriocarcinoma and embryonal cell carcinoma of the testis. Advanced Hodgkin's disease and other lymphomas. Mycosis fungoides.

Contra-Ind: Pulmonary Toxicity, Anesthesia., Pneumonitis, Lung Cancer. Compromised pulmonary function due to disease other than malignancy, Previous cytotoxic or radiation therapy (especially chest radiation); smokers, Cisplatin, Renal or Hepatic Toxicity, Pregnancy & Lactation.

Side effects: Pulmonary toxicity, Idiosyncratic effects, Cardiovascular: Vascular toxicities coincident with the use of Bleomycin in combination with other antineoplastic agents have been reported rarely; Fever, chills and headache frequently follow parenteral administration of Bleomycin, Gastrointestinal: Anorexia, nausea and vomiting, Mucocutaneous (50%): Hypoesthesia which may progress to hyperesthesia, urticaria, erythematous swelling, tenderness, pruritus, hyperpigmentation

D/I: Pharmacodynamic interactions: Anaesthetics, general and oxygen. Radiation therapy, Antineoplastic agents
Pharmacokinetic interactions: Cisplatin, Digoxin, Phenytoin.

Dosage: Usual Adult Dose for Squamous Cell Carcinoma: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.

Squamous cell carcinoma sometimes requires as long as 3 weeks before any improvement is noted.
Usual Adult Dose for non-Hodgkin's Lymphoma: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Adult Dose for Testicular Cancer: 0.25 to 0.50 units/kg (10 to 20 units/m²)

intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Adult Dose for Hodgkin's Disease: 0.25 to 0.50 units/kg (10 to 20 units/m²)
intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Adult Dose for Malignant Pleural Effusion: 60 units administered as a single bolus intrapleural injection.
Usual Pediatric Dose for Squamous Cell Carcinoma: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Pediatric Dose for non-Hodgkin's Lymphoma: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Pediatric Dose for Testicular Cancer: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Pediatric Dose for Hodgkin's Disease: 0.25 to 0.50 units/kg (10 to 20 units/m²) intravenously, intramuscularly, or subcutaneously weekly or twice weekly.
Usual Pediatric Dose for Malignant Pleural Effusion: 60 units administered as a single bolus intrapleural injection.

Renal Dose Adjustments:

For creatinine clearance of 50 ml/minute or greater: No dose adjustment is required.
For creatinine clearance of 40 to 50 mL/minute: Administer 70% of normal dose.
For creatinine clearance of 30 to 40 mL/minute: Administer 60% of normal dose.
For creatinine clearance of 20 to 30 mL/minute: Administer 55% of normal dose.
For creatinine clearance of 10 to 20 mL/minute: Administer 45% of normal dose.
For creatinine clearance of 5 to 10 mL/minute: Administer 40% of normal dose

Liver Dose Adjustments: Data not available.

BORTEZOMIB (Velcade®)

- P/P: Velcade
- Adm: Velcade is for intravenous or subcutaneous use only. Velcade should not be administered by any other route.
- Category: Velcade for Injection contains bortezomib which is an antineoplastic agent.
- Indications: Velcade (bortezomib) is indicated for the treatment of patients with multiple myeloma or mantle cell lymphoma.
- Caution: Based on its mechanism of action and findings in animals, Velcade can cause fetal harm when administered to a pregnant woman. There are no data on the presence of bortezomib or its metabolites in human milk, the effects of the drug on the breast fed infant, or the effects of the drug on milk production. Because many drugs are excreted in human milk and because the potential for serious adverse reactions in breastfed infants from Velcade is unknown, advise nursing women not to breastfeed during treatment with Velcade and for 2 months after treatment.
- Contra-Ind: Velcade is contraindicated in patients with hypersensitivity (not including local reactions) to bortezomib, boron, or mannitol. Reactions have included anaphylactic reactions. Velcade is contraindicated for intrathecal administration. Fatal events have occurred with intrathecal administration of Velcade.
- D/I: CYP3A4 inhibitors, CYP2C19 inhibitors, CYP3A4 inducers, Dexamethasone, Melphalan-Prednisone.

- Side effects:** Peripheral Neuropathy, Hypotension, Cardiac Toxicity, Pulmonary Toxicity, Posterior Reversible Encephalopathy Syndrome, Gastrointestinal Toxicity, Thrombocytopenia/Neutropenia, Tumor Lysis Syndrome, Hepatic Toxicity.
- Dosage:** The recommended starting dose of Velcade is 1.3 mg/m². Velcade may be administered intravenously at a concentration of 1 mg/mL, or subcutaneously at a concentration of 2.5 mg/mL. Velcade retreatment may be considered for patients with multiple myeloma who had previously responded to treatment with Velcade and who has relapsed at least 6 months after completing prior Velcade treatment. Treatment may be started at the last tolerated dose. When administered intravenously, Velcade is administered as a 3 to 5 second bolus intravenous injection. Dosage in Previously Untreated Multiple Myeloma: Velcade is administered in combination with oral melphalan and oral prednisone for nine 6-week treatment cycles. In Cycles 1-4, Velcade is administered twice weekly (days 1, 4, 8, 11, 22, 25, 29 and 32). In Cycles 5-9, Velcade is administered once weekly (days 1, 8, 22 and 29). At least 72 hours should elapse between consecutive doses of Velcade. Dose Modification Guidelines for Velcade When Given in Combination with Melphalan and Prednisone should be conceded.
- Dosage in Previously Untreated Mantle Cell Lymphoma: Velcade (1.3 mg/m²) is administered intravenously in combination with intravenous rituximab, cyclophosphamide, doxorubicin and oral prednisone (VcR-CAP) for six 3-week treatment cycles. Velcade is administered first followed by rituximab. Velcade is administered twice weekly for two weeks (Days 1, 4, 8, and 11) followed by a 10-day rest period on Days 12-21. For patients with a response first documented at cycle 6, two additional VcR-CAP cycles are recommended. At least 72 hours should elapse between consecutive doses of Velcade. Concede Dose Modification Guidelines for Velcade When Given in Combination with Rituximab, Cyclophosphamide, Doxorubicin and Prednisone. Dosage and Dose Modifications for Relapsed Multiple Myeloma and Relapsed Mantle Cell Lymphoma should be conceded.
- Renal Dose Adjustments:** The pharmacokinetics of Velcade are not influenced by the degree of renal impairment. Therefore, dosing adjustments of Velcade are not necessary for patients with renal insufficiency.
- Liver Dose Adjustments:** Patients with mild hepatic impairment do not require a starting dose adjustment and should be treated per the recommended Velcade dose. Patients with moderate or severe hepatic impairment should be started on Velcade at a reduced dose of 0.7 mg/m² per injection during the first cycle, and a subsequent dose escalation to 1.0 mg/m² or further dose reduction to 0.5 mg/m² may be considered based on patient tolerance.

BRENTUXIMAB VEDOTIN (Adcetris®)

- P/P:** **Adcetris 50 MG VIAL**
- Adm:** Administer only as an intravenous infusion over 30 minutes every 3 weeks.
The recommended dose is 1.8 mg/kg.
Reduce dose in patients with mild hepatic impairment.
Continue treatment until disease progression or unacceptable toxicity
- Category:** Cytotoxic

Indications:	ADCETRIS is a CD30-directed antibody-drug conjugate indicated for treatment of patients with: • Hodgkin lymphoma after failure of autologous stem cell transplant (ASCT) or after failure of at least two prior multi-agent chemotherapy regimens in patients who are not ASCT candidates. • Systemic anaplastic large cell lymphoma after failure of at least one prior multi-agent chemotherapy regimen. Accelerated approval was granted for the above indications based on overall response rate. An improvement in patient-reported outcomes or survival has not been established. Continued approval for these indications may be contingent upon verification and description of clinical benefit in confirmatory trials.
Caution:	Peripheral neuropathy: Monitor patients for neuropathy and institute dose modifications accordingly. • Anaphylaxis and infusion reactions: If an infusion reaction occurs, interrupt the infusion. If anaphylaxis occurs, immediately discontinue the infusion. • Hematologic toxicities: Monitor complete blood counts prior to each dose of ADCETRIS. Closely monitor patients for fever. If Grade 3 or 4 neutropenia develops, consider dose delays, reductions, discontinuation, or G-CSF prophylaxis with subsequent doses. • Serious infections and opportunistic infections: Closely monitor patients for the emergence of bacterial, fungal or viral infections. • Tumor lysis syndrome: Closely monitor patients with rapidly proliferating tumor or high tumor burden. • Hepatotoxicity: Monitor liver enzymes and bilirubin. • Serious dermatologic reactions: Discontinue if Stevens-Johnson syndrome or toxic epidermal necrolysis occurs. • Embryo-fetal toxicity: Fetal harm can occur. Advise pregnant women of the potential hazard to the fetus.
Contra-Ind:	Concomitant use with bleomycin due to pulmonary toxicity.
Side effects:	The most common adverse reactions ($\geq 20\%$) are neutropenia, peripheral sensory neuropathy, fatigue, nausea, anemia, upper respiratory tract infection, diarrhea, pyrexia, rash, thrombocytopenia, cough, and vomiting.
Dosage:	50 mg lyophilized powder in a single-use vial.

CALCIUMFOLINATE (Calcium folinate®)

P/P:	Calcium folinate Amp 50mg/5ml 5'S
Category:	Detoxifying agents for antineoplastic treatment
Indications:	Calcium folinate is indicated to diminish the toxicity and counteract the action of folic acid antagonists such as methotrexate in cytotoxic therapy and overdose in adults and children. In cytotoxic therapy, this procedure is commonly known as "Calcium Folinate Rescue" and in combination with 5-fluorouracil in cytotoxic therapy.
Contra-Ind:	Known hypersensitivity to calcium folinate, or to any of the excipients, Pernicious anaemia or other anaemias due to vitamin B12 deficiency, Pregnancy and lactation.
Side effects:	Gastrointestinal disorders: vomiting and nausea, severe) mucosal toxicity. diarrhea with higher grades of toxicity, and dehydration.
D/I:	When calcium folinate is given in conjunction with a folic acid antagonist (e.g. cotrimoxazole, pyrimethamine) the efficacy of the folic acid antagonist may either be reduced or completely neutralised. Calcium folinate may diminish the effect of anti-epileptic substances: phenobarbital, primidone, phenytoin and succinimides, and may increase the frequency of seizures (a decrease of plasma levels of enzymatic inductor anticonvulsant drugs may be

observed because the hepatic metabolism is increased as folates are one of the cofactors) Concomitant administration of calcium folinate with 5-fluorouracil has been shown to enhance the efficacy and toxicity of 5-fluorouracil

Dosage:

Usual Dose for Colorectal Cancer
20 mg/m², IV, followed by 5-fluorouracil, once a day for 5 days.

Usual Dose for Methotrexate Rescue: 15 mg (approximately 10 mg/m²), IV, or IM, every 6 hours for 10 doses; start 24 hours after beginning of methotrexate infusion (based on a methotrexate dose of 12 to 15 g/m² IV over 4 hours)

Usual Dose for Megaloblastic Anemia: Up to 1 mg, IV or IM, once a day

Usual Dose for Folic Acid Antagonist Overdose: 5 to 15 mg orally once a day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

Carboplatin (Carboplatin®)

P/P: Carboplatin 10mg/ml 1" S 45ml

Category: Antineoplastic Agent, Alkylating Agent, Antineoplastic Agent, Platinum Analog

Indications: Ovarian cancer.

Contra-Ind: History of severe allergic reaction to carboplatin, cisplatin, other platinum-containing formulations, mannitol, or any component of the formulation; should not be used in patients with severe bone marrow depression or significant bleeding

Side effects: Commonly reported side effects of carboplatin include: nausea and vomiting, hypersensitivity reaction, and genitourinary signs and symptoms. See below for a comprehensive list of adverse effects.

D/I: Aminoglycosides, BCG (Intravesical), Bexarotene, CloZAPine, Deferiprone, Denosumab, Dipyrrone, Echinacea, Fingolimod, Fosphenytoin-Phenytoin, Leflunomide, Lenograstim, Lenograstim, Natalizumab, Nivolumab, Pimecrolimus, Roflumilast: Sipuleucel-T, SORafenib, Taxane Derivatives, Tacrolimus (Topical), Tofacitinib, Topotecan, Trastuzumab, Vaccines (Inactivated), Vaccines (Live)

Dosage:

Doses for adults are commonly calculated by the target AUC using the Calvert formula, where Total dose (mg) = Target AUC x (GFR + 25).

Ovarian cancer, advanced: IV: 360 mg/m² every 4 weeks (as a single agent) or 300 mg/m² every 4 weeks (in combination with cyclophosphamide) or Target AUC 4 to 6 (Single agent; in previously-treated patients).

Dosing: Geriatric: The Calvert formula should be used to calculate dosing for elderly patients. Refer to adult dosing.

Dosing: Pediatric: Carboplatin is associated with a high emetic potential in pediatric patients; antiemetics are recommended to prevent nausea and vomiting

Renal Dose Adjustments: Patients with Impaired Kidney Function: Patients with creatinine clearance values below 60 mL/min are at increased risk of severe bone marrow suppression

In renally-impaired patients who received single agent carboplatin therapy, the

incidence of severe leukopenia, neutropenia, or thrombocytopenia has been about 25% when the dosage modifications in the table below have been used

If a patient has a baseline creatinine clearance of 41-59 mL/min, then the recommended dose for this patient on day 1 is 250 mg/m².

If a patient has a baseline creatinine clearance of 16-40 mL/min, then the recommended dose for this patient on day 1 is 200 mg/m².

The data available for patients with severely impaired kidney function (creatinine clearance below 15 mL/min) are too limited to permit a recommendation for treatment.

Liver Dose Adjustments: Data not available.

CISplatin (Cisplatin®)

P/P: Cisplatin 50 mg/ml Vial IV

Adm: Intravenous

Category: Cytotoxic

Indications: Cisplatin for injection is a platinum-based drug indicated for the treatment of:

Advanced testicular cancer

Advanced ovarian cancer

Advanced bladder cancer to avoid the potential for eye injury and contamination, be careful not to touch the vial tip to your eye or other surfaces

Caution: Hypersensitivity reactions: Anaphylaxis and death may occur; monitor for and treat accordingly

Ototoxicity: Cumulative toxicity may be severe particularly in pediatric patients; consider audiometric and vestibular function monitoring

Ocular toxicity: Optic neuritis, papilledema, and cortical blindness may occur

Secondary leukemia: Secondary acute leukemia may occur

Embryo-fetal toxicity: Can cause fetal harm. Advise of potential risk to a fetus and use of effective contraception.

Contra-Ind: Severe hypersensitivity to cisplatin.

Side effects: Common adverse reactions are nephrotoxicity, peripheral neuropathy, nausea and vomiting, myelosuppression, and ototoxicity..

Dosage: Administer pre-treatment hydration and pre- and post-treatment antiemetics.

Cisplatin for injection has been administered intravenously at:

Advanced testicular cancer: 20 mg/m² daily for 5 days per cycle

Advanced ovarian cancer: 75 mg/m² to 100 mg/m² per cycle once every 3 to 4 weeks

Advanced bladder cancer: 50 mg/m² to 70 mg/m² intravenously per cycle once every 3 to 4 weeks

CLADRBINE (Mavenclad®)

P/P: **Mavenclad 10 mg tablet**

Adm: Oral

Category: Cytotoxic

Indications: indicated for the treatment of relapsing forms of multiple sclerosis (MS), to include relapsing-remitting disease and active secondary progressive disease, in adults . Because of its safety profile, use of MAVENCLAD is generally recommended for patients who have had an inadequate response to, or are unable to tolerate, an alternate drug indicated for the treatment of MS

Caution: Lymphopenia: Monitor lymphocyte counts before, during and after treatment.

Infections: Screen patients for latent infections; consider delaying treatment until infection is fully controlled. Vaccinate patients antibodynegative to varicella zoster virus prior to treatment. Administer anti-herpes prophylaxis in patients with lymphocyte counts less than 200 cells per microliter. Monitor for infections.

Hematologic toxicity: Measure complete blood count annually if clinically indicated after treatment.

Graft-versus-host-disease with blood transfusion: Irradiation of cellular blood components is recommended.

Liver injury: Obtain tests prior to treatment. Discontinue if clinically significant injury is suspected.

Contra-Ind: Patients with current malignancy.

Pregnant women, and women and men of reproductive potential who do not plan to use effective contraception during MAVENCLAD dosing and for 6 months after the last dose in each treatment course.

HIV infection.

Active chronic infections (e.g., hepatitis or tuberculosis).

History of hypersensitivity to cladribine.

Women intending to breastfeed on a MAVENCLAD treatment day and for 10 days after the last dose.

Side effects: Most common adverse reactions (incidence > 20%) are upper respiratory tract infection, headache, and lymphopenia.

Dosage: Cumulative dosage of 3.5 mg/kg administered orally and divided into 2 treatment courses (1.75 mg/kg per treatment course). Each treatment course is divided into 2 treatment cycles.

CYCLOPHOSPHAMIDE (Endoxan®)

P/P: **ENDOXAN 500 MG /ml 1" S vial**
ENDOXAN 1000 MG /ml 1" S vial

Category: Cyclophosphamide is a synthetic antineoplastic drug chemically related to the nitrogen Mustards (cytostatic)

Indications: Malignant Diseases: Malignant lymphomas, Multiple myeloma, Leukemias, Mycosis Fungoides, Neuroblastoma, Adenocarcinoma of the Ovary, Retinoblastoma, Carcinoma of the breast
Nonmalignant Disease: Biopsy Proven "Minimal Change" Nephrotic Syndrome in Children

Contra-Ind: Continued use of Cyclophosphamide is contraindicated in patients with severely depressed bone marrow function. Cyclophosphamide is contraindicated in patients who have demonstrated a previous hypersensitivity to it.

Caution: General Special attention to the possible development of toxicity should be exercised in patients being treated with Cyclophosphamide.

Side effects: Carcinogenesis, Mutagenesis, and Impairment of Fertility, interfere with normal wound healing, Nausea and vomiting commonly occur with Cyclophosphamide therapy, Alopecia, Leukopenia, cystitis and urinary bladder fibrosis, reduced host resistance to infections

D/I: The rate of metabolism and the leukopenic activity of Cyclophosphamide reportedly are increased by chronic administration of high doses of phenobarbital. Cyclophosphamide treatment, which causes a marked and persistent inhibition of cholinesterase activity, potentiates the effect of succinylcholine chloride.

If a patient has been treated with Cyclophosphamide within 10 days of general anesthesia, the anesthesiologist should be alerted
Since Cyclophosphamide has been reported to be more toxic in adrenalectomized dogs, adjustment of the doses of both replacement steroids and Cyclophosphamide may be necessary for the adrenalectomized

Dosage: Treatment of Malignant Diseases

Adults and Children: Oral Cyclophosphamide dosing is usually in the range of 1 to 5 mg/kg/day for both initial and maintenance dosing.

Treatment of Nonmalignant Diseases

Biopsy Proven "Minimal Change" Nephrotic Syndrome in Children: An oral dose of 2.5 to 3 mg/kg daily for a period of 60 to 90 days is recommended

CYTARABINE (Alexan®)

P/P: vial 500mg/10ml 1'S

Category: Cytarabine is cytotoxic Chemotherapeutic agent

Indications: Cytarabine Injection in combination with other approved anti-cancer drugs is indicated for remission induction in acute non-lymphocytic leukemia of adults and pediatric patients.

Contra-Ind: Cytarabine Injection is contraindicated in those patients who are hypersensitive to the drug.
Use in Pregnancy (Category D): Cytarabine can cause fetal harm when administered to a pregnant woman. Cytarabine causes abnormal cerebellar development in the neonatal hamster and is teratogenic to the rat fetus.

Side effects: The main toxic effect of Cytarabine injection is bone marrow suppression with leukopenia, thrombocytopenia and anemia. Less serious toxicity includes nausea, vomiting, diarrhea and abdominal pain, oral ulceration, and hepatic dysfunction. Infectious Complications. A Cytarabine syndrome has been described by Castleberry. It is characterized by fever, myalgia, bone pain, occasionally chest pain, maculopapular rash, conjunctivitis and malaise.

D/I: Reversible decreases in steady-state plasma digoxin concentrations and renal glycoside excretion were observed in patients receiving beta-acetyldigoxin and chemotherapy regimens containing cyclophosphamide, vincristine and prednisone with or without Cytarabine or procarbazine. Steady-state plasma digitoxin concentrations did not appear to change. Therefore, monitoring of plasma digoxin levels may be indicated in patients receiving similar combination chemotherapy regimens. The utilization of digitoxin for such patients may be considered as an alternative. Carcinogenesis, Mutagenesis, Impairment of Fertility: Extensive chromosomal Carcinogenesis, Mutagenesis, Impairment of Fertility: Extensive chromosomal damage, including chromatoid breaks have been produced by Cytarabine and malignant transformation of rodent cells in culture has been reported.
Pregnancy: Teratogenic Effects: Pregnancy Category D.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from Cytarabine

Dosage:

Usual Adult Dose for Acute Nonlymphocytic Leukemia: As a part of a combination chemotherapy: 100 mg/m²/day by continuous IV infusion (days 1 to 7) or 100 mg/m² IV every 12 hours (days 1 to 7) with an anthracycline.

Usual Adult Dose for non-Hodgkin's Lymphoma": Acute Leukemia Induction:
100 to 200 mg/m²/day or 2 to 6 mg/kg/day as a continuous IV infusion over 24 hours or in divided doses by rapid injection for 5 to 10 days. This course may be repeated approximately every 2 weeks.

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:
2 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

For chronic granulocytic leukemia / chronic myelogenous leukemia:
20 mg/m² subcutaneously for 10 days per month for 6 months with interferon alfa.

Usual Adult Dose for Chronic Myelogenous Leukemia

Acute Leukemia Induction: 100 to 200 mg/m²/day or 2 to 6 mg/kg/day as a continuous IV infusion over 24 hours or in divided doses by rapid injection for 5 to 10 days. This course may be repeated approximately every 2 weeks.

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:
2 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

For chronic granulocytic leukemia / chronic myelogenous leukemia:
20 mg/m² subcutaneously for 10 days per month for 6 months with interferon alfa.

Usual Adult Dose for Acute Myeloid Leukemia Acute Leukemia Induction:
100 to 200 mg/m²/day or 2 to 6 mg/kg/day as a continuous IV infusion over 24 hours or in divided doses by rapid injection for 5 to 10 days. This course may be repeated approximately every 2 weeks.

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:
2 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

For chronic granulocytic leukemia / chronic myelogenous leukemia:
20 mg/m² subcutaneously for 10 days per month for 6 months with interferon alfa.

Usual Adult Dose for Leukemia: Acute Leukemia Induction:
100 to 200 mg/m²/day or 2 to 6 mg/kg/day as a continuous IV infusion over 24 hours or in divided doses by rapid injection for 5 to 10 days. This course may be repeated approximately every 2 weeks.

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:
2 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

For chronic granulocytic leukemia / chronic myelogenous leukemia:
20 mg/m² subcutaneously for 10 days per month for 6 months with interferon alfa.

Usual Adult Dose for Meningeal Leukemia

The manufacturer has stated that doses ranging from 5 mg/m² to 75 mg/m² has been used intrathecally and the frequency of administration has varied from once a day for 4 days to once every 4 days. The manufacturer has further stated that 30 mg/m² every 4 days until cerebrospinal fluid findings were normal, followed by one additional treatment was the therapy most frequently used.

Usual Pediatric Dose for Acute Nonlymphocytic Leukemia

As a part of a combination chemotherapy:

100 mg/m²/day by continuous IV infusion (days 1 to 7) or 100 mg/m² IV every 12 hours (days 1 to 7) with an anthracycline.

Usual Pediatric Dose for non-Hodgkin's Lymphoma

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:

1 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

Usual Pediatric Dose for Acute Myeloid Leukemia

For refractory non-Hodgkin's lymphomas and acute myeloid leukemia:

1 to 3 g/m² IV every twelve hours for up to 12 doses. The IV infusion generally takes place over 1 to 3 hours. The dose of cytarabine should be suspended or modified if the ANC is below 1000/mm³ or the platelet count is below 50,000/mm³.

Usual Pediatric Dose for Meningeal Leukemia

The manufacturer has stated that doses ranging from 5 mg/m² to 75 mg/m² has been used intrathecally and the frequency of administration has varied from once a day for 4 days to once every 4 days. The manufacturer has further stated that 30 mg/m² every 4 days until cerebrospinal fluid findings were normal, followed by one additional treatment was the therapy most frequently used.

Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: Any elevation in transaminases and/or bilirubin greater than 2 mg/dL: Reduce dose by 50%; may increase subsequent doses in the absence of toxicity.

DACARBAZIN (Dacarbazine®)

P/P: **Dacarbazine 200 mg 10" S Vial**

Category: Antineoplastic agent

Indications: Dacarbazine for Injection, is indicated in the treatment of metastatic malignant melanoma. In addition, Dacarbazine for Injection, is also indicated for Hodgkin's disease as a second-line therapy when used in combination with other effective agents.

Contra-Ind: Dacarbazine for Injection is contraindicated in patients who have demonstrated a hypersensitivity to it in the past. Pregnancy and Lactation.

Side effects: Hemopoietic depression is the most common toxicity with Dacarbazine for Injection. Hepatic necrosis has been reported. Studies have demonstrated this agent to have a carcinogenic and teratogenic effect when used in animals. Symptoms of anorexia, nausea and vomiting are the most frequently noted of all toxic reactions.

D/I: Serious - Use Alternative: adenovirus types 4 and 7 live, oral influenza virus vaccine trivalent, adjuvanted, palifermin, tofacitinib
Significant - Monitor Closely: belatacept, bendamustine, busulfan, carboplatin, carmustine, chlorambucil, cholera vaccine, cisplatin, cyclophosphamide, deferasirox, denosumab, fingolimod, hydroxyurea, ifosfamide, influenza virus vaccine (h5n1), influenza virus vaccine (h5n1), adjuvanted, lomustine, mechlorethamine, melphalan, meningococcal group b vaccine, oxaliplatin, sipuleucel-t, streptozocin, teriflunomide, thiopeta

Dosage: Malignant Melanoma: The recommended dosage is 2 to 4.5 mg/kg/day for 10 days. Treatment may be repeated at 4-week intervals. An alternate recommended dosage is 250 mg/square meter body surface/day IV for 5 days. Treatment may be repeated every 3 weeks. Hodgkin's Disease: The recommended dosage of Dacarbazine for Injection in the Treatment of Hodgkin's disease is 150 mg/square meter body surface/day for 5 days, in Combination with other effective drugs. Treatment may be repeated every 4 weeks. An Alternative recommended dosage is 375 mg/square meter body surface on day 1, in combination with other effective drugs, to be repeated every 15 days.

DOCETAXEL (Taxotre®)

P/P: **Taxotre injection**

Adm: The Taxotere dilution for infusion should be administered intravenously as a 1-hour infusion under ambient room temperature (below 25°C) and lighting conditions.

Category: Docetaxel is an antineoplastic agent belonging to the taxoid family.

Indications: Breast Cancer: Taxotere is indicated for the treatment of patients with locally advanced or metastatic breast cancer after failure of prior chemotherapy.

Non-Small Cell Lung Cancer: Taxotere as a single agent is indicated for the treatment of patients with locally advanced or metastatic non-small cell lung cancer after failure of prior platinum-based chemotherapy. Taxotere in combination with cisplatin is indicated for the treatment of patients with unresectable, locally advanced or metastatic non-small cell lung cancer who have not previously received chemotherapy for this condition.

Prostate Cancer: Taxotere in combination with prednisone is indicated for the treatment of patients with androgen independent (hormone refractory) metastatic prostate cancer.

Gastric Adenocarcinoma: Taxotere in combination with cisplatin and fluorouracil is indicated for the treatment of patients with advanced gastric adenocarcinoma, including adenocarcinoma of the gasteresophageal junction, who have not received prior chemotherapy for advanced disease.

Head and Neck Cancer: Taxotere in combination with cisplatin and fluorouracil is indicated for the induction treatment of patients with locally advanced squamous cell carcinoma of the head and neck (SCCHN).

Caution: Pregnancy Category D: Taxotere can cause fetal harm when administered to a pregnant woman. Docetaxel caused embryofetal toxicities including intrauterine mortality when administered to pregnant rats and rabbits during the period of organogenesis. Nursing Mothers: It is not known whether docetaxel is excreted in human milk. Because many drugs are excreted in human milk, and because of the potential for serious adverse reactions in nursing infants from Taxotere, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother. The alcohol content of Taxotere Injection should be taken into account when given to pediatric patients. The efficacy of Taxotere in pediatric patients as monotherapy or in combination has not been established.

Contra-Ind: Taxotere is contraindicated in patients who have a history of severe hypersensitivity reactions to docetaxel or to other drugs formulated with polysorbate 80. Severe reactions,

including anaphylaxis, have occurred. Taxotere should not be used in patients with neutrophil counts of <1500 cells/mm³.

- D/I: Docetaxel is a CYP3A4 substrate. In vitro studies have shown that the metabolism of docetaxel may be modified by the concomitant administration of compounds that induce, inhibit, or are metabolized by cytochrome P450 3A4. In vivo studies showed that the exposure of docetaxel increased 2.2-fold when it was coadministered with ketoconazole, a potent inhibitor of CYP3A4. Protease inhibitors, particularly ritonavir, may increase the exposure of docetaxel. Concomitant use of Taxotere and drugs that inhibit CYP3A4 may increase exposure to docetaxel and should be avoided. In patients receiving treatment with Taxotere, close monitoring for toxicity and a Taxotere dose reduction could be considered if systemic administration of a potent CYP3A4 inhibitor cannot be avoided.
- Side effects: The most serious adverse reactions from Taxotere are: Toxic Deaths, Hepatotoxicity, Neutropenia, Hypersensitivity, Fluid Retention, Acute Myeloid Leukemia, Cutaneous Reactions, Neurologic Reactions, Eye Disorders, Asthenia, Alcohol Intoxication. The most common adverse reactions across all Taxotere indications are infections, neutropenia, anemia, febrile neutropenia, hypersensitivity, thrombocytopenia, neuropathy, dysgeusia, dyspnea, constipation, anorexia, nail disorders, fluid retention, asthenia, pain, nausea, diarrhea, vomiting, mucositis, alopecia, skin reactions, and myalgia.
- Dosage: Breast Cancer: For locally advanced or metastatic breast cancer after failure of prior chemotherapy, the recommended dose of Taxotere is 60 mg/m² to 100 mg/m² administered intravenously over 1 hour every 3 weeks. For the adjuvant treatment of operable node-positive breast cancer, the recommended Taxotere dose is 75 mg/m² administered 1 hour after doxorubicin 50 mg/m² and cyclophosphamide 500 mg/m² every 3 weeks for 6 courses. Prophylactic G-CSF may be used to mitigate the risk of hematological toxicities. Non-Small Cell Lung Cancer: For treatment after failure of prior platinum-based chemotherapy, Taxotere was evaluated as monotherapy, and the recommended dose is 75 mg/m² administered intravenously over 1 hour every 3 weeks. A dose of 100 mg/m² in patients previously treated with chemotherapy was associated with increased hematologic toxicity, infection, and treatment-related mortality in randomized, controlled trials. For chemotherapy-naïve patients, Taxotere was evaluated in combination with cisplatin. The recommended dose of Taxotere is 75 mg/m² administered intravenously over 1 hour immediately followed by cisplatin 75 mg/m² over 30–60 minutes every 3 weeks. Prostate Cancer: For hormone-refractory metastatic prostate cancer, the recommended dose of Taxotere is 75 mg/m² every 3 weeks as a 1 hour intravenous infusion. Prednisone 5 mg orally twice daily is administered continuously. Gastric Adenocarcinoma: the recommended dose of Taxotere is 75 mg/m² as a 1 hour intravenous infusion, followed by cisplatin 75 mg/m², as a 1 to 3 hour intravenous infusion (both on day 1 only), followed by fluorouracil 750 mg/m² per day given as a 24-hour continuous intravenous infusion for 5 days, starting at the end of the cisplatin infusion. Treatment is repeated every three weeks. Patients must receive premedication with antiemetics and appropriate hydration for cisplatin administration. Head and Neck Cancer: Patients must receive premedication with antiemetics, and appropriate hydration (prior to and after cisplatin administration). Prophylaxis for neutropenic infections should be administered. All patients treated on the Taxotere containing arms of the TAX323 and TAX324 studies received prophylactic antibiotics. Induction chemotherapy followed by radiotherapy (TAX323) For the induction treatment of locally advanced inoperable SCCHN, the recommended dose of Taxotere is 75 mg/m² as a 1 hour intravenous infusion followed by cisplatin 75 mg/m² intravenously over 1 hour, on day one, followed by fluorouracil as a continuous intravenous infusion at 750 mg/m² per day for five days. This regimen is administered every 3 weeks for 4 cycles. Following chemotherapy, patients should receive radiotherapy. Induction chemotherapy followed by chemoradiotherapy (TAX324)

For the induction treatment of patients with locally advanced (unresectable, low surgical cure, or organ preservation) SCCHN, the recommended dose of Taxotere is 75 mg/m² as a 1 hour intravenous infusion on day 1, followed by cisplatin 100 mg/m² administered as a 30-minute to 3 hour infusion, followed by fluorouracil 1000 mg/m²/day as a continuous infusion from day 1 to day 4. This regimen is administered every 3 weeks for 3 cycles. Following chemotherapy, patients should receive.

Renal Dose Adjustments: CrCl between 40 and 59 mL/min Dose was reduced by 50% at subsequent cycle. If CrCl was >60 mL/min at end of cycle, full dose was reinstated at the next cycle.

Liver Dose Adjustments: Patients with bilirubin >ULN should not receive Taxotere. Also, patients with AST and/or ALT >1.5 × ULN concomitant with alkaline phosphatase >2.5 × ULN should not receive Taxotere. The alcohol content of Taxotere Injection should be taken into account when given to patients with hepatic impairment.

DOXORBUICIN (Doxorubicin®)

P/P: Doxorubicin 50mg/25 ml 1" S Vial.

Category: Doxorubicin is an antineoplastic antibiotic.

Indications: Ovarian Cancer, AIDS-Related Kaposi's Sarcoma, Multiple Myeloma.

Contra-Ind: It is contraindicated in patients who have a history of severe hypersensitivity reactions, including anaphylaxis, to doxorubicin HCl, Pregnancy and lactation.

Side effects: Cardiomyopathy: Doxorubicin HCl can result in myocardial damage, including acute left ventricular failure. Infusion-Related Reactions: Serious and sometimes life-threatening infusion-related reactions characterized by one or more of the following symptoms can occur with Doxil: flushing, shortness of breath, facial swelling, headache, chills, chest pain, back pain, tightness in the chest and throat, fever, tachycardia, pruritus, rash cyanosis, syncope, bronchospasm, asthma, apnea, and hypotension. Hand-Foot Syndrome, Secondary Oral Neoplasms, Embryofetal Toxicity.

D/I: No formal drug interaction studies have been conducted

Dosage: Ovarian Cancer: The recommended dose is 50 mg/m² intravenously over 60 minutes every 28 days until disease progression or unacceptable toxicity.

AIDS-Related Kaposi's Sarcoma: The recommended dose is 20 mg/m² intravenously over 60 minutes every 21 days until disease progression or unacceptable toxicity.

Multiple Myeloma: The recommended dose is 30 mg/m² intravenously over 60 minutes on day 4 of each 21-day cycle for eight cycles or until disease progression or Unacceptable toxicity.

EBETAXEL (Ebetaxel®)

P/P: Ebetaxel 300 mg/50ml 1'S VIAL

Category: Taxanes

- Indications:** EBETAXEL is indicated, alone or in combination, for the treatment of advanced carcinoma of the ovary, For the treatment of metastatic breast cancer after failure of combination chemotherapy, Advanced non-small cell lung cancer, Kaposi's sarcoma.
- Contra-Ind:** EBETAXEL is contraindicated in patients who have shown severe hypersensitivity to either EBETAXEL or any of the excipients, or to macrogol glycerol ricinoleate, and in patients with an initial blood count of <1,500/mm³ of neutrophils
The use of paclitaxel in pregnant women is contraindicated.
EBETAXEL is contraindicated during breast-feeding. Breast-feeding should be discontinued before treatment with EBETAXEL I.
- Caution:** Intra-arterial application must be strictly avoided
- Side effects:** Infections and infestations, Blood and lymphatic system disorders: Haematopoietic system, Thrombocytopenia, Anaemia, Myelosuppression, Benign and malignant tumors, Hypersensitivity reactions, Mild peripheral neuropathy, Hypotension and bradycardia, Adverse gastrointestinal reactions, (Anorexia, nausea, vomiting, diarrhea), Hepato-biliary disorders, Skin and subcutaneous tissue disorders, Musculoskeletal, connective tissue and bone manifestations, Injection site reactions (oedema, pain, erythema, hardening)
- D/I:** Concomitant or preceding therapy with cytotoxic agents or radiotherapy may increase the myelotoxicity of EBETAXEL. Since myelotoxicity may result in a changed immune reaction mechanism, immunisation with live virus vaccines should be avoided.
- Dosage:** First-line chemotherapy of ovarian cancer: the recommended first-line treatment of ovarian cancer is 135 mg/m² as an infusion over 24 hours, followed by 75 mg/m² of cisplatin and a therapy-free interval of three weeks.
Second-line chemotherapy of ovarian and metastatic: breast cancer the recommended three-hour infusion, with an interval of three weeks between therapy courses.
Advanced non-small cell lung cancer: The recommended regimen, given every 3 weeks, is EBETAXEL administered intravenously over 24 hours at a dose of 135 mg/m² followed by cisplatin 75 mg/m².
Kaposi's sarcoma: EBETAXEL administered at a dose of 135 mg/m² given intravenously over 3 hours every 3 weeks or at a dose of 100 mg/m² given intravenously over 3 hours every 2 weeks is recommended.
- Patients with renal insufficiency: Studies in patients with renal impairment have not been performed.
Patients with hepatic insufficiency: Studies in patients with hepatic dysfunction have not been performed.

EpiRUBicin (Epirubicin®)

P/P: Epirubicin 50mg/25ml Vial I.V 1"

Adm: IV: Infuse over 15 to 20 minutes or slow IV push

Category: Anthracycline, Topoisomerase II Inhibitor

Indications: Breast cancer, bladder cancer non muscle invasive, soft tissue sarcoma

Caution: Bone marrow suppression, Cardiac toxicity, Secondary malignancy, Epirubicin may cause tumor lysis syndrome (TLS) particularly in patients with rapid tumor proliferation.
Extravasation

Contra-Ind: Severe hypersensitivity, recent myocardial infarction or severe arrhythmias, severe hepatic impairment, previous treatment with anthracyclines up to the maximum cumulative dose.

Side effects: Lethargy, Nausea and vomiting, Neutropenia, febrile neutropenia leukopenia, thrombocytopenia, Anemia

Dosage: Bladder cancer, non-muscle-invasive: 50 or 80 mg as a single instillation
Breast cancer, adjuvant treatment: Usual dose: IV: 100 to 120 mg/m² per 3- or 4-week
Soft tissue sarcoma: 25 mg/m² on days 1, 2, and 3 every 28 days or 60 mg/m² on days 1 and 2 every 21
Dosing: Altered Kidney Function: Adult
Consider lower doses

Dosing: Hepatic Impairment: Adult
Bilirubin 1.2 to 3 mg/dL or AST 2 to 4 times ULN: Administer 50% of recommended starting dose.
Bilirubin >3 mg/dL or AST >4 times ULN: Administer 25% of recommended starting dose.
Severe hepatic impairment (Child-Pugh class C or serum bilirubin >5 mg/dL): Use is contraindicated.

ERENUMAB (Aimovig®)

P/P: Aimovig 70mg prefilled syringe

ADM.: Subcutaneous.

Category: Human monoclonal Antibody.

Indications: Migraine.

Contra-Ind: hypersensitivity to Erenumab or any component of the formulation.

Special population: Pregnancy: Benefit should outweigh risk
AU TGA pregnancy category: B1
US FDA pregnancy category: Not assigned
Breast- feeding: It is not known if erenumab is present in breast milk.

Caution: signs of an allergic reaction.

D/I: Efgartigimod Alfa: May diminish the therapeutic effect of Fc Receptor-Binding Agents.
Risk C: Monitor therapy

Side effects: 1% to 10%: Constipation, Antibody development, Injection site reaction, Muscle cramps, muscle spasm. Post marketing: Hypertension, Alopecia, skin rash, Oral mucosal ulcer, Hypersensitivity reaction (including anaphylaxis and angioedema).

Dosage: Migraine prophylaxis Initial: 70 mg to 140 mg once a month.
Renal insufficiency: No dosage adjustment.
Hepatic dysfunction: No dosage adjustment.

ELTROMBOPAG Olamine (Revolade®)

P/P: Revolade 25 mg film-coated tablets.

Revolade 50 mg film-coated tablets.

Revolade 75 mg film-coated tablets:

Adm: Oral use. The tablets should be taken at least two hours before or four hours after any products such as antacids, dairy products (or other calcium containing food products), or mineral supplements containing polyvalent cations (e.g., iron, calcium, magnesium, aluminum, selenium and zinc).

Category: Antihemorrhagics, other systemic hemostatic

Indications: Revolade is indicated for chronic immune (idiopathic) thrombocytopenic purpura (ITP) patients aged 1 year and above who are refractory to other treatments (e.g., corticosteroids, immunoglobulins). Revolade is indicated in adult patients with chronic hepatitis C virus (HCV) infection for the treatment of thrombocytopenia, where the degree of thrombocytopenia is the main factor preventing the initiation or limiting the ability to maintain optimal interferon-based therapy. Revolade is indicated in adult patients with acquired severe aplastic anaemia (SAA) who were either refractory to prior immunosuppressive therapy or heavily pretreated and are unsuitable for haematopoietic stem cell transplantation.

Caution:	There are no or limited amount of data from the use of eltrombopag in pregnant women. Revolade is not recommended in women of childbearing potential not using contraception. Is not known whether eltrombopag/metabolites are excreted in human milk. Studies in animals have shown that eltrombopag is likely secreted into milk therefore a risk to the suckling child cannot be excluded.
Contra-Ind:	Hypersensitivity to eltrombopag or to any of the excipients.
D/I:	HMG CoA reductase inhibitors, OATP1B1 and BCRP substrates, HCV protease inhibitors, Ciclosporin, Polyvalent cations (chelation), The administration of eltrombopag tablet or powder for oral suspension with a high-calcium meal (e.g., a meal that included dairy products) significantly reduced plasma eltrombopag AUC _{0-∞} and Cmax. In contrast, the administration of eltrombopag 2 hours before or 4 hours after a high-calcium meal or with low-calcium food [< 50 mg calcium] did not alter plasma eltrombopag exposure to a clinically significant extent. Lopinavir/ritonavir, CYP1A2 and CYP2C8 inhibitors and inducers, Medicinal products for treatment of ITP.
Side effects:	Nasopharyngitis, upper respiratory tract infection, Rhinitis, Paraesthesia ,Dry eye, Cough, Oropharyngeal pain, Rhinorrhoea, Nausea, Diarrhea, Mouth ulceration, Toothache, Very common in Pediatric ITP, Alanine aminotransferase increased*, Aspartate aminotransferase increased*, Hyperbilirubinaemia, Hepatic function abnormal , Rash, Alopecia, Myalgia, Muscle spasm, Musculoskeletal pain, Bone pain, Back pain, Menorrhagia, Pyrexia, Urinary tract infection, Upper respiratory tract infection, Bronchitis, Nasopharyngitis, Influenza, Oral herpes, Gastroenteritis, Pharyngitis, Hepatic neoplasm malignant , Anaemia , Decreased appetite , Insomnia, Dizziness, Disturbance in attention, Dysgeusia, Hepatic encephalopathy, Lethargy, Memory impairment, Paraesthesia, Cataract, Retinal exudates, Dry Eye, Ocular icterus, Retinal hemorrhage, Blood creatine phosphokinase increased.
Dosage:	Chronic immune (idiopathic) thrombocytopenia: Adults and Pediatric population aged 6 to 17 years The recommended starting dose of eltrombopag is 50 mg once daily. Pediatric population aged 1 to 5 years: The recommended starting dose of eltrombopag is 25 mg once daily. Chronic hepatitis C (HCV) associated thrombocytopenia: Initial dose regimen: Eltrombopag should be initiated at a dose of 25 mg once daily. Severe aplastic anaemia: Initial dose regimen Eltrombopag should be initiated at a dose of 50 mg once daily.
Renal Dose Adjustments:	No dose adjustment is necessary in patients with renal impairment. Patients with impaired renal function should use eltrombopag with caution and close monitoring, for example by testing serum creatinine and/or performing urine analysis.
Liver Dose Adjustments:	Eltrombopag should not be used in ITP patients with hepatic impairment (Child-Pugh score ≥ 5) unless the expected benefit outweighs the identified risk of portal venous thrombosis. If the use of eltrombopag is deemed necessary for ITP patients with hepatic impairment the starting dose must be 25 mg once daily. After initiating the dose of eltrombopag in patients with hepatic impairment an interval of 3 weeks should be observed before increasing the dose. No dose adjustment is required for thrombocytopenic patients with chronic HCV and mild hepatic impairment (Child-Pugh score ≤ 6). Chronic HCV patients and severe aplastic anaemia patients with hepatic impairment should initiate eltrombopag at a dose of 25 mg once daily (see section 5.2). After initiating the dose of eltrombopag in patients with hepatic impairment an interval of 2 weeks should be observed before increasing the dose. There is an increased risk for adverse events, including hepatic decompensation and thromboembolic events, in thrombocytopenic patients with advanced chronic liver disease treated with eltrombopag, either in preparation for invasive procedure or in HCV patients undergoing antiviral therapy.

EriBULin (Halaven®) [High Alert] [LASA]

P/P:	Halaven: 1 mg/2 mL (2 mL) [contains alcohol, usp] Generic: 1 mg/2 mL (2 mL)
Adm:	IV: Infuse over 2 to 5 minutes. May be administered undiluted or diluted. Do not administer other medications through the same IV line, or through a line containing dextrose.
Category:	Antineoplastic Agent, Antimicrotubular
Indications:	Breast cancer, metastatic: Treatment of metastatic breast cancer in patients who have received at least 2 prior chemotherapy regimens for the treatment of metastatic disease (prior treatment should have included an anthracycline and a taxane in either the adjuvant or metastatic setting). Liposarcoma, unresectable or metastatic: Treatment of unresectable or metastatic liposarcoma in patients who have received a prior anthracycline-containing regimen.
Caution:	Bone marrow suppression Peripheral neuropathy QT prolongation
Contra-Ind:	Hypersensitivity to Eribulin mesylate, halichondrin B, or its chemical derivatives.
Side effects:	>10%: Cardiovascular: Peripheral edema (≥5% to 12%) Dermatologic: Alopecia (35% to 45%) Endocrine & metabolic: Hypocalcemia (28%), hypokalemia (5% to 30%), hypophosphatemia (20%), weight loss (21%) Gastrointestinal: Abdominal pain (5% to 29%), anorexia (20%), constipation (25% to 32%), decreased appetite (19%), diarrhea (17% to 18%), nausea (35% to 41%; grades ≥3: 1%), stomatitis (5% to 14%; grades 3/4: <1%), vomiting (18% to 19%; grades ≥3: 1%) Genitourinary: Urinary tract infection (10% to 11%) Hematologic & oncologic: Anemia (58% to 70%; grades ≥3: 2% to 4%), neutropenia (63% to 82%; grades ≥3: 12% to 57%) Hepatic: Increased serum alanine aminotransferase (43%), increased serum aspartate aminotransferase (36%) Nervous system: Asthenia (≤62%), fatigue (≤62%), headache (18% to 19%), peripheral neuropathy (29% to 35%; grade ≥3: ≤8%; including paresthesia, peripheral motor neuropathy [4%], polyneuropathy, sensorimotor neuropathy) Neuromuscular & skeletal: Arthralgia (≤22%), back pain (16%), limb pain (11%), myalgia (≤22%), ostealgia (12%) Respiratory: Cough (14% to 18%), dyspnea (16%) Miscellaneous: Fever (21% to 28%)
Dosage:	Breast cancer, metastatic: IV: Eribulin mesylate: 1.4 mg/m ² on days 1 and 8 of a 21-day treatment cycle until disease progression or unacceptable toxicity.

ETOPOSIDE (Etoposide®)

P/P: Etoposide 20mg/ml Concentrate for Solution for Infusion

Category: Podophyllotoxin derivatives

Indications: Etoposide is indicated in combination with other chemotherapeutic agents for the treatment of:
- testicular tumors
- small cell lung cancer
- monoblastic leukaemia and acute myelomonoblastic leukaemia when standard therapy has failed

Contra-Ind: Hypersensitivity to the active substance, podophyllotoxins or podophyllotoxin-derivatives or to any of the excipients
Concomitant use of yellow fever vaccine or other live vaccines is contraindicated in immunosuppressed patients
Intra-arterial and intracavitary injection.

Caution: Injection site reactions may occur during the administration of etoposide.
Severe myelosuppression with resulting infection or bleeding may occur.
Etoposide should not be administered to patients with neutrophil counts less than 1,500 cell/mm³ or platelet counts less than 100,000 cells/mm³, unless caused by malignant disease.
Etoposide should be given only by slow intravenous infusion (usually over a 30 to 60 minute period) since hypotension has been reported as a possible side effect of rapid intravenous injection
possible occurrence of an anaphylactic reaction with etoposide

Side effects: Acute leukaemia, Myelosuppression*, leukopenia, thrombocytopenia, neutropenia, anaemia, Anaphylactic-type reactions, Dizziness, Myocardial infarction, arrhythmia, Transient systolic hypotension following rapid intravenous administration, hypertension, Abdominal pain, constipation, nausea and vomiting, anorexia, Mucositis (including stomatitis and esophagitis), diarrhea, Hepatotoxicity, Alopecia, pigmentation, Rash, urticaria, pruritus, Asthenia, malaise, Extravasation, phlebitis

D/I: Concomitant cisplatin therapy, phenytoin, warfarin therapy, There is increased risk of fatal systemic vaccinal disease with the use of yellow fever vaccine. Live vaccines are contraindicated in immunosuppressed patients. Prior or concurrent use of other drugs with similar myelosuppressant action as etoposide/etoposide phosphate may be expected to have additive or synergistic effects. Cross-resistance between anthracyclines and etoposide has been reported in preclinical experiments

Dosage: The usual dose of etoposide: 100 mg/m²/day on days 1 through 5 or 120 mg/m²/day on days 1, 3, and 5. Generally 3 to 4 chemotherapy cycles are administered. **Etoposide must not be given by rapid intravenous injection.** Patients with renal impairment: 15-50 ml/min: 75% of dose.

Patients with hepatic impairment: Patients with impaired hepatic function should regularly have their hepatic function monitored due to the risk of accumulation

GEMCITABINE (Gemzar, Gemcitabine®)

- P/P: **GEMZAR 200 MG, 1'S VIAL. GEMZAR 1000 MG, 1'S VIAL.
GEMCITABIN 200 MG, 1'S VIAL, GEMCITABIN 1000 MG, 1'S VIAL**
- Category: Pyrimidine analogues
- Indications: Bladder cancer, Pancreatic cancer, Non-small cell lung cancer, Breast cancer, Ovarian cancer.
- Contra-Ind: Hypersensitivity to the active substance or to any of the excipients.
- Caution: Gemcitabine can suppress bone marrow function as manifested by leucopenia, thrombocytopenia and anaemia. Gemcitabine should be used with caution in patients with hepatic or renal function impairment as there is insufficient information from clinical studies to allow clear dose recommendation for this patient population. Concomitant radiotherapy (given together or ≤7 days apart): Toxicity has been Reported. Yellow fever vaccine and other live attenuated vaccines are not recommended in patients treated with gemcitabine
- Side effects: The most commonly reported adverse drug reactions associated with GEMZAR treatment include: nausea with or without vomiting, raised liver transaminases (AST/ALT) and alkaline phosphatase, reported in approximately 60% of patients; proteinuria and haematuria reported in approximately 50% of patients; dyspnea reported in 10-40% of patients (Highest incidence in lung cancer patients); allergic skin rashes occur in approximately 25% of patients and are associated with itching in 10% of patients.
- D/I: No specific interaction studies have been performed
- Dosage: Bladder cancer: (Combination use) The recommended dose for gemcitabine is 1,000 mg/m², given by 30-minute infusion. The dose should be given on Days 18 and 15 of each 28-day cycle in combination with cisplatin. Cisplatin is given at a recommended dose of 70 mg/m² on Day 1 following gemcitabine or Day 2 of each 28-day cycle. This 4-week cycle is then repeated
- Pancreatic cancer: The recommended dose of gemcitabine is 1,000 mg/m², given by 30-minute intravenous infusion. This should be repeated once weekly for up to 7 weeks followed by a week of rest
- Non-small cell lung cancer (Monotherapy): The recommended dose of gemcitabine is 1,000 mg/m², given by 30-minute intravenous infusion. This should be repeated once weekly for 3 weeks, followed by a 1-week rest period. This 4- week cycle is then repeated
- Breast cancer (Combination use): Gemcitabine, in combination with paclitaxel,

is recommended using paclitaxel (175 mg/m²) administered on Day 1 over approximately 3 hours as an intravenous infusion, followed by gemcitabine (1,250 mg/m²) as a 30-minute intravenous infusion on Days 1 and 8 of each 21-day cycle.

Ovarian cancer (Combination use) Gemcitabine, in combination with carboplatin, is recommended using gemcitabine 1,000 mg/m² administered on Days 1 and 8 of each 21-day cycle as a 30-minute intravenous infusion.

IMATINIB (Glivec®)

P/P: **Glivec 100 mg film-coated tablets**
 Glivec 400 mg film-coated tablets

Category: protein-tyrosine kinase inhibitor

Indications: Glivec is indicated for the treatment of adult and Pediatric patients with newly diagnosed Philadelphia chromosome (bcr-abl) positive (Ph+) chronic myeloid leukaemia (CML) for whom bone marrow transplantation is not considered as the first line of treatment. adult and Pediatric patients with Ph+ CML in chronic phase after failure of interferon-alpha therapy, or in accelerated phase or blast crisis. adult and Pediatric patients with newly diagnosed Philadelphia chromosome positive acute lymphoblastic leukaemia (Ph+ ALL) integrated with chemotherapy. adult patients with relapsed or refractory Ph+ ALL as monotherapy. adult patients with myelodysplastic/myeloproliferative diseases (MDS/MPD) associated with platelet-derived growth factor receptor (PDGFR) gene rearrangements. adult patients with advanced hypereosinophilic syndrome (HES) and/or chronic eosinophilic leukaemia (CEL) with FIP1L1-PDGFR α rearrangement. The effect of Glivec on the outcome of bone marrow transplantation has not been determined. the treatment of adult patients with Kit (CD 117) positive unresectable and/or metastatic malignant gastrointestinal stromal tumors (GIST). the adjuvant treatment of adult patients who are at significant risk of relapse following resection of Kit (CD117)-positive GIST. Patients who have a low or very low risk of recurrence should not receive adjuvant treatment. the treatment of adult patients with unresectable dermatofibrosarcoma protuberans (DFSP) and adult patients with recurrent and/or metastatic DFSP who are not eligible for surgery.

Contra-Ind Hypersensitivity to the active substance or to any of the excipients listed.

Caution: Hypothyroidism, Hepatotoxicity, Fluid retention, Patients with cardiac disease Gastrointestinal hemorrhage, Tumor lysis syndrome, growth retardation occurring in children and pre-adolescents receiving imatinib

Side effects Neutropenia, thrombocytopenia, anaemia, Pancytopenia, febrile Neutropenia, Anorexia, Insomnia, Headache, Dizziness, paraesthesia, taste disturbance, hypoesthesia, Eyelid oedema, lacrimation increased, conjunctival hemorrhage, conjunctivitis, dry eye, blurred vision, Flushing, hemorrhage, Dyspnea, epistaxis, cough, Nausea, diarrhea, vomiting,

dyspepsia, abdominal pain, Flatulence, abdominal distension, gastro-esophageal reflux, constipation, dry mouth, gastritis, Periorbital oedema, dermatitis/eczema/rash, Muscle spasm and cramps, musculoskeletal pain including myalgia, arthralgia, bone pain, Fluid retention and oedema, fatigue, Weight increased

D/I:

Substances that inhibit the cytochrome P450 isoenzyme CYP3A4 activity (e.g., protease inhibitors such as indinavir, lopinavir/ritonavir, ritonavir, saquinavir, telaprevir, nelfinavir, boceprevir; azole antifungals including ketoconazole, itraconazole, posaconazole, voriconazole; certain macrolides such as erythromycin, clarithromycin and telithromycin) could decrease metabolism and increase imatinib concentrations.

Substances that are inducers of CYP3A4 activity (e.g., dexamethasone, phenytoin, carbamazepine, rifampicin, phenobarbital, fosphenytoin, primidone or *Hypericum perforatum*, also known as St. John's Wort) may significantly reduce exposure to Glivec, potentially increasing the risk of therapeutic failure.

Imatinib increases the mean C_{max} and AUC of simvastatin (CYP3A4 substrate) 2- and 3.5-fold, respectively, indicating an inhibition of the CYP3A4 by imatinib. Therefore, caution is recommended when administering Glivec with CYP3A4 substrates with a narrow therapeutic window (e.g., cyclosporine, pimozide, tacrolimus, sirolimus, ergotamine, diergotamine, fentanyl, alfentanil, terfenadine, bortezomib, docetaxel and quinidine). Glivec may increase plasma concentration of other CYP3A4 metabolized drugs (e.g., triazolo-benzodiazepines, dihydropyridine calcium channel blockers, certain HMG-CoA reductase inhibitors, i.e., statins, etc.).

Dosage:

Posology for CML in adult patients

The recommended dosage of Glivec is 400 mg/day for adult patients in chronic phase CML. Chronic phase CML is defined when all of the following criteria are met: blasts < 15% in blood and bone marrow, peripheral blood basophils < 20%, platelets > 100 x 10⁹/l.

The recommended dosage of Glivec is 600 mg/day for adult patients in accelerated phase. Accelerated phase is defined by the presence of any of the following: blasts ≥ 15% but < 30% in blood or bone marrow, blasts plus promyelocytes ≥ 30% in blood or bone marrow (providing < 30% blasts), peripheral blood basophils ≥ 20%, platelets < 100 x 10⁹/l unrelated to therapy.

The recommended dose of Glivec is 600 mg/day for adult patients in blast crisis. Blast crisis is defined as blasts ≥ 30% in blood or bone marrow or extramedullary disease other than hepatosplenomegaly.

In children

Dosing for children should be on the basis of body surface area (mg/m²). The Dose of 340 mg/m² daily.

IPILImumab (Yervoy®) [High Alert] [LASA]

P/P: Yervoy 50 mg Intravenous

Adm: Infuse through a sterile, nonpyrogenic, low protein-binding in-line filter. Do not administer with other medications. Flush with NS or D5W after each ipilimumab infusion, Monitor for infusion reactions.

Category:	Antineoplastic Agent, Anti-CTLA4 Monoclonal Antibody; Antineoplastic Agent, Immune Checkpoint Inhibitor; Antineoplastic Agent, Monoclonal Antibody
Indications:	Renal cell cancer, advanced, first-line combination therapy, Melanoma, Colorectal cancer, metastatic, microsatellite instability high or mismatch repair deficient, Hepatocellular carcinoma, Esophageal carcinoma, squamous cell, unresectable advanced or metastatic; first-line therapy.
Caution:	Adverse reactions of ipilimumab include immune-mediated toxicities due to its mechanism of blocking T-cell inhibitory signals, potentially causing severe or fatal effects in various organs. Dermatologic toxicity includes immune-mediated rash, bullous and exfoliative dermatitis, Stevens-Johnson syndrome, toxic epidermal necrolysis, and DRESS, often managed with corticosteroids. Endocrinopathies encompass adrenal insufficiency, type 1 diabetes, hypophysitis, thyroid disorders (hyperthyroidism, hypothyroidism, thyroiditis), and rare conditions like Cushing syndrome and Graves ophthalmopathy, requiring hormone replacement and/or systemic corticosteroids. GI toxicity includes immune-mediated colitis (frequent and potentially fatal), pancreatitis, duodenitis, and gastritis, often needing corticosteroids or additional immunosuppressants. Hepatotoxicity involves immune-mediated hepatitis, sometimes fatal, typically managed with corticosteroids. Infusion-related reactions and nephrotoxicity (immune-mediated nephritis) can lead to treatment interruption; corticosteroids are used for management. Ocular toxicity includes blepharitis, uveitis, and scleritis, sometimes linked to Vogt-Koyanagi-Harada-like syndrome. Pulmonary toxicity involves immune-mediated pneumonitis, occasionally fatal, treated with corticosteroids and sometimes additional immunosuppressants. Other toxicities include autoimmune neuropathy, encephalitis, myelitis, Guillain-Barré syndrome, myocarditis, vasculitis, rhabdomyolysis, aplastic anemia, psoriasis, sarcoidosis, systemic inflammatory response syndrome, and solid organ transplant rejection.
Contra-Ind:	Hypersensitivity to ipilimumab or any component of the formulation; active life-threatening autoimmune disease, or with organ transplantation graft where further immune activation is potentially imminently life-threatening.
Side effects:	Pruritus, skin rash, endocrine disease, hyperglycemia, hypocalcemia, hyponatremia, weight loss, colitis, decreased appetite, diarrhea, increased serum amylase, increased serum lipase, nausea, vomiting, anemia, lymphocytopenia, hepatitis, increased serum alanine aminotransferase, increased serum alkaline phosphatase, increased serum aspartate aminotransferase, increased serum bilirubin, fatigue, headache, arthralgia, musculoskeletal pain, increased serum creatinine, cough, dyspnea, upper respiratory tract infection, fever.
Dosage:	Refer to each chemotherapy protocol in HIS.

IXAZOmib (Ninlaro®) [High Alert] [LASA]

P/P: (Ninlaro, 2.3 mg, Hard Oral Capsule)
 (Ninlaro, 3 mg, Hard Oral Capsule)
 (Ninlaro, 4 mg, Hard Oral Capsule)

Adm: Administer on the same day of the week and at approximately the same time on that day. Administer at least 1 hour before or at least 2 hours after eating. Swallow capsule whole with water.

Category: Antineoplastic Agent, Proteasome Inhibitor

Indications: Multiple myeloma

Caution: Bone marrow suppression, Dermatologic toxicity, Gastrointestinal toxicity, Hepatotoxicity, Peripheral edema, Peripheral neuropathy, Thrombotic microangiopathy.

Contra-Ind: Hypersensitivity to Ixazomib or any component of the formulation.

Side effects: Peripheral edema, Skin rash, Constipation, diarrhea, nausea, vomiting, Neutropenia, thrombocytopenia, Peripheral neuropathy, peripheral sensory neuropathy, Back pain, Eye disease, Bronchitis, upper respiratory tract infection.

Dosage: Adult:

Multiple myeloma (in patients who have received at least 1 prior therapy):

IRd regimen: Oral: 4 mg once weekly on days 1, 8, and 15 of a 28-day treatment cycle (in combination with lenalidomide and dexamethasone); continue until disease progression or unacceptable toxicity.

Off-label dosing/combinations:

ICd regimen: Oral: 4 mg once weekly on days 1, 8, and 15 of a 28-day cycle (in combination with oral cyclophosphamide and dexamethasone) until disease progression or unacceptable toxicity.

Id regimen (in patients not refractory to bortezomib): Oral: 4 mg once weekly on days 1, 8, and 15 of a 28-day cycle (in combination with dexamethasone) until disease progression or unacceptable toxicity

IPd regimen (in patients refractory to lenalidomide): Oral: 4 mg once weekly on days 1, 8, and 15 of a 28-day cycle (in combination with pomalidomide and dexamethasone) until disease progression or unacceptable toxicity.

Newly diagnosed multiple myeloma in patients not eligible for transplant (off label):

IRd regimen: Oral: 4 mg once weekly on days 1, 8, and 15 of a 28-day cycle (in combination with lenalidomide and dexamethasone) for 18 cycles. After 18 cycles, Ixazomib was continued at 3 mg once weekly on days 1, 8, and 15 of a 28-day cycle (in combination with lenalidomide) until disease progression or unacceptable toxicity.

MEGESTerol acetate (Megace®) [High Alert] [LASA]

P/P: Megace, Megace ES

Oral Tablet: 20 mg, 40 mg

- Adm:** Oral; for the suspension shake the liquid well before each use to mix the medication evenly.
- Category:** Antineoplastic Agent, Hormone; Appetite Stimulant; Progestin
- Indications:** Anorexia or cachexia associated with AIDS, Breast cancer, advanced, Endometrial cancer, advanced.
- Caution:** Bleeding irregularities: Vaginal bleeding or discharge may occur.
- Contra-Ind:** Hypersensitivity to megestrol or any component of the formulation.
Known or suspected pregnancy.

Side effects:

Dermatologic: Skin rash, Alopecia, diaphoresis

Genitourinary: Impotence, Urinary frequency, Breakthrough bleeding

Cardiovascular: Hypertension, Heart failure, Edema, Venous thromboembolism (including pulmonary embolism, thrombophlebitis)

Endocrine & metabolic: Decreased libido, hyperglycemia, Hot flash, Adrenocortical insufficiency, Cushing syndrome, decreased glucose tolerance, diabetes mellitus, exacerbation of diabetes mellitus, HPA-axis suppression, weight gain.

Gastrointestinal: Dyspepsia, flatulence, nausea, vomiting

Nervous system: Asthenia, insomnia , pain , Lethargy, malaise, mood changes

Miscellaneous: Fever

Hematologic & oncologic: Tumor flare

Respiratory: Dyspnea

Dosage:

Adults:

Anorexia or cachexia associated with AIDS:

Suspension: Initial: **Oral:** 625 mg daily (of the 125 mg/mL suspension) or 800 mg daily (of the 40 mg/mL suspension); daily doses of 400 mg to 800 mg have been found to be effective.

Breast cancer, advanced:

Tablet: **Oral:** 160 mg per day in divided doses of 40 mg 4 times daily for at least 2 months.

Endometrial cancer, advanced:

Tablet: **Oral:** 40 to 320 mg daily in divided doses for at least 2 months.

Pediatrics:

Appetite stimulant/anorexia associated with chronic illness (eg, cancer, cystic fibrosis, HIV):

Infants ≥8 months, Children, and Adolescents: **Oral:** Tablets or 40 mg/mL suspension only:
Initial dose is 7.5 to 10 mg/kg/day in 1 to 2 divided doses

In patients >10 years, daily doses divided into 4 doses have been used; titrate dose to response.

Maximum daily dose is 15 mg/kg/day; not to exceed 800 mg/day.

Monitor patients closely for adverse effects, particularly adrenal suppression.

Dose adjustment in special population (Adults):

Altered kidney function:

CrCl >30 mL/minute: No dosage adjustment necessary.

CrCl ≤30 mL/minute: **Note:** Megestrol is primarily eliminated in the urine; use with caution.

Oral: Initial: Start with doses at the lower end of the recommended indication-specific dose range; may titrate to the usual recommended indication-specific dose based on response and tolerability.

Monitor frequently for adverse effects (eg, edema, hyperglycemia, adrenal insufficiency, venous thromboembolism).

Doses of up to 800 mg/day taken for up to 6 months have been used for the treatment of cachexia in patients with severe kidney disease.

Dose adjustment in special population (Pediatrics):

Kidney Impairment: There are no dosage adjustments; however, the urinary excretion of megestrol acetate is substantial; use caution.

Hepatic Impairment: There are no dosage adjustments

MESNA (Uromitexan®)

P/P: **UROMITEXAN 400 MG/4 ML 15'S AMP.**

Category: Mesna is an antidote, and offers the possibility of reliably preventing urotoxic side- effects associated with aggressive cancer chemotherapy using oxazaphosphorines cytostatics

Indications: For the prevention of urothelial toxicity including hemorrhagic cystitis, microhematuria and macrohematuria in patients treated with ifosfamide and cyclophosphamide, in doses considered to be urotoxic

Contra-Ind Known hypersensitivity to mesna or any of the excipients.

Caution Hypersensitivity reactions to mesna have been reported, Mesna is a thiol compound, Thiol compounds show some similarities in their adverse reaction profile, including a potential to elicit severe skin reactions
Mesna does not prevent hemorrhagic cystitis in all patients, Mesna treatment may cause Lab test Interferences.

Side effects: The most frequently occurring adverse reactions (> 10%) associated with use of mesna is: headache, infusion site reactions, abdominal pain/colic, lightheadedness, lethargy/drowsiness, pyrexia, rash, diarrhea, nausea, flushing, and influenza-like illness
The most severe adverse reactions associated with use of mesna are: bullous skin reactions, anaphylaxis, and drug rash with eosinophilia and systemic symptoms

D/I The systemic effects of oxazaphosphorines are not affected by mesna. In clinical trials it was shown that overdoses of mesna did not diminish the acute toxicity, subacute toxicity, leucocytic activity, and immunosuppressive efficacy of oxazaphosphorines. Animal studies with ifosfamide and cyclophosphamide on a variety of tumors have also demonstrated that mesna does not interfere with their antineoplastic activity. Mesna also does not affect the antineoplastic efficacy of other cytostatics (e.g. Adriamycin, BCNU, methotrexate, vincristine), nor the therapeutic effect of other drugs such as digitalis glucosides. Food does not influence the absorption and urinary elimination of mesna.

Dosage: Mesna is given by intravenous injection over 15-30 minutes at 20% of the simultaneously administered oxazaphosphorine on a weight for weight basis (w/w). The same dose of mesna is repeated after 4 and 8 hours. The total dose of mesna is 60% (w/w) of the oxazaphosphorine dose. This is repeated on each occasion that the cytotoxic agents are used

METHOTREXATE (Methotrexate®) (Restricted)

P/P: **Methotrexate 2.5mg "Ebewe" tab, 50's**
 Methotrexate 50mg/2ml Inj "Ebewe"

Adm: Preferably taken w/ or after meals to reduce GI discomfort

Category: Antimetabolites, folic acid analogues.

Indications: Psoriasis, psoriatic arthritis & autoimmunopathies; malignant tumors & hemoblastoses, gestational choriocarcinoma, chorioadenoma destruens and hydatidiform mole. Severe rheumatoid arthritis

Caution: Hematological deficiency, hepatic or renal impairment. Peptic ulcer, ulcerative colitis, ulcerative stomatitis, diarrhea. Elderly, children. Patients w/ pleural effusions or ascites, previous severe lung disease.

Contra-Ind: Pregnancy & lactation. Severe hepatic & renal impairment, Alcohol abuse. Diseases of hematopoietic system, existing infections, ulcers of the oral cavity & the GIT, fresh open wounds.

D/I: Folic acid. Salicylates, phenylbutazone, phenytoin, barbiturates, sulfonamides, corticosteroids, tetracyclines, chloramphenicol, PABA, p-aminohippuric acid or probenecid.

Side effects: Ulcerative stomatitis, leukopenia, nausea & abdominal distress. Anaphylactic reactions, eye irritation, malaise, undue fatigue, chills & fever, dizziness, loss of libido/impotence & decreased resistance to infection.

Dose: **Choriocarcinoma and similar trophoblastic diseases:** 15 to 30 mg daily for a five-day course. Such courses are usually repeated for 3 to 5 times as required
Mycosis fungoides (cutaneous T cell lymphoma): 5 to 50 mg once weekly
Rheumatoid Arthritis: Recommended Starting Dosage Schedules
1. Single oral doses of 7.5 mg once weekly
2. Divided oral dosages of 2.5 mg at 12-hour intervals for 3 doses given as a course once weekly.

Polyarticular-Course Juvenile Rheumatoid Arthritis:

The recommended starting dose is 10 mg/m² given once weekly.

Psoriasis: Recommended Starting Dose Schedules

1. Weekly single oral, IM or IV dose schedule: 10 to 25 mg per week until adequate response is achieved.

2. Divided oral dose schedule: 2.5 mg at 12-hour intervals for three doses.

Patients with Renal or Hepatic Impairment:

Methotrexate elimination is reduced in patients with impaired renal function. Such patients require especially careful monitoring for toxicity, and require dose reduction or, in some cases, discontinuation of methotrexate administration.

Methotrexate causes hepatotoxicity, fibrosis and cirrhosis, but generally only after

Prolonged use, acutely, liver enzyme elevations are frequently seen

NILOTINIB (Tasigna®)

P/P Tasigna 150 mg 112's hard capsules

Category Antineoplastic agents, protein kinase inhibitors

Indications Tasigna is indicated for the treatment of adult patients with: newly diagnosed Philadelphia chromosome positive chronic myelogenous leukemia (CML) in the chronic phase, chronic phase and accelerated phase Philadelphia chromosome positive CML with resistance or intolerance to prior therapy including imatinib. Efficacy data in patients with CML in blast crisis are not available.

Contra-Ind Hypersensitivity to the active substance or to any of the excipients listed

Caution Myelosuppression, QT prolongation, Sudden death, Fluid retention and oedema, Cardiovascular events

Side effects Decreased appetite, Headache, Nausea, Constipation, Diarrhea, Vomiting, Upper abdominal pain, Abdominal pain, Dyspepsia, Rash, Pruritus, Alopecia, Dry skin, Erythema, Myalgia, Muscle spasms, Arthralgia, Bone pain, Fatigue, Asthenia Oedema peripheral,

D/I: Tasigna may be given in combination with hematopoietic growth factors such as erythropoietin or granulocyte colony-stimulating factor (G-CSF) if clinically indicated.

Substances that may increase nilotinib serum concentrations

Concomitant administration of nilotinib with imatinib (a substrate and moderator of P-gp and CYP3A4), had a slight inhibitory effect on CYP3A4 and/or P-gp.

Substances that may decrease nilotinib serum concentrations

Rifampicin, a potent CYP3A4 inducer, decreases nilotinib C_{max} by 64% and reduces nilotinib AUC by 80%. Rifampicin and nilotinib should not be used concomitantly.

Food interactions

The absorption and bioavailability of Tasigna are increased if it is taken with food,

Dosage The recommended dose of Tasigna is:
300 mg twice daily in newly diagnosed patients with CML in the chronic phase,
400 mg twice daily in patients with chronic or accelerated phase CML with resistance or intolerance to prior therapy.
Treatment should be continued as long as the patient continues to benefit.

NINTEDANIB (Ofev®)

P/P: **Ofev 150 Mg Cap 60"S**

Adm: Administer with food.

Category: Tyrosine Kinase Inhibitor

Indications: Treatment of idiopathic pulmonary fibrosis (IPF). Treatment of chronic fibrosing interstitial lung diseases (ILDs) with a progressive phenotype Slowing the rate of decline in pulmonary function in patients with systemic sclerosis-associated interstitial lung disease (SSc-ILD).

Caution: Hepatic impairment, elevated liver enzymes and drug-induced liver injury, gastrointestinal disorders, embryo-Fetal toxicity, higher cardiovascular risk including known coronary artery disease, use with caution when treating patients with recent abdominal surgery, previous history of diverticular disease or receiving concomitant corticosteroids or NSAIDs

Contra-Ind: None

Side effects: Diarrhea, nausea, abdominal pain, vomiting, liver enzyme elevation, decreased appetite, headache, weight decreased, and hypertension

Dosage: Usual dose 150 mg every 12 hours
Recommended dosage in patients with mild hepatic impairment (Child Pugh A): 100 mg twice daily approximately 12 hours apart taken with food.

NIVOLUMAB (Opdivo®)

P/P: **Opdivo 100mg/10ml Vial.**
Opdivo 40mg/4ml Vial.

Adm: IV infusion over 30 minutes, low protein binding 0.2 to 1.2 micrometer in-line filter, Flush IV line at the end of the infusion

Category: Antineoplastic Agent, Anti-PD-1 Monoclonal Antibody, Immune Checkpoint Inhibitor; Monoclonal Antibody

Indications: Colorectal cancer (metastatic), Esophageal carcinoma, squamous cell, Head and neck cancer, squamous cell (recurrent or metastatic, Hepatocellular carcinoma, Hodgkin

lymphoma, Malignant pleural mesothelioma, Melanoma, Non-small cell lung cancer (metastatic), Advanced Renal cell cancer, locally advanced or metastatic Urothelial carcinoma.

Caution: *Diabetes mellitus, Hypophysitis, Thyroid disorders.*

Contra-Ind: Hypersensitivity to nivolumab or any component of the formulation, breastfeeding, pregnancy.

D/I: Systemic Corticosteroids

Side effects: Edema, peripheral edema, fatigue, malaise, headache, dizziness, peripheral neuropathy, skin rash, immune-mediated, pruritus, hyperglycemia, hypomagnesemia, hypokalemia, thyroid dysfunction, diarrhea, nausea, abdominal pain, anemia, pulmonary embolism.

Dose: Recommended dose for adult: 300mg/kg once every 3 weeks
240 mg once every 2 weeks **or** 480 mg once every 4 weeks

Recommended dose for Pediatric: children ≥12 years and Adolescents: IV:
<40 kg: 3 mg/kg once every 2 weeks until disease progression or unacceptable toxicity.

≥40 kg: 240 mg once every 2 weeks or 480 mg once every 4 weeks until disease progression or unacceptable toxicity.

Renal Dose Adjustments:

eGFR ≥15 mL/minute/1.73 m²: There are no dosage adjustments provided in the manufacturer's labeling; however, eGFR ≥15 mL/minute/1.73 m² had no clinically important effect on nivolumab clearance.

eGFR <15 mL/minute/1.73 m²: There are no dosage adjustments provided in the manufacturer's labeling.

Hepatic Dose Adjustments: Dose adjustment is not needed in patients with impaired hepatic function.

OBINUTUZUMAB (Gazyva®) [High Alert] , [LASA]

P/P Gazyva: 1000 mg Intravenous

Adm Do not administer IV push or as a bolus. Administer through a dedicated IV line; do not mix with or infuse with other medications.

Category Antineoplastic Agent, Anti-CD20; Antineoplastic Agent, Monoclonal Antibody

Indications Chronic lymphocytic leukemia, previously untreated, diffuse large B cell lymphoma, relapsed or refractory; glofitamab pretreatment, Follicular lymphoma, previously untreated, Follicular lymphoma, relapsed or refractory

Caution: Bone marrow suppression, Disseminated intravascular coagulation, Hepatitis B virus reactivation, Hypersensitivity/serum sickness, Infection, Infusion reaction, Progressive multifocal leukoencephalopathy, Tumor lysis syndrome.

Contra-Ind Known hypersensitivity reactions (eg, anaphylaxis) to obinutuzumab or any component of the formulation; serum sickness with prior obinutuzumab use.

Side effects Pruritus, skin rash, hyperkalemia, hypernatremia, hyperuricemia, hypoalbuminemia, hypocalcemia, hypokalemia, hyponatremia, hypophosphatemia, constipation, decreased

appetite, diarrhea, urinary tract infection, anemia, hemorrhage, hypoproteinemia, leukopenia, lymphocytopenia, neutropenia, thrombocytopenia, hyperbilirubinemia, increased serum alanine aminotransferase, increased serum alkaline phosphatase, increased serum aspartate aminotransferase, infusion-related reaction, herpes virus infection, infection, fatigue, headache, insomnia, arthralgia, musculoskeletal signs and symptoms, increased serum creatinine, cough, pneumonia, respiratory tract infection, upper respiratory tract infection, fever.

Dosage Refer to each chemotherapy protocol order set in HIS.

OSIMERTINIB [High Alert] , [LASA] (Tagrisso®)

P/P	Tagrisso 80mg, Tagrisso 40mg tab
Adm Category	May be administered with or without food, cannot be crushed. Epidermal Growth Factor Receptor (EGFR) Inhibitor; Antineoplastic Agent, Tyrosine Kinase Inhibitor
Indications	Non-small cell lung cancer, adjuvant therapy, EGFR exon 19 deletion- or exon 21 L858R mutation-positive, non-small cell lung cancer, locally advanced or metastatic, first-line treatment, EGFR exon 19 deletion- or exon 21 L858R mutation-positive, combination therapy, non-small cell lung cancer, metastatic, first-line treatment, EGFR exon 19 deletion- or exon 21 L858R mutation-positive, single-agent therapy, non-small cell lung cancer, metastatic, previously treated, EGFR T790M mutation-positive.
Caution:	Aplastic anemia: monitor if persistent fevers, bruising, bleeding, or pallor. Should be used when patient is confirmed as EGFR mutation +VE or T790M mutation +VE. Cardiovascular toxicity: patients with a baseline QTC of ≥ 470 were excluded from clinical trials. Cutaneous toxicity: may cause Stevens-Johnson syndrome. Ocular toxicity: keratitis: promptly refer patients for ophthalmologic evaluation if signs or symptoms of keratitis. Pulmonary toxicity: respiratory symptoms which may be indicative of ILD include dyspnea, cough, and/or fever.
Contra-Ind	Hypersensitivity to Osimertinib or any component of the formulation, pregnancy & breastfeeding.
Side effects	Stevens-Johnson syndrome, Aplastic anemia, Symptomatic heart failure & QTC-prolongation, Cutaneous vasculitis, keratitis, Interstitial lung disease/pneumonitis.
Dosage	80 mg once daily until disease progression or unacceptable toxicity, or for up to 3 years.

OXALIPLATIN (Oxaliplatin®)

P/P: Oxaliplatin 5 mg/ml Concentrate for Solution for Infusion

Category:	Other antineoplastic agents, platinum compounds.
Indications:	<p>Oxaliplatin in combination with 5-fluorouracil (5-FU) and folinic acid (FA) is indicated for:</p> <ul style="list-style-type: none"> Adjuvant treatment of stage III (Duke's C) colon cancer after complete resection of primary tumor Treatment of metastatic colorectal cancer. <p>Oxaliplatin is indicated in adults only.</p>
Contra-Ind:	<p>Oxaliplatin is contraindicated in patients who have hypersensitivity to oxaliplatin or to any of the excipient. are breast feeding.</p> <p>have myelosuppression prior to starting first course, as evidenced by baseline neutrophils $<2 \times 10^9/l$ and/or platelet count of $<100 \times 10^9/l$</p> <p>have a peripheral sensory neuropathy with functional impairment prior to first course.</p> <p>have a severely impaired renal function (creatinine clearance less than 30 ml/min).</p>
Caution:	<p>Oxaliplatin should only be used in specialized departments of oncology, Due to limited information on safety in patients with moderately impaired renal function,</p> <p>administration should only be considered after suitable appraisal of the benefit/risk for the patient. Patients with a history of allergic reaction to platinum</p> <p>compounds should be monitored for allergic symptoms, In case of oxaliplatin extravasation, the infusion must be stopped immediately, Neurological toxicity of oxaliplatin should be carefully monitored, In cases of abnormal test results of liver</p> <p>oxaliplatin should be carefully monitored, In cases of abnormal test results of liver function or portal hypertension, which does not obviously result from liver metastases, very rare cases of drug induced hepatic vascular disorder should be considered.</p>
Side effects:	<p>Infection, Anaemia, Neutropenia, Thrombocytopenia, Leukopenia, Lymphopenia, Allergy, Anorexia, Glycaemia alterations, Hypokalaemia, Natremia alterations, Peripheral sensory neuropathy, Sensory disturbance, Dysgeusia, Headache, Epistaxis, Dyspnea, Coughing, Nausea, Diarrhea, Vomiting, Stomatitis/ mucositis, Abdominal pain, Constipation, Hepatic enzyme increase, Blood bilirubin increase, Back pain.</p>
D/I:	<p>In patients who have received a single dose of 85 mg/m^2 of oxaliplatin, immediately before administration of 5-fluorouracil, no change in the level of exposure to 5-fluorouracil has been observed.</p> <p><i>In vitro</i>, no significant displacement of oxaliplatin binding to plasma proteins have been observed with the following agents: erythromycin, salicylates, granisetron, paclitaxel, and sodium valproate</p>

PALOCICLIB (Ibrance®)

P/P: IBRANCE 125 mg,100 mg,75 mg cap

Adm:	IBRANCE should be taken with food
Category:	A kinase inhibitor
Indications:	is indicated for the treatment of HR-positive, HER2-negative advanced or metastatic breast cancer in combination with: an aromatase inhibitor as initial endocrine based therapy in postmenopausal women; or fulvestrant in women with disease progression following endocrine therapy.
Caution:	Based on findings from animal studies and its mechanism of action, Ibrance can cause fetal harm when administered to a pregnant woman. Because of the potential for serious adverse reactions in breastfed infants from Ibrance, advise a lactating woman not to breastfeed during treatment with Ibrance and for 3 weeks after the last dose.
Contra-Ind:	None.
D/:	CYP3A Inhibitors, CYP3A Inducers, midazolam
Side effects:	Neutropenia was the most frequently reported adverse reaction, dizziness, shortness of breath, weakness, bleeding or bruising more easily, nosebleeds, infections, and tiredness, and nausea, sore mouth abnormalities in liver blood tests diarrhea, hair thinning or hair loss, vomiting, rash, loss of appetite.
Dosage:	The recommended dose of IBRANCE is a 125 mg capsule taken orally once daily for 21 consecutive days followed by 7 days off treatment to comprise a complete cycle of 28 days. When given with Ibrance, the recommended dose of fulvestrant is 500 mg administered on Days 1, 15, 29, and once monthly thereafter. Please refer to the Full Prescribing Information of fulvestrant. Patients should be encouraged to take their dose of Ibrance at approximately the same time each day. The recommended dose can be modified according to adverse reactions. Avoid concomitant use of strong CYP3A inhibitors and consider an alternative concomitant medication with no or minimal CYP3A inhibition. If patients must be co-administering a strong CYP3A inhibitor, reduce the Ibrance dose to 75 mg once daily. The safety and efficacy of Ibrance in pediatric patients have not been studied.
	Renal Dose Adjustments: No dose adjustment is required in patients with mild, moderate, or severe renal impairment ($\text{CrCl} > 15 \text{ mL/min}$).
	Liver Dose Adjustments: No dose adjustment is required for patients with mild or moderate hepatic impairment. For patients with severe hepatic impairment the recommended dose of Ibrance is 75 mg once daily for 21 consecutive days followed by 7 days off treatment to comprise

PANITUMUMAB (Vectibix®)

P/P:	Vectibix, Solution, Intravenous [preservative free] 100 mg/5 mL (5 mL)
Adm:	For IV infusion only; do not administer IV push or as a bolus. Administer via infusion pump through a low protein-binding 0.2 or 0.22 micrometer in-line filter. Doses $\leq 1,000 \text{ mg}$, infuse over 1 hour; if first infusion is tolerated, subsequent doses may be administered over 30 to 60 minutes. Doses $> 1,000 \text{ mg}$, infuse over 90 minutes. Flush line with NS before and after infusion; do not mix or administer with other medications. Reduce infusion rate by 50% for

mild to moderate infusion reactions (grades 1 and 2); stop infusion for severe infusion reactions (grades 3 and 4) and consider permanent discontinuation. Appropriate medical support for the management of infusion reactions should be readily available.

Category: Antineoplastic Agent, Epidermal Growth Factor Receptor (EGFR) Inhibitor; Antineoplastic Agent, Monoclonal Antibody

Indications: Colorectal cancer, metastatic, RAS wild-type
Cutaneous squamous cell carcinoma, unresectable, advanced or metastatic (off-label use)

Caution: Concerns related to adverse effects:

Dermatologic toxicity: Dermatologic toxicities have been reported in most patients receiving single agent panitumumab; severe (\geq grade 3) reactions have occurred; manifestations included dermatitis acneiform, pruritus, erythema, rash, skin exfoliation, paronychia, dry skin, and skin fissures. Severe skin toxicities may be complicated by infection, sepsis, necrotizing fasciitis, or abscesses. The median time to development of skin (or ocular) toxicity was 12 days, with resolution ~14 weeks. The severity of dermatologic toxicity is predictive for response; grades 2 to 4 skin toxicity correlates with improved progression free survival and overall survival, compared to grade 1 skin toxicity (Peeters 2009; Van Cutsem 2007). Rare cases of Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) have been reported; bullous mucocutaneous disease (life-threatening/fatal) have been observed. Patients should minimize sunlight exposure and wear sunscreen and protective clothing/hat; sunlight may exacerbate skin reactions.

Diarrhea: May cause diarrhea; the incidence and severity of chemotherapy-induced diarrhea is increased with combination chemotherapy. Severe diarrhea and dehydration (which may lead to acute renal failure) has been observed with panitumumab in combination with chemotherapy.

Electrolyte depletion: Magnesium and/or calcium depletion may occur during treatment; may be delayed. Hypomagnesemia occurred during and for up to 8 weeks after completion of panitumumab treatment. Hypokalemia has also been reported.

Infusion reactions: Severe infusion reactions (bronchospasm, dyspnea, fever, chills, and hypotension) have been reported in ~1% of patients; fatal infusion reactions have been reported with post marketing surveillance. Appropriate medical support for the management of infusion reactions should be readily available.

Ocular toxicity: Keratitis, ulcerative keratitis, and corneal perforation have occurred.

Pulmonary toxicity: Pulmonary fibrosis and interstitial lung disease have been observed (rarely) in clinical trials; fatalities have been reported. Patients with a history of or evidence of interstitial pneumonitis or pulmonary fibrosis were excluded from most clinical trials; consider the benefits of therapy versus the risk of pulmonary complications in such patients.

Disease-related concerns:

Colorectal cancer and RAS mutation status: Confirm absence of RAS mutation prior to treatment; patients with codons 12 and 13 (exon 2), codons 59 and 61 (exon 3), or codons 117 and 146 (exon 4) RAS (KRAS or NRAS) mutations are unlikely to benefit from EGFR inhibitor therapy. The American Society of Clinical Oncology (ASCO) provisional clinical

opinion update, as well as a guideline for molecular biomarkers for the evaluation of colorectal cancer, recommend that all patients with metastatic colorectal cancer who are candidates for anti-EGFR therapy should be tested (in a certified lab) for mutations in both KRAS and NRAS exon 2 (codons 12 and 13), exon 3 (codons 59 and 61), and exon 4 (codons 117 and 146); anti-EGFR monoclonal antibody therapy should only be considered in patients whose tumors lack mutations after extended RAS testing (ASCO [Allegra 2016]; ASCP/CAP/AMP/ASCO [Sepulveda 2017]). Information on tests approved for detection of RAS mutation is available at www.fda.gov/CompanionDiagnostics. Panitumumab is also reported to be ineffective in patients with BRAF V600E mutation (Di Nicolantonio 2008).

Concurrent drug therapy issues:

Bevacizumab and combination chemotherapy: In a study of bevacizumab with combination chemotherapy ± panitumumab, the use of panitumumab resulted in decreased progression-free and overall survival and significantly increased toxicity compared to regimens without panitumumab (Hecht 2009). Toxicities included rash/acneiform dermatitis, diarrhea/dehydration, electrolyte disturbances, mucositis/stomatitis, and an increased incidence of pulmonary embolism.

Special populations:

Older adult: Patients >65 years of age receiving panitumumab plus FOLFOX experienced a higher incidence of serious adverse events including severe diarrhea.

Contra-Ind: There are no contraindications listed in the manufacturer's US labeling.

Canadian labeling: History of severe or life-threatening hypersensitivity reactions to panitumumab or any component of the formulation.

Side effects: The following adverse drug reactions and incidences are derived from product labeling unless otherwise specified. Reported adverse reactions are for adults.

>10%:

Dermatologic: Acne vulgaris (14%), acneiform eruption (57%), erythema of skin (66%), exfoliative dermatitis (18%), paronychia (25%), pruritus (58%), skin fissure (20%), skin rash (22%), skin toxicity (90%); severe dermatological reaction: 15%

Gastrointestinal: Nausea (23%; grade 3/4: <1%), diarrhea (21%; grades 3/4: 2%), vomiting (19%; grade 3/4: 3%)

Nervous system: Fatigue (26%)

Ophthalmic: Ocular toxicity (16%)

Respiratory: Cough (15%), dyspnea (18%)

Miscellaneous: Fever (17%)

1% to 10%:

Cardiovascular: Pulmonary embolism (1%)

Dermatologic: Dermal ulcer (6%), desquamation (9%), nail disease (10%), papular rash (2%), pustular rash (4%), xeroderma (10%)

Endocrine & metabolic: Dehydration (3%), hypomagnesemia (grades 3/4: 7%)

Gastrointestinal: Mucosal swelling (inflammation: 7%), stomatitis (7%), xerostomia (5%)

Immunologic: Antibody development (≤5%; neutralizing: <1%)

Nervous system: Chills (3%)

Ophthalmic: Abnormal eyelash growth (6%), conjunctivitis (5%)

Respiratory: Epistaxis (4%), interstitial pulmonary disease (1%)

Miscellaneous: Infusion related reaction (3% to 4%); severe infusion reaction: ≤1%)

<1%: Respiratory: Pulmonary fibrosis
Frequency not defined:
Endocrine & metabolic: Hypokalemia
Gastrointestinal: Intestinal obstruction
Post marketing:
Dermatologic: Bullous skin disease (mucocutaneous), skin necrosis
Hypersensitivity: Angioedema
Ophthalmic: Corneal perforation, corneal ulcer, keratitis (including ulcerative)

Dosage: Colorectal cancer, metastatic, RAS wild-type:

Single agent therapy: IV: 6 mg/kg every 14 days; continue until disease progression or unacceptable toxicity.

In combination with CAPOX (capecitabine and oxaliplatin; off-label combination): IV: 9 mg/kg every 21 days for at least 6 cycles or until disease progression or unacceptable toxicity.

In combination with FOLFOX (fluorouracil, leucovorin, and oxaliplatin): IV: 6 mg/kg every 14 days; continue until disease progression or unacceptable toxicity. Note: Data from a phase 3 randomized, multicenter trial showed significantly improved overall survival in patients with previously untreated RAS wild-type and left-sided metastatic colorectal cancer who received panitumumab in combination with mFOLFOX6 versus bevacizumab in combination with mFOLFOX6.

In combination with FOLFIRI (fluorouracil, leucovorin, and irinotecan; off-label combination): IV: 6 mg/kg every 14 days; continue until disease progression or unacceptable toxicity.

In combination with FOLFOXIRI (fluorouracil, leucovorin, oxaliplatin, and irinotecan; off-label combination): IV: 6 mg/kg every 14 days until disease progression or resection for up to a maximum of 12 preoperative cycles; after resection, patients received the same regimen as adjuvant therapy for a total of 12 perioperative cycles.

As maintenance therapy (in combination with fluorouracil and leucovorin) following 6 cycles of FOLFOX plus panitumumab; off-label combination): IV: 6 mg/kg every 14 days; continue until disease progression or unacceptable toxicity.

Cutaneous squamous cell carcinoma, unresectable, advanced or metastatic (off-label use): IV: 6 mg/kg IV every 14 days until disease progression or unacceptable toxicity or for a maximum of 9 cycles.

Dosing: Altered Kidney Function: Adult

There are no dosage adjustments provided in the manufacturer's labeling; however, no need for dosage adjustment is expected.

Dosing: Hepatic Impairment: Adult

There are no dosage adjustments provided in the manufacturer's labeling. The following adjustments have been recommended:

Mild or moderate impairment: No dosage adjustment is needed.

Severe impairment: No need for dosage adjustment is expected.

Dosing: Obesity: Adult

American Society of Clinical Oncology guidelines for appropriate systemic therapy dosing in adults with cancer with a BMI $\geq 30 \text{ kg/m}^2$: The dosing in the FDA-approved prescribing information should be followed in all patients, regardless of obesity status. If a patient with a BMI $\geq 30 \text{ kg/m}^2$ experiences high-grade toxicity from systemic anticancer therapy, the same dosage modification recommendations should be followed for all patients, regardless of obesity status.

PERTUZUMAB (Perjeta®)

P/P: **Perjeta Injection**

Adm: Administer as an intravenous infusion only.

Category: Pertuzumab is a recombinant humanized monoclonal antibody.

Indications: PERJETA is indicated for use Metastatic Breast Cancer (MBC), Early Breast Cancer (EBC).

Caution: LEFT VENTRICULAR DYSFUNCTION and EMBRYO-FETAL TOXICITY. Based on its mechanism of action and findings in animal studies, PERJETA can cause fetal harm when administered to a pregnant woman. There are no available data on the use of PERJETA in pregnant women. There is no information regarding the presence of Pertuzumab in human milk, the effects on the breastfed infant or the effects on milk production. Published data suggest that human IgG is present in human milk but does not enter the neonatal and infant circulation in substantial amounts. The safety and effectiveness of PERJETA have not been established in pediatric patients.

Contra-Ind: PERJETA is contraindicated in patients with known hypersensitivity to Pertuzumab or to any of its excipients.

D/I: No drug-drug interactions were observed between Pertuzumab and trastuzumab, or between Pertuzumab and docetaxel, paclitaxel, or carboplatin.

Side effects: Left Ventricular Dysfunction Left Ventricular Dysfunction, Embryo-Fetal Toxicity, Infusion-Related Reactions, Hypersensitivity Reactions/Anaphylaxis.

Dosage: Recommended Doses and Schedules:

The initial dose of PERJETA is 840 mg administered as a 60-minute intravenous infusion, followed every 3 weeks by a dose of 420 mg administered as an intravenous infusion over 30 to 60 minutes.

When administered with PERJETA, the recommended initial dose of trastuzumab is 8 mg/kg administered as a 90-minute intravenous infusion, followed every 3 weeks by a dose of 6 mg/kg administered as an intravenous infusion over 30 to 90 minutes.

Renal Dose Adjustments: Dose adjustments of PERJETA are not needed in patients with mild (creatinine clearance [CrCl] 60 to 90 mL/min) or moderate (CrCl 30 to 60 mL/min) renal impairment. No dose adjustment can be recommended for patients with severe renal

impairment (CrCl less than 30 mL/min) because of the limited pharmacokinetic data available.

Liver Dose Adjustments: No clinical studies have been conducted to evaluate the effect of hepatic impairment on the pharmacokinetics of Pertuzumab.

PERTUzumab/ TRASTUzumab (Phesgo®)

P/P: **Phesgo 1200mg + 600mg 15ml Vial Subcutaneous.**
Phesgo 600mg + 600mg 10ml Vial Subcutaneous

Adm: Administer initial (loading) dose SubQ over ~8 minutes; administer maintenance dose over ~5 minutes. For SubQ use only; do not administer by other routes. Doses should be administered by a health care professional. Alternate the injection site between the left and right thigh. Administer new injections on healthy skin at least 2.5 cm from the previous site; do not administer into areas where the skin is red, bruised, tender, or hard, or areas where there are moles or scars. Do not split the dose between 2 syringes or between 2 sites of administration. Do not administer other SubQ medications at the same sites as pertuzumab/trastuzumab/hyaluronidase. To avoid clogging the needle, attach the injection needle to the syringe immediately prior to administration followed by the appropriate volume adjustment.

Category: Antineoplastic Agent, Monoclonal Antibody.

Indications: Breast cancer, early, neoadjuvant treatment, HER2+, Breast cancer, early, adjuvant treatment, HER2+, Breast cancer, metastatic, HER2+.

Caution: HER2 expression: Establish HER2 status prior to treatment with an approved test, either HER2 protein overexpression or gene amplification in tumor specimens. Tests appropriate for breast cancer should be used to assess HER2 status. Unreliable results may occur from improper assay performance, such as use of suboptimally fixed tissue, failure to utilize specified reagents, failure to include appropriate controls for assay validation, or incorrectly following specific assay.

Contra-Ind: Hypersensitivity to pertuzumab, trastuzumab, or hyaluronidase, or any component of the formulation.

Pregnancy as exposure to pertuzumab/trastuzumab during pregnancy can result in embryo-fetal death and birth defects.

Side effects: Severe administration-related reactions, Cardiomyopathy, Pulmonary toxicity.

Dosage:

Breast cancer, early, neoadjuvant treatment, HER2+: Administer 3 to 6 cycles of pertuzumab/trastuzumab as neoadjuvant treatment regimen for early breast cancer.

Initial loading dose: Pertuzumab 1,200 mg/trastuzumab 600 mg initially, followed 3 weeks later by maintenance dosing.

Maintenance dosing: Pertuzumab 600 mg/trastuzumab 600 mg once every 3 weeks. Following surgery, continue pertuzumab/trastuzumab to complete 1 year of treatment (up to 18 cycles) or until disease progression or unacceptable toxicity, whichever occurs first.

Breast cancer, early, adjuvant treatment, HER2+: Administer as part of a complete regimen for early breast cancer, including anthracycline- and/or taxane-based chemotherapy. If part of anthracycline-based therapy, administer pertuzumab/trastuzumab following completion of anthracycline therapy. Initiate pertuzumab/trastuzumab on day 1 of the first taxane-containing cycle.

Initial loading dose: Pertuzumab 1,200 mg/trastuzumab 600 mg initially, followed 3 weeks later by maintenance dosing.

Maintenance dosing: Pertuzumab 600 mg/trastuzumab 600 mg once every 3 weeks for a total of 1 year (up to 18 cycles) or until disease progression or unacceptable toxicity, whichever occurs first.

Breast cancer, metastatic, HER2+: Administer in combination with docetaxel.

Initial loading dose: Pertuzumab 1,200 mg/trastuzumab 600 mg initially, followed 3 weeks later by maintenance dosing.

Maintenance dosing: Pertuzumab 600 mg/trastuzumab 600 mg once every 3 weeks; continue pertuzumab/trastuzumab until disease progression or unacceptable toxicity, whichever occurs first.

POLAtuzumab Vedotin (Polivy®)

P/P: Polivy 140mg Vial.

Adm: Infuse the initial dose over 90 minutes. Infuse using a dedicated infusion line with a sterile, nonpyrogenic, low-protein binding in-line or add-on 0.2- or 0.22-micron filter. Monitor for infusion-related reactions during infusion and for a minimum of 90 minutes after the initial infusion is completed. If the initial infusion rate is well tolerated, subsequent doses may be infused over 30 minutes (monitor during infusion and for a minimum of 30 minutes after completion of infusion). Do not administer as IV push or bolus; do not mix or infuse with other medications.

Category: Antineoplastic Agent, Monoclonal Antibody.

Indications: Diffuse large B-cell lymphoma, previously untreated, Relapsed or Refractory.

Caution: Bone marrow suppression: Serious or severe myelosuppression may occur with polatuzumab vedotin treatment. Grade 3 or higher neutropenia, thrombocytopenia, anemia, lymphopenia, and neutropenic fever have been reported. Most patients who received polatuzumab vedotin with rituximab, cyclophosphamide, doxorubicin, and prednisone received primary prophylaxis with granulocyte colony-stimulating factor (G-CSF); almost half of patients who received polatuzumab vedotin with bendamustine and rituximab received primary prophylaxis with G-CSF.

Contra-Ind: Hypersensitivity to polatuzumab vedotin or any component of the formulation.

Side effects: infections, Infusion-related reactions, peripheral neuropathy.

Dosage: **Diffuse large B-cell lymphoma, previously untreated:** IV: 1.8 mg/kg once every 21 days for 6 cycles (in combination with rituximab, cyclophosphamide, doxorubicin, and

prednisone; R-CHP); following the completion of 6 cycles of pola-R-CHP, rituximab alone was continued for 2 additional cycles.

Diffuse large B-cell lymphoma (Relapsed or Refractory): IV: 1.8 mg/kg once every 21 days for 6 cycles (in combination with bendamustine and rituximab).

POMALidomide (Imnovid®, Pomalyst®) [High Alert] [LASA]

P/P:	Pomalid 4mg Capsule, Pomalid 2mg Capsule, Pomide 4mg Capsule, Pomide 1mg Capsule, JAMP-Pomalidomide 2mg Capsule.
Adm:	Oral: Administer with or without food. Swallow whole with water; do not break, chew, or open the capsules
Category:	Angiogenesis Inhibitor; Antineoplastic Agent
Indications:	Kaposi sarcoma - Multiple myeloma, relapsed/refractory
Caution:	Females of reproductive potential must use 2 forms of contraception or continuously abstain from heterosexual sex during and for 4 weeks after stopping pomalidomide treatment as this medication is known human teratogen that causes severe birth defects or embryo-fetal death. Thromboprophylaxis is recommended due to thromboembolic events risk.
Contra-Ind:	Severe hypersensitivity Breastfeeding Women of childbearing potential not using 2 effective means of contraception Male patients unable to comply with required contraceptive measures.
Side effects:	Peripheral edema - Skin rash- Hypercalcemia- hyperglycemia- hypokalemia- hyponatremia- Hepatotoxicity- weight loss- nausea- vomiting- Anemia- peripheral neuropathy- upper respiratory tract infection
Dosage:	Kaposi sarcoma: Oral: 5 mg once daily on days 1 to 21 of 28-day cycles ; continue until disease progression or unacceptable toxicity. (ANC should be $\geq 1,000/\text{mm}^3$ and platelets $\geq 75,000/\text{mm}^3$ prior to initiating new cycles of therapy). Multiple myeloma, relapsed/refractory: Oral: 4 mg once daily on days 1 to 21 of 28-day cycles (in combination with dexamethasone); continue until disease progression or unacceptable toxicity. (ANC should be $\geq 500/\text{mm}^3$ and platelets $\geq 50,000/\text{mm}^3$ prior to initiating new cycles of therapy).

PONATinib (Iclusig®) [High Alert] [LASA]

P/P:	Iclusig 15 mg, 45 mg Film-coated tablet
Adm:	Oral: Administer with or without food. Swallow tablets whole; do not crush, break, cut or chew.
Category:	Antineoplastic Agent, BCR-ABL Tyrosine Kinase Inhibitor; Antineoplastic Agent, Tyrosine Kinase Inhibitor

Indications:	<p>Acute lymphoblastic leukemia, Philadelphia chromosome-positive: Treatment (in combination with chemotherapy) of newly diagnosed Philadelphia chromosome-positive acute lymphoblastic leukemia (Ph+ ALL). Treatment (as a single agent) of Ph+ ALL in adults for whom no other kinase inhibitors are indicated. Treatment (as a single agent) of T315I-positive Ph+ ALL.</p> <p>Chronic myeloid leukemia: Treatment (as a single agent) of chronic myeloid leukemia (CML) in chronic phase in adults with resistance or intolerance to at least 2 prior kinase inhibitors. Treatment (as a single agent) of CML in accelerated or blast phase in adults for whom no other kinase inhibitors are indicated. Treatment (as a single agent) of T315I-positive CML in chronic, accelerated, or blast phase.</p> <p>Limitations of use: Ponatinib is not indicated and not recommended for treatment of newly diagnosed chronic phase CML.</p>
Caution:	<p>Adverse effects related: Arrhythmias, arterial occlusion, bone marrow suppression, fluid retention, GI perforation, heart failure, hemorrhage, hepatotoxicity, hypertension, neuropathy, ocular toxicity, pancreatitis, reversible posterior leukoencephalopathy syndrome, tumor lysis syndrome, and wound healing impairment.</p> <p>Disease-related: Newly diagnosed Chronic phase CML: In a randomized study of first-line treatment of newly diagnosed chronic phase CML, a 2-fold increased risk of serious adverse reaction was demonstrated for ponatinib as compared to imatinib; the study was stopped due to safety concerns. Arterial and venous thrombosis and occlusions occurred at least twice as frequently in the ponatinib arm of the study (compared to the imatinib arm); a higher incidence of hematologic toxicity, pancreatitis, hepatotoxicity, heart failure, hypertension, and dermatologic/subcutaneous tissue disorders was also observed in patients receiving ponatinib. Ponatinib is not indicated and not recommended for treatment of newly diagnosed chronic phase CML.</p> <p>Special populations related: Older adult: Patients ≥65 years of age are more likely to experience vascular occlusion, decreased appetite, dyspnea, increased lipase, asthenia, muscle spasms, peripheral edema, and thrombocytopenia.</p>
Contra-Ind:	<p>US labeling: There are no contraindications listed in the manufacturer's labeling.</p> <p>Canadian labeling: Hypersensitivity to ponatinib or any component of the formulation; unmanaged cardiovascular risk factors, including uncontrolled hypertension; patients not adequately hydrated and with uncorrected hyperuricemia</p>
Side effects:	<p>Cardiac arrhythmia (16% to 25%; ventricular arrhythmia: 3%), edema ($\leq 41\%$), heart failure (6% to 16%), hypertension (31% to 53%; severe hypertension: 2% to 13%), occlusive arterial disease (13% to 31%; including carotid, vertebral, and middle cerebral artery and renal artery stenosis), peripheral edema (17%)</p> <p>Alopecia (6% to 11%), cellulitis (4% to 13%), skin rash (50% to 75%), xeroderma (12% to 42%)</p> <p>Decreased serum albumin (28%), decreased serum bicarbonate (20% to 27%), decreased serum calcium (30%), decreased serum phosphate (27% to 34%), decreased serum sodium (27%), fluid retention ($\leq 41\%$), hyperlipidemia (3% to 28%), increased serum glucose (48% to 54%), increased serum potassium (20%), increased serum triglycerides (44%), weight loss (5% to 13%), Abdominal pain (25% to 54%; severe: 6%), constipation</p>

(11% to 53%), decreased appetite (8% to 31%), diarrhea (13% to 29%; grades 3/4: ≤3%), increased serum amylase (18%), increased serum lipase (≤40%), nausea (22% to 34%; grades 3/4: ≤2%), pancreatitis (≤32%), stomatitis (9% to 24%; grades 3/4: 1% to 3%), vomiting (19% to 27%; grades 3/4: 2%), Urinary tract infection (2% to 14%), Anemia (52%; grades 3/4: 20%), decreased white blood cell count (56%; grades 3/4: 12% to 63%), febrile neutropenia (1% to 25%), hemorrhage (12% to 38%; grades 3/4: 2% to 13%; major hemorrhage: 6%), lymphocytopenia (42%; grades 3/4: 7% to 32%), neutropenia (56%; grades 3/4: 34%), thrombocytopenia (63%; grades 3/4: 40%), Hepatotoxicity (16% to 39%), increased serum alanine aminotransferase (41% to 49%), increased serum alkaline phosphatase (23% to 40%), increased serum aspartate aminotransferase (35% to 40%), increased serum bilirubin (13%), Sepsis (3% to 28%), Anxiety (5% to 18%), asthenia (≤47%), chills (8% to 13%), dizziness (3% to 17%), fatigue (≤47%), headache (17% to 43%), insomnia (11% to 13%), neuropathy (9% to 26%), peripheral neuropathy (5% to 20%; grades 3/4: 2%), Arthralgia (30% to 61%), muscle spasm (5% to 14%), musculoskeletal pain (6% to 11%), myalgia (6% to 24%), ostealgia (9% to 14%), Ocular toxicity (30%; including blindness, blurred vision, dry eye syndrome, eye pain), Increased serum creatinine (21%), Cough (6% to 24%), dyspnea (16% to 23%), nasopharyngitis (3% to 18%), pneumonia (8% to 22%), upper respiratory tract infection (3% to 14%)
Miscellaneous: Fever (16% to 40%)

Dosage:

For all indication as single agent:

Initial: 45 mg once daily (as a single agent); consider reducing the dose for patients with accelerated phase who have achieved a major cytogenetic response. Continue until loss of response or unacceptable toxicity; consider discontinuing if response has not occurred by 3 months.

Acute lymphoblastic leukemia, Philadelphia chromosome positive (Ph+), newly diagnosed (combination therapy):

Induction (cycles 1 to 3): Oral: 30 mg once daily (in combination with vincristine and dexamethasone) for 3 cycles.

Consolidation (cycles 4 to 9): Oral: 30 mg once daily (or decreased to 15 mg once daily if in minimal residual disease [MRD]-negative complete remission [CR] [$\leq 0.01\%$ BCR::ABL1/ABL1] at the end of induction), in combination with alternating cycles of methotrexate (cycles 4, 6, and 8) and cytarabine (cycles 5, 7, and 9) for 6 cycles. If MRD negativity is lost at any time following dose reduction to 15 mg once daily, ponatinib dose may be re-escalated to 30 mg once daily.

Maintenance (cycles 10 to 20 and beyond): Oral: 30 mg once daily (or decreased to 15 mg once daily if in MRD-negative CR [$\leq 0.01\%$ BCR: ABL1/ABL1] at the end of induction), in combination with vincristine and prednisone for 11 cycles, followed by ponatinib (as a single agent) until relapse from CR, progression of disease, unacceptable toxicity, or start of alternative therapy, including hematopoietic cell transplantation (HCT). If MRD negativity is lost at any time following dose reduction to 15 mg once daily, ponatinib dose may be re-escalated to 30 mg once daily.

RAMUcirumab (Cyramza®)

P/P:

Cyramza: 100 mg/10 mL (10 mL); 500 mg/50 mL (50 mL)

Adm:	Premedicate prior to infusion with an IV H1 antagonist (eg, diphenhydramine); for patients who experienced a grade 1 or 2 infusion reaction with a prior infusion, also premedicate with dexamethasone (or equivalent) and acetaminophen.
	Administer initial infusion over 60 minutes; if tolerated, may administer subsequent infusions over 30 minutes. Infuse through a separate infusion line using an infusion pump; the use of a 0.22-micron protein-sparing filter is recommended. Do not administer as an IV push or bolus. Flush the line with NS after infusion is complete. Do not infuse in the same IV line with solutions other than NS, or with electrolytes or other medications. Monitor for infusion reaction; reduce infusion rate (by 50%) for grade 1 or 2 infusion reaction; discontinue permanently for grade 3 or 4 infusion reaction.
	Administer ramucirumab prior to docetaxel, paclitaxel, or FOLFIRI if administering in combination.
Category	Antineoplastic Agent, Monoclonal Antibody; Antineoplastic Agent, Vascular Endothelial Growth Factor (VEGF) Inhibitor; Antineoplastic Agent, Vascular Endothelial Growth Factor Receptor 2 (VEGFR2) Inhibitor.
Indications	Colorectal cancer, metastatic, Gastric cancer, advanced or metastatic, Hepatocellular carcinoma Non-small cell lung cancer, metastatic.
Caution	Arterial thrombotic events, Gastrointestinal perforation, Hemorrhage, Hepatotoxicity, Hypertension, Infusion reaction, Posterior reversible encephalopathy syndrome (PRES), Proteinuria/Nephrotic syndrome, Thyroid dysfunction, Wound healing impairment, Older age, Polysorbate 80 hypersensitivity.
Contra-Ind	There are no contraindications listed in the manufacturer's US labeling. Canadian labeling: Hypersensitivity to ramucirumab or any component of the formulation..
Side effects	>10%: Cardiovascular: Hypertension (16% to 25%, can be severe hypertension), peripheral edema (25%). Endocrine & metabolic: Hypoalbuminemia (33%), hypocalcemia (16%), hyponatremia (6% to 32%) Gastrointestinal: Abdominal pain (25%), decreased appetite (23%), diarrhea (14%; grade 3/4: 1%), nausea (19%) Genitourinary: Proteinuria (8% to 20%) Hematologic & oncologic: Neutropenia (5% to 24%; grade ≥3: 8%), thrombocytopenia (46%; grade ≥3: 8%) Hepatic: Ascites (18%) Nervous system: Fatigue (36%), headache (9% to 14%), insomnia (11%) Respiratory: Epistaxis (5% to 14%).
Dosage	Gastric cancer, advanced or metastatic: IV: 8 mg/kg once every 2 weeks as a single agent or in combination with weekly paclitaxel; continue ramucirumab until disease progression or unacceptable toxicity Colorectal cancer, metastatic: IV: 8 mg/kg once every 2 weeks in combination with FOLFIRI (irinotecan, leucovorin, and fluorouracil); continue ramucirumab until disease progression or unacceptable toxicity.

Hepatocellular carcinoma (advanced, relapsed/refractory):

IV: 8 mg/kg once every 2 weeks (as a single agent); continue ramucirumab until disease progression or unacceptable toxicity.

Non–small cell lung cancer, metastatic:

First-line treatment in tumors with EGFR exon 19 deletions or exon 21 (L858R) substitution mutations: IV: 10 mg/kg once every 2 weeks (in combination with erlotinib) until disease progression or unacceptable toxicity.

Disease progression on or after platinum-based therapy: IV: 10 mg/kg on day 1 every 21 days in combination with docetaxel; continue ramucirumab until disease progression or unacceptable toxicity

RIBOCICLIB (Kisqali®)

P/P: **Kisqali 200 mg F.C tab 63'S**

Admin: Avoid grapefruit and grapefruit juice during therapy.

Category: Antineoplastic Agent, Cyclin-Dependent Kinase Inhibitor

Indications: Advanced or metastatic breast cancer.

Caution: Bone marrow suppression. Hepatobiliary toxicity. Pulmonary toxicity QT prolongation.

Contra-Ind: Hypersensitivity to Ribociclib, untreated congenital long QT syndrome.

Side effects: Peripheral edema, insomnia, fatigue, headache, dizziness, diarrhea, nausea, urinary tract infection, anemia, arthralgia, back pain, asthenia.

D/I: 5-Aminosalicylic Acid Derivatives, Abametapir, Abemaciclib, Acalabrutinib, Alfentanil

Dosage: Recommended dose for adult: 600 mg once daily for 21 days followed by 7 days rest period.

Recommended dose for Pediatric: NO

Renal Dose Adjustments:

eGFR 30 to <90 mL/minute/1.73 m²: No dosage adjustment is necessary.

eGFR 15 to <30 mL/minute/1.73 m²: Reduce initial dose to 200 mg once daily (based on a pharmacokinetic study in subjects without cancer; Ribociclib has not been studied in breast cancer patients with severe renal impairment).

ESRD (eGFR <15 mL/minute/1.73 m²): There are no dosage adjustments provided in the manufacturer's labeling (has not been studied in breast cancer patients with severe renal impairment).

Liver Dose Adjustments: Mild impairment: No dosage adjustment necessary.

Moderate or severe impairment: Reduce initial Ribociclib dose to 400 mg once daily.

RITUXIMAB (Mabthera®)

P/P: **Mabthera 100 mg/10 ml, 2's vial**

Mabthera 500 mg/10 ml, 1's vial

Category:	monoclonal antibody, Chemotherapeutic agent.
Indications:	treatment for chronic lymphocytic leukemia and some types of non Hodgkin lymphoma. It is also used for some non-cancer related illnesses. Granulomatosis with polyangiitis and microscopic polyangiitis
Contra-Ind:	patients in a severely immunocompromised state, severe heart failure) or severe, uncontrolled cardiac disease
Side effects:	Serious adverse events, which can cause death and disability, include: Sever infusion reaction, cardiac arrest, cytokine release syndrome, Tumer lysis syndrome causing acute renal failure Infections: Hepatitis B reactivation, other viral infections, progressive multifocal leukoencephalopathy (PML) Immune toxicity with depletion of B cells 70 to 80 % of lymphoma patients, Pulmonary toxicity, Bowel obstruction and perforation.
D/I:	CO – administration with methotrexate had no effect on pharmacokinetics of Mabthera in Rheumatoid arthritis patients. Patients with human anti-mouse antibody or human anti-chimeric antibody (HAMA/HACA) titer may have allergic or hypersensitivity reactions when treated with other diagnostic or therapeutic monoclonal antibodies.
DOSE:	Non – Hodgkin lymphoma: 375 mg/m ² IV infusion Chronic lymphocytic leukemia: 375 mg/ m ² IV infusion on day 1 of 1 st cycle 500 mg/ m ² IV on day 1 of subsequent cycles Rheumatoid arthritis: 1000 mg IV infusion
Dosage:	FOR ADULTS ONLY The recommended dose for oxaliplatin in adjuvant setting is 85 mg/m ² intravenously repeated every 2 weeks for 12 cycles (6 months) The recommended dose for oxaliplatin in treatment of metastatic colorectal cancer is 85 mg/m ² intravenously repeated every 2 weeks. Dosage given should be adjusted according to tolerability Renal impairment: There is no need for dose adjustment in patients with mild renal dysfunction. Hepatic impairment: No specific dose adjustment for patients with abnormal liver function tests were performed during clinical development. Elderly patients: No increase in severe toxicities was observed when oxaliplatin was used as a single agent or in combination with 5-fluorouracil in patients over the age of 65 In consequence no specific dose adaptation is required for elderly patients.

SACItuzumab Govitecan (Trodelvy®)

P/P: Trodelvy: 180 mg Intravenous vial

Version 2024-2025
Jan.2025

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Almoosa Specialist Hospital

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Adm:	Administer the initial sacituzumab govitecan infusion over 3 hours; may administer subsequent infusions over 1 to 2 hours if prior infusions were tolerated. Protect infusion bag from light during infusion; however, tubing does not need to be protected from light during infusion and light-protective tubing is not necessary. After infusion is complete, flush infusion line with 20 mL NS. Observe patients during infusion and for at least 30 minutes after each infusion. If more than 1 infusion bag is necessary to administer the full dose, infuse the bags sequentially. Administer infusion within 6 hours (including infusion time) after refrigeration.
	Prior to each dose, premedicate with antipyretics and H1/H2 antagonists; corticosteroids may be administered if an infusion-related reaction occurred with a prior dose. Slow or interrupt the infusion if an infusion-related reaction develops; permanently discontinue for life-threatening infusion-related reactions.
	Sacituzumab govitecan is associated with a moderate to high emetic potential; antiemetics (either a 2 or 3 drug combination regimen) are recommended to prevent nausea and vomiting.
	Do not administer as an IV push or bolus. Do not administer with other medications.
Category	Antineoplastic Agent, Anti-Trop-2; Antineoplastic Agent, Antibody Drug Conjugate; Antineoplastic Agent, Monoclonal Antibody; Antineoplastic Agent, Topoisomerase I Inhibitor.
Indications	Breast cancer, triple negative, locally advanced or metastatic, relapsed or refractory Breast cancer, locally advanced or metastatic, hormone receptor positive, HER2 negative Urothelial cancer, locally advanced or metastatic.
Caution	Older age, Polysorbate 80 hypersensitivity.
Contra-Ind	Severe hypersensitivity to sacituzumab govitecan or any component of the formulation.
Side effects	Bone marrow suppression, GI toxicity, Hypersensitivity, >10%: Edema (17% to 19%), Alopecia (38% to 49%), pruritus (10% to 17%), skin rash (12% to 32%), xeroderma (15%), Decreased serum albumin (32% to 51%), decreased serum glucose (10% to 19%), decreased serum magnesium (18% to 51%), decreased serum phosphate (17% to 41%), decreased serum potassium (22% to 33%), dehydration (13%; severe dehydration: 2%), increased lactate dehydrogenase (16% to 28%), increased serum albumin (32%), increased serum glucose (31% to 59%), increased serum phosphate (16%), increased serum potassium (14%), weight loss (17%), Abdominal pain (20% to 31%; severe abdominal pain: 2%), constipation (34% to 37%), decreased appetite (21% to 41%; including anorexia), diarrhea (59% to 72%; grades 3/4: 9% to 12%) (See Table 1), dysgeusia (11%), dyspepsia (11%), nausea (57% to 69%; grades 3/4: 3% to 6%) (See Table 2), stomatitis (14% to 17%; grades 3/4: 1% to 2%), vomiting (23% to 49%; grades 3/4: 1% to 6%), Hematuria (16%), urinary tract infection (13% to 21%), Decreased hemoglobin (71% to 94%; grades 3/4: 6% to 18%), decreased platelet count (21% to 30%; grades 3/4: 1% to 3%) (See Table 4), decreased neutrophils (67% to 83%; grades 3/4: 32% to 53%) (See Table 5), eosinophilia (13%), leukopenia (78% to 91%, grades 3/4: 26% to 41%) (See Table 6), lymphocytopenia (65% to 88%; grades 3/4: 21% to 35%), prolonged partial thromboplastin time (33% to 60%; grades 3/4: 6% to 12%), Increased serum alanine aminotransferase (21% to 35%), increased serum alkaline phosphatase (23% to 57%), increased serum aspartate aminotransferase (15% to 45%), Hypersensitivity reaction (35%), Infection (50%; serious infection: 18%), Dizziness (10% to 22%), fatigue

(57% to 68%; including asthenia), headache (16% to 23%), insomnia (11% to 13%), neuropathy (24%; peripheral neuropathy: 12%), Arthralgia (12% to 17%), back pain (16% to 23%), limb pain (11%), Acute kidney injury (24%), decreased creatinine clearance (24%), increased serum creatinine (32%), Cough (12% to 24%), dyspnea (16% to 21%; severe dyspnea: 3%), respiratory tract infection (26%), upper respiratory tract infection (12%), Fever (14% to 19%).

Dosage**Breast cancer, triple negative, locally advanced or metastatic, relapsed or refractory**

IV: 10 mg/kg on days 1 and 8 of a 21-day treatment cycle (maximum: 10 mg/kg/dose); continue until disease progression or unacceptable toxicity .

Breast cancer, locally advanced or metastatic, hormone receptor positive, HER2 negative

IV: 10 mg/kg on days 1 and 8 of a 21-day treatment cycle (maximum: 10 mg/kg/dose); continue until disease progression or unacceptable toxicity

TRASTUZUMAB (Herceptin®)

P/P: Herceptin 150 mg solution for injection in vial
Herceptin 440 mg solution for injection in vial

Category: Antineoplastic agents, monoclonal antibodies

Indications: Breast cancer

Contra-Ind: Hypersensitivity to trastuzumab, murine proteins, hyaluronidase or to any of the other excipients.
Severe dyspnea at rest due to complications of advanced malignancy or requiring supplementary oxygen therapy.

Caution Patients treated with Herceptin are at increased risk for developing CHF or asymptomatic cardiac dysfunction.
Herceptin and anthracyclines should not be given concurrently in combination in the MBC setting.
Caution is recommended with Herceptin subcutaneous formulation as severe pulmonary events have been reported with the use of the intravenous formulation in the post-marketing setting

Side effects: Amongst the most serious and/or common adverse reactions reported in Herceptin usage (intravenous and subcutaneous formulations) to date are cardiac dysfunction, administration-related reactions, hematotoxicity (in particular neutropenia), infections and pulmonary adverse reactions.

D/I No formal drug interaction studies have been performed

Dosage The recommended dose for Herceptin subcutaneous formulation is 600 mg irrespective of the patient's body weight. No loading dose is required. Patients with MBC should be treated with Herceptin until progression of disease. Patients with EBC should be treated with Herceptin for 1 year or until disease recurrence, whichever occurs first; extending treatment in EBC beyond one year is not recommended.

TEMOZOLOMIDE (Temodar®)

P/P: **Temodar 100 mg capsule.**

Adm: Temozolomide is associated with a moderate emetic potential; antiemetics are recommended to prevent nausea and vomiting.

Iv: Infuse over 90 minutes (shorter or longer infusion times may result in suboptimal dosing). Flush line before and after administration. May be administered through the same IV line as sodium chloride 0.9%; do not administer other solutions or medications through the same IV line.

Oral: Swallow capsules whole with a full glass of water; do not open or chew. Administer consistently with respect to food (either consistently fasting or nonfasting). Administer on an empty stomach and/or at bedtime to reduce nausea and vomiting. Do not repeat dose if vomiting occurs after dose is administered; wait until the next scheduled dose. If capsules are accidentally opened or damaged, avoid inhalation or contact with skin or mucous membranes.

Category: Antineoplastic Agent, Alkylating Agent.

Indications: Anaplastic astrocytoma (refractory), Glioblastoma (newly diagnosed, high-grade glioma), metastatic malignant melanoma, monotherapy.

Contra-Ind: Hypersensitivity to temozolomide or any component of the formulation; hypersensitivity to dacarbazine (both drugs are metabolized to [methyl-triazene-1-yl]-imidazole-4-carboxamide), Not recommended in patients with severe myelosuppression.

Caution: Use with caution in patients with severe hepatic impairment and severe renal impairment. Pneumocystis pneumonia (risk is increased in those receiving corticosteroids or with longer temozolomide treatment regimens. Provide PCP prophylaxis to all patients with newly diagnosed glioblastoma receiving concomitant phase radiotherapy), Bone marrow suppression (An increased risk of hematologic toxicity has been reported in geriatric and female patients. ANC should be \geq 1,500/mm³ and platelets \geq 100,000/mm³ prior to treatment.), Patients \geq 70 years of age experienced a higher incidence of grade 4 neutropenia and thrombocytopenia in cycle 1 (Compared to younger patients).

Special population: **Pregnancy Considerations:**

Based on the mechanism of action and findings in animal reproduction studies, in utero exposure to temozolomide may cause fetal harm.

Breastfeeding Considerations:

It is not known if temozolomide is present in breast milk.

Due to the potential for serious adverse reactions (including myelosuppression) in the breastfed infant, breastfeeding is not recommended by the manufacturer during treatment and for at least 1 week after the last temozolomide dose.

Side effects: Nausea, vomiting, skin rash, Alopecia, fatigue, peripheral edema.

D/I Baricitinib: Immunosuppressants (Cytotoxic Chemotherapy) may enhance the immunosuppressive effect of Baricitinib. Risk X: Avoid combination.
BCG (Intravesical): Myelosuppressive Agents may diminish the therapeutic effect of BCG (Intravesical). Risk X: Avoid combination.
Chloramphenicol (Ophthalmic): May enhance the adverse/toxic effect of Myelosuppressive Agents. Risk C: Monitor therapy.
Clozapine: Myelosuppressive Agents may enhance the adverse/toxic effect of Clozapine. Specifically, the risk for neutropenia may be increased. Risk C: Monitor therapy.
Brivudine: Risk X: Avoid combination.
Cladribine: Risk X: Avoid combination.
Check drug-drug interactions before using the drug.

Dosage: **For anaplastic astrocytoma:** Oral, IV: Initial dose: 150 mg/m² once daily on days 1 to 5 every 28 days. If ANC ≥1,500/mm³ and platelets ≥100,000/mm³ at the nadir and on day 1 of the next cycle, increase dose to 200 mg/m² on days 1 to 5 every 28 days and continue until disease progression or unacceptable toxicity (in the clinical trial, temozolomide could be continued for up to a maximum of 2 years, although the optimal treatment duration is unknown).

Dosage modification for toxicity:

Monitor CBC on day 22 and then weekly until ANC >1,500/mm³ and platelet count >100,000/mm³; do not initiate the next cycle until ANC >1,500/mm³ and platelets >100,000/mm³.

ANC <1,000/mm³ or platelets <50,000/mm³ during any cycle: Reduce temozolomide dose for the next cycle by 50 mg/m²/day. Permanently discontinue if unable to tolerate a dose of 100 mg/m²/day.

For glioblastoma, newly diagnosed, high grade glioma: Concomitant phase:

Oral, IV: 75 mg/m² once daily for 42 days (in combination with focal radiotherapy of 60 Gy administered in 30 fractions).

Continue at 75 mg/m² once daily throughout the 42-day concomitant phase (Up to 49 days) as long as ANC ≥1,500/mm³, platelet count ≥100,000/mm³, and nonhematologic toxicity ≤ grade 1 (excludes alopecia, nausea/vomiting).

Dosage modification for toxicity:

ANC ≥500/mm³ but <1,500/mm³ or platelet count ≥10,000/mm³ but <100,000/mm³ or grade 2 nonhematologic toxicity (excludes alopecia, nausea/vomiting): Interrupt temozolomide therapy; resume temozolomide when ANC ≥1,500/mm³, platelet count ≥100,000/mm³, and nonhematologic toxicity is resolved to ≤ grade 1.

ANC <500/mm³ or platelet count <10,000/mm³ or grade 3 or 4 nonhematologic toxicity (excludes alopecia, nausea/vomiting): Discontinue therapy.

Maintenance phase (consists of 6 treatment cycles): Begin 4 weeks after concomitant phase completion.

Cycle 1: Oral, IV: 150 mg/m² once daily on days 1 to 5 of a 28-day treatment

cycle.

Cycles 2 to 6: Oral, IV: May increase to 200 mg/m² once daily on days 1 to 5; repeat every 28 days (if ANC ≥1,500/mm³, platelets ≥100,000/mm³, and nonhematologic toxicities for cycle 1 are ≤ grade 2 [excludes alopecia, nausea/vomiting]). If dose was not escalated at the onset of cycle 2, do not increase for cycles 3 to 6.

Maintenance phase dosage modification for toxicity:

Monitor CBC on day 22 and then weekly until ANC >1,500/mm³ and platelet count >100,000/mm³.

ANC <1,000/mm³, platelet count <50,000/mm³, or grade 3 nonhematologic toxicity (excludes alopecia, nausea/vomiting) during previous cycle: Interrupt temozolamide therapy; when ANC >1,500/mm³, platelet count >100,000/mm³, and nonhematologic toxicity is resolved to ≤ grade 1, resume temozolamide at a reduced dose for the next cycle. If temozolamide is withheld, decrease dose by 50 mg/m²/day. Permanently discontinue if unable to tolerate a dose of 100 mg/m²/day.

For Melanoma, metastatic malignant (off-label use): Oral: 200 mg/m² once daily for 5 days every 28 days (for up to 12 cycles in the absence of disease progression or unacceptable toxicity). Reduce the dose by 25% in subsequent cycles for grade 3/4 hematologic toxicity and reduce the dose by 50% for grade 3/4 nonhematologic toxicity.

Hepatic impairment: No dosage adjustment necessary.

Kidney impairment: No dosage adjustment necessary.

TUCATinib (Tukysa®) [High Alert] , [LASA]

P/P: **Tukysa: 50 mg, 150 mg**

Category: Antineoplastic Agent, Anti-HER2; Antineoplastic Agent, Tyrosine Kinase Inhibitor

Indications: Colorectal cancer, RAS wild type, HER2 positive, unresectable or metastatic.

Contra-Ind: Hypersensitivity to tucatinib or any component of the formulation.

Side effects: GI toxicity, Hepatotoxicity, Hypertension, Palmar-plantar erythrodysesthesia, skin rash
Decreased serum albumin, decreased serum magnesium, decreased serum phosphate, decreased serum potassium, decreased serum sodium, increased serum glucose, weight loss, Abdominal pain, constipation, decreased appetite, diarrhea, nausea, stomatitis, vomiting, Anemia, decreased platelet count, leukopenia, lymphocytopenia, increased serum alanine aminotransferase, increased serum alkaline phosphatase, increased serum aspartate aminotransferase, increased serum bilirubin, Infusion-related reaction, Chills, fatigue, peripheral neuropathy, Arthralgia, back pain, myalgia, Increased serum creatinine Cough, dyspnea, epistaxis, Fever.

D/I: Caution should be exercised in patients concurrently taking drugs known to inhibit drug metabolism by hepatic cytochrome P450, or in patients with hepatic dysfunction. Concurrent administration of vinblastine may cause an earlier onset and/or an increased severity of side effects.

Caution: Serum creatinine increases, Older adult.

Dose: 300 mg twice daily (in combination with trastuzumab) until disease progression or unacceptable toxicity.

VENETOclax (Venclexta®) [High Alert] , [LASA]

P/P: **Venclexta: 10 mg, 50 mg, 100 mg**

Category: Antineoplastic Agent; Antineoplastic Agent, BCL-2 Inhibitor

Indications: AML, CLL, Mantle cell lymphoma, relapsed or refractory, Multiple myeloma, relapsed/refractory.

Contra-Ind: Concomitant use with strong CYP3A inhibitors at initiation and during ramp-up phase.

Side effects: Cardiovascular: Edema, Dermatologic: Skin rash, Hyperglycemia, hyperkalemia, hypoalbuminemia, hypocalcemia, hyponatremia, hypophosphatemia, Abdominal pain, constipation, diarrhea, nausea, stomatitis, vomiting, Anemia, leukopenia, lymphocytopenia, neutropenia, thrombocytopenia, Increased serum aspartate aminotransferase, Dizziness, fatigue, headache, Arthralgia, musculoskeletal pain, Cough, upper respiratory tract infection, Fever.

D/I: Caution should be exercised in patients concurrently taking drugs known to inhibit drug metabolism by hepatic cytochrome P450, or in patients with hepatic dysfunction. Concurrent administration of vinblastine may cause an earlier onset and/or an increased severity of side effects.

Caution: Bone marrow suppression, Infection, Tumor lysis syndrome.

Dose: Day 1: Oral: 100 mg once daily.
Day 2: Oral: 200 mg once daily.
Day 3: Oral: 400 mg once daily.

VINBLASTINE (Vinblastine®)

P/P: **Vinblastine 1 mg/1 ml vial**

Category: Chemotherapeutic agent

Indications: Vinblastine is a component of a number of chemotherapy regimens, Including ABVD for Hodgkin lymphoma.

Generalized Hodgkin's disease, Lymphocytic lymphoma, Histiocytic Lymphoma, Mycosis fungoides (advanced stages), Mycosis fungoides, Advanced carcinoma of the testis
Choriocarcinoma resistant to other chemotherapeutic agents
Carcinoma of the breast, unresponsive to appropriate endocrine surgery and hormonal therapy

Contra-Ind: patients who have significant granulocytopenia unless this is a result of

the disease being treated. It should not be used in the presence of bacterial infections.

- Side effects:** Hematologic: Leukopenia (granulocytopenia), anemia, thrombocytopenia
Dermatologic: Alopecia is common.
Gastrointestinal: Constipation, anorexia, nausea, vomiting, abdominal pain, vesiculation of the mouth, pharyngitis, diarrhea, rectal bleeding
Neurologic: Numbness of digits (paresthesias), loss of deep tendon reflexes, peripheral neuritis, mental depression, headache, convulsions.
- D/I:** Caution should be exercised in patients concurrently taking drugs known to inhibit drug metabolism by hepatic cytochrome P450, or in patients with hepatic dysfunction. Concurrent administration of vinblastine may cause an earlier onset and/or an increased severity of side effects.
- Caution:** Toxicity may be enhanced in the presence of hepatic insufficiency the use of small amounts of vinblastine daily for a long period is not advised. Strict adherence to the recommended dosage schedule is very important
- Dose:** Adult patients: It is wise to initiate therapy for adults by administering a single intravenous dose of 3.7 mg/m² of body surface area (bsa). Until a maximum dose not exceeding 18.5 mg/m² bsa
Pediatric Patients: As a single agent the initial dose of vinblastine was reported as 6.5 mg/m². When vinblastine was used in combination with other chemotherapeutic agents for the treatment of Hodgkin's disease, the initial dose was reported as 6 mg/m².
- Patients with Renal or Hepatic Impairment:** A reduction of 50% in the dose of vinblastine is recommended for patients having a direct serum bilirubin value above 3 mg/100 mL. Since metabolism and excretion are primarily hepatic, no modification is recommended for patients with impaired renal function.

VINORELBINE TARTRATE (Navelbine®)

- P/P:** Navelbine Injection
- Adm:** Administer diluted NAVELBINE over 6 to 10 minutes into the side port of a free-flowing intravenous line followed by flushing with at least 75 to 125 mL of one of the solutions. NAVELBINE must only be administered intravenously. It is extremely important that the intravenous needle or catheter be properly positioned before any NAVELBINE is injected.
- Category:** semi-synthetic vinca alkaloid
- Indications:** NAVELBINE is indicated: In combination with cisplatin for first-line treatment of patients with locally advanced or metastatic non-small cell lung cancer (NSCLC). As a single agent, for the treatment of patients with metastatic NSCLC.

Caution:	Severe myelosuppression resulting in serious infection, septic shock, hospitalization and death may occur. Decrease the dose or withhold NAVELBINE in accord with recommended dose modifications.
Contra-Ind:	NAVELBINE can cause fetal harm when administered to a pregnant woman, though it is not known whether this drug is present in human milk. A decision should be made whether to discontinue nursing or discontinue the drug taking into account the importance of the drug to the mother.
D/I:	Exercise caution in patients concurrently taking drugs known to inhibit drug metabolism by hepatic cytochrome P450 isoenzymes in the CYP3A subfamily.
Side effects:	The following serious adverse reactions, which may include fatalities, are discussed in greater detail in other sections of the label: Myelosuppression, Pulmonary Toxicity and Respiratory Failure, Constipation and Bowel Obstruction, Extravasation Tissue Injury, Neurologic Toxicity, Hepatic Toxicity.
Dosage:	The recommended dose of NAVELBINE is 30 mg/m ² administered intravenously over 6 to 10 minutes once a week. The recommended dose of NAVELBINE is 25 mg/m ² administered as an intravenous injection or infusion over 6 to 10 minutes on Days 1, 8, 15, and 21 of a 28-day cycle in combination with cisplatin 100 mg/m ² on Day 1 only of each 28-day cycle. The recommended dose of NAVELBINE is 30 mg/m ² administered as an intravenous injection or infusion over 6 to 10 minutes once a week in combination with cisplatin 120 mg/m ² on Days 1 and 29, then every 6 weeks.
	Renal Dose Adjustments: No dose adjustment is required in patients with mild, moderate, or severe renal impairment (CrCl >15 mL/min).
	Liver Dose Adjustments: The influence of hepatic impairment on the pharmacokinetics of NAVELBINE has not been evaluated, but the liver plays an important role in the metabolism of NAVELBINE. Elevations of aspartate aminotransferase occur in > 60% of the patients receiving NAVELBINE alone (6% Grade 3-4).

ZOLENDRONIC ACID (Zometa®) (Restricted)

P/P:	Zometa 4 mg/5 ml concentrate for solution for infusion
Category:	Drugs for treatment of bone diseases, bisphosphonates
Indications:	Prevention of skeletal related events (pathological fractures, spinal compression, radiation or surgery to bone, or tumor-induced hypercalcemia) in adult patients with advanced malignancies involving bone. Treatment of adult patients with tumor-induced hypercalcemia (TIH).
Contra-Ind:	Hypersensitivity to the active substance, to other bisphosphonates or to any of the excipients, Breast-feeding.
Caution:	Overhydration should be avoided in patients at risk of cardiac failure. Patients with TIH and evidence of deterioration in renal function should be appropriately evaluated. Osteonecrosis of the jaw (ONJ) has been reported uncommonly in clinical trials and in the post-marketing setting in patients receiving Zometa. Hypocalcemia has been reported in patients treated with

Zometa.

Side effects: Within three days after Zometa administration, an acute phase reaction has commonly been reported, with symptoms including bone pain, fever, fatigue, arthralgia, myalgia, rigors and arthritis with subsequent joint swelling; these symptoms usually resolve within a few days.
The following are the important identified risks with Zometa in the approved indications: Renal function impairment, osteonecrosis of the jaw, acute phase reaction, hypocalcemia, atrial fibrillation, anaphylaxis, interstitial lung disease.

D/I Caution is advised when bisphosphonates are administered with aminoglycosides, calcitonin or loop diuretics, since these agents may have an additive effect, resulting in a lower serum calcium level for longer periods than required.

Caution Indicated when Zometa is used with other potentially nephrotoxic medicinal products. Attention should also be paid to the possibility of hypomagnesaemia developing during treatment. In multiple myeloma patients, the risk of renal dysfunction may be increased when Zometa is used in combination with thalidomide.

Caution is advised when Zometa is administered with anti-angiogenic medicinal products, as an increase in the incidence of ONJ has been observed in patients treated concomitantly with these medicinal products

Dosage Adults and older people: The recommended dose is 4 mg zoledronic acid every 3 to 4 weeks.
Renal impairment: patients with serum creatinine > 400 µmol/l or > 4.5 mg/dl were excluded. No dose adjustment is necessary in THI patients with serum creatinine < 400 µmol/l or < 4.5 mg/dl
Pediatric population: The safety and efficacy of zoledronic acid in children aged 1 year to 17 years have not been established

ABIRATERON ACETATE (Zytiga®) (RESTRICTED)

P/P: Zytiga 125mg Tab 120'S, Zytiga 125mg Tab 120'S, Zytiga 125mg Tab 120'S

Admin: Orally on empty stomach at least 1 hr. before or 2 hrs. after food.

Category: Anti androgenic, antineoplastic agent.

Indications: treatment of metastatic, castration – resistant prostate cancer.
treatment of metastatic, castration – sensitive prostate cancer.

Contra-Ind: Hypersensitivity to Abirateron acetate or any component of the formulation or Containers, female who are or may become pregnant.

Caution Adrenocortical insufficiency, hepatotoxicity, mineralocorticoid excess, Cardiovascular disease, hepatic impairment.

Side effects: Cardiovascular, hypertension, edema, insomnia, Hypertriglyceridemia, Hyperglycemia, hypernatremia, hypokalemia, hypophosphatemia, UTI.

D/I: CYP2D6 Inhibitors, CYP3A4 Inducers, Dabrafenib, Deferasirox, Doxorubicin

Dosage:

Recommended adult dose:

Prostate cancer, metastatic, castration-resistant: Oral Zytiga: 1,000 mg once daily
(Combination with prednisone 5 mg twice daily)

Prostate cancer, metastatic, high-risk, castration-sensitive: Oral Zytiga: 1,000 mg once
(Combination with prednisone 5 mg once daily)

Renal dose adjustment: no dosage adjustment necessary.

Hepatic dose adjustment:

Mild: No dosage adjustment necessary.

Moderate: 250 mg once daily.

Severe: Do not use.

CYTOTOXIC AND IMMUNOSUPPRESANTS

ABATACEPT (Orencia®) (Restricted)

P/P: ORENCEA 125 mg/ml prefilled syringe

Adm: Do not administer if solution is discolored or contains particulate matter.

Category: Selective T-Cell Costimulation Blocker.

Indications: Adult Rheumatoid Arthritis (RA), Juvenile Idiopathic Arthritis.

Caution: Concomitant use with a TNF antagonist can increase the risk of infections and serious infection, Hypersensitivity, anaphylaxis, and anaphylactoid reactions. Patients with a history of recurrent infections or underlying conditions predisposing to infections may experience more infections, discontinue if a serious infection develops. Screen for latent TB infection prior to initiating therapy. Patients testing positive should be treated prior to initiating ORENCEA. Live vaccines should not be given concurrently or within 3 months of discontinuation. Patients with juvenile idiopathic arthritis should be brought up to date with all immunizations prior to ORENCEA therapy. Based on its mechanism of action, ORENCEA may blunt the effectiveness of some immunizations. COPD patients may develop more frequent respiratory adverse events.

Contra-Ind: None

D/I: Anti-TNF Agents: May enhance the immunosuppressive effect of Abatacept.

Side effects: Headache, Upper respiratory Tract infection, Nasopharyngitis and nausea.

Dosage:

Usual Adult Dose: 500 to 1000 mg IV according to indications if subcut 125mg weekly.

Usual Pediatric Dose: 10 to 15 mg/kg IV according to indication, if Subcut 50 to 125 weekly

Renal Dose Adjustments: No dose adjustment required.

Liver Dose Adjustments: No dose adjustment required.

ADALIMUMAB (Humira, Hadlima, Aprilada®) (Restricted)

P/P:	Humira 40mg / 0.4ml prefilled syringe Hadlima 40mg / 0.8ml Perfilled syringe. Aprilada 40mg / 0.8ml Perfilled syringe.
Adm:	Do not administer if solution is discolored or contains particulate matter.
Category:	Tumor Necrosis factor (TNF) blocker.
Indications:	Adult Rheumatoid Arthritis Juvenile Idiopathic Arthritis, Psoriatic Arthritis, Ankylosing Spondylitis, Crohns disease, Plaque psoriasis.
Caution:	Do not start during an active infection, incidence of malignancies Was greater in Humira-related patient, Use with caution in HIV-positive patient.
Contra-Ind:	None
D/I:	Anti-TNF Agents: May enhance the immunosuppressive effect of adalimumab.
Side effects:	Autoimmune disorder , dermatologic reaction , hepatotoxicity , infection.
Dosage:	Usual Adult Dose: 40mg every other week subcut. Usual Pediatric Dose: 80-160 mg on day 1 subcut , then 40mg/weekly or 80mg every other week. Renal Dose Adjustments: No dose adjustment required. Liver Dose Adjustments: No dose adjustment required.

AZATHIOPRINE (Imuran, Azaprin®) (Restricted)

P/P:	Imuran 50mg tab, 100's Azaprin 50 mg tab, 100's
Adm:	Preferably taken w/ or after meals to reduce GI discomfort
Category:	Immunosuppressants
Indications:	Prevention of rejection in organ and tissue transplant. immunosuppression in conjunction with a corticosteroid, chronic active hepatitis, therapy resistant cases of RA, SLE, dermatomyositis, pemphigus & pemphigoids, pyoderma gangraenosa.
Caution:	Neoplasia in chronic immunosuppression; leucopenia, thrombocytopenia, renal or hepatic impairment; monitor hematological function closely.
Contra-Ind:	Hypersensitivity; previous treatment with alkylating agents; pregnancy and lactation.

D/I:	Metabolism inhibited by allopurinol. Hematologic toxicity may be intensified when used w/ trimethoprim, sulfamethoxazole. May antagonize effects of nondepolarizing relaxants & potentiate effects of succinylcholine. Cytostatic agents.
Side effects:	Fever, chills; bone marrow depression characterized by leucopenia, thrombocytopenia or anemia; anorexia, nausea, diarrhea arthralgias secondary infections; hepatotoxicity, rash, alopecia.
Dosage:	<p>Usual Adult Dose: 1 to 3 mg/kg orally once a day Usual Pediatric Dose: 1 to 3 mg/kg orally once a day Renal Dose Adjustments: Lower doses may be required; Liver Dose Adjustments: Dose adjustments may be required; however, no specific guidelines have been suggested.</p>

BELIMUMAB (Benlysta®) (Restricted)

P/P:	Benlysta: 200 mg/mL Solution Auto-injector, SC. Benlysta: 120 mg; 400 mg Solution Reconstituted, IV
Adm:	<p>Subcutaneous; Allow prefilled syringe and auto injector to warm to room temperature for 30 minutes prior to administration. Intravenous; over 1 hour through a dedicated IV line, Consider premedication with an antihistamine and antipyretic for prophylaxis against hypersensitivity or infusion reactions.</p>
Category:	Monoclonal Antibody
Indications:	Treatment of adults and pediatrics ≥ 5 years of age with active, autoantibody-positive, systemic lupus erythematosus who are receiving standard therapy.
Caution:	Serious Infections, Progressive Multifocal Leukoencephalopathy (PML), Hypersensitivity Reactions, Depression, Immunization
Contra-Ind:	Hypersensitivity (anaphylaxis) to belimumab or any component of the formulation
Side effects:	<p>Sever adverse effects: Acute hypersensitivity reactions, including anaphylaxis and death. Non-acute hypersensitivity reactions including rash, nausea, fatigue, myalgia, headache, and facial edema, have been reported and typically occurred up to a week following the most recent infusion. Common adverse effects: Nausea, diarrhea, pyrexia, nasopharyngitis, bronchitis, insomnia, pain in extremity, depression, migraine, pharyngitis, and injection site reactions (subcutaneous administration).</p>
Dosage:	<p>Lupus nephritis: IV: Initial: 10 mg/kg every 2 weeks for 3 doses; Maintenance: 10 mg/kg every 4 weeks. SUBQ: 400 mg once weekly for 4 doses, then 200 mg once weekly thereafter. Switching from IV therapy: Administer the first SUBQ dose of 200 mg 1 to 2 weeks after the last IV dose; may switch to SUBQ therapy after completion of 2 IV doses. Systemic lupus erythematosus: IV: Initial: 10 mg/kg every 2 weeks for 3 doses; Maintenance: 10 mg/kg every 4 weeks. SUBQ: 200 mg once weekly. Switching from IV therapy: Administer the first SUBQ dose 1 to 4 weeks after the last IV dose. Renal insufficiency: No dosage adjustment necessary.</p>

Hepatic dysfunction: No dosage adjustment necessary.
Special population: Pregnancy: AU TGA pregnancy category: C || US FDA pregnancy category: Not assigned.
Breast- feeding: Belimumab is present in breast milk. The decision to breastfeed during therapy should consider the risk of infant exposure, the benefits of breastfeeding to the infant, and the benefits of treatment to the mother.

DI: Check for drug-drug interaction before use the medication

CAPECITABINE (Xeloda®)

P/P: XELODA 500 MG TABLET, capecitabine SPC 500 MG TABLET

Adm: Take XELODA with water within 30 min after a meal
Monotherapy: 1250 mg/m² twice daily orally for 2 weeks followed by a one week rest period in 3-week cycles. • Adjuvant treatment is recommended for a total of 6 months (8 cycles).
In combination with docetaxel, the recommended dose of XELODA is 1250 mg/m² twice daily for 2 weeks followed by a 7-day rest period, combined with docetaxel at 75 mg/m² as a 1-hour IV infusion every 3 weeks. • XELODA dosage may need to be individualized to optimize patient Management. • Reduce the dose of XELODA by 25% in patients with moderate renal Impairment.

Category: CYTOTOXIC

Indications: XELODA (capecitabine) is a nucleoside metabolic inhibitor with antineoplastic activity indicated for:
Adjuvant Colon Cancer. – Patients with Dukes' C colon cancer
Metastatic Colorectal Cancer. – First-line as monotherapy when treatment with fluoropyrimidine therapy alone is preferred. • Metastatic Breast Cancer. – In combination with docetaxel after failure of prior anthracycline-containing therapy. – As monotherapy in patients resistant to both paclitaxel and an anthracycline-containing regimen

Caution: Coagulopathy. Diarrhea. • Cardiotoxicity. • Increased Risk of Severe or Fatal Adverse Reactions in Patients with Low or Absent Dihydropyrimidine Dehydrogenase (DPD) Dehydratio n and Renal Failure. Mucocutaneous and Dermatologic Toxicity. Hyperbilirubinemia. Hematologic

Contra-Ind: Severe Renal Impairment. Hypersensitivity

Side effects: Most common adverse reactions ($\geq 30\%$) were diarrhea, hand-and-foot syndrome, nausea, vomiting, abdominal pain, fatigue/weakness, and hyperbilirubinemia. Other adverse reactions, including serious adverse reactions, have been reported.

Dosage: Tablets: 150 mg and 500 mg

CICLOSPORIN (Neoral®) (Restricted)

P/P:	Neoral 25mg caps, 50's Neoral 100mg caps, 50's Neoral 50 mg /mil inj, 10's
Adm:	May be taken with or without food (Take consistently w/ regard to time of day & relation to meals Avoid grapefruit & grapefruit juice.).
Category:	Immunosuppressants
Indications:	Prophylaxis for organ rejection in kidney, liver & heart allogeneic transplants. Treatment of severe, active RA which has not adequately responded to methotrexate. Treatment of non-immunocompromised adults w/ severe, recalcitrant, plaque psoriasis.
Caution:	Monitor cyclosporin blood conc & renal function. Concomitant nephrotoxic drugs or other immunosuppressants. Elderly. Perform repeated lab tests during therapy. Pregnancy & lactation
Contra-Ind:	RA or psoriasis patients w/ abnormal renal function, uncontrolled hypertension or malignancies. Psoriasis patients on concomitant PUVA or UVB therapy, methotrexate or other immunosuppressive agents, coal tar or radiotherapy.
D/I:	Aminoglycosides, amphotericin B, ciprofloxacin, melphalan, colchicine, trimethoprim, lovastatin.
Side effects:	Renal dysfunction, tremor, hirsutism/hypertrichosis, hypertension, gum hyperplasia, headache, GI disturbances, hypertriglyceridemia, paresthesia or hyperesthesia, flu-like symptoms, lethargy, musculoskeletal or joint pain.
Dosage:	Usual Adult Dose: IV: 2 to 4 mg/kg/day IV infusion once a day over 4 to 6 hours or 1 to 2 mg/kg IV infusion twice a day over 4 to 6 hours or 2 to 4 mg/kg/day as a continuous IV infusion over 24 hours. Capsules: 8 to 12 mg/kg/day orally in 2 divided doses. Usual Pediatric Dose: IV: 2 to 4 mg/kg/day IV infusion once a day over 4 to 6 hours or 1 to 2 mg/kg IV infusion twice a day over 4 to 6 hours or 2 to 4 mg/kg/day as a continuous IV infusion over 24 hours. Capsules: 8 to 12 mg/kg/day orally in 2 divided doses.
Renal Dose Adjustments:	Careful monitoring of cyclosporine blood or plasma concentrations is necessary to avoid exacerbation of renal impairment.
Liver Dose Adjustments:	start with one-half of the normally recommended dose when liver function tests exceed 2 to 3 times the normal values.

CycloSPORINE Ophthalmic (ClasGen, Restasis ®)

P/P:	ClasGen 0.05% 0.4 ml Ophth Emulsion unidose, Restasis 0.05% 0.4 ml Ophth Emulsion unidose
Adm:	Ophthalmic drop

Category:	Immunosuppressant
Indications:	increase tear production in patients whose tear production is presumed to be suppressed due to ocular inflammation associated with keratoconjunctivitis sicca. Increased tear production was not seen in patients currently taking topical anti-inflammatory drugs or using punctal plugs.
Caution:	To avoid the potential for eye injury and contamination, be careful not to touch the vial tip to your eye or other surfaces
Contra-Ind:	Contraindicated in patients with known or suspected hypersensitivity to any of the ingredients in the formulation.
Side effects:	ocular burning, conjunctival hyperemia, discharge, epiphora, eye pain, foreign body sensation, pruritus, stinging, and visual disturbance.
Dosage:	ophthalmic emulsion twice a day in each eye approximately 12 hours apart

Dasatinib (Sprycel®)

P/P:	Sprycel 50mg F.C Tab 60"S
Adm:	Oral Swallow whole; do not break, cut, crush, or chew tablets. Administer with or without meals. Administer with a meal if GI upset occurs
Category:	Antineoplastic Agent, BCR-ABL Tyrosine Kinase Inhibitor
Indications:	Treatment of Philadelphia chromosome-positive (Ph+) acute lymphoblastic leukemia and chronic myeloid leukemia in adults and pediatrics(≥1 year of age) patients. For the treatment of advanced gastrointestinal stromal tumor(PDGFR A D842V mutation)
Caution:	Bone marrow suppression, Cardiovascular adverse events, may cause serious and fatal bleeding, may cause hepatotoxicity, increase the risk for QT interval prolongation, Dasatinib may cause fluid retention
Contra-Ind:	None
Side effects:	Peripheral edema ,Congestive heart failure, QT prolongation, hypertension, Platelet inhibition, Myelosuppression, Fatigue, Pain, pleural effusion, skin rash, diarrhea, headache, dyspnea
Dosage:	Acute lymphoblastic leukemia: 140 mg once daily. Consider a dose escalation to 180 mg once daily in patients not achieving hematologic or cytogenetic response <i>Dasatinib with EWALL-PH-01: Patients ≥55 years of age: Oral: 140 mg once daily (100 mg once daily if ≥70 years) for 6 weeks</i>

Dasatinib with Hyper-CVAD: Patients ≤60 years of age: Oral: 100 mg once daily for the first 14 days followed by 70 mg once daily followed by maintenance therapy with 100 mg once daily

Dasatinib in combination with chemotherapy: Patients ≤65 years of age: Oral: 100 mg once daily

Protocol LAL1205: Induction: 70 mg twice daily for 84 days

GIMEMA LAL2116: 140 mg once daily for 85 days

Chronic myeloid leukemia (CML), Philadelphia chromosome-positive:

Chronic phase: 100 mg once daily, Accelerated or blast phase: 140 mg once daily

Accelerated or blast phase: 140 mg once daily

Gastrointestinal stromal tumor: 70 mg twice daily

Dosing: Altered Kidney Function: Adult

No dosage adjustment is necessary

Dosing: Hepatic Impairment: Adult

Altered hepatic function at treatment initiation: No initial dosage adjustment is necessary

Hepatotoxicity during treatment may be managed with treatment interruption, dose reduction, or permanent discontinuation.

Dasatinib Dose Adjustments for Neutropenia and Thrombocytopenia in Adults

Indication and starting dosage	Laboratory parameters	Adjustment
Chronic phase CML dosage 100mg once daily	ANC <500/mm ³ or platelets <50,000/mm ³	<ul style="list-style-type: none">Stop dasatinib until ANC ≥1,000/mm³ and platelets ≥50,000/mm³.Resume dasatinib at the original starting dose if recovery occurs in ≤7 days.If platelets <25,000/mm³ or recurrence of ANC <500/mm³ for >7 days, repeat step 1 and resume dasatinib at a reduced dosage of 80 mg once daily (second episode). For the third episode, further reduce the dosage to 50 mg once daily
Accelerated phase CML, blast phase CML, dosage 140 mg once daily	ANC <500/mm ³ or platelets <10,000/mm ³	<ul style="list-style-type: none">If cytopenia is unrelated to leukemia, stop dasatinib until ANC ≥1,000/mm³ and platelets ≥20,000/mm³ and resume at the original starting dose.If cytopenia recurs, repeat step 1 and resume dasatinib at a reduced dosage of 100 mg once daily (second episode) or 80 mg once daily (third episode).If cytopenia is related to leukemia, consider dosage escalation to 180 mg once daily.

Dosing: Pediatric
Acute lymphoblastic leukemia, Philadelphia chromosome-positive (Ph+):
Children weighing ≥ 10 kg and Adolescents: Oral:

10 to <20 kg: 40 mg once daily.

20 to <30 kg: 60 mg once daily.

30 to <45 kg: 70 mg once daily.

≥ 45 kg: 100 mg once daily.

initiate dasatinib on or before day 15 of induction chemotherapy. Continue treatment for 2 years. Recalculate the dose every 3 months

chronic myelogenous leukemia (CML), Philadelphia chromosome-positive (Ph+), chronic phase:
Children weighing ≥ 10 kg and Adolescents: Oral:

10 to <20 kg: Initial: 40 mg once daily; may escalate to 50 mg once daily if no response

20 to <30 kg: Initial: 60 mg once daily; may escalate to 70 mg once daily if no response

30 to <45 kg: Initial: 70 mg once daily; may escalate to 90 mg once daily if no response

≥ 45 kg: Initial: 100 mg once daily; may escalate to 120 mg once daily if no response

Recalculate the dose every 3 months or as clinically necessary based on changes in body weight.

Dosing: Altered Kidney Function: Pediatric

There are no dosage adjustments

Dosing: Hepatic Impairment: Pediatric

If direct bilirubin >5 times ULN or ALT/AST >15 times ULN, first episode: Hold dasatinib; once recovered to \leq grade 1, resume therapy at the original starting dose.

If direct bilirubin >5 times ULN or ALT/AST >15 times ULN recur, reduce dasatinib dose based on the following:

If the original starting dose is 40 mg daily, may reduce dose to 20 mg once daily

If the original starting dose is 60 mg once daily, may reduce dose to 40 mg once daily

If the original starting dose is 70 mg once daily, may reduce dose to 60 mg once daily

If the original starting dose is 100 mg once daily, may reduce dose to 80 mg once daily.

Enzalutamide (Xtandi®)

P/P: **Xtandi 40Mg**

Adm: Administer at the same time each day, either with or without food, do not chew, dissolve, or open the capsules; do not cut, crush, or chew the tablets

Category: Antiandrogen

Indications: castration-resistant prostate cancer; treatment of metastatic castration-sensitive prostate cancer.

Caution: Ischemic heart disease, Fractures, Seizures were observed in enzalutamide clinical trials

Contra-Ind: There are no contraindications

Side effects: Hypertension, peripheral edema, Hot flash, fatigue, headache, headache, Seizures

Dosage: 160 mg once daily

Dosing: Altered Kidney Function: Adult
There are no dosage adjustments

Dosing: Hepatic Impairment: Adult
No dosage adjustment necessary.

ETANERCEPT (Enbrel®)

P/P: **Enbrel 50 mg injection, 1s**

Category: Disease modifying antirheumatic agent

Adm: Administer subcutaneously

Indications: Treatment of moderately- to severely-active rheumatoid arthritis, polyarticular Juvenile idiopathic arthritis, psoriatic arthritis, chronic plaque psoriasis.

Caution: Serious and potentially fatal infections have been reported including bacterial, mycobacterial, viral, and invasive fungal infections;

Contra-Ind: Hypersensitivity, patients with sepsis

Side effects: Headache, Abdominal pain, vomiting, Dizziness, Weakness, cough, respiratory disorder

Dosage: Usual Adult Dose: 50 mg subcutaneously once a week
Usual Pediatric Dose: Age 2 years and older: Less than 63 kg: 0.8 mg/kg subcutaneously once a week
Greater than or equal to 63 kg: 50 mg subcutaneously once a week, Maximum: 50 mg subcutaneously once a week.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Everolimus (Afinitor®)

P/P: **Afinitor 5mg Tab 30"S**

Adm: Oral May be administered with or without food. Do not break, chew, or crush (do not administer tablets that are crushed or broken)

Category: mTOR Kinase Inhibitor

Indications: Advanced breast cancer: (hormone receptor-positive, HER2-negative), Advanced Renal Cell Carcinoma (after sunitinib or sorafenib failure), Tuberous sclerosis complex-

associated renal angiomyolipoma (Afinitor only), Tuberous sclerosis complex-associated subependymal giant cell astrocytoma(Afinitor or Afinitor Disperz only), neuroendocrine tumors

Caution: *de novo heart transplant, Non-infectious pneumonitis, Avoid live vaccines and close contact with those who have received live vaccines, Increased risk of infections, Oral ulceration*

Contra-Ind: hypersensitivity to everolimus, other rapamycin derivatives, or any component of the formulation.

Side effects: Endocrine & metabolic, stomatitis, upper respiratory tract infection, sinusitis, otitis media, and pyrexia

Dosage: Advanced breast cancer, Advanced Renal Cell Carcinoma and Tuberous sclerosis complex–associated renal angiomyolipoma neuroendocrine tumors:10 mg once daily
Tuberous sclerosis complex-associated subependymal giant cell astrocytoma: Oral: Initial: 4.5 mg/m² once daily

Dosing: Altered Kidney Function: Adult

No dosage adjustment is necessary.

Dosing: Hepatic Impairment: Adult

Mild impairment (Child-Pugh class A):

Breast cancer, neuroendocrine tumors, renal cell cancer, TSC-associated renal angiomyolipoma: Reduce dose to 7.5 mg once daily if not tolerated reduce to 5 mg

Moderate impairment (Child-Pugh class B):

Breast cancer, neuroendocrine tumors, renal cell cancer, TSC-associated renal angiomyolipoma: Reduce dose to 5 mg once daily if not tolerated reduce to 2.5 mg

Severe impairment (Child-Pugh class C):

Breast cancer, neuroendocrine tumors, renal cell cancer, TSC-associated renal angiomyolipoma: If potential benefit outweighs risks, a dose of 2.5 mg once daily may be used.

child-pugh classification	Breast cancer	neuroendocrine tumors	renal cell cancer	TSC-angiomyolipoma
Child-Pugh class A	7.5 mg or 5 mg if not tolerated	7.5 mg or 5 mg if not tolerated	7.5 mg or 5 mg if not tolerated	7.5 mg or 5 mg if not tolerated
Child-Pugh class B	5 mg or 2.5 mg if not tolerated	5 mg or 2.5 mg if not tolerated	5 mg or 2.5 mg if not tolerated	5 mg or 2.5 mg if not tolerated
Child-Pugh class C	2.5 mg once daily may be used.			

FLUTAMIDE (Eulexin®)

P/P: Eulexin 250mg tab, 20's
Eulexin 250mg tab, 100's

Adm: May be taken with or without food.

Category: Hormonal Chemotherapy, Anti-androgen

Indications: Treatment of advanced prostatic carcinoma. Palliative treatment of metastasized, inoperable prostate carcinoma in combination w/ LH-RH agonist or surgical castration.

Caution: Periodic liver function tests & sperm count determinations may be considered in patients on long-term treatment. Cardiac disease.

Contra-Ind: Hypersensitivity, severe hepatic impairment

D/I: Oral anticoagulants, theophylline

Dosage: Usual Adult Dose: 250 mg orally every 8 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Goserelin (Zoladex®)

P/P: Zoladex 3.6 mg injection

Category: Antineoplastics

Adm: subcutaneous injection

Indications: Treatment of prostatic cancer, advanced breast cancer, endometriosis, dysfunctional uterine bleeding.

Caution: may increase the risk for cardiovascular disease,

Side effects: Peripheral edema, headache, depression, acne, sexual dysfunction, vaginitis, arrhythmia, chest pain, alopecia, breast pain and anemia.

Dosage: 3.6 mg or 10.8 mg subcutaneously into the upper abdominal wall once.
The 3.6 mg dosage may be repeated every 28 days. The 10.8 mg dosage may be repeated every 12 weeks.

Renal Dose Adjustments: No dosing adjustment is necessary in patients with renal impairment.

Liver Dose Adjustments: No dosing adjustment is necessary in patients with hepatic impairment.

HYDROXYUREA (Cureaml, Hydroxyurea®)

P/P:	Cureaml 500mg cap 30's, Hydroxyurea 500mg cap 100's
Adm:	can be taken with or without food
Category:	Antineoplastic Agent
Indications:	HYDREA is an antimetabolite indicated for the treatment of: Resistant chronic myeloid leukemia. Locally advanced squamous cell carcinomas of the head and neck, (excluding lip) in combination with concurrent chemoradiation
Caution:	Myelosuppression: Do not give if bone marrow function is markedly depressed. Monitor hematology labs and interrupt, reduce dose as appropriate. Malignancies: Advise protection from sun exposure and monitor for secondary malignancies. Embryo-Fetal toxicity: Can cause fetal harm. Advise of potential risk to a fetus and use of effective contraception. Vasculitic toxicities: Discontinue HYDREA and initiate treatment if this 1 occurs. Live Vaccinations: Avoid live vaccine use in a patient taking HYDREA. Risks with concomitant use of antiretroviral drugs: Pancreatitis, hepatotoxicity, and neuropathy have occurred. Monitor for signs and symptoms in patients with HIV infection using antiretroviral drugs; discontinue hydrea, and implement treatment. Radiation recall: Monitor for skin erythema in patients who previously received radiation and manage symptomatically
Contra-Ind:	In patients who have demonstrated a previous hypersensitivity to hydroxyurea or any other component of its formulation.
Side effects:	Most common adverse reactions are hematological, gastrointestinal symptoms, and anorexia.
Dosage:	Individualize treatment based on tumor type, disease state, response to treatment, patient risk factors, and current clinical practice standards Renal impairment: Reduce the dose of HYDREA by 50% in patients with creatinine clearance less than 60 mL/min

IDArubicin (Idarubicin, Zavedos®)

P/P:	Idarubicin Hydrochloride 10mg/10ml Vial I.V 1"S, Zavedos 5mg Vial 1"S
Adm:	IV administration only. Do not administer IM or SubQ; administer as slow injection over 10 to 15 minutes into a free flowing IV solution of NS or D5W, antiemetics are recommended
Category:	Antineoplastic Agent, Anthracycline; Antineoplastic Agent, Topoisomerase II Inhibitor
Indications:	Acute myeloid leukemia

Caution:	Bone marrow suppression, myocardial toxicity, local tissue necrosis, GI toxicity, hyperuricemia
Contra-Ind:	Hypersensitivity to idarubicin
Side effects:	Cardiac failure, Headache, Alopecia, Vomiting, gastrointestinal hemorrhage, diarrhea, stomatitis, nausea, Urine discoloration (darker yellow), Anemia, bone marrow suppression, primarily leukopenia, thrombocytopenia, Increased serum bilirubin, increased serum transaminases, Radiation recall phenomenon
Dosage:	<p>Dosing: Adult</p> <p>Acute lymphoblastic leukemia, recurrent or refractory, salvage therapy (off-label use): Induction: IV: 40 mg/m² on day 3 (in combination with cytarabine, intrathecal methotrexate, and granulocyte-colony stimulating factor) for 1 cycle</p> <p>Acute myeloid leukemia:</p> <ul style="list-style-type: none"> Induction: IV: 12 mg/m² on days 1 to 3 (in combination with cytarabine) for 1 cycle; a second induction cycle may be administered after 3 to 4 weeks if necessary Consolidation: IV: 12 mg/m² on day 1 of cycle 1 (in combination with cytarabine) and 12 mg/m² on days 1 and 2 of cycle 2 (in combination with cytarabine) Acute myeloid leukemia, poor-risk disease (off-label dosing): Induction: FLAG-IDA regimen: IV: 8 mg/m² on days 4 to 6 (in combination with fludarabine, cytarabine, and granulocyte-colony stimulating factor) for 2 cycles Acute myeloid leukemia, relapsed/refractory (off-label dosing): FLAG-IDA regimen: IV: 10 mg/m² on days 1 to 3 (in combination with fludarabine, cytarabine, and filgrastim); a second course may be given for consolidation upon hematologic recovery <p>Acute promyelocytic leukemia:</p> <p>LPA 2005 regimen (high-risk patients):</p> <p>Induction (all patients): IV: 12 mg/m²/day on days 2, 4, 6, and 8 (day 8 dose was omitted in patients >70 years of age) in combination with ATRA (tretinoin)</p> <p>Consolidation (patients ≤60 years of age): IV: 5 mg/m²/day for 4 days in consolidation cycle 1 and 12 mg/m²/day for 1 day in consolidation cycle 3 (in combination with ATRA [tretinoin] and cytarabine)</p> <p>APML4 protocol: Induction (age-adjusted dosing):</p> <ul style="list-style-type: none"> Age <60 years of age: IV: 12 mg/m²/day on days 2, 4, 6, and 8 (in combination with ATRA [tretinoin] and arsenic trioxide). Age 61 to 70 years: IV: 9 mg/m²/day on days 2, 4, 6, and 8 (in combination with ATRA [tretinoin] and arsenic trioxide). Age >70 years of age: IV: 6 mg/m²/day on days 2, 4, 6, and 8 (in combination with ATRA [tretinoin] and arsenic trioxide). <p>Dosing: Kidney Impairment: Adult</p> <p>GFR ≥30 mL/minute: No dosage adjustment is necessary.</p> <p>GFR <30 mL/minute: Consider administering 67% of original dose.</p> <p>Hemodialysis: Consider administering 67% of original dose.</p> <p>Dosing: Hepatic Impairment: Adult</p> <p>Bilirubin 2.6 to 5 mg/dL: Administer 50% of dose.</p> <p>Bilirubin >5 mg/dL: Avoid use</p>

Dosing: Pediatric
Acute myeloid leukemia (AML): Limited data available: Infants, Children, and Adolescents:
New diagnosis:
Induction: IV: IdaDCTER: Idarubicin 5 mg/m²/dose daily for 4 days on days 0 to 3 in combination with cytarabine, etoposide, thioguanine, and dexamethasone.
Consolidation: IV:
IdaDCTER: Idarubicin 5 mg/m²/dose daily for 4 days on days 0 to 3 in combination with cytarabine, etoposide, thioguanine, and dexamethasone.
OR
Idarubicin 12 mg/m²/dose daily for 3 days on days 0 to 2 in combination with fludarabine and cytarabine.

Kidney Impairment: Pediatric
GFR >50 mL/minute/1.73 m²: No adjustment necessary.
GFR ≤50 mL/minute/1.73 m²: Administer 75% of dose.
Intermittent hemodialysis: Administer 75% of dose.
Peritoneal dialysis (PD): Administer 75% of dose.
Continuous renal replacement therapy (CRRT): Administer 75% of dose.

Ifosfamide (Holoxan®)

P/P: Holoxan 1 gm Vial I.V 1"S

Adm: Administer IV over at least 30 minutes, antiemetics are recommended

Category: Antineoplastic Agent, Alkylating Agent

Indications: Indicated for use in combination with certain other approved antineoplastic agents for third-line chemotherapy of germ cell testicular cancer. It should be used in combination with mesna for prophylaxis of hemorrhagic cystitis

Caution: Bone marrow suppression, Arrhythmias, CNS toxicity, Hemorrhagic cystitis, Hepatic sinusoidal obstruction syndrome (SOS), formerly called veno-occlusive disease (VOD), Anaphylactic reactions, suppression of the immune responses, respiratory failure, severe nephrotoxicity, Secondary malignancies, interfere with wound healing

Contra-Ind: Known hypersensitivity to ifosfamide, Severe leukopenia/thrombocytopenia; severe renal and/or hepatic impairment; cystitis; active infection; advanced cerebral arteriosclerosis

Side effects: Alopecia, Nausea and vomiting, Gross hematuria, hematuria, Bone marrow depression, Central nervous system toxicity

Dosage: Dosage and duration of treatment and/or treatment intervals depend on the scheme of combination therapy, the patient's general state of health and organ function, and the results of laboratory monitoring.
IFEX should be administered as a slow intravenous infusion lasting a minimum of 30 minutes at a dose of 1.2 grams per m² per day for 5 consecutive days.
Treatment is repeated every 3 weeks or after recovery from hematologic toxicity.
To prevent bladder toxicity, IFEX should be given with extensive hydration consisting of at least 2 liters of oral or intravenous fluid per day.

Mesna should be used to reduce the incidence of hemorrhagic cystitis.

INFLIXIMAB (Remicade®)

P/P:	Remicade 100 mg vial
Category:	Disease modifying antirheumatic agent
Adm:	IV infusion
Indications:	reduce the signs and symptoms of Crohn's disease, Ulcerative Colitis, Rheumatoid Arthritis, Psoriatic Arthritis, and Plaque Psoriasis.
Caution:	Not recommended for moderate to severe active ulcerative colitis
Side effects:	Dyspnea, rash, flushing, and headache.
Dosage:	Usual Adult Dose: 5 mg/kg given as an IV induction regimen at 0, 2, and 6 weeks followed by a maintenance regimen of 5 mg/kg IV every 8 weeks thereafter. Usual Pediatric Dose: 6 years or older: 5 mg/kg given as an IV induction regimen at 0, 2, and 6 weeks followed by a maintenance regimen of 5 mg/kg every 8 weeks.
	Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

INTERFERONBETA (Rebif®)

P/P:	Rebif 44mcg prefill syring
Adm:	subcutaneous injection
Indications:	Multiple sclerosis, metastatic breast cancer, locally advanced lung cancer
Caution:	Hyper sensitivity to natural recombinant, depression or other mood disorders, preexisting seizure disorders.
Side effects:	Flu-like symptoms and local effects at the injection site, depression, Suicidal ideation, leukopenia, abdominal pain, constipation, dry mouth, Hepatic impairment, back pain, myalgia, sinusitis, peripheral edema
Dosage:	The recommended dose is either 22 mcg or 44 mcg injected subcutaneously three times per week. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

Irinotecan (Conventional) (Campto®)

P/P:	Campto 100mg/5ml Vial I.V 1"S; Irinotecan 100mg/5ml Vial I.V 1"S
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Adm:	For intravenous use.
Category:	Antineoplastic Agent, Camptothecin; Antineoplastic Agent, Topoisomerase I Inhibitor
Indications:	
	<ul style="list-style-type: none"> • First-line therapy in combination with 5-fluorouracil and leucovorin for patients with metastatic carcinoma of the colon or rectum • Patients with metastatic carcinoma of the colon or rectum whose disease has recurred or progressed following initial fluorouracil-based therapy
Caution:	Diarrhea and Cholinergic Reactions, Myelosuppression, increased risk for neutropenia in individuals who are homozygous for the UGT1A1, hypersensitivity reaction, renal impairment and acute renal failure, pulmonary toxicity, pregnancy, hepatic impairment
Contra-Ind:	Hypersensitivity to CAMPTOSAR or its excipients
Side effects:	Common adverse reactions ($\geq 30\%$) observed in single agent therapy clinical studies are: nausea, vomiting, abdominal pain, diarrhea, constipation, anorexia, neutropenia, leukopenia (including lymphocytopenia), anemia, asthenia, fever, body weight decreasing, alopecia
Dosage:	<p>Colorectal cancer combination regimen 1: CAMPTOSAR 125 mg/m² intravenous infusion over 90 minutes on days 1, 8, 15, 22 with LV 20 mg/m² intravenous bolus infusion on days 1, 8, 15, 22 followed by 5-FU intravenous bolus infusion on days 1, 8, 15, 22 every 6 weeks</p> <p>Colorectal cancer combination regimen 2: CAMPTOSAR 180 mg/m² intravenous infusion over 90 minutes on days 1, 15, 29 with LV 200 mg/m² intravenous infusion over 2 hours on days 1, 2, 15, 16, 29, 30 followed by 5-FU 400 mg/m² intravenous bolus infusion on days 1, 2, 15, 16, 29, 30 and 5-FU 600 mg/m² intravenous infusion over 22 hours on days 1, 2, 15, 16, 29, 30</p> <p>Colorectal cancer single agent regimen 1: CAMPTOSAR 125 mg/m² intravenous infusion over 90 minutes on days 1, 8, 15, 22 then 2-week rest</p> <p>Colorectal cancer single agent regimen 2: CAMPTOSAR 350 mg/m² intravenous infusion over 90 minutes on day 1 every 3 weeks</p>

Lenvatinib (Lenvima®)

P/P:	Lenvima 10mg Cap 30"S
Adm:	Can be taken with or without food.
Category:	Kinase inhibitor

Indications: Differentiated Thyroid Cancer (DTC), Renal Cell Carcinoma (RCC), Hepatocellular Carcinoma (HCC) and Endometrial Carcinoma (EC)

Caution: Hypertension, Cardiac Dysfunction, Arterial Thromboembolic Events, Hepatotoxicity, Renal Failure or Impairment, Proteinuria, Diarrhea, Fistula Formation and Gastrointestinal Perforation, QT Interval Prolongation, Hypocalcemia, Reversible Posterior Leukoencephalopathy Syndrome (RPLS), Impairment of Thyroid Stimulating Hormone Suppression/Thyroid Dysfunction, Hemorrhagic Events, Impaired Wound Healing, Osteonecrosis of the Jaw and Embryo-Fetal Toxicity

Contra-Ind: None

Side effects: hypertension, fatigue, diarrhea, arthralgia/myalgia, decreased appetite, decreased weight, nausea, stomatitis, headache, vomiting, proteinuria, palmar-plantar erythrodysesthesia syndrome, abdominal pain and dyspnea.

Dosage:

Single Agent Therapy:

DTC: The recommended dosage is 24 mg orally once daily.

HCC: The recommended dosage is based on actual body weight:

Give 12 mg orally once daily for patients greater than or equal to 60 kg

Give 8 mg orally once daily for patients less than 60 kg.

Combination Therapy:

EC: The recommended dosage is 20 mg orally once daily in combination with pembrolizumab 200 mg administered as an intravenous infusion over 30 minutes every 3 weeks.

RCC: The recommended dosage is:

20 mg orally once daily with pembrolizumab 200 mg administered as an intravenous infusion over 30 minutes every 3 weeks.

18 mg orally once daily with everolimus 5 mg orally once daily.

Modify the recommended daily dose for certain patients with renal or hepatic impairment.

LETROZOLE (Femara®) (Restricted)

P/P: Femara 2.5mg F.C tab, 30's

Adm: May be taken with or without food.

Category:	Antineoplastics
Indications:	Adjuvant treatment of postmenopausal women w/ hormone receptor +ve invasive early breast cancer or those who have received prior standard adjuvant tamoxifen therapy. Treatment in postmenopausal women with advanced breast cancer (as 1st-line treatment or those in whom tamoxifen or other antioestrogen therapy has failed). Preoperative therapy in postmenopausal women w/ localised hormone receptor +ve breast cancer.
Caution:	Long-term use may result in reduction in bone mineral density. May impair ability to drive or operate machinery. Severe renal impairment. Children.
Contra-Ind:	Premenopausal, pregnant or lactating women; severe hepatic impairment. Preoperative use if the receptor status is negative or unknown.
D/I:	Inhibitors of the cytochrome P450 enzymes can increase the blood concentrations of letrozole.
Side effects:	Hot flushes, nausea, vomiting, fatigue, dizziness, headache, dyspepsia, constipation, diarrhea, anorexia, appetite increase, alopecia, increased sweating, rash, peripheral oedema, musculoskeletal pain.
Dosage:	Usual Adult Dose: 2.5 mg tablet orally administered once daily. Renal Dose Adjustments: No dosage requirement is required for patients with a creatinine clearance ≥ 10 mL/min. Liver Dose Adjustments: No dosage adjustment is required for patients with mild to moderate hepatic impairment. Patients with severe impairment should be dosed w caution.

Lenalidomide (Lenalidomide®)

P/P:	Lenalidomide SPC 5mg Cap 21"S; Lenalidomide SPC 10mg Cap 21"S; Lenalidomide SPC 25mg Cap 21"S
Adm:	can be administered with or without food
Category:	Angiogenesis inhibitor; antineoplastic agent
Indications:	Multiple myeloma (MM), in combination with dexamethasone MM, as maintenance following autologous hematopoietic stem cell transplantation (auto-HSCT) Transfusion-dependent anemia due to low- or intermediate-1-risk myelodysplastic syndromes (MDS) associated with a deletion 5q abnormality with or without additional cytogenetic abnormalities Mantle cell lymphoma (MCL) whose disease has relapsed or progressed after two prior therapies, one of which included bortezomib Previously treated follicular lymphoma (FL), in combination with a rituximab product Previously treated marginal zone lymphoma (MZL), in combination with a rituximab product
Caution:	Increased Mortality, Second Primary Malignancies (SPM), hepatotoxicity, severe cutaneous reactions, tumor lysis syndrome (TLS), tumor flare reaction, impaired stem cell mobilization, and hypersensitivity
Contra-Ind:	Pregnancy and demonstrated severe hypersensitivity to lenalidomide

Side effects:

MM: Most common adverse reactions ($\geq 20\%$) include diarrhea, fatigue, anemia, constipation, neutropenia, leukopenia, peripheral edema, insomnia, muscle cramp/spasms, abdominal pain, back pain, nausea, asthenia, pyrexia, upper respiratory tract infection, bronchitis, nasopharyngitis, gastroenteritis, cough, rash, dyspnea, dizziness, decreased appetite, thrombocytopenia, and tremor

MDS: Most common adverse reactions ($> 15\%$) include thrombocytopenia, neutropenia, diarrhea, pruritus, rash, fatigue, constipation, nausea, nasopharyngitis, arthralgia, pyrexia, back pain, peripheral edema, cough, dizziness, headache, muscle cramp, dyspnea, pharyngitis, and epistaxis

Non-Hodgkin's Lymphoma (NHL: MCL, FL or MZL): Most common adverse reactions ($\geq 15\%$) included neutropenia, thrombocytopenia, anemia, leukopenia, diarrhea, constipation, nausea, fatigue, pyrexia, cough, upper respiratory tract infection, and rash.

Dosage:

MM combination therapy: 25 mg once daily orally on Days 1-21 of repeated 28-day cycles
MM maintenance therapy following auto-HSCT: 10 mg once daily continuously on Days 1-28 of repeated 28-day cycles
MDS: 10 mg once daily
MCL: 25 mg once daily orally on Days 1-21 of repeated 28-day cycles
FL or MZL: 20 mg once daily orally on Days 1-21 of repeated 28-day cycles for up to 12 cycles
Renal impairment: Adjust starting dose based on the creatinine clearance value

MYCOPHENOLATE MOFETIL (Cellcept, Myfortic®)

P/P: Cellcept 500mg tab, 50's

Adm: Should be taken on an empty stomach (Take on an empty stomach. In stable renal transplant patients, may be administered w/ meals if necessary.).

Category: Immunosuppressants

Indications: Prophylaxis of acute organ rejection & treatment of refractory organ rejection in patient receiving allogenic renal, cardiac and hepatic transplants. CellCept should be used concomitantly with cyclosporin and corticosteroids.

Caution: Severe chronic renal impairment, GI hemorrhage. Pregnancy, lactation. Monitor neutrophil count.

Contra-Ind: CellCept is contraindicated in patients with hypersensitivity to mycophenolate mofetil or mycophenolic acid.

D/I: Potentiation of other myelotoxic drugs eg, aminosalicylates. Effect enhanced by allopurinol

Side effects: Diarrhea, GI hemorrhage and perforation; leucopaenia; asthaenia, pain, headache, anaemia, thrombocytopaenia; renal tubular necrosis; haematuria; hypertension; hyperglycaemia; disturbances of electrolytes and blood lipids

Dosage: Usual Adult Dose: RENAL TRANSPLANTATION: 1 g orally or IV 2 times a day
CARDIAC TRANSPLANTATION: 1.5 g orally or IV 2 times a day (3 gm per day)

HEPATIC TRANSPLANTATION: 1.5 gm orally or 1 gm IV 2 times a day (3 gm per day orally or 2 gm per day IV).
Usual Pediatric Dose: 3 months to 18 years of age:
Pediatric patients with a body surface area of 1.25 to 1.5 m² may be dosed with the oral tablets at 750 mg orally 2 times a day (1.5 g per day)
Pediatric patients with a body surface area greater than 1.5 m² may be dosed with the oral tablets at 1 g orally 2 times a day (2 g per day)
Renal Dose Adjustments: CrCl less than 25 mL/min: Doses greater than 1 gm 2 times a day should be avoided.
Liver Dose Adjustments: Data not available

Nab-PACLITAXEL (PacliALL®) (Restricted)

P/p: PacliALL 100 mg vial, 1s
Adm: Administer IV injection
Indications: Treatment of breast cancer, Metastatic, non small cell lung cancer and Adenocarcinoma.
Side- effects: Cardiovascular and peripheral edema.
Dosage: Usual Adult Dose: in breast cancer: 260 mg /m² every 3 weeks.
Non small cell lung cancer: 100 mg /m² on day 1, 8, 15 of each 21-day cycle.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Dose need adjustment

NATALIZUMAB (Tysabri®) (Restricted)

P/P: Tysabri 300mg IV
Category: Monoclonal Antibody, Selective Adhesion-Molecule Inhibitor
Indications: Relapsing remitting multiple sclerosis, Crohn disease.
Caution: pregnancy, breast feeding.
Contra-Ind: Hypersensitivity to natalizumab.
Side effects: Abdominal distress, urinary tract infection, skin rash, back pain.
Dosage: Adults: the recommended dosage is from 300 mg every 4 weeks,
Pediatric population: The safety and efficacy of natalizumab in children has not been Established. No data are available.
Renal impairment: Dose adjustment is not needed in patients with impaired renal function.
Hepatic impairment: Dose adjustment is not needed in patients with impaired hepatic function.

OCRELIZUMAB (Ocrevus®) (Restricted)

P/P: **Ocrevus 300mg/10ml Vial IV 1'S**

- Admin:** **IV:** Administer through a dedicated IV line using a 0.2 or 0.22 micron in-line filter.
Begin infusion at 30 mL/hour; increase by 30 mL/hour every 30 minutes to a maximum rate of 180 mL/hour. Infusion duration is 2.5 hours or longer.
- Category:** Monoclonal Antibody, Anti-CD20 Monoclonal Antibody
- Indications:** Multiple sclerosis, relapsing or primary progressive.
- Caution:** Hepatitis B reactivation, Herpes infection, Infusion reactions, Malignancy, Progressive multifocal leukoencephalopathy.
- Contra-Ind:** Hypersensitivity to ocrelizumab, History of life-threatening infusion reaction to ocrelizumab; active hepatitis B virus (HBV) infection.
- D/I:** Immunosuppressive or Immune-Modulating Therapies,
- Side effects:** Infection, upper respiratory tract infection.
- Dosage:** Adults: the recommended dosage is 300mg in day 1, followed by 300mg two weeks later, subsequent doses of 600mg are administered once every 6 months (Beginning 6 months after the first dose 300mg).
Pediatric population: The safety and efficacy of ocrelizumab in children has not been established. No data are available.
Renal impairment: Dose adjustment is not needed in patients with impaired renal function.
Hepatic impairment: Dose adjustment is not needed in patients with impaired renal function.

OCTREOTIDE (Sandostatin®) (Restricted)

- P/p:** **Sandostatin 0.1 mg amp, 5s**
- Adm:** Administer sub Q or IV injection
- Indications:** Treatment of carcinoid tumors, Intestinal Tumors, Acromegaly
- Side- effects:** Nausea, diarrhea, abdominal pain, Pain and/or burning at the subcutaneous injection
Headache, dizziness, lightheadedness, fatigue, depression
- Dosage:** Usual Adult Dose: Initial dose: 100 to 200 mcg subcutaneously 3 times a day.
Maintenance dose: 50 to 300 mcg/day. Maximum dose: 1,500 mcg/day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Ofatumumab (Kesimpta®)

P/P: **Kesimpta 20mg/0.4ml Pre-Filled Pen Subcutaneous 1"S**

Adm: subcutaneous injection only

Category: Anti-CD20 Monoclonal Antibody; Antineoplastic Agent

Indications: relapsing forms of multiple sclerosis (MS), to include clinically isolated syndrome, relapsing-remitting disease, and active secondary progressive disease in adults

Caution: Infections, Injection-Related Reactions, Reduction in Immunoglobulins, Fetal Risk

Contra-Ind: Active HBV infection

Side effects: upper respiratory tract infection, headache, injection-related reactions, and local injection site reactions

Dosage: 20 mg/0.4 mL solution in a single-dose

Olaparib (Lynparza®)

P/P: **Lynparza 150mg F.C Tab 112"S, Lynparza 50 Mg Capsule 448"S**

Adm: can be given with or without food

Category: poly (ADP-ribose) polymerase (PARP) inhibitor

Indications: Ovarian cancer, Breast cancer, Pancreatic cancer, Prostate cancer.

Caution: Myelodysplastic Syndrome/Acute Myeloid Leukemia (MDS/AML), Pneumonitis, Embryo-Fetal Toxicity, Venous thromboembolic events including pulmonary embolism

Contra-Ind: none

Side effects: Application-site reaction including burning, edema, erythema, local purpuric or petechial reaction, pruritus, rash, local alterations in temperature sensations, local skin hyperpigmentation, localized blanching and blistering of foreskin

Dosage: 300 mg taken orally twice daily. For moderate renal impairment (CLcr 31-50 mL/min), reduce dosage to 200 mg orally twice daily.

Omalizumab (Xolair®)

P/P: **Xolair 150mg Vial 1"S**

Adm: For subcutaneous (SC) administration only.

Category: Anti-IgE antibody.

Indications: Moderate to severe persistent asthma in patients 6 years of age and older, and chronic idiopathic urticaria in adults and adolescents 12 years of age and older.

Caution: Anaphylaxis, malignancy, acute Asthma Symptoms, corticosteroid Reduction: Do not abruptly discontinue corticosteroids upon initiation of Xolair therapy, fever, Arthralgia, and Rash, eosinophilic Conditions.

Contra-Ind: Severe hypersensitivity reaction to Xolair or any ingredient of Xolair.

Side effects: Asthma: arthralgia, pain (general), leg pain, fatigue, dizziness, fracture, arm pain, pruritus, dermatitis, and earache, Chronic Idiopathic Urticaria: nausea, nasopharyngitis, sinusitis, upper respiratory tract infection, viral upper respiratory tract infection, arthralgia, headache, and cough.

Dosage:

Asthma: Xolair 75 to 375 mg SC every 2 or 4 weeks, dose and frequency depend on serum total IgE level and body weight.

Chronic Idiopathic Urticaria: Xolair 150 or 300 mg SC every 4 weeks. Dosing in CIU is not dependent on serum IgE level or body weight.
(Divide doses of more than 150 mg among more than one injection site)

Palivizumab (Synagis®)

P/P: **Synagis 100mg/1ml Vial I.M 1"S**

Adm: Administered IM prior to commencement of the RSV season and remaining doses administered monthly throughout the RSV season

Category: Synagis is a respiratory syncytial virus (RSV) F protein inhibitor monoclonal antibody

Indications: Prevention of serious lower respiratory tract disease, Bronchopulmonary dysplasia (BPD), Infants with a history of premature birth (less than or equal to 35 weeks gestational age), Children with hemodynamically significant congenital heart disease (CHD).

Caution: Anaphylaxis and anaphylactic shock and other severe acute hypersensitivity reactions, it should be given with caution to children with thrombocytopenia or any coagulation disorder, Palivizumab may interfere with immunological-based RSV diagnostic tests such as some antigen detection-based assays.

Contra-Ind: Hypersensitivity to Synagis

Side effects: Fever and rash.

Dosage: 15 mg per kg of body weight.

Peginterferon Alfa – 2a (Pegasys®)

P/p: **Pegasys 180 mcg prefilled syring**

Adm: Administer sub Q in the abdomen or thigh

Indications: Treatment of chronic hepatitis C alone or in combination with ribavirin,
Treatment of patient with HBe AG-positive and HBe AG- negative chronic
Hepatitis B

Contra-Ind: Autoimmune hepatitis decompensated liver disease.

Side- effects: Headache, fatigue, insomnia, depression, alopecia, dermatitis, vomiting,
Anemia, weakness, myalgia, cough, dyspnea.

Dosage: The recommended dosage is 180 micrograms once weekly for 48 weeks by subcutaneous
administration in the abdomen or thigh.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

TOCILIZUMAB (Actemra®) (Restricted)

P/P: **Actemra 80mg/4ml Vial IV 1'S,
Actemra 200mg/10ml Vial IV 1'S
Actemra 400mg/20ml Vial IV 1'S**

Admin: Intravenous infusion (IV administration is not approved for giant cell arteritis), subcut.

Category: Antirheumatic, Disease Modifying, Interleukin-6 Receptor Antagonist

Indications: Cytokine release syndrome, severe or life-threatening, Giant cell arteritis, Polyarticular
juvenile idiopathic arthritis, Rheumatoid arthritis, Systemic juvenile idiopathic arthritis.

Caution: GI perforation, Hematologic effect, Hepatic effect, Herpes zoster, Hyperlipidemia
Hypersensitivity.

Contra-Ind: Hypersensitivity to tocilizumab, Active infection.

D/I: Pimecrolimus, ozanimod, Rabies vaccine, Roflumilast, Covid-19 vaccine, Belimumab
biological disease modifying anti-rheumatic drug, BCG vaccine, Anti-TNF Agent.

Side effects: Increase serum cholesterol, increase alanine, increase aminotransferase, injection site
reaction, hypotension, peripheral edema, headache.

Dosage: **Adults:**

Coronavirus disease 2019 (COVID-19), treatment:

8 mg/kg as a single dose (maximum dose: 800 mg)

Cytokine release syndrome (due to chimeric antigen receptor-T cell

Therapy), severe or life-threatening (max dose 800mg/dose)

Pediatric population:

30 kg: IV: 12 mg/kg/dose once; if no clinical improvement after initial dose, may repeat dose every 8 hours for up to 3 additional doses.

≥30 kg: IV: 8 mg/kg/dose once; if no clinical improvement after initial dose, may repeat dose every 8 hours for up to 3 additional doses; maximum single dose: 800 mg/dose

Renal impairment: Dose adjustment is not needed in patients with impaired renal function.

Hepatic impairment: Dose adjustment is not needed in patients with impaired renal function.

UPADACITINIB (Rinvoq®) (Restricted)

P/P: Rinvoq 15 mg prolonged release tab 30'S

Adm: Oral tablet should be swollen whole with or without food, not to chew, crush, or split tablets.

Category: Janus kinase (JAK) inhibitor.

Indications: Rheumatoid Arthritis, Psoriatic Arthritis, Atopic Dermatitis, Ulcerative Colitis, Ankylosing Spondylitis.

Caution: GI perforation; hematologic toxicity; liver enzyme elevation; hypersensitivity reactions; infections; increased lipid parameters (eg, total, low-density lipoprotein [LDL], and high-density lipoprotein [HDL] cholesterol; malignancy; tuberculosis; immunizations: Immunization status should be current before initiating therapy. Live vaccines should not be given concomitantly, or immediately prior to, upadacitinib.

Contra-Ind: Hypersensitivity to upadacitinib or any component of the formulation.

Side effects: Severe adverse effects: Serious infection, Malignancy, Thrombosis, Gastrointestinal Perforations, Increased liver enzymes.

Common adverse effects: Upper respiratory tract infections (common cold, sinus infections), Nausea, Cough, Fever.

Dosage: Regular Dosing: 15 mg once daily, may be used as monotherapy or in combination with methotrexate or other nonbiologic DMARDs.

Dosing in renal impairment and / or in hemodialysis patients:

- **Ankylosing spondylitis, psoriatic arthritis, rheumatoid arthritis:** No dosage adjustment necessary for any degree of kidney dysfunction.

- **Atopic dermatitis:**

- eGFR ≥30: No dosage adjustment necessary.
eGFR 15 to <30: 15 mg once daily.
eGFR <15: Use is not recommended.

- **Ulcerative colitis:**

- eGFR ≥30: No dosage adjustment necessary.
eGFR 15 to <30: Induction: 30 mg once daily for 8 weeks; maintenance:
15 mg once daily.

eGFR <15: Use is not recommended.

Dosing in hepatic impairment. Require adjustment:

Hepatic impairment **prior** to treatment initiation:

- **Ankylosing spondylitis, atopic dermatitis, psoriatic arthritis, rheumatoid arthritis:**

Mild to moderate impairment (Child-Pugh class A or B): No dosage adjustment is necessary.

Severe impairment (Child-Pugh class C): Use is not recommended.

- **Ulcerative colitis:**

Mild to moderate impairment (Child-Pugh class A or B): Induction: 30 mg once daily for 8 weeks; maintenance: 15 mg once daily.

Severe impairment (Child-Pugh class C): Use is not recommended.

Hepatotoxicity **during** treatment: Treatment should be interrupted if drug-induced liver injury is suspected.

EAR, NOSE AND OROPHARYNX PREPARATIONS

AZELASTINE HYROCHLORIDE (Allergodil®)

P/P: Allergodil nasal spray 10ml (0.14mg/1puff)

Adm route: Intranasal

Category: Nasal antiallergics.

Indications: Symptomatic treatment of seasonal allergic rhinitis or nonseasonal (perennial) allergic rhinitis.

Caution: Children <6 yr. 1st trimester of pregnancy, lactation.

D/I: Additive effects w/ CNS depressants and ethanol.

Side effects: Irritation, stinging and itching of the nasal mucosa. Sneezing, nosebleeds, headache; nausea, taste disturbances, somnolence, dry mouth

Dosage: Usual Adult Dose: 1 or 2 sprays in each nostril twice a day

Usual Pediatric Dose: 1 spray in each nostril twice a day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

BECLOMETHASONE DIPROPIONATE (Rinoclenil®)

P/P: Rinoclenil nasal spray 10ml (50mcg/1puff)

Adm route: Intranasal

Category: Nasal topical corticosteroids

Indications: Prophylaxis & treatment of perennial & seasonal allergic rhinitis, vasomotor rhinitis.

- Caution:** Nasal infection; transferring patients from systemic steroid treatment. Pregnancy. Additional therapy during abnormal heavy challenge of summer allergens.
- Side effects:** Unpleasant taste & smell, epistaxis, dryness & irritation of nose & throat. Very rare: Hypersensitivity & anaphylactic reactions, bronchospasm, glaucoma, raised intraocular pressure, cataract, nasal septal perforation.
- Dosage:** Usual Adult Dose: 1 to 2 nasal inhalations in each nostril twice a day.
Usual Pediatric Dose: 6 to 12 years of age: 1 nasal inhalation in each nostril twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Beclomethasone and formoterol (Foster®)

- P/P:** Foster nexthaler 100 mcg/ 6 mcg/dose inhaler
- Category:** Bronchodilator.
- Indications:** Asthma and Chronic obstructive pulmonary disease (COPD)
- Caution:** Adrenal suppression
Asthma-related deaths
Bronchospasm
Hypersensitivity reactions
Immunosuppression
Oral candidiasis
Visual disturbances
- Contra-Ind:** Hypersensitivity to beclomethasone dipropionate, formoterol fumarate dihydrate, or any component of the formulation.
- Side effects:** Central nervous system: Headache, voice disorder
Gastrointestinal: Oral candidiasis
Respiratory: Pharyngitis
- Dosage:** **Asthma:**
Beclomethasone 100 mcg/formoterol 6 mcg:
Maintenance protocol: Maintenance treatment of asthma symptoms when combination therapy (inhaled corticosteroid and long-acting beta-2 agonist) is indicated.
Maintenance and reliever protocol: A single inhaler may be used for maintenance therapy and also for relief of acute bronchospasm as needed.
Limitations of use: Not indicated for prophylaxis of exercise-induced bronchospasm. If inhaler used is for maintenance protocol only, a separate rapid-acting bronchodilator is required for acute treatment.
Beclomethasone 200 mcg/formoterol 6 mcg: Maintenance treatment of asthma symptoms when combination therapy (inhaled corticosteroid and long-acting beta-2 agonist) is indicated.

Chronic obstructive pulmonary disease (COPD):

Beclomethasone 100 mcg/formoterol 6 mcg: Maintenance treatment of airflow obstruction associated with severe COPD (FEV1 <50% predicted normal) and a history of repeated exacerbations despite consistent therapy with long-acting bronchodilators.

Benralizumab (Fasenra®)

P/P:	Fasenra 30 mg/ml solution for injection
Adm:	Administer by subcutaneous injection.
Category:	Interleukin-5 receptor alpha-directed cytolytic monoclonal antibody (IgG1, kappa)
Indications:	Interleukin-5 receptor alpha-directed cytolytic monoclonal antibody (IgG1, kappa) indicated for the add-on maintenance treatment of patients with severe asthma aged 12 years and older, and with an eosinophilic phenotype.
Caution:	Hypersensitivity reactions: hypersensitivity reactions (e.g., anaphylaxis, angioedema, urticaria, rash) have occurred after administration of FASENRA. Discontinue in the event of a hypersensitivity reaction. Reduction in Corticosteroid Dosage: Do not discontinue systemic or inhaled corticosteroids abruptly upon initiation of therapy with FASENRA. Decrease corticosteroids gradually, if appropriate. Parasitic (Helminth) Infection: Treat patients with pre-existing helminth infections before therapy with FASENRA. If patients become infected while receiving FASENRA and do not respond to anti-helminth treatment, discontinue FASENRA until the parasitic infection resolves
Contra-Ind:	Known hypersensitivity to benralizumab or excipients.
Side effects:	Most common adverse reactions (incidence greater than or equal to 5%) include headache and pharyngitis
Dosage:	Recommended dose is 30 mg every 4 weeks for the first 3 doses, followed by once every 8 weeks thereafter

Bilastine (Bilaxten®)

P/P:	Bilaxten 20 mg tab
Adm:	Administration instructions
Category:	Histamine H1 Antagonist
Indications:	Allergic rhinitis, Urticaria, chronic spontaneous
Caution:	QT interval prolongation: QTc interval prolongation

Contra-Ind:	Hypersensitivity to bilastine or any component of the formulation; history of QT prolongation and/or torsades de pointes, including congenital long QT syndromes.
Side effects:	Drowsiness (4%), headache (4%), dizziness, Upper abdominal pain
Dosage:	Allergic rhinitis: Oral: 20 mg once daily (maximum: 20 mg/day). Urticaria, chronic spontaneous: Oral: Initial: 20 mg once daily. If symptom control is inadequate after 2 weeks, may increase to 40 mg once daily; if symptoms remain uncontrolled after an additional 2 weeks, may increase to 80 mg once daily

BUDESONIDE (Rhinocort®)

P/P:	Rhinocort aqua nasal spray (64mcg/dose, 120 doses)
Adm route:	Intranasal
Category:	Nasal topical corticosteroids
Indications:	Seasonal & perennial allergic rhinitis, vasomotor rhinitis.
Caution:	Fungal & viral nasal infections, chronic use (inspect nasal mucosa regularly).
Side effects:	Slight hemorrhagic secretion & epistaxis, sneezing attacks (occasional).
Dosage:	Usual Adult Dose: 2 sprays in each nostril in the morning and evening. Usual Pediatric Dose: 1 spray in each nostril once daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

CHLORHEXIDINE (MOUTH WASH) (Corsodyl, Oraxine, Avohex®)

P/P:	Corsodyl mouth wash 300ml (chlorohexidine gluconate 0.2%) Oraxine mouth wash, 300ml (chlorohexidine gluconate 0.2%) Avohex mouth wash, 300ml (chlorohexidine gluconate 0.2%)
Adm:	Mouthwash, Rinse mouth w/ 10 ml bd for about 1 min
Category:	Mouth/Throat Preparations
Indications:	Treatment & prevention of gingivitis; maintenance of oral hygiene; promotion of gingival healing following periodontal surgery; management of recurrent oral ulceration; denture stomatitis & thrush
Side effects:	Skin sensitivity; irritation of conjunctiva, mucosal irritation; reversible brown staining of the teeth; tongue discoloration
Dosage:	15 mL twice daily after brushing. Oral rinse should be retained for 30 seconds then expectorated after rinsing. Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CHLORAMPHENICOL+BENZOCAINE (Otocol®)

P/P: **Otocol 10ml ear drops** (Per ml, Chloramphenical 50mg+Benzocaine 50mg)

Dosage: Three to four drops applied into the affected ear up to two to three times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CLOTRIMAZOLE (Canesten, Otozol, Clotrex®)

P/P: **Canesten sol, 0.2gm/ 20ml**
Otozol 1%, 10ml ear drops
Clotrex otic 20ml sol

Adm route: Ear

Category: Topical Fungicides & Antiparasites

Indications: Dermatomycoses, caused by dermatophytes, yeasts, moulds, & other fungi.

Caution: 1st trimester of pregnancy, children <2 yr. Perforated eardrum

Contra-Ind: Perforated tympanic membrane

Side effects: Irritation, burning, contact allergic dermatitis.

Dosage: 2-3 drops of solution, two or three times daily.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

DOCUSATE SODIUM (Waxsol, Deewax®)

P/P: **Waxsol 0.5%, 5ml ear drops**
Deewax 0.5%, 10ml ear drops

Adm route: Ear

Category: Other Ear Preparations

Indications: Removal of ear wax.

Caution: Discontinue use if pain or discomfort occurs. Should not be used for more than two respective days.

Contra-Ind: Perforated eardrum; otitis media

Dosage: The application of ear drops sufficient to fill the affected ear on not more than two consecutive nights, prior to attending for syringing if this is necessary.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FLOROSEPT (MOUTH WASH) (Florosept®)

P/P: **Florosept 250ml mouth washes** (Cetylpyridinium chloride 0.1%+Sod fluoride 0.05%+Zinc chloride 0.05%)

Direction: Mouthwash, rinse full strength for thirty seconds with 15ml morning & evening
Category: Mouth/Throat Preparations

Indications: General oral hygiene and bad breath, cavity protection.

FLUTICASONE (Flixonase, Avamys®)

P/P: **Flixonase nasal spray 0.05%, 120 sprays**
Avamys nasal spray 27.5 mcg,30 sprays

Adm route: Intranasal route

Category: Nasal topical corticosteroids

Indications: Prophylaxis & treatment of seasonal allergic rhinitis including hay fever&perennial rhinitis

Caution: Pregnancy & lactation. Infections of nasal airways. Caution when transferring patients from systemic steroid treatment.

Side effects: Dryness & irritation of the nose & throat, unpleasant taste, smell & epistaxis. Headache.

Dosage: Usual Adult Dose: 1 or 2 sprays in each nostril once a day.
Usual Pediatric Dose: 1 spray in each nostril once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: Moderate or severe hepatic impairment: Use with caution

GENTAMICIN + BETAMETHASONE (Garasone®)

P/P: **Garasone 5ml, eye/ear drops** (gentamicin sulfate 0.3%, betamethasone Na phosphate 0.1 %)

GENTAMYCIN (Garamycin, Apigen®)

P/P: **Garamycin 0.3%, 5ml eye/ear drops**
Apigen 0.3%, 10ml eye/ear drops

LEVOCABASTINE (Livostin®)

P/P: **Livostin nasal spray 0.05% 10ml**

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Adm route: Intranasal

Category: Nasal antiallergics.

Indications: Symptomatic treatment of seasonal allergic rhinitis or nonseasonal (perennial) allergic rhinitis.

Caution: Pregnancy. May impair ability to drive or operate machinery.

Contra-Ind: Significant renal impairment

Side effects: Headache, nasal irritation, somnolence and fatigue.

Dosage: 2 sprays in each nostril, 2 times daily. The dose may be increased to 2 sprays 3 to 4 times daily.

Renal Dose Adjustments: caution should be exercised when administering levocabastine nasal spray to patients with renal impairment.

Liver Dose Adjustments: Data not available

LOZENGES (Orofar, Strepsils, Vicks lozenges®)

P/P: **Orofar lozenges, 24's** (Benzoxon chloride 1mg+lidocaine Hcl 1mg, Sorbitol 1gm)
Strepsils+Vit C lozenges, 24's
Strepsils honey&lemon lozenges, 24's
Strepsils menthol lozenges, 24's
Strepsils lemon&herb lozenges, 24's
Vicks lozenges

MICONAZOLE (Daktarin, Mycoheal, Miragel®)

P/P: **Daktarin oral gel, 2% 40gm**
Mycoheal oral gel, 2% 40gm
Miragel oral gel, 2% 40gm

Adm: For greater effect, keep in contact w/ affected area in the mouth before swallowing.

Category: Mouth/Throat Preparations

Indications: Curative & prophylactic treatment of candidiasis of the oropharyngeal cavity & the GI tract.

Contra-Ind: Liver dysfunction.

D/I: Increase the anticoagulant effect of coumarin derivatives, potentiates the effect of oral hypoglycemics, slows the metabolism of phenytoin & cyclosporin.

Side effects: Nausea, vomiting, diarrhea; local irritation, sensitivity reactions

Dosage: Infants: 4-24 months: 1.25 mL (1/4 measuring spoon) of gel, applied four times a day after meals.
Adults and children 2 years of age and older: 2.5 mL (1/2 measuring spoon) of gel, applied four times a day after meals.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: it is contraindicated in patients with liver dysfunction.

MOMETASONE FUROATE (Nasonex, Tabunex, Avocom®)

P/P: **Nasonex nasal spray (50mcg/dose, 120 doses)**
Tabunex nasal spray (50mcg/dose, 120 doses)
Avocom nasal spray (50mcg/dose, 120 doses)

Adm route: Intranasal route

Category: Nasal topical corticosteroids

Indications: Prophylaxis & treatment of seasonal allergic or perennial rhinitis; Adjunctive treatment of acute episodes of sinusitis; Treatment of nasal polyps Adult ≥ 18 yr

Caution: Presence of untreated localized infection involving the nasal mucosa. Recent nasal surgery or trauma. Active or quiescent tuberculous infections of resp tract, or in untreated fungal, bacterial, systemic viral infections or ocular herpes simplex

Contra-Ind: Hypersensitivity to any ingredients of Nasonex

Side effects: Headache, epistaxis, pharyngitis, nasal burning, nasal irritation, & nasal ulceration.

Dosage: Usual Adult Dose: 2 sprays in each nostril once a day.
Usual Pediatric Dose: 2 years to 11 years: 1 spray in each nostril once a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

NYSTATIN (Mycostatin, Rianest®)

P/P: **Mycostatin 60ml oral suspension (100,000 iu/ml)**
Mycosat 30ml oral suspension (100,000 iu/ml)
Rianest 30ml oral suspension (100,000 iu/ml)

Adm: For greater effect, keep in contact w/ affected area in the mouth before swallowing.

Category: Mouth/Throat Preparations

Indications: Treatment of candidiasis in the oral cavity & GIT.

Side effects: GI disturbances (diarrhea, nausea, & vomiting), rash (rare).

Dosage: Usual Adult Dose: 500,000 units of oral suspension 4 times a day.
Usual Pediatric Dose: Neonates: 100,000 units of oral suspension 4 times a day.
 >1 m <12 m: 200,000 units of oral suspension 4 times a day.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Benzoic + Thymol + Menthol MOUTH WASH (Orasept®)

P/P: **Orasept 250ml mouth wash** (Benzoic acid 0.125%+thymol 0.063%+menthol 0.042%)
Also contains methyl salicylate and eucalyptol

Direction: Mouthwash, rinse full strength for one minute with 15ml morning & evening

Category: Mouth/Throat Preparations

Indications: Gingivitis, general oral hygiene and bad breath

Dosage: 15 mL twice daily after brushing. Oral rinse should be retained for 30 seconds then expectorated after rinsing.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PHENAZOCAINE+BENZOCAIN (Ear calm®)

P/P: **Ear calm 5ml ear drops** (Per ml, Phenazocaine 50mg+Benzocaine 10mg)

Adm route: Ear

Category: Ear analgesics

Indications: Temporary relief of pain associated with acute otitis media

Caution: Once the pack is opened, the content should be used within one month.

Contra-Ind: Perforated ear drum, ear infection

Dosage: 1-2 drops into each affected ear three times daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

PHENYLEPHERINE + DIMETHINDENE MALEATE (Vibrocil®)

P/P: **Vibrocil nasal drops, 15ml** (Dimethindene maleate 0.25mg+Phenylephrine 2.5mg)
Vibrocil nasal spray, 10ml
Vibrocil nasal gel, 12gm

Adm route: Intranasal

Category: Local antihistaminic and nasal decongestants

Indications: Common colds, allergic rhinitis, acute or chronic sinusitis, adjuvant in acute otitis media

Caution: Should not be used continuously for more than two weeks

Contra-Ind: Patients taking MAO inhibitors or who have received them during the previous two weeks

Side effects: A local and transient sensation, dryness of nose

Dosage: Adult and children over 6 years: After blowing the nose carefully, apply as deeply as possible into each nostril, 3 to 4 times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

POLYMYXIN B SULPHATE+ NEOMYCIN SULPHATE+HYDROCORTISONE (Otosporin®)

P/P: **Otosporin ear drops, 5ml** (Per ml Polymyxin B sulphate 10,000 u, neomycin sulphate 3,400 u, hydrocortisone 1% w/v)

Adm route: Ear

Category: Ear Antiseptics with Corticosteroids

Indications: Treatment of otitis externa due to, or complicated by, bacterial infection.

Caution: Avoid prolonged use esp. in renal impairment & elderly.

Contra-Ind: Hypersensitivity. Perforation of eardrum. Untreated viral, fungal & TB infections in neonates & infants (≤ 2 yr).

Side effects: Rarely stinging and burning sensation

Dosage: three drops instilled into the affected ear three or four times daily.
Dosage in renal impairment: Dosage should be reduced in patients with reduced renal function.
Liver Dose Adjustments: Data not available

POVIDONE IODINE 1% MOUTH WASHE (Betadine, Piiodine, Betasept, Defodin®)

P/P: **Betadine gargle and mouth wash, 120ml**
Piiodine gargle and mouth wash, 120ml
Betasept gargle and mouth wash, 130ml
Defodin gargle and mouth wash, 200ml

Direction: Undiluted or diluted with equal volume of lukewarm water, gargle at least for 30 seconds.

Category: Mouth/Throat Preparations

Indications: Painful oral & throat infections & inflammations; topical adjunct in the management of local iodine-susceptible infections in the oral cavity; prep for oral surgery

Caution: Thyroid disease. Pregnancy.

Contra-Ind: History of hypersensitivity to iodine.

Dosage: Adults, the elderly and children over 6 years of age: Use undiluted with an equal volume of warm water. Gargle or rinse with up to 10mls for up to 30 seconds without swallowing. Repeat up to four times daily. Not to be used in children of 6 years and under.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PSEUDOEPHEDRINE (Otrinol®)

P/P: Otrinol retard 120mg caps, 10's

Adm: Pseudoephedrine should be taken with food.

Category: Systemic nasal decongestant

Indications: Relief of nasal or Eustachian tube congestion.

Caution: Heart disease or high blood pressure; diabetes; or thyroid disorder.

Contra-Ind: Hypersensitivity to sympathomimetic amines; severe hypertension; coronary artery disease; MAOIs therapy; breast-feeding mothers.

D/I: Beta blockers, Antidepressants

Side effects: Difficulty urinating; dizziness; headache; nausea; nervousness; restlessness; sleeplessness; stomach irritation.

Dosage: Usual Adult Dose: 120 mg orally every 12 hours as needed.

Renal Dose Adjustments: Pseudoephedrine is eliminated by the kidney and may accumulate in patients with renal dysfunction. Patients with renal dysfunction should be monitored for signs and symptoms of toxicity when using pseudoephedrine.

Liver Dose Adjustments: Data not available.

RHUBARB EXTRACT +SALICYLIC ACID (Rotavex, Pyralvex®)

P/P: Pyralvex paint 10ml; Rhutex paint 15ml; Rotavex paint
Per ml Rhubarb extracts 5% (equiv to 0.3% anthraquinone glycosides), salicylic acid 1%

Adm: Dab thoroughly several times daily the inflamed mucous membranes

Category: Mouth/Throat Preparations

Indications: Acute & chronic inflammation of the mucous membranes of the mouth, throat, & gums. Aphthous stomatitis; alveolar pyorrhea; teething trouble. Adjuvant in the treatment of pharyngitis. Painful areas & injuries resulting from the pressure of dentures or other orthodontic apparatus.

Caution: Avoid rinsing the mouth or eating 15 minutes after the application

Side effects: Transient stinging.

Dosage: Adults (including the elderly) and children 16 years and over: To be applied to the inflamed oral mucosa (after removing any dentures) three or four times daily using the brush provided.
Children: Contraindicated below the age of 16 years.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SEA SALT (Sal marinum 1%) (Drossa-nose®)

P/P: **Drossa-nose nasal gel 20gm**

Description: Drossa-Nose contains sea salt, with its trace elements, and polyethylene glycol as the active components.

Adm route: Intranasal

Category: Other nasal preparations

Indications: Rhinitis sicca, dryness of the nasal mucosa after being in an air-conditioned room and when air conditions are dry (airplanes, high mountain areas). After operations of the nasal septum, radiation therapy, and chronic use of vasoconstricting nasal preparations.

Dosage: Apply some ointment into each nostril and gently massage it into the nasal tissues from the outside of the nose, 2 to 3 times daily or as prescribed by your doctor.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SODIUM CHLORIDE (Otrisalin, Salinose, Ocean spray, Rinomist, Nisita, Sterimar®)

P/P: **Otrisalin nasal spray 15ml**
Avalon Salinose 0.9% baby nasal drops, 20 ml
Avalon Salinose 0.9% adult nasal spray, 30 ml
Avalon Salinose 1% nasal gel, 30 gm
Ocean nasal spray 15 ml
Rynomist 0.65% nasal spray
Nisita nasal spray 20ml (Sodium chloride 3.3mg+sodium bicarbonate 8.3mg)
Sterimar 50 ml, 100 ml nasal spray (Sodium chloride, Magnesium chloride, Magnesium sulfate)

Adm route: Intranasal route

Category: Other nasal preparations

Indications: Moisturizes dry, crusted & stuffy nostrils due to allergy, colds, sinusitis, overuse of antihistaminic & decongestants.

Dosage: 1 drop or spray/nostril 2-6 times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

XYLOMETAZOLINE (Otrivin, Xylomet, Xylo-mepha®)

P/P:	Otrivin nasal drops 0.05%, 10ml; Otrivin nasal drops 0.1%, 10ml Otrivin nasal spray 0.05%, 10ml; Xylolin adult nasal 0.1%spray, 10ml Otrivin nasal gel 10gm Xylomet 0.05% Pediatric nasal drops, 15ml; Xylomet 0.1% adult nasal drops, 15ml Xylo-mepha 0.1 % nasal spray
Adm route:	Intranasal
Category:	Nasal decongestant
Indications:	Colds; to aid drainage of secretions of the paranasal sinuses; adjuvant in otitis media; to facilitate rhinoscopy.
Caution:	Patient who are sensitive to sympathomimetics. Should not be employed uninterrupted over prolonged period.
Contra-Ind:	Post-transsphenoidal hypophysectomy or after surgical exposure of dura mater, dry rhinitis, acute-angle glaucoma. Pregnancy
Side effects:	Occasionally, burning sensation in the nose & throat, local irritation, nausea, headache, dryness of nasal mucosa.
Dosage:	Usual adult doses: Xylometazoline nasal 0.1% : 1 to 2 drops or sprays in each nostril every 8 to 10 hours not to exceed 3 doses daily. Usual Pediatric Dose: 2 to 12 years: Xylometazoline nasal 0.05% drops: 1 to 2 drops in each nostril every 8 to 10 hours not to exceed 3 doses daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available.

ENDOCRINE SYSTEM

ACARBOSE (Glucobay®)

P/P:	Glucobay 50mg tab, 30's, Glucobay 100mg tab, 30's
Adm:	Should be taken with food
Category:	Oral Antidiabetic Agents
Indications:	As adjunct together w/ diet for the treatment of diabetes mellitus.
Caution:	Monitor liver enzyme levels during 1st 6-12 mth of therapy. Hypoglycemia w/ concomitant use of sulfonylureas, metformin, or insulin.
Contra-Ind:	Patients <18 yr. Chronic intestinal disorders e.g., Roemheld's syndrome, hernias, intestinal obstruction or ulcer. Pregnancy. Severe renal impairment
D/I:	Digoxin, cholestyramine, intestinal absorbents & digestive enzyme prep
Side effects:	Flatulence, diarrhea, abdominal pain, nausea. Very rarely, rash, erythema, edema, exanthema, urticaria, jaundice & hepatitis.

Dosage: Usual Adult Dose: 50 mg to 100 mg orally 3 times a day
Renal Dose Adjustments: Significant renal dysfunction (serum creatinine greater than 2 mg/dL): Use is not recommended
Liver Dose Adjustments: Use with caution

ALOGLIPTIN/PIOGLITAZONE (Increcync®)

P/P: **Increcync 12.5 mg/30 mg film-coated tablets.**
Increcync 25 mg/30 mg film-coated tablets.
Increcync 25 mg/45 mg film-coated tablets

Adm: Give without regard to food

Category: Antidiabetic Agent, Dipeptidyl Peptidase 4 (DPP-4) Inhibitor;
Antidiabetic Agent, Thiazolidinedione

Indications: Treatment of Diabetes mellitus, type 2.

Caution: Heart failure, patient with edema, pancreatitis.

Contra-Ind: History of serious hypersensitivity formulation; patients with NYHA Class III or IV heart failure.

D/I: Acetaminophen, acetazolamide, abiraterone, abatacept.

Side effects: Sinusitis, headache, nausea, dyspepsia, abdominal pain, pruritus, myalgia, peripheral edema and weight gain.

Dosage: Usual Adult Dose: Alogliptin 25 mg/pioglitazone 15 mg or alogliptin 25 mg/pioglitazone 30 mg once daily. Maximum: Alogliptin 25 mg/pioglitazone 45 mg once daily
Renal Dose Adjustments: For CR.CL < 60 ml/min: Maximum dose: Alogliptin 12.5 mg/pioglitazone 45 mg daily. For CR.CL < 30 or ESRD: use is not recommended
Liver Dose Adjustments: No dose adjustment required.

ALENDRONIC ACID (Fosamax, Osteve, Alendro, Bonamax®) (Restricted)

P/P: **Fosamax 70mg tab, 4's**
Osteve 70mg tab, 4's
Alendro 70 mg, 4s
Bonamax 35 mg tab, 4's

Adm: Should be taken on an empty stomach (Take upon arising for the day, at least 1/2 hr before the 1st food, beverage or medication of the day w/ a full glass of plain water only. Do not lie down for at least 1/2 hr & until after the 1st food of the day.)

Category: Bisphosphonates; Agents Affecting Bone Metabolism

Indications:	Treatment & prevention of osteoporosis in postmenopausal women. Treatment of osteoporosis in men to prevent fractures. Treatment & prevention of glucocorticoid-induced osteoporosis in postmenopausal women not receiving estrogen.
Caution:	Upper GI disorders (discontinue if symptoms worsen); history of ulcers, active GI bleeding. Correct Vitamin D and calcium deficiency before starting therapy.
Contra-Ind:	Abnormalities of the oesophagus which delay esophageal emptying e.g., stricture or achalasia. Inability to stand or sit upright for at least 30 min. Hypocalcemia. Pregnancy & lactation. Children.
D/I:	Absorption affected by Ca supplements, antacids, food & oral medication. Concomitant use of HRT resulted in greater increases in bone mass, together w/ greater decreases in bone turnover.
Food/I:	Food, mineral water, coffee, tea and juice interfere with absorption of alendronate.
Side effects:	Abdominal pain, dyspepsia, constipation, diarrhea, flatulence, esophageal ulcer, dysphagia, abdominal distention, acid regurgitation, musculoskeletal pain, headache
Dosage:	The recommended dosage is one 70 mg tablet once weekly. Patients below 18 yrs. of age, as no clinical data exists Renal Dose Adjustments: Renal impairment with a creatinine clearance below 30ml/min: it is contraindicated. Liver Dose Adjustments: Use with caution

BETAMETHASONE (Celestone, Diprophos®)

P/P:	Celestone 0.5mg tab, 30's, Diprophos 2ml Inj
Adm:	Should be taken with food.
Category:	Corticosteroid Hormones
Indications:	Acute asthma, allergies; inflammatory skin disorders, RA & other conditions responsive to steroid therapy.
Caution:	Stress; CHF, liver failure, steroid psychosis, peptic ulceration; diabetes mellitus, osteoporosis, hypertension, glaucoma, epilepsy; pregnancy.
Contra-Ind:	Systemic fungal or acute infections; IM use in idiopathic thrombocytopenic purpura; administration of live virus vaccines; Hypersensitivity
D/I:	Reduced efficacy with concurrent use of carbamazepine, phenytoin, primidone, barbiturates and rifampicin. Enhanced effect in women taking oestrogens or oral contraceptives.
Side effects:	Peptic ulceration; skin atrophy, benign intracranial HTN; posterior subcapsular cataract, glaucoma; hypercorticism, aseptic osteonecrosis; growth retardation; psychiatric disturbances

Dosage: Usual Adult Dose: 0.6 to 7.2 mg/day orally. Sodium phosphate: Intravenous up to 9 mg/day, Acetate with phosphate: Intramuscular only: 0.6 to 9 mg/day divided every 12 to 24 hours.
Usual Pediatric Dose: Intramuscular: 0.0175 to 0.125 mg base/kg/day divided every 6 to 12 hours. Oral: 0.0175 to 0.25 mg/kg/day divided every 6 to 8 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BIPHASIC INSULIN ASPART (INTERMEDIATE-ACTING) (Novo Mix®)

(Biphasic susp of soluble insulin aspart 30% & insulin aspart protamine crystals 70%)

P/P: **Novo Mix 30 Flex Pen 100units/ml, 3ml; NovoMix 30 Pen Fill 100units/ml, 5x3ml**

Adm: Should be taken with food (Administer immediately before or soon after a meal.). Individualized dosage. SC in the thigh or abdominal wall immediately before or soon after a meal. Onset of action: W/in 10-20 min of inj.

Category: Insulin

Indications: Diabetes mellitus.

Caution: Inadequate dosing or discontinuation of treatment esp. in type 1 diabetes may lead to hyperglycemia & ketoacidosis. Transfer from other insulins. Renal or hepatic impairment. Pregnancy.

Contra-Ind: IV administration, hypoglycemia. Hypersensitivity.

D/I: Oral hypoglycemics, octreotide, MAOIs, nonselective β-adrenergic blocking agents, ACE inhibitors, salicylates, alcohol,

Side effects: Hypoglycemia; edema & refraction anomalies; hypersensitivity reactions; lipodystrophy at the inj site.

Dosage: For patients with type 2 diabetes, the recommended starting dose of insulin aspar is 6 units at breakfast and 6 units at dinner (evening meal). Insulin aspar can also be initiated once daily with 12 units at dinner (evening meal). When using NovoMix 30 once daily, it is generally recommended to move to twice daily when reaching 30 units by splitting the dose into equal breakfast and dinner doses.

In patients with type 1 diabetes, the individual insulin requirement is usually between 0.5 and 1.0 unit/kg/day.

In older patients (≥ 65 years old): glucose monitoring should be intensified and the insulin aspart dose adjusted on an individual basis.

Pediatric population:

Insulin aspart can be used in adolescents and children aged 10 years and above when premixed insulin is preferred. There is limited clinical experience with Insulin aspart in children aged 6–9 years

No data are available for Insulin aspart in children below 6 years of age.

Renal and hepatic impairment: Renal or hepatic impairment may reduce the patient's

insulin requirements. In patients with renal or hepatic impairment, glucose monitoring should be intensified and the insulin aspart dose adjusted on an individual basis.

BIPHASIC ISOPHANE INSULIN (Humulin 70/30, Mixtard®)

(Biphasic susp of soluble insulin aspart 30% & insulin aspart protamine crystals 70%)

- P/P:** Humulin 70/30, 10 ml vial
Mixtard 30HM 100units/ml, 10ml vial
Mixtard 30HM Penfill 100units/ml, 5x3ml
Mixtard Novovlet 100units/ml, 5x3ml
- Adm:** Should be taken on an empty stomach (Administer 30 mins before meals.). SC inj.
Duration of action: Onset after 1/2 hr, peak between 2nd-8th hr, terminates after approx 24 hr. Penfill must be used w/ Novo Nordisk's insulin delivery systems e.g. NovoPen 3 & Novo Fine needles.
- Category:** Insulin
- Indications:** Diabetes mellitus.
- Caution:** Infection or other diseases that increase insulin requirement. Renal or hepatic impairment may reduce insulin requirement. Pregnancy.
- Contra-Ind:** Hypoglycaemia, usage in insulin pump.
- D/I:** MAOIs, alcohol & β-blockers may enhance the hypoglycaemic effect. Corticosteroids, thyroid hormones, OCPs, & diuretics may increase insulin requirements.
- Side effects:** Hypoglycaemia, oedema & refraction anomalies. Rare incidence of allergy & lipodystrophy.
- Dosage:** Adult: Type 1 Diabetes Mellitus Suggested guidelines for beginning dose
Ketones moderate or less: 0.5 U/kg/day SC
Ketones large: 0.7 U/kg/day SC
Typically, 50-75% of total daily dose is given as intermediate- or long-acting insulin
May use this combination product if the dosage ratio of NPH (isophane) to regular is 2:1
Type 2 Diabetes Mellitus: Suggested guidelines for beginning dose; adjust according to blood glucose levels, Initial dose: 0.5-1 units/kg/day in divided doses
Typically, 50-75% of total daily dose is given as intermediate- or long-acting insulin
May use this combination product if the dosage ratio of NPH (isophane) to regular is 2:1
Morning Give 2/3rds of daily insulin SC Ratio of regular insulin to NPH (isophane) insulin 1:2
Evening: Give 1/3 of daily insulin SC.
- Pediatric: Type 1 Diabetes Mellitus Suggested guidelines for beginning dose
Ketones moderate or less: 0.5 U/kg/day SC
Ketones large: 0.7 U/kg/day SC
Increased dose may be required during growth spurts
Typically, 50-75% of total daily dose is given as intermediate- or long-acting insulin
May use this combination product if the dosage ratio of NPH (isophane) to regular is 2:1

Renal Impairment: Patients with renal impairment are at increased risk of hypoglycemia and may require more frequent dose adjustment and more frequent blood glucose monitoring.

Hepatic Impairment: Patients with hepatic impairment are at increased risk of hypoglycemia and may require more frequent dose adjustment and more frequent blood glucose monitoring.

BIPHASIC INSULIN LISPRO (INTERMEDIATE-ACTING) (Humalog Mix®)

(Biphasic susp of soluble insulin lispro & insulin lispro protamine crystals)

P/P: Humalog Mix 25 cartridge, 5's, Humalog kwi -pen 25, 5's (Biphasic susp of soluble insulin lispro 25%& insulin lispro protamine crystals 75%, (recombinant DNA origin))
Humalog Mix 50 cartridge, 5's, Humalog kwi -pen50, 5's 5's (Biphasic susp of soluble insulin lispro 50%& insulin lispro protamine crystals 50% (recombinant DNA origin))

Adm: Should be taken with food (Administer w/in 15 mins before or immediately after meals.).

Category: Insulins

Indications: Treatment of patients w/ diabetes mellitus who require insulin for the maintenance of normal glucose homeostasis.

Caution: Transferring from other insulins. Emotional distress. Renal or hepatic failure. Pregnancy & lactation.

Contra-Ind: Hypoglycemia, IV administration. Children <18 yr.

D/I: Requirement may be increased by OC, corticosteroid or thyroid replacement therapy.
Requirement may be reduced by oral hypoglycemic agent, salicylate, sulfa antibiotic & certain antidepressant (MAOIs).

Side effects: Lipodystrophy. Local & generalised allergic reaction. Hypoglycemia.

Dosage: Usual Adult Dose: Individualize dose based on glucose treatment goals, metabolic needs, eating habits, and other lifestyle variables.

Renal Dose Adjustments: Use with caution; insulin requirements may be reduced in patients with renal impairment

Liver Dose Adjustments: Use with caution; insulin requirements may be reduced in patients with hepatic impairment

BROMOCRIPTINE (Parlodel®)

P/P: Parlodel 2.5mg tab, 30's

Adm: Should be taken with food.

Category: Prolactin inhibitors; dopamine agonist

Indications: Menstrual disorders & infertility, prevention & suppression of lactation. Benign breast processes. Parkinson's disease.

Caution:	Psychotic patients. Severe CV disorders. Increased risk of conception, patients with peptic ulcer, diabetes, diabetic retinopathy, impaired hepatic or renal function
Contra-Ind:	Breast carcinoma, hypersensitivity to ergot alkaloids, uncontrolled hypertension, severe ischaemic heart disease. Pregnancy and lactation
D/I:	Bromocriptine plasma levels may be increased by erythromycin, josamycin, other macrolide antibiotics or octreotide. Alcohol. Avoid concurrent psychotropics
Side effects:	Fatigue, dizziness, nausea, vomiting, visual disturbances, orthostatic hypotension.
Dosage:	Usual Adult Dose: Initial: 1.25 mg to 2.5 mg orally daily. Maintenance: 2.5 mg to 15 mg orally daily. Usual Pediatric Dose: 11 to 15 years old: Initial: 1.25 mg to 2.5 mg orally daily. Maintenance: 2.5 mg to 10 mg orally daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

CABERGOLINE (Dostinex®) (Restricted)

P/P:	Dostinex 0.5mg tab, 2's, Dostinex 0.5mg tab, 8's
Adm:	Should be taken with food
Category:	prolactine inhibitors; dopamine agonist
Indications:	Treatment of hyperprolactinaemia; prevention or suppression of lactation. Adjunct in Parkinson's disease
Caution:	CV disease, Raynaud's syndrome, renal insufficiency, peptic ulcer, GI bleeding, mental illness (esp. psychosis), HTN, pregnancy
Contra-Ind:	Toxemia of pregnancy, history of puerperal psychosis, uncontrolled hypertension, hepatic insufficiency. Hypersensitivity to cabergoline and ergot derivatives.
D/I:	Antiemetics, antihypertensive, psychotropics, macrolides
Side effects:	Decrease in BP, dizziness, vertigo, headache, nausea, sleeplessness, abdominal pain, dyspepsia, gastritis, weakness, fatigue, constipation, vomiting, breast pain, hot flushes, depression
Dosage:	Usual Adult Dose: Initial dose: 0.25 mg orally twice a week. Dosage may be increased by 0.25 mg twice a week. Maximum dose: 1 mg orally twice a week (according to patient serum prolactin level). Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: caution when administering this drug to patients with liver dysfunction is recommended.

CALCITONIN (Miacalcic®)

P/P:	Miacalcic Inj 50IU, 100IU
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Category: anti-parathyroid hormones; Agents Affecting Bone Metabolism

Indications: Osteoporosis, bone pain, Paget's disease of the bone, neurodystrophic disorders. Inj Hypercalcaemia, adjuvant therapy of acute pancreatitis. Osteoporosis, bone pain, Paget's disease of bone.

Caution: Pregnancy, lactation. Skin testing prior to treatment should be considered in patients w/ suspected sensitivity to calcitonin.

Contra-Ind: Hypersensitivity.

D/I: Concurrent use with digitalis, mithramycin, or biphosphonate resorption inhibitors calls for dosage adjustments of these drugs.

Side effects: Nausea, vomiting, tingling of hands; injection site inflammatory reactions, rashes, facial flushing, bronchospasm, headache, unusual taste, abdominal pain, anorexia

Dosage: Adult: The recommended dosage is 100 IU daily or 50 IU twice daily administered subcutaneously or intramuscularly
Pediatric population: calcitonin in children 0 to 18 years is not recommended.
Patients with hepatic impairment: No need to reduced or altered dosage requirements.
Patients with renal impairment: No data available

CARBIMAZOLE (Neomercazole®)

P/P: **Neomercazole 5mg tab, 100's**

Adm: May be taken with or without food.

Category: Antithyroid

Indications: Hyperthyroidism. Prep for subtotal thyroidectomy.

Caution: Liver disorders, pregnancy.

Contra-Ind: Serious preexisting blood disorders, tracheal obstruction, lactation.

D/I: Potentiates anticoagulant, iodine may delay response to carbimazole

Side effects: Rashes, nausea, headache & GI upsets. Rarely, alopecia, agranulocytosis, thrombocytopenia, & hepatitis.

Dosage: Adults: The initial dose is in the range 20 mg to 60 mg, taken as two to three divided doses, Maintenance regimen: Final dosage is usually in the range 5 mg to 15 mg per day.
Pediatric population: Use in children and adolescents (3 to 17 years of age)
The usual initial daily dose is 15 mg per day adjusted according to response.
Use in children (2 years of age and under): Use of carbimazole in children below 2 years of age is not recommended.
Patients with hepatic impairment: it is contraindicated
Patients with renal impairment: No data available

CHORIOGONADOTROPIN ALPHA (HUMAN CHORIONIC GONADOTROPIN) (Ovitrelle®) (Restricted)

P/P:	Ovitrelle 250mcg Inj
Category:	Gonadotrophins
Indications:	Women undergoing superovulation prior to assisted reproductive technologies (ART) to trigger final follicular maturation & luteinisation after stimulation of follicular growth. Anovulatory or oligo-ovulatory women
Caution:	Hypothyroidism, adrenocortical insufficiency, hyperprolactinemia & pituitary or hypothalamic tumors. Systemic disease. Ovarian hyperstimulation syndrome, multiple pregnancy.
Contra-Ind:	Hypothalamic & pituitary gland tumors. Ovarian enlargement, gynecological hemorrhages of unknown etiology, ovarian, uterine or mammary carcinoma, extrauterine pregnancy in the previous 3 mth. Active thromboembolic disorders. Pregnancy & lactation.
Side effects:	Local inj site reactions, Mild to moderate ovarian hypersensitivity syndrome. Nausea, vomiting, abdominal pain. Headache, tiredness.
Dosage:	250 micrograms is administered 24 to 48 hours after optimal stimulation of follicular growth is achieved. Pediatric population: There is no relevant use in the pediatric population. Renal or hepatic impairment: Safety, efficacy and pharmacokinetics in patients with renal or hepatic impairment have not been established.

CHORIONIC GONADOTROPHINS (HUMAN CHORIONIC GONADOTROPHIN; HCG) (Pregnyl, Choriomon®) (Restricted)

P/P:	Pregnyl 1500 IU Inj, 3's, Pregnyl 5000 IU Inj, 3's Choriomon 5000 IU Inj, 3's
Category:	Gonadotrophins
Indications:	Treatment of prepubertal cryptorchidism, infertility due to hypogonadotropic hypogonadism, induction of ovulation and pregnancy; treatment of delayed puberty associated with hypogonadism
Caution:	Prepubertal boys; latent or overt cardiac failure; renal dysfunction; HTN; epilepsy, migraine. Multiple ovulations, ovarian hyperstimulation syndrome.
Contra-Ind:	Hypersensitivity; precocious puberty, prostatic carcinoma or other androgenic dependent neoplasm. Lactation.
Side effects:	Headache, irritability, fatigue, restlessness, depression, pain on Inj site, allergic reactions. Men: oedema (high doses). Rarely, arterial thromboembolism, peripheral & cerebral vascular occlusions
Dosage:	In the female: 5,000–10,000 IU hCG to induce ovulation, following treatment with an FSH (Follicle Stimulating Hormone) or HMG (Human Menopausal Gonadotrophins) preparation.

In the male: 500–1,000 IU hCG 2-3 times weekly
Renal or hepatic impairment: No data available.

Cinacalcet (Cinac; Mimpara®) (Restricted)

P/P:	Cinac 30mg, 28's
Adm:	Taken with food or shortly after a meal
Category:	Calcimimetic
Indications:	Treatment of secondary hyperparathyroidism, treatment of hypercalcemia in patients with parathyroid carcinoma.
Caution:	Adynamic bone disease, cases of idiosyncratic hypotension, worsening of heart failure, Hypocalcemia Testosterone level reductions.
Side effects:	Fatigue, headache, depression, hypocalcemia, dehydration, diarrhea, anemia, myalgia, Weakness, hypertension
Dosage:	Usual Adult Dose: Initial dose: 30 mg orally twice a day Maintenance dose: 60 to 360 mg orally per day Maximum dose: 90 mg orally 4 times a day Renal Dose Adjustments: No dose adjustment recommended Liver Dose Adjustments: In patients with moderate-severe hepatic impairment, PTH and serum calcium concentrations should be closely monitored during dose titration.

CLOMIPHENE CITRATE (Clomid®)

P/P:	Clomid 50mg tab, 30's
Adm:	May be taken with or without food.
Category:	Anti estrogen
Indications:	Anovulatory infertility, amenorrhea or oligomenorrhea w/ anovulatory cycles, oligospermia.
Caution:	Polycystic ovaries, evaluate presence of ovarian cyst before each cycle treatment. Uterine fibroids; discontinue if visual disturbances develop.
Contra-Ind:	Hypersensitivity; abnormal bleeding; pregnancy, lactation; liver dysfunction; mental depression; thrombophlebitis
D/I:	Decreased response with danazol.
Side effects:	Breast tenderness, headache, dizziness. Dizziness, nausea, depression, fatigue, insomnia, flushing. Transient visual impairment, cystic ovarian hyperplasia.
Dosage:	Usual Adult Dose: 50 to 100 mg orally once a day for 5 days

Renal Dose Adjustments: Dosage reductions are not recommended for patients with renal dysfunction.

Liver Dose Adjustments: it is contraindicated in patients with liver disease or a history of liver dysfunction.

CYPROTERONE ACETATE (Androcur®)

P/P:	Androcur 50mg tab, 20's
Adm:	Should be taken with food
Category:	Other Hormone Related Drugs
Indications:	Men: Reduction of drive-in sexual Deviations; Inoperable prostatic carcinoma; To reduce initial increase of male sex hormones in treatment w/ GnRH agonists; To treat hot flushes in patients under treatment w/ GnRH analogues or who had orchietomy; Women: Severe signs of androgenization; Postmenopausal or hysterectomized patients
Caution:	Prostate cancer, hepatic impairment. During treatment, liver function, adrenocortical function and RBC count should be checked regularly. In women: If persistent or recurrent bleeding occurs during therapy, interrupted treatment until organic diseases have been excluded. Pregnancy and lactation.
Contra-Ind:	Markedly impaired liver function or cholestasis; hepatic adenoma; malignant or wasting diseases; severe chronic depression; severe diabetes with vascular changes; sickle-cell anaemia; history of thromboembolic disorders; immature youths.
D/I:	Drive-reducing effect antagonized by alcohol. Requirement for oral antidiabetics & insulin can change
Side effects:	Inhibits spermatogenesis, reduces volume of ejaculate, causes infertility, produces abnormal spermatozoa, gynecomastia and enlargement of mammary glands; galactorrhea and benign nodules.
Dosage:	Usual adult dose: 200 to 300 mg per day divided into two to three doses Usual pediatric dose: Safety and efficacy have not been established Renal Dose Adjustments: No data available Liver Dose Adjustments: No data available.

DAPAGLIFLOZIN (Dapazin, Divinus, ForXIGA®)

P/P:	Dapazin , Divinus and ForXIGA 5mg and 10 mg tab.
Category:	Oral hypoglycemic
Indications:	Type 2 Diabetes Mellitus, Heart Failure.
Caution:	Volume depletion: assess volume status and renal function in the elderly, patients with renal impairment Ketoacidosis in Patients with Diabetes Mellitus:

Urosepsis and Pyelonephritis: Evaluate for signs and symptoms of urinary tract infections and treat promptly, if indicated.

Necrotizing Fasciitis of the Perineum (Fournier's Gangrene): Serious, life-threatening cases have occurred in patients with diabetes, both females and males. Assess patients presenting with pain or tenderness, erythema, or swelling in the genital or perineal area, along with fever or malaise. If suspected, institute prompt treatment.

Genital Mycotic Infections: Monitor and treat if indicated.

Hypoglycemia: Consider a lower dose of insulin or the insulin secretagogue to reduce the risk of hypoglycemia when used in combination with FARXIGA.

Contra-Ind: History of serious hypersensitivity.
Severe renal impairment (eGFR less than 30 mL/min/1.73 m²) in patients who are being treated for glycemic control without established cardiovascular disease or cardiovascular risk factors.
Patients on dialysis.

Side effects: Female genital mycotic infections, nasopharyngitis, and urinary tract infections.

Dosage: Type 2 Diabetes Mellitus:
To improve glycemic control the recommended starting dose is 5 mg once daily, taken in the morning. Increase dose to 10 mg once daily in patients tolerating 5 mg who require additional glycemic control.
To reduce the risk of hospitalization for heart failure in adults with type 2 diabetes mellitus and established cardiovascular disease or multiple cardiovascular risk factors, the recommended dose is 10 mg once daily.

Heart Failure: 10 Mg Once Daily

Dapagliflozin / Metformin (Xigduo®)

P/P: Xigduo 10/1000 mg tab.

Adm: Administer once daily in the morning with food. Swallow whole. Never crush, cut, or chew.

Category: Oral hypoglycemic

Indications: XIGDUO XR is a combination of dapagliflozin, a sodium-glucose cotransporter 2 (SGLT2) inhibitor, and metformin, a biguanide, indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus when treatment with both dapagliflozin and metformin is appropriate.
Limitation of use: Not for treatment of type 1 diabetes mellitus or diabetic ketoacidosis.

Caution: Lactic acidosis
Hypotension
Ketoacidosis
Acute Kidney Injury and Impairment in renal function
Urosepsis and Pyelonephritis
Hypoglycemia: In patients taking insulin or an insulin secretagogue with XIGDUO XR,
Vitamin B12 deficiency
Genital mycotic infections
Increased LDL-C:
Bladder Cancer

Contra-Ind:	Moderate to severe renal impairment: (eGFR below 60 mL/min/1.73 m ²), end-stage renal disease or dialysis. History of serious hypersensitivity to dapagliflozin or hypersensitivity to metformin hydrochloride. Metabolic acidosis, including diabetic ketoacidosis.
Side effects:	Female genital mycotic infection, nasopharyngitis, urinary tract infection, diarrhea, and headache, diarrhea and nausea/vomiting.
Dosage:	For patients not already taking dapagliflozin, the recommended starting dose for dapagliflozin is 5 mg once daily. For patients requiring a dose of 5 mg dapagliflozin and 2000 mg metformin HCl extended-release, use two of the 2.5 mg/1000 mg metformin HCl extended-release tablets. Do not exceed a daily dose of 10 mg dapagliflozin/2000 mg metformin HCl extended-release. No dosage adjustment is indicated in patients with mild renal impairment. XIGDUO XR may need to be discontinued at time of, or prior to, iodinated contrast imaging procedures.

DESMOPRESSIN (Minirin®) (Restricted)

P/P:	Minirin 0.1mg tab, 30's, Minirin 0.2mg tab, 30's Minirin melt 60 mg tab30s, Minirin melt 120 mg tab30s
Adm:	May be taken with or without food
Category:	Antidiuretics / Haemostatics
Indications:	Central diabetes insipidus Adult & childn; Primary nocturnal enuresis
Caution:	Avoid fluid overload in the very young & the elderly, conditions characterized by fluid &/or electrolyte imbalance & those at risk for increased intracranial pressure.
Contra-Ind:	Hypersensitivity. Type IIb von Willebrand's disease. Psychogenic or habitual polydipsia; decompensated cardiac failure with ongoing diuretic treatment.
D/I:	Magnitude but not the duration of response may be augmented by indomethacin. TCA, chlorpromazine & carbamazepine may increase ADH secretion.
Side effects:	Headache, abdominal pain, nausea, hyponatraemia, dizziness, peripheral edema, daytime polyuria, stomach pain, dry mouth, wt gain.
Dosage:	Cranial Diabetes Insipidus: A suitable starting dose in adults and children is 60 µg three times daily; maintenance dose is 60 µg to 120 µg s three times daily. Primary Nocturnal Enuresis: The recommended initial dose is 120 µg at bedtime Pediatric use: Dose recommendations are the same as in adults Use in the elderly: The initiation of treatment in patients over 65 years of age is not recommended. Renal dose Adjustment: it is contraindicated in moderate and severe renal insufficiency (creatinine clearance below 50 mL/min)
Liver Dose Adjustments:	No data available

DEXAMETHASONE (Oradexon, Dexamethason®)

P/P:	Oradexon 0.5mg tab, 20's, Oradexon 1.5mg tab, 10's Dexamethason 4 mg tab ,100's Dexamethasone amp 8mg/2ml, 5's, Zenos amp 4mg/ml, 2ml
Adm:	Oral prep should be taken with food.
Category:	Corticosteroid Hormones
Indications:	Anti-inflammatory & immunosuppressant
Caution:	Hypothyroidism, cirrhosis, HTN, CHF, ulcerative colitis.
Contra-Ind:	Hypersensitivity; active untreated infections; systemic fungal infection
D/I:	Barbiturates, phenytoin, rifampin, salicylates, vaccines, toxoids.
Side effects:	Fluid & electrolyte disturbances; CV, musculoskeletal, GI, metabolic effects; thromboembolism.
Dosage:	Usual Adult Dose: Oral, 0.75 to 9 mg per day in divided doses every 6 to 12 hours IM (as acetate): 8 to 16 mg per dose. Usual Pediatric Dose: 0.08 to 0.3 mg/kg/day or 2.5 to 5 mg/m ² /day in divided doses every 6 to 12 hours. IM, IV: 0.6 mg/kg once (maximum dose: 16 mg) Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DUTASTERIDE (Avodart) (Restricted)

P/P:	Avodart 0.5mg tab, 30's
Adm:	May be taken with or without food.
Category:	Anti Androgen
Indications:	Treatment & prevention of progression of benign prostatic hyperplasia (BPH) in men.
Caution:	Liver disease. Serum PSA >4 ng/mL requires further evaluation & consideration of prostate biopsy. Excreted in semen therefore use of condom is recommended.
Contra-Ind:	Severe liver impairment; women who are or who may become pregnant, child, adolescent.
D/I:	Diltiazem, verapamil.
Side effects:	Impotence; decreased libido; ejaculation disorders; breast tenderness and enlargement
Dosage:	Usual Adult Dose: 0.5 mg orally once a day Renal Dose Adjustments: Data not available
	Liver Dose Adjustments: Data not available

Dulaglutide (Trulicity®)

P/P: Trulicity 0.75Mg/0.5 MI Prefilled Pen S.C 4"S
Trulicity 1.5 Mg/0.5MI Prefilled Pen S.C 4"S

- Adm:** Subcutaneous, administer once weekly on the same day each week, without regard to meals or time of day.
- Category:** Glucagon-Like Peptide-1 (GLP-1) Receptor Agonist
- Indications:** Diabetes mellitus, type 2, treatment as an adjunct to diet and exercise in adults and pediatric patients ≥10 years of age, risk reduction of major cardiovascular events in adults with type 2 diabetes mellitus who have established cardiovascular disease or multiple cardiovascular risk factors.
- Caution:** Risk of thyroid C-cell tumor, Pancreatitis, Risk of hypoglycemia when used in combination with insulin secretagogues or insulin, acute kidney injury, severe gastrointestinal disease
- Contra-Ind:** Serious hypersensitivity to dulaglutide or any component of the formulation; personal or family history of medullary thyroid carcinoma (MTC); patients with multiple endocrine neoplasia syndrome type 2 (MEN2)
- Side effects:** Acute kidney injury, diabetic retinopathy, Gallbladder disease and biliary tract disease, diarrhea, nausea, and vomiting, dyspepsia, acute pancreatitis.
- Dosage:** Initial: 0.75 mg once weekly; may increase to 1.5 mg once weekly after 4 to 8 weeks, may further increase to 3 mg once weekly after at least 4 weeks on the 1.5 mg weekly dose and then to a maximum of 4.5 mg once weekly after at least 4 weeks on the 3 mg weekly dose.
- Dosing: Altered Kidney Function: Adult
Mild to severe impairment: No dosage adjustment necessary
- Dosing: Hepatic Impairment: Adult
There are no dosage adjustments

DYDROGESTERONE (Duphaston®)

P/P: Duphaston 10mg tab, 20's

Adm: May be taken with or without food.

Category: Progesterones & Related Synthetic Drugs

Indications: Treatment of endometriosis; management of recurrent miscarriage; treatment of menstrual disorders e.g., menorrhagia; management of threatened miscarriage; infertility; endometrial protection during menopausal HRT

Caution:	Monitor closely for loss of vision, proptosis, diplopia, migraine and signs or symptoms of embolic disorders, lactation. Patients with CVD or renal impairment, epilepsy, migraine, asthma, other conditions which may be aggravated by fluid retention
Contra-Ind:	Breast & genital cancers; hepatic disease or tumors; pruritus or herpes of pregnancy; primary amenorrhea, abnormal vag bleeding.
D/I:	Carbamazepine, griseofulvin, phenobarbital, and rifampicin enhances the clearance of progestogens
Side effects:	Dizziness, nausea, headache, fatigue, irritability; abdominal pain and distention; musculoskeletal pain.
Dosage:	10 mg two to three times daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DYDROGESTERONE +ESTRADIOL (Femoston®)

P/P:	Femoston 2/10: (14 brick red tab each containing Estradiol 2 mg. 14 yellow tab each containing Estradiol 2 mg, dydrogesterone 10 mg.) Femoston 1/10: (14 white tab each containing Estradiol 1 mg. 14 grey tab each containing Estradiol 1 mg, dydrogesterone 10 mg.) Femoston Conti 1/5 : (Each salmon-coloured tab contains Estradiol 1 mg, dydrogesterone 5 mg.)
Adm:	May be taken with or without food.
Category:	Oestrogens & Progesterones & Related Synthetic Drugs
Indications:	Relief of symptoms due to natural or surgically-induced menopause & symptoms due to estrogen deficiency in women w/ uterus. Prevention of postmenopausal osteoporosis in women w/ uterus.
Caution:	Periodic breast check-up &/or mammography should be carried out. Risk of VTE. Otosclerosis, multiple sclerosis, SLE, porphyria, melanoma, epilepsy, migraine, asthma, liver disease, endometriosis, uterine fibroids, HTN, cardiac or renal dysfunction & haemoglobinopathies.
Contra-Ind:	Known or suspected breast carcinoma, endometrial carcinoma or other hormone-dependent neoplasia; acute or chronic liver disease; history of liver disease, known or suspected pregnancy.
D/I:	Liver enzyme-inducing drugs e.g., barbiturates, phenytoin, rifampicin, carbamazepine increase metabolism of estrogens, may reduce the estrogen effect.
Side effects:	Breast tenderness, nausea, headache & edema; breakthrough bleeding; skin reactions
Dosage:	For the first 14 days during a 28-cycle, one tablet containing oestradiol is taken daily; during the following 14 days one tablet containing oestradiol and dydrogesterone is taken. After a cycle of 28 days, on the 29th day, a new 28-day cycle begins. This means that the treatment should be taken continuously without a break between packs.

Pediatric population: There is no relevant indication for the use in the Pediatric population.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

Empagliflozin (Jardiance®)

P/P: Jardiance 10mg Tab 30"S

- Adm:** Administer once daily in the morning, with or without food.
Surgical procedures: Consider temporary discontinuation of therapy at least 3 days prior to surgery; ensure risk factors for ketoacidosis are resolved prior to reinitiating therapy.
- Category:** Sodium-Glucose Cotransporter 2 (SGLT2) Inhibitor
- Indications:** Diabetes mellitus, type 2, Heart failure,
off-label use: Chronic kidney disease
- Caution:** increased incidence of bone fracture, Volume Depletion, Genital Mycotic Infections, Serious hypersensitivity reactions, Ketoacidosis: Assess patients who present with signs and symptoms of JARDIANCE safely and effectively. See full prescribing information for metabolic acidosis
- Contra-Ind:** Hypersensitivity (eg, angioedema) to empagliflozin or any component of the formulation; patients on dialysis, severe renal impairment (eGFR <20 mL/minute/1.73 m²); end-stage renal disease.
- Side effects:** urinary tract infections and female genital mycotic infection, Ketoacidosis, hypovolemia, bone fractures, angioedema, asthma, urticaria
- Dosage:** Chronic kidney disease: 10 mg once daily
Diabetes mellitus, type 2: Initial: 10 mg once daily; may increase to 25 mg once daily after 4 to 12 weeks if needed
Heart failure: 10 mg once daily.
Dosing: Altered Kidney Function: Adult
eGFR ≥30 mL/minute/1.73 m²: No dosage adjustment necessary
eGFR <30 mL/minute/1.73 m²: Chronic kidney disease (off-label use): No dosage adjustment necessary for eGFR ≥20 mL/minute/1.73 m²; therapy was not initiated in patients with an eGFR <20 mL/minute/1.73 m²
Diabetes mellitus, type 2, treatment:
The US manufacturer does not recommend use for glycemic control; however, in patients previously established on empagliflozin, some experts continue use off label at a dose of 10 mg once daily as a treatment for diabetic kidney disease; renal and heart failure benefits have been shown in patients with an eGFR ≥20 mL/minute/1.73 m²
Heart failure: Benefits of 10 mg once daily have been shown in patients with an eGFR ≥20 mL/minute/1.73 m²
Hemodialysis, intermittent (thrice weekly): Use is contraindicated

Peritoneal dialysis: Use is contraindicated
CRRT: Avoid use
PIRRT (eg, sustained, low-efficiency diafiltration): Avoid use

Dosing: Hepatic Impairment: Adult
No dosage adjustment necessary.

Empagliflozin and Linagliptin (Glyxambi®)

P/P: **Glyxambi 10/5mg F.C Tab 30"S**
Glyxambi 25/5mg F.C Tab 30"S

Adm: Administer once daily in the morning, with or without food.

Category: Dipeptidyl Peptidase 4 (DPP-4) Inhibitor , Sodium-Glucose Cotransporter 2 (SGLT2) Inhibitor

Indications: Diabetes mellitus, type 2, treatment

Caution: Arthralgia, Genital mycotic infections, Bone fractures, Ketoacidosis has been reported in patients with type 1 and type 2 diabetes on SGLT2 inhibitors. In some cases, Glucagon-like peptide-1 exposure closely monitor for signs and symptoms of pancreatitis

Contra-Ind: History of serious hypersensitivity, Diabetic ketoacidosis; type 1 diabetes mellitus; eGFR <45 mL/minute/1.73 m².

Side effects: Urinary tract infection, Nasopharyngitis, upper respiratory tract infection, Ketoacidosis, Acute pancreatitis, constipation.

Dosage: Initial: Empagliflozin 10 mg/linagliptin 5 mg once daily, may increase to empagliflozin 25 mg/linagliptin 5 mg once daily

Dosing: Altered Kidney Function: Adult eGFR ≥30 mL/minute/1.73 m²: No dosage adjustment necessary.

eGFR <30 mL/minute/1.73 m²: The US manufacturer does not recommend use

Dialysis: Use is contraindicated.

Dosing: Hepatic Impairment: Adult
No dosage adjustment necessary.

Empagliflozin and Metformin (Synjardy®)

P/P:	Synjardy 12.5/1,000Mg Tab 60"S Synjardy 12.5/850Mg Tab 60"S Synjardy 5/1,000Mg Tab 60"S
Adm:	Administer immediate-release tablets twice daily with meals or extended-release tablets once daily with breakfast. Extended-release tablets should not be split, crushed, chewed, or dissolved.
Category:	Sodium-Glucose Cotransporter 2 (SGLT2) Inhibitor, Antidiabetic Agent
Indications:	Diabetes mellitus, type 2, treatment Adjunct to diet and exercise to improve glycemic control in adults and pediatric patients ≥ 10 years of age
Caution:	Bone fractures Hypersensitivity reactions, Genital mycotic infections, avoid in hypoperfusion, Use metformin cautiously in patients at risk for lactic acidosis
Contra-Ind:	Hypersensitivity, severe renal impairment ($eGFR < 30 \text{ mL/minute}/1.73 \text{ m}^2$), end-stage renal disease or patient on dialysis, acute or chronic metabolic acidosis.
Side effects:	Most common adverse reactions associated with empagliflozin were urinary tract infection and female genital mycotic infections. Most common adverse reactions associated with metformin are diarrhea, nausea/vomiting, flatulence, abdominal discomfort, indigestion, asthenia, and headache.
Dosage: information.	Note: Additional therapeutic considerations may apply; refer to individual agents for information.
Initial:	Individualize initial dose based on patient's current antidiabetic regimen. May gradually increase dose based on effectiveness and tolerability. ⁴⁴
Dosing:	Altered Kidney Function: Adult Altered kidney function: Note: The glycemic efficacy of empagliflozin decreases as kidney function declines. $eGFR \geq 45 \text{ mL/minute}/1.73 \text{ m}^2$: No dosage adjustment necessary. Monitor kidney function at least annually. $eGFR 30 \text{ to } 45 \text{ mL/minute}/1.73 \text{ m}^2$: The US manufacturer does not recommend initiating therapy; refer also to individual agents. $eGFR < 30 \text{ mL/minute}/1.73 \text{ m}^2$: Use is contraindicated.

End-stage kidney disease: Use is contraindicated.

Dialysis: Use is contraindicated.

Dosing: Hepatic Impairment: Adult

Empagliflozin may be used in patients with hepatic impairment. The manufacturer recommends avoiding metformin because liver disease is considered a risk factor for the development of lactic acidosis during metformin therapy; however metformin may be used depending on severity of hepatic impairment.

ESTRADIOL (Estraderm®)

P/P:	Estraderm TTS 25, 6's; Estraderm TTS 50, 6's
Adm:	Apply once every 3-4 days. Continuous or cyclic administration
Category:	Oestrogens
Indications:	Estrogen deficiency due to menopause. Prevention of accelerated post-menopausal bone loss.
Caution:	Heart failure, HTN, disorders of renal or hepatic function, epilepsy, migraine, asthma, breast conditions associated w/ increased risk of breast cancer, leiomyomas of the uterus, endometriosis; diabetes
Contra-Ind:	Breast or endometrial carcinoma, other estrogen-dependent neoplasia; vaginal bleeding of unknown origin; severe liver damage; porphyria, active deep venous thrombosis, thromboembolic disorders; pregnancy & lactation.
D/I:	Barbiturates, primidone, carbamazepine, hydantoins, rifampicin, oxcarbazepine, topiramate, felbamate, griseofulvin.
Side effects:	Skin irritation, changes in uterine bleeding pattern; breakthrough bleeding & spotting; increase in the size of uterine leiomyomata; estrogen-treatment related reactions e.g., breast discomfort
Dosage:	Usual Adult Dose: 0.025 to 0.1 mg/day (transdermal film) applied topically 1 or 2 times a week Renal Dose Adjustments: Data not available Liver Dose Adjustments: in patients with liver disease caution is recommended.

ESTRADIOL+CYPROTERONE ACETATE (Climen®)

P/P:	Climen tab, 21's
Adm:	May be taken with or without food.
Category:	Oestrogens & Progesterones & Related Synthetic Drugs

Indications:	Hormonal replacement therapy in climacteric complaints, signs of involution of the skin & urogenital tract, depressive moods in the climacteric, deficiency symptoms after menopause.
Caution:	Discontinue if migraine occurs for the 1st time or if there is more frequent occurrence of unusually severe headaches; sudden perceptual disorders (e.g., disturbances of vision or hearing); 1st signs of thrombophlebitis or thromboembolic symptoms; a feeling of pain & tightness in the chest; pending operations (6 wk beforehand); immobilization (e.g., following accidents); onset of jaundice or hepatitis;
Contra-Ind:	Pregnancy, lactation, severe liver dysfunction; jaundice or persistent itching during a previous pregnancy; previous or existing liver tumors; uterine, ovarian or breast tumors or a suspicion of such tumors, endometriosis; existing or previous thromboembolic processes; severe diabetes mellitus w/ vascular changes; sickle-cell anemia;
D/I:	Barbiturates, hydantoins, phenylbutazone, rifampicin, ampicillin. Requirement for oral antidiabetics & insulin can change
Side effects:	Occasionally, a feeling of tension in the breasts, intermenstrual bleeding, GI complaints, nausea, changes in body wt & libido.
Dosage:	<p>One white tablet daily for the first 16 day, follow by one pink tablet for 12 days.</p> <p>Renal Dose Adjustments: Data not available</p> <p>Liver Dose Adjustments: Data not available</p>

ESTRADIOL + NORGESTREL (Progyluton®)

P/P:	Progyluton tab, 21's (11 tablets of 2 mg estradiol valerate each, plus 10 tablets of 2mg estradiol valerate and 0.5 mg norgestrel each.)
Adm:	May be taken with or without food.
Category:	Oestrogens & Progesterones & Related Synthetic Drugs
Indications:	Pre- & postmenopausal symptoms, primary & secondary amenorrhoea; menstrual irregularities. Deficiency symptoms after oophorectomy or radiological castration for noncarcinomatous diseases.
Caution:	Before starting treatment of secondary amenorrhoea, exclude presence of a prolactin-producing pituitary tumor. Diabetes; HTN; varicose veins; otosclerosis, multiple sclerosis; epilepsy; tetany, porphyria; chorea minor; history of phlebitis. Benign & rarely malignant liver tumors which may lead to life threatening intra-abdominal hemorrhage have been observed
Contra-Ind:	Pregnancy and lactation, undiagnosed vaginal bleeding, known or suspected cancer of the breast, known or suspected premalignant conditions or malignancies, if sex steroid-influenced, presence or history of liver tumors (benign or malignant), severe hepatic disease, acute arterial thromboembolism (e.g., myocardial infarction, stroke), active deep venous thrombosis, thromboembolic disorders, or a documented history of these, sickle cell anaemia

- D/I: Activity impaired by barbiturates, phenytoin, rifampicin, phenylbutazone, ampicillin.
Requirement for oral antidiabetics & insulin can change
- Side effects: Rarely, breast tension, gastric upsets, nausea, headache, influence on body wt & libido, unscheduled bleeding
- Dosage: Usual Adult Dose: one tablet once daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Exemestane (Aromasin®)

- P/P: **Aromasin 25mg Coated Tab 30"S**
- Adm: Oral, Administer after a meal.
- Category: Aromatase Inhibitor
- Indications: Adjuvant treatment of estrogen receptor-positive early breast cancer in postmenopausal patients or in premenopausal woman with ovarian axis suppression, Treatment of advanced breast cancer in postmenopausal patients whose disease has progressed following tamoxifen therapy, Risk reduction for invasive breast cancer in postmenopausal patients.
- Caution: Reductions in bone mineral density, potential risk to a fetus (Advise females of reproductive potential to use effective contraception), Elevations of AST, ALT
- Contra-Ind: Known hypersensitivity to exemestane or any component of the formulation.
- Side effects: Hot flash, Lymphocytopenia, Increased serum alkaline phosphatase, Hypertension, Depression, insomnia, Arthralgia.
- Dosage: Breast cancer adjuvant: Oral: 25 mg once daily (following 2 to 3 years of tamoxifen therapy) for a total duration of 5 years
Breast cancer advanced: 25 mg once daily; continue until tumor progression
Breast cancer risk reduction: 25 mg once daily for 5 years
- Dosing: Altered Kidney Function: Adult
No adjustment necessary
- Dosing: Hepatic Impairment: Adult
No adjustment necessary

FINASTERIDE (Proscar, Finasid, Propecia®) (Restricted)

- P/P: **Proscar 5mg tab, 28's**
Finasid 5mg tab, 30's
Propecia 1 mg tab, 28s

Adm:	May be taken with or without food.
Category:	Anti Androgen
Indications:	Treatment of symptomatic benign prostatic hyperplasia (BPH) to decrease enlarged prostate, increase urinary flow & improves symptoms.
Caution:	Undiagnosed prostate cancer, liver dysfunction, obstructive uropathy.
Contra-Ind:	Hypersensitivity; children, exposure of pregnant women to finasteride either via direct contact with crushed tablet or through semen of male sexual partners who are taking finasteride; pregnancy and lactation.
Side effects:	Gynaecomastia, decreased libido, impotence, reduction in the volume of ejaculate, testicular pain. Hypersensitivity reactions
Dosage:	Usual Adult Dose: 5 mg orally once a day Renal Dose Adjustments: No adjustment necessary Liver Dose Adjustments: Use with caution

FOLLITROPIN ALFA AND BETA (RECOMBINANT FOLLICLE STIMULATING HORMONE) (Gonal F, Puregon®)

P/P:	Gonal F 75 IU, 150 IU, 300 IU, 450 IU (Recombinant Follitropin alfa) Puregon 50IU, 100IU (Recombinant FSH, Follitropin β)
Category:	Gonadotropins
Indications:	Anovulation [including polycystic ovarian disease, (PCOD)] in women unresponsive to treatment w/ clomiphene citrate. Stimulation of multifollicular development in patients undergoing superovulation for assisted reproductive techniques (ART). Spermatogenesis induction
Caution:	Evaluate patient for hypothyroidism, adrenocortical deficiency, hyperprolactinemia & pituitary or hypothalamic tumors before starting therapy.
Contra-Ind:	Tumors of ovary, breast, uterus, pituitary or hypothalamus. Pregnancy or lactation. Undiagnosed vaginal bleeding. Primary ovarian failure. Ovarian cysts or enlarged ovaries, not related to polycystic ovarian disease (PCOD).
D/I:	Ovulation-stimulating agents may potentiate the follicular response. Concurrent use of GnRH agonist-induced pituitary desensitization may increase the dosage of Follitropin alfa needed to elicit an adequate ovarian response.
Side effects:	Ovarian cysts, mild to severe injection site reactions, headache, mild to moderate ovarian hyperstimulation syndrome (OHSS), abdominal pain, GI disturbances.
Dosage:	75IU to 300 IU per day, the lowest dose consistent with the expectation of good results should be used Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

Fulvestrant (Faslodex, Fuxran®) [High Alert]

P/P:	Faslodex 250mg/5ml Prefilled Syringe I.M 2"S Fuxran 250mg/5ml Pre-Filled Syringe I.M 2"S
Adm:	IM, FASLODEX 500 mg should be administered intramuscularly into the buttocks slowly (1 - 2 minutes per injection) as two 5 mL injections, one in each buttock, on days 1, 15, 29 and once monthly thereafter.
Category:	Estrogen Receptor Antagonist
Indications:	Breast cancer, HR-positive, HER2-negative advanced or metastatic breast cancer.
Caution:	Use with caution in patients with a history of bleeding disorders, Hepatic Impairment (250 mg recommended), Fetal harm can occur when administered to a pregnant woman.
Contra-Ind:	hypersensitivity to fulvestrant or any component of the formulation, Pregnant or lactating patients.
Side effects:	Decreased serum glucose, hot flash, liver toxicity, Infection , Pain at injection site, Fatigue, Abdominal pain, constipation or diarrhea, nausea, stomatitis
Dosage:	IM: Initial: 500 mg on days 1, 15, and 29; Maintenance: 500 mg once every 28 days Dosing: Altered Kidney Function: Adult There are no dosage adjustments Dosing: Hepatic Impairment: Adult Mild impairment (Child-Pugh class A): No dosage adjustment necessary. Moderate impairment (Child-Pugh class B): Initial: 250 mg on days 1, 15, and 29; Maintenance: 250 mg once monthly. Severe impairment (Child-Pugh class C): use has not been evaluated.

GLIBENCLAMIDE (Daonil, Glibil®)

P/P:	Daonil 5mg tab, 30's, Glibil 5mg tab, 30's
Adm:	Should be taken with food.
Category:	Oral Antidiabetic Agents
Indications:	Mild or moderately severe uncomplicated maturity-onset diabetes mellitus unresponsive to diet alone.
Caution:	Monitor glucose urine & ketone tests. Obese patients.
Contra-Ind:	Type I IDDM, diabetic ketoacidosis, diabetic precoma or coma. Severe renal or hepatic dysfunction. Pregnancy & lactation.

- D/I: MAOIs, oral anticoagulants, oxyphenbutazone, phenylbutazone, alcohol; corticosteroids, epinephrine, phenytoin, thiazide diuretics, thyroid hormones, β -adrenergic blockers
- Side effects: Nausea, vomiting, epigastric pain, dizziness, weakness, paraesthesia, sensitivity reactions; prolonged hypoglycaemia.
- Dosage: Adult: The usual total daily dosage is 2.5mg to 15mg daily with a usual initial dose of 5mg daily.
 Pediatrics: it is contraindicated
 Hepatic or renal dysfunction may require reduction in dosage.

GLICLAZIDE (Diamicron, Glizide®)

- P/P: 80mg tab, 20's (Diamicron, Glaze), 80mg tab, 60's (Diamicron, Glaze)
 30mg tab, 30's (Diamicron MR)
 80mg tab, 30's (Glizide)
- Adm: Should be taken with food
- Category: Oral Antidiabetic Agents
- Indications: Type 2 diabetes.
- Caution: Hypoglycemia in elderly; monitor blood glucose concentration. May require insulins during metabolic stress. Care when transferring from combination therapy.
- Contra-Ind: Type 1 diabetes, ketoacidosis, diabetic precoma, severe renal or hepatic impairment.
 Pregnancy, lactation. Co-administration w/ miconazole.
- D/I: Chloramphenicol, clofibrate, cyclophosphamide, dicoumarol, MAOI, propranolol, & other β -blockers, corticosteroids, diuretics, alcohol
- Side effects: GI disturbances, skin reaction, haemotological reactions, cholestatic jaundice, vomiting, diarrhea, gastritis, increased transaminases.
- Dosage: Adults: The total daily dose may vary from 40-320 mg, gliclazide should be taken twice daily and according to the main meals of the day.
 Children: is not indicated for the treatment of juvenile onset diabetes mellitus.
 Hepatic or renal dysfunction: it is contraindicated

GLIMEPIRIDE(Amaryl, Glorion, Glimaryl, Glim®)

- P/P: 1mg tab, 30's (Amaryl, Glorion, Glimaryl, Glim)
 2mg tab, 30's (Amaryl, Glorion, Glimaryl, Glim)
 3mg tab, 30's (Amaryl, Glorion, Glimaryl, Glim)
 4mg tab, 30's (Glorion, Glim)
 6 mg tab, 30's (Glim)
- Adm: Should be taken with food (Take immediately before the 1st main meal of the day. Do not skip meals.)

Category: Oral Antidiabetic Agents

Indications: NIDDM, may be used in combination w/ insulin or metformin.

Caution: Increased risk of cardiovascular mortality. Elderly; mild to moderate hepatic and renal impairment.

Contra-Ind: IDDM, diabetic ketoacidosis, diabetic precoma or coma; severe renal impairment & hepatic dysfunction. Pregnancy & lactation.

D/I: NSAIDs, salicylates, sulfonamides, chloramphenicol, coumarins, probenecid, MAOIs, β-blockers. Thiazides & other diuretics,

Side effects: Hypoglycaemia; adrenergic counter-regulation; temporary visual impairment; GI symptoms. Rarely haematological disturbances

Dosage: Usual Adult Dose: 1 to 2 mg orally once a day Maximum dose: 8 mg per day.
Usual Geriatric Dose: Initial dose: 1 mg orally once a day; titrate slowly and monitor closely.
Usual Pediatric Dose: Not recommended
Renal Dose Adjustments: 1 mg orally once a day; titrate slowly and monitor closely.
Liver Dose Adjustments: Use with caution.

Glimepiride and Metformin (Amaryl M®)

P/P: Amaryl M

Adm: Administer with meals. Swallow extended-release tablets whole; do not crush or chew.

Category: Antidiabetic Agent, Biguanide, Sulfonylurea

Indications: type 2 diabetes mellitus in adults

Caution: increased risk of cardiovascular mortality, patient with risk of severe hypoglycemia (elderly, infection, surgery, low calories diet), metformin-associated lactic acidosis, allergic reaction to sulfonamides, Hemolytic anemia may occur with G6PD deficiency.

Contra-Ind: Hypersensitivity to glimepiride, metformin or any component of the formulation, type 1 diabetes; acute or chronic metabolic acidosis, renal impairment, acute or chronic disease states associated with hypoxia, hepatic impairment; pregnancy.

Side effects: Hypoglycemia, Hypersensitivity angitis, Allergic skin reaction, skin photosensitivity, Decreased serum sodium, increased liver enzymes, Hypersensitivity

Dosage: Oral: Initial: Glimepiride 2 mg/metformin 500 mg once daily; gradually adjust dose based on response and tolerability (maximum: Glimepiride 8 mg/metformin 2 g once daily).

Dosing: Altered Kidney Function: Adult, contraindicates use in patients with serum creatinine >1.5 mg/dL in males or >1.4 mg/dL in females

Dosing: Hepatic Impairment: Adult, Contraindicates use in patients with hepatic impairment

GLIPIZIDE (Minidiab®)

P/P: Minidiab 5mg tab, 30's

Adm: Should be taken on an empty stomach

Category: Oral Antidiabetic Agents

Indications: Maturity-onset diabetes mellitus not manageable by diet alone.

Caution: Hypoglycaemia, stress, elderly. Thyroid impairment; moderate hepatic or renal impairment. Monitor blood-glucose concentration.

Contra-Ind: Hypersensitivity. Type 2 diabetes mellitus; ketoacidosis; severe renal or hepatic insufficiency. Pregnancy, lactation.

D/I: NSAIDs, salicylates, sulfonamides, probenecid, chloramphenicol, coumarins, MAOIs, β-blockers

Side effects: GI & haematological disturbances, dermatological reactions, hepatic porphyria, dizziness, drowsiness & headache.

Dosage: Usual Adult Dose: 5 mg orally once a day, 30 minutes before breakfast
Maximum single dose: 15 mg
Maximum daily dose: 40 mg
Usual Geriatric Dose: Initial dose: 2.5 mg orally once a day 30 minutes before breakfast.
Renal Dose Adjustments: Caution and conservative dosing are recommended.
Liver Dose Adjustments: Patients with liver disease: Initial dose: 2.5 mg orally once a day 30 minutes before breakfast.

GLUCAGON (Glucagen®)

P/P: Glucagen 1mg hypokit

Category: Agents Affecting Metabolism

Indications: Treatment of severe hypoglycaemic reactions in insulin-treated diabetic patients. As a diagnostic aid in the radiological examination of GIT

Caution: Patients w/ marked depletion of liver glycogen stores, fasting, low levels of adrenaline, chronic hypoglycaemia or hypoglycaemia caused by drinking too much alcohol.

Contra-Ind: Phaeochromocytoma; history of hypersensitivity.

D/I: Insulin, indomethacin. May increase anticoagulant effect of warfarin

Side effects: Nausea & vomiting.

Dosage: Adults and children weighing 55 kg or more receive 1 mg either intravenously, subcutaneously or intramuscularly. Children weighing less than 55 pounds should receive 0.5 mg or an amount equal to 20-30 micrograms per kilogram.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HUMAN MENOPAUSAL GONADOTROPHINS (Menogon, Merional®)

P/P: Menogon 150 IU Inj (Per vial Human menopausal gonadotrophin (LH 75 IU, FSH 75 IU)
Merional 150 IU Inj (Per vial Human menopausal gonadotrophin (LH 75 IU, FSH 75 IU)

Category: Gonadotrophins

Indications: Female infertility; infertility in males; in vitro fertilization procedures or other assisted conception techniques

Caution: Rule out infertility caused by adrenal or thyroid disorders, hyperprolactinemia or tumors of the pituitary or hypothalamus. Ovarian enlargement at risk of rupture, care in pelvic examinations.

Contra-Ind: Ovarian cysts not caused by polycystic ovarian syndrome; tumors of breast, uterus, ovaries, testes or prostate; vaginal bleeding of unknown cause; pregnancy and lactation.

D/I: Drugs with luteinizing hormone activity increases risk of ovarian hyperstimulation syndrome.

Side effects: Ovarian hyperstimulation, risk of multiple pregnancy and miscarriage, hypersensitivity and local reactions at injection site, nausea, vomiting, joint pain, fever. In men, gynecomastia, acne, weight gain.

Dosage: The usual dose is 75 -150 IU per day, Maximum daily dose: 450 IU
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HYDROCORTISONE SODIUM SUCCINATE (Solucortef, Hydrocortison®)

P/P: Solucortef Inj (100mg, 250mg)
Hydrocortison 100 mg vial

Adm: IM/IV

Category: Corticosteroid Hormones

Indications: Acute adrenocortical insufficiency, bilateral adrenalectomy, severe shock, acute hypersensitivity reactions, overwhelming infections w/ severe toxicity, & other conditions requiring the metabolic & anti-inflammatory actions of hydrocortisone

Caution: CHF, hypertension, diabetes, osteoporosis or chronic psychotic reactions. Avoid Inj to deltoid muscle

Contra-Ind: Latent, healed & active TB, herpes simplex, chronic nephritis, acute psychosis, Cushing's syndrome, peptic ulcer & predisposition to thrombophlebitis.

D/I: Efficacy may be reduced by phenytoin, phenobarb, and rifampicin. Corticosteroids may reduce the effect of diuretics, hypoglycemics, anticholinesterases & salicylates.

Side effects: Fluid electrolyte, musculoskeletal, GI, dermatologic, neurological, endocrine, ophth, metabolic disturbances.

Dosage: Usual Adult Dose: 100 to 500 mg every 6 hours
Usual Pediatric Dose: 0.56 to 8 mg/kg/day in three or four divided doses.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HYDROXYPROGESTERONE CAPROATE (Proluton Depot®)

P/P: Proluton Depot 250mg Inj

Adm: By IM inj only.

Category: Progestones & Related Synthetic Drugs;

Indications: Habitual & imminent abortion, infertility due to corpus luteum insufficiency, primary & secondary amenorrhoea.

Caution: CVS disease, renal disease, diabetes, asthma, epilepsy, migraine.

Contra-Ind: Undiagnosed vaginal bleeding, breast cancer, pregnancy, lactation. History of herpes of pregnancy, previous or existing liver tumors

D/I: Requirement for oral antidiabetics &insulin can change.

Side effects: GI disturbances, increased appetite, weight gain or loss, oedema, acne, allergic skin rashes, urticaria, mental depression, discomfort in breast; cough, dyspnea, circulatory disturbances. Pain at site of injection.

Dosage: Usual Adult Dose: 250 mg intramuscularly once weekly.
Usual Pediatric Dose 16 years and older: 250 mg intramuscularly once weekly.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

IBANDRONIC ACID (Bonviva®)

P/P: Bonviva 150mg F.C tab, 1's

Adm: Should be taken on an empty stomach (Must be taken at least 1 hr before the 1st food, drink or medication of the day. Take w/ a full glass of only plain water upon arising for the day & remain in sitting/upright position for at least 1 hr.

Category: bisphosphonates; Agents Affecting Bone Metabolism

Indications: Treatment of postmenopausal osteoporosis.

Caution: Dysphagia, esophagitis, esophageal or gastric ulcers. GI irritation.

Contra-Ind: Pregnancy & lactation

D/I: Calcium, aluminium, magnesium, iron, ranitidine IV.

Side effects: Dyspepsia, nausea, vomiting, abdominal pain, headache, myalgia, rash. Flu-like symptoms

Dosage: The recommended dose is one 150 mg film-coated tablet once a month. The tablet should preferably be taken on the same date each month.
Patients with renal impairment: No dose adjustment is necessary for patients with mild or moderate renal impairment where creatinine clearance is equal or greater than 30 ml/min. Ibandronic acid is not recommended for patients with a creatinine clearance below 30 ml/min
Patients with hepatic impairment: No dose adjustment is required

INSULIN ASPART (Insulin Aspart, a rapid-acting analog of human insulin) (Novo Rapid®)

P/P: Novo Rapid Penfill, 5x3ml; Novo Rapid FlexPen, 5x3ml

Adm: Subcutaneous injection, Administer 5-10 min immediately before meal.
By subcutaneous infusion, intravenous injection or intravenous infusion, according to requirements.

Category: Insulin

Indications: Diabetes mellitus

Caution: Renal or hepatic impairment; pregnancy; lactation; child. Caution when changing type of insulin. Transferring from other insulin. Administration should be followed immediately by a meal.

Contra-Ind: Hypoglycaemia; hypersensitivity.

D/I: Oral hypoglycemics; octreotide; MAOIs; nonselective b-blockers; ACE inhibitors; salicylates;

Side effects: Hypoglycaemia; oedema; palpitation; tachycardia; pallor; lipodystrophy; pruritus; rash; injection site reactions;

Dosage: The total daily insulin requirement may vary and is usually between 0.5 to 1.0 units/kg/day.
Renal Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required
Liver Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required

Insulin Degludec (Tresiba®) [High Alert]

P/P:	Tresiba FlexTouch 100Unit/MI(3MI) Pref.Pen 5"SX3ML
Adm:	For subcutaneous administration into the thigh, upper arm, or abdomen
Category:	Insulin, Long-Acting
Indications:	Diabetes mellitus, types 1 and 2
Caution:	Hyper- or hypoglycemia, Severe, life-threatening allergic reactions, Hypokalemia Disease-related concerns: Should not be used in patients with: diabetic ketoacidosis, hepatic impairment, renal impairment, cardiac disease
Contra-Ind:	Hypersensitivity to insulin Degludec
Side effects:	hypoglycemia, allergic reactions, injection site reactions, lipodystrophy, pruritus, rash, edema and weight gain
Dosage:	general dosing: Initial TDD: SUBQ: 0.4 to 0.5 units/kg/day Usual TDD maintenance range: SUBQ: 0.4 to 1 units/kg/day in divided doses

Insulin Degludec and Insulin Aspart (Ryzodeg®) [High Alert]

P/P:	Ryzodeg FlexTouch (70/30) Pref.Pen 100 International Units/1MI Subcut 5"S
Adm:	DO NOT dilute or mix RYZODEG 70/30 with any other insulin products 17 or solutions. Rotate injection sites to reduce the risk of lipodystrophy. Individualize dose based on type of diabetes, metabolic needs, blood 20 glucose monitoring results and glycemic control goal. Administer subcutaneously once or twice daily with any main meal
Category:	Antidiabetic Agent, Glucagon-Like Peptide-1 (GLP-1) Receptor Agonist; Insulin, Long-Acting + Insulin; Rapid-Acting
Indications:	RYZODEG 70/30 is an insulin analog indicated to improve glycemic control in adults with diabetes mellitus
Caution:	Never share a RYZODEG 70/30 FlexTouch pen between patients, even if the needle is changed Hyper- or hypoglycemia with changes in insulin regimen: Carry out under close medical supervision and increase frequency of blood glucose monitoring Hypoglycemia: May be life-threatening. Increase monitoring with changes to: insulin dosage, co-administered glucose lowering medications, meal pattern, physical activity; and in patients with renal impairment or hepatic impairment or hypoglycemia unawareness

Hypoglycemia due to medication errors: Accidental mix-ups between insulin products can occur. Instruct patients to check insulin labels before injection. DO NOT transfer RYZODEG 70/30 into a syringe for administration as overdosage and severe hypoglycemia can result

Hypersensitivity reactions: Severe, life-threatening, generalized allergy, including anaphylaxis, can occur. Discontinue RYZODEG 70/30, monitor and treat if indicated

Hypokalemia: May be life-threatening. Monitor potassium levels in patients at risk for hypokalemia and treat if indicated

Fluid retention and heart failure with concomitant use of Thiazolidinediones (TZDs):

Observe for signs and symptoms of heart failure; consider dosage reduction or discontinuation if heart failure occurs

Contra-Ind: During episodes of hypoglycemia. And hypersensitivity to RYZODEG 70/30 or one of its excipients

Side effects: hypoglycemia, allergic reactions, injection site reactions, lipodystrophy, pruritus, rash, edema and weight gain

Dosage: Individualized dose administered subcutaneously once daily

Insulin Degludec and Liraglutide (Xultophy®) [High Alert]

P/P: Xultophy 100/3.6 per ML-3ml Prefilled Pen 5"S

Adm: Inject subcutaneously in thigh, upper arm or abdomen. Do not administer intravenously, intramuscularly, or by an infusion pump. Do not dilute or mix with any other insulin products or solutions.

Category: Combination of insulin degludec, a long-acting human insulin analog, and liraglutide, a glucagon-like peptide 1 (GLP-1) receptor agonist

Indications: Adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus inadequately controlled on basal insulin (less than 50 units daily) or liraglutide (less than or equal to 1.8 mg daily)

Caution: Thyroid C-cell tumors, pancreatitis, hyper- or hypoglycemia, acute kidney injury, hypersensitivity and allergic reactions, hypokalemia, fluid retention and congestive heart failure

Contra-Ind: Patients with a personal or family history of medullary thyroid carcinoma or in patients with Multiple Endocrine Neoplasia syndrome type 2
Patients with a prior serious hypersensitivity reaction to XULTOPHY 100/3.6 or either of the active substances or any of its excipients
During episodes of hypoglycemia

Side effects: The most common adverse reactions, reported in ≥5% of patients treated with XULTOPHY 100/3.6: nasopharyngitis, headache, nausea, diarrhea, increased lipase and upper respiratory tract infection

Dosage:

Recommended starting dosage is 16 units (16 units of insulin Degludec and 0.58 mg of liraglutide) given subcutaneously once daily

Administer once daily at same time each day with or without food

Maximum daily dosage is 50 units (50 units of insulin Degludec and 1.8 mg of liraglutide)

INSULIN DETEMIR (LONG-ACTING INSULIN) (Levemir®) [High Alert]

P/P: Levemir Penfill 100units/ml, 5x3ml, Levemir Flex Pen

Adm: Subcutaneous Injection

Category: Insulin

Indications: Diabetes mellitus in adults, adolescents & children ≥6 yr.

Caution: Transferring from other insulins. Avoid mixing w/ rapid-acting insulin. Monitor patient w/ severe hypoalbuminaemia. Contains metacresol (may cause allergic reactions).
Pregnancy, lactation.

Contra-Ind: Hypersensitive to insulin detemir or one of its excipients.

D/I: Oral antidiabetic agents, MAOIs, nonselective β-blockers, ACE inhibitors, salicylates, alcohol

Side effects: Hypoglycaemia, inj site reactions.

Dosage: Usual Adult Dose: 0.5-1 units/kg/day in divided doses.

Children and Adolescents: 1 unit/kg/day and in some cases up to 2 units/kg/day

Renal Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required

Liver Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required.

INSULIN GLARGINE (LONG-ACTING INSULIN) (Vivaro, Basaglar, Toujeo, Lantus®) [High Alert]

P/P: Lantus 100units/ml, 10ml, Lantus cartridge 5x3ml
Lantus 100units/ml, 5x3ml Opti Set Pen

Adm: Subcutaneous

Category: Insulins

Indications: Treatment of adults, adolescents, & children ≥6 yr w/ diabetes mellitus where treatment w/ insulin is required.

Caution: Renal or hepatic impairment; pregnancy; lactation; child <6 yrs. Caution when changing type of insulin. Transferring from other insulin.

Contra-Ind: Hypoglycemia; hypersensitivity; IV route.

D/I: Oral hypoglycemics; octreotide; MAOIs; nonselective β-blockers; ACE inhibitors; salicylates; alcohol

Side effects: Hypoglycemia; oedema; palpitation; tachycardia; pallor; lipodystrophy; pruritus; rash; injection site reactions;

Dosage: Children, Adolescents, and Adults: Usual maintenance range: 0.5 to 1 units/kg/day in divided doses
Renal Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required
Liver Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required.

Insulin Glargine and Lixisenatide (Soliqua®) [High Alert]

P/P: Soliqua 30-60 Solostar-100/33 per ML- 3ml Pref.Pen 3"S

Adm: For SUBQ use only

Category: Antidiabetic agent, glucagon-like peptide-1 (GLP-1) receptor agonist; insulin, long-acting

Indications: Diabetes mellitus, type 2, treatment

Caution: Insulin glargine and lixisenatide may cause: anaphylaxis, pancreatitis, hyperglycemia or hypoglycemia, acute kidney injury, hypokalemia, fluid retention and heart failure with use of thiazolidinediones,

Contra-Ind: History of serious hypersensitivity to insulin glargine, lixisenatide, or any component of the formulation

Side effects: Hypoglycemia, anti-insulin glargine antibodies development, Diarrhea, nausea, vomiting, injection site reaction, headache, nasopharyngitis, upper respiratory tract infection, cholecystitis, cholelithiasis, hypersensitivity reactions, kidney injury

Dosage:

Patients naive to basal insulin or a GLP-1 agonist, or currently on a GLP-1 agonist or <30 units of basal insulin/day: 15 units (insulin glargine 15 units/lixisenatide 5 mcg) once daily.

Patients currently on 30 to 60 units of basal insulin/day, with or without a GLP-1 agonist: 30 units (insulin glargine 30 units/lixisenatide 10 mcg) once daily.

Dose titration: Titrate the dosage upwards or downwards by 2 to 4 every week until the desired fasting plasma glucose is achieved

Usual dosage range: 15 units to 60 units/day. Maximum dose: 60 units/day.

Kidney Impairment:
eGFR ≥15 mL/minute/1.73 m² to <90 mL/minute/1.73 m²: There are no specific dosage adjustments provided in the manufacturer's labeling
eGFR <15 mL/minute/1.73 m²: Use is not recommended

Insulin Glulisine (rapid-acting analog) (Apidra®) [High Alert]

P/P: Apidra solotar5x3ml

Adm: Subcutaneous injection

Category: Insulin

Indications: Diabetes mellitus

Caution: See insulin aspartat

Contra-Ind: Hypoglycemia; hypersensitivity.

D/I: See insulin aspartat

Dosage: Usual Adult Dose: 0.5 to 1 units/kg/day in divided doses.
Children and Adolescents: 1 unit/kg/day and in some cases up to 2 units/kg/day.
Renal Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required
Liver Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required.

INSULIN LISPRO (Humalog®) [High Alert]

P/P: Humalog 100units/ml, 10ml (Insulin lispro recombinant DNA origin)

Adm: Should be taken with food (Subcutaneous injection; Administer w/in 15 mins before or immediately after meals.) By subcutaneous infusion, intravenous injection or intravenous infusion, according to requirements.

Category: Insulins

Indications: Treatment of diabetes mellitus for the control of hyperglycemia.

Caution: Child <18 yrs; renal or hepatic impairment; pregnancy; lactation. Caution when changing type of insulin. Transferring from other insulin

Contra-Ind: Hypoglycaemia; hypersensitivity.

D/I: Corticosteroids, diuretics, OCPs, thyroxine may increase insulin requirement, β-blockers, MAOIs; alcohol may intensify hypoglycemic effect of insulin.

Side effects: Hypoglycaemia; oedema; palpitation; tachycardia; pallor; lipodystrophy; pruritus; rash; injection site reactions

ISOPHANE INSULIN (intermediate) (Insulatard, Humulin N®) [High Alert]

P/P: Insulatard HM (Human, pyr) 100units/ml, 10ml vial, Insulatard pen fill cartridge 100units/ml, 5x3ml
Humulin N (human, prb) 100units/ml, 10ml vial

Adm: Administer once or bid by SC inj. Action profile: Onset after 1.5 hr, peak between 4th-12th hr, duration of up to 24 hr.

Category: Insulin

Indications: Diabetes when prolonged action is required.

Caution: Transferring from other insulins. Emotional distress. Infection. Pregnancy.

Contra-Ind: Hypoglycemia. IV administration. Hyperglycemic coma.

D/I: MAOIs, alcohol & β-blockers may enhance the hypoglycaemic effect. Corticosteroids, thyroid hormones, & OCPs may increase insulin requirements.

Side effects: Lipodystrophy, insulin resistance. Local & generalized allergic reactions

Dosage: Children, Adolescents, and Adults: Usual maintenance range: 0.5 to 1 units/kg/day in divided doses
Renal Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required
Liver Dose Adjustments: Use with caution; frequent glucose monitoring and insulin dose adjustments may be required.

LEUPRORELIN (Lupron depot®)

P/P: Lupron depot 3.75mg Inj: Lupron depot 7.5mg Inj

Category: Gonadotropin releasing hormone analogues

Indications: Treatment of prostate cancer, endometriosis, uterine myoma/ fibroids, premenopausal breast cancer.

Caution: Worsening of signs and symptoms of prostatic cancer, hypersensitivity, uterine leiomyomata, induced hypoestrogen state.

Contra-Ind: Pregnancy, lactation; hypersensitivity to GnRH, GnRH agonist analogs or product excipients; undiagnosed abnormal vaginal bleeding.

Side effects: Women transient aggravation of pelvic pain, dysmenorrhea. Hot flushes, vag dryness, decreased libido, dyspareunia. Depression. Men Transient aggravation of bone pain, ureteral obstruction or spinal cord compression. Hot flushes, impotence, decrease in testes size, nausea, vomiting,

Dosage: Usual Adult Dose: 3.75 mg to 7.5 IM once a month.
Usual Pediatric Dose: Body weight: Less than or equal to 25 kg: 7.5 mg IM once a month
Body weight: Greater than 25 kg to 37.5 kg: 11.25 mg IM once a month
Body weight: Greater than 37.5 kg: 15 mg IM once a month
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LEVOTHYROXINE SODIUM (Euthyrox®)

P/P:	25mcg tab, 100's (Euthyrox) 50mcg tab, 100's (Eltroxin, Euthyrox) 100mcg tab, 100's (Eltroxin, Euthyrox) 150mcg tab, 100's (Euthyrox)
Adm:	Should be taken on an empty stomach (Take on an empty stomach 1/2-1 hr before meals.).
Category:	Thyroid Preparations
Indications:	Hypothyroidism, Cretinism & juvenile myxoedema
Caution:	Elderly; CHD, adrenocortical insufficiency. Pregnancy & lactation.
Contra-Ind:	Thyrotoxicosis.
D/I:	Coumarin derivatives, colestyramine, phenytoin, salicylates, dicoumarol, high-dosed furosemide, clofibrate.
Food/I:	Do not eat excessive amounts of goitrogenic foods (e.g., cabbage, peas, broccoli, cauliflower, spinach, brussel sprouts, lettuce, and soybeans).
Side effects:	Finger tremor, palpitation, heart rhythm disturbances, excessive sweating, diarrhea, wt loss, sleeplessness or restlessness.
Dosage:	Usual Adult Dose: 1.7 mcg/kg/day. Usual Pediatric Dose: Age 0 to 3 months: 10 to 15 mcg/kg orally once per day Age 3 to 6 months: 8 to 10 mcg/kg/day Age 6 to 12 months: 6 to 8 mcg/kg/day Age 1 to 5 years: 5 to 6 mcg/kg/day Age 6 to 12 years: 4 to 5 mcg/kg/day Age 12 years and older: 2 to 3 mcg/kg/day Renal Dose Adjustments: No adjustment recommended Liver Dose Adjustments: No adjustment recommended.

Linagliptin (Trajenta®)

P/P:	Trajenta 5mg Tab 30"S
Adm:	Can be taken with or without food.
Category:	Dipeptidyl peptidase-4 (DPP-4) inhibitor
Indications:	Type 2 diabetes mellitus

- Caution:** When used with an insulin secretagogue (e.g., sulfonylurea), consider lowering the dose of the insulin secretagogue to reduce the risk of hypoglycemia
- Contra-Ind:** History of hypersensitivity reaction to linagliptin, such as urticaria, angioedema, or bronchial hyperreactivity
- Side effects:** Nasopharyngitis, pancreatitis and hypoglycemia, was more commonly when use it combination with Sulfonylurea.
- Dosage:** 5 mg once daily

LIRAGLUTIDE (Victoza®)

- P/P:** **VICTOZA 6MG/ML INJECTION**
- Category:** Long-acting glucagon-like peptide-1 agonist (GLP-1 agonist) injection
- Adm:** subcutaneous injection
- Indications:** treatment of type 2 diabetes it reduces meal-related hyperglycemia _ by increasing insulin secretion, delaying gastric emptying,
- Stimulate insulin secretion only when blood glucose levels are higher than normal.
- It decreases appetite and maintains body weight, lowers blood triglyceride levels
- Caution:** Liraglutide causes dose-dependent and treatment-duration-dependent
- Thyroid C- cell tumors at clinically relevant
- Contra-Ind:** Family history of thyroid cancer or Multiple Endocrine Neoplasia syndrome
- Side effects:** Nausea, vomiting, diarrhea, dyspepsia and constipation.
- D/I:** caution should be exercised when oral medications are concomitantly administered
- Dosage:** Usual Adult Dose: 1.2 mg subcutaneously once a day, Maximum dose: 1.8 mg once a day
- Renal Dose Adjustments: No dose adjustment recommended,
- Liver Dose Adjustments: No dose adjustment recommended

LISURIDE MALEATE (Dopergin®)

- P/P:** **Dopergin 0.2mg tab, 30's**
- Adm:** Should be taken with food.
- Category:** Dopamine Agonist; Prolactin Inhibitor
- Indications:** Parkinson's disease use alone or as an adjunct to levodopa; Prevention of the onset of lactation in the puerperium (primary ablation) only for clearly defined medical reasons

	Galactorrhea; prolactin-induced amenorrhea; prolactin-induced infertility in women; prolactinomas Acromegaly
Caution:	History of pituitary tumor; History of psychotic disturbance; pregnancy, porphyria
Contra-Ind:	Serious disturbances of peripheral circulation; coronary insufficiency
D/I:	Effects antagonized by antipsychotics, methyl dopa; effects enhanced by memantine.
Side effects:	Vomiting, dizziness, headache, lethargy, malaise, drowsiness, psychotic reactions, hypotension, rashes, constipation
Dosage:	0.1mg to 0.6 mg divided into 3 to 4 doses, maximum dose 2 mg. Renal Dose Adjustments: Persons with impaired renal function, Treatment should always be initiated with the lowest possible dose and the dose should then be slowly increased Liver Dose Adjustments: treatment should be initiated with special care and with low doses.

Lutropin alfa (Luveris®)

P/P:	Luveris 75 International Units/3ml Vial I.V 3"S
Adm:	Administer in the stomach or thigh; rotate injection sites. Do not shake solution.
Category:	Gonadotropin; Ovulation Stimulator
Indications:	Infertility, ovulation induction
Caution:	Increased risk of ectopic pregnancy, ovarian enlargement, ovarian hyperstimulation syndrome, thromboembolism, and acute porphyric attack.
Contra-Ind:	Hypersensitivity to lutropin alfa or any component of the formulation; primary ovarian failure; uncontrolled thyroid or adrenal dysfunction; active, untreated tumors of the hypothalamus and pituitary gland; ovarian, uterine, or breast cancer; abnormal uterine bleeding of undetermined origin; ovarian cyst or enlargement unrelated to polycystic ovarian disease and of undetermined origin; malformations of sexual organs incompatible with pregnancy; fibroid tumors of the uterus incompatible with pregnancy; pregnancy; breastfeeding
Side effects:	Headache, pain, ovarian cyst, flatulence, abdominal pain, dysmenorrhea, mastalgia, fatigue, ovarian hyperstimulation, ovarian disease, increased serum cholesterol, nausea, constipation, diarrhea, increased serum ALT, increased serum AST, injection site reaction, upper respiratory tract infection
Dosage:	75 units SubQ daily until adequate follicular development is noted (maximum daily dose: 75 units/day); maximum duration of treatment: 14 days, unless signs of imminent follicular development are present

LYNOESTRENOL (Orgametil®) (Restricted)

P/P:	Orgametil 5mg tab, 30's
Adm:	May be taken with or without food.
Category:	Oral Contraceptives
Indications:	Oral contraceptive. Also, for lactating mothers who require contraception. Menstrual disorders
Caution:	Latent or overt cardiac failure, renal dysfunction, hypertension, epilepsy, migraine, thromboembolism, lactation. Severe diarrhea or vomiting & taking tab irregularly lessens reliability.
Contra-Ind:	Undiagnosed vaginal bleeding, active venous thromboembolic disorders, hepatic impairment, progestogen-dependent tumors, porphyria, pregnancy, hypersensitivity.
D/I:	Rifampicin, phenytoin, phenobarb, primidone, carbamazepine. St. John's wort.
Side effects:	Spotting, breakthrough bleeding & prolonged periods. Wt gain, loss of libido, acne, breast tenderness, headache/dizziness & vag dryness.
Dosage:	Adult: The recommended dose is 5-10 mg/day as cyclic regimen. Renal Dose Adjustments: it is contraindicated in patients suffering from Kidney dysfunction. Liver Dose Adjustments: patients suffering from Liver Malfunction

MEDROXYPROGESTERONE ACETATE (Provera®)

P/P:	Provera 5mg tab, 24's
Adm:	May be taken with or without food.
Category:	Progesterone's & Related Synthetic Drugs
Indications:	Menorrhagia; secondary amenorrhea; mild to moderate endometriosis; as progesterone component in menopausal HRT
Caution:	Patients with depression, diabetes, epilepsy, asthma, migraine, renal or cardiac dysfunction. Monitor patient closely for loss of vision, proptosis, diplopia and thromboembolic disorders. Lactation.
Contra-Ind:	Hypersensitivity, thrombophlebitis; cerebral apoplexy; severe hepatic dysfunction; undiagnosed vaginal bleeding, incomplete abortion, hormone-dependent carcinoma; pregnancy.
D/I:	Aminoglutethimide reduces plasma concentrations of medroxyprogesterone so dosage increase is necessary. Alcohol potentiates effect.

- Side effects: Depression, fluid retention and thrombophlebitis (high dose). Fatigue, insomnia, dizziness, headache, nausea; breast tenderness; weight gain/loss, anorexia; cholestatic jaundice;
- Dosage: Usual Adult Dose: 5 to 10 mg orally once a day
Usual Pediatric Dose: >13 years: 5 to 10 mg orally once a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: it is contraindicated in patients with significant liver disease.

MEDROXYPROGESTERONE ACETATE (Depo-Provera®)

- P/P: Depo-Provera 150mg/ml, 3.3ml Inj
- Adm: 150 mg IM every 3 months.
- Category: Progestin & Related Synthetic Drugs
- Indications: Prevention of pregnancy.
- Caution: Contra-Ind: D/I: Side effects: See Provera 5mg tab
- Dosage: Usual Adult Dose: 150 mg intramuscularly every 3 months
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: it is contraindicated in patients with significant liver disease.

Menotrophins (Menopur®)

- P/P: Menopur 1,200 International Units Vial S.C 1" (Multi-dose), Menopur 600 International Units Vial I.M/S.C 1" (Multi-dose)
- Adm: Subcutaneous use only
- Category: Gonadotropin
- Indications: Development of multiple follicles and pregnancy in ovulatory women
- Caution: Abnormal Ovarian Enlargement, Ovarian Hyperstimulation Syndrome, Pulmonary and Vascular Complications, Ovarian Torsion, Multi-fetal Gestation and Birth, Congenital Malformation, Ectopic Pregnancy, Spontaneous Abortion, Ovarian Neoplasms.
- Contra-Ind: Hypersensitivity, High levels of FSH indicating primary ovarian failure, Pregnancy, Presence of uncontrolled non-gonadal endocrinopathies, Sex hormone dependent tumors of the reproductive tract and accessory organ, Tumors of pituitary gland or hypothalamus, Abnormal uterine bleeding of undetermined origin, Ovarian cyst or enlargement of undetermined origin, not due to polycystic ovary syndrome.
- Side effects: Abdominal cramps; abdomen enlarged; abdominal pain; headache; injection site pain and reaction; injection site inflammation.

Dosage:

Initial starting dose of the first cycle - 225 International Units per day, administered subcutaneously.
Dosage adjustments after 5 days and by no more than 150 International Units at each adjustment

MESTEROLONE (Proviron®)

P/P: **Proviron 25mg tab, 20's**

Adm: May be taken with or without food

Category: Androgens & Related Synthetic Drugs

Indications: Reduced efficiency in middle & advanced ages due to androgen deficiency; potency disturbances, hypogonadism; infertility.

Caution: Use w/ caution in CV disorder, renal or hepatic impairment, epilepsy, migraine, diabetes mellitus, fluid retention or edema, skeletal metastases.

Contra-Ind: Prostatic & liver carcinoma, gynecomastia. Hypercalcemia or hypercalciuria.

D/I: Enhances effects of antidiabetics, thyroxin, anticoagulants e.g., warfarin

Side effects: Increased nitrogen, Na & water retention, edema, increased skin vascularity, hypercalcemia, impaired glucose tolerance, increase bone & skeletal wt. Increase LDL cholesterol & fibrolytic activity. Headache, depression GI bleeding may occur.

Dosage: Usual Adult Dose: 25-75 mg/day in divided doses.

Renal Dose Adjustments: Caution should be exercised in patient with renal dysfunction

Liver Dose Adjustments: Caution should be exercised in patient with hepatic problems

METFORMIN(Glucophage, Formit, Metfor®)

P/P: **500mg tab, 50's (Glucophage, Formit, Metfor)**

850mg tab, 30's (Glucophage)

850mg tab, 60's (Formit, Metfor)

1gm tab, 30's (Glucophage)

Adm: Should be taken with food.

Category: Oral Antidiabetic Agents

Indications: NIDDM; IDDM in addition to insulin therapy.

Caution: Pregnancy, lactation. Stop therapy 2-3 days before surgery/clinical investigations. Conditions which may cause dehydration. Patients w/ serious infection or trauma. Regular renal monitoring is needed.

Contra-Ind: Diabetic coma; ketoacidosis; renal impairment; chronic liver disease; cardiac failure & recent MI; alcoholism; hypoxia; history of lactic acidosis; hypersensitivity; shock; pulmonary insufficiency.

D/I: Risk of lactic acidosis increased by alcohol. May impair absorption of Vit B₁₂. Anticoagulant dosing may need adjustment.

Side effects: Anorexia, nausea, vomiting, diarrhea, weight loss, flatulence, occasional metallic taste; weakness; hypoglycaemia; rash, malabsorption of Vitamin B₁₂

Dosage: Usual Adult Dose: Immediate-release: Initial dose: 500 mg orally twice a day or 850 mg orally once a day, Maintenance dose: 2000 mg daily
Extended-release: Initial dose: 500 to 1000 mg orally once a day, Maintenance dose: 2000 mg daily.
Usual Pediatric Dose: 10 years or older Immediate-release: Initial dose: 500 mg orally twice a day, Maintenance dose: 2000 mg daily
Renal Dose Adjustments: Renal impairment (serum creatinine 1.5 mg/dL or greater in men, 1.4 mg/dL or greater in women, or abnormal CrCl): Use is contraindicated
Liver Dose Adjustments: Not recommended in patients with liver impairment

METFORMIN COMBINATION PREPARATION (Glucovance, Diamet®)

P/P: Glucovance, Diamet Per 500 mg/5 mg tab, 30's (Metformin HCl 500 mg, glibenclamide 5 mg.)
Glucovance, Diamet 500 mg/2.5 mg tab, 30's (Metformin HCl 500 mg, glibenclamide 2.5.)

Adm: Should be taken with food (Take immediately before meals.).

Category: Oral Antidiabetic Agents

Indications: Treatment of Type 2 diabetes mellitus in adults.

Caution: Lactic acidosis, hypoglycemia, renal dysfunction, administration of iodinated contrast media. Surgical procedures. Pregnancy & lactation. Children.

Contra-Ind: Hypersensitivity to metformin HCl, glibenclamide or other sulfonylurea. Type I diabetes, ketoacidosis, diabetic precoma, renal failure. Hepatic insufficiency, acute alcohol intoxication, alcoholism. Porphyria. Lactation.

D/I: Miconazole, alcohol, phenylbutazone, danazol, chlorpromazine, corticosteroids & tetracosactide, β₂-agonists, diuretics, iodinated contrast media, β-blockers, fluconazole

Side effects: Metformin: Nausea, vomiting, diarrhea, abdominal pain & loss of appetite; metallic taste; mild erythema. Glibenclamide: Nausea, vomiting, epigastric pain, dizziness, weakness, paraesthesia, sensitivity reactions; prolonged hypoglycaemia.

Dosage: Recommended starting dose: 1.25 mg/250 mg once or twice daily with meals.
Dosage of (glyburide and metformin) must be individualized on the basis of both effectiveness and tolerance while not exceeding the maximum recommended daily dose of 20 mg glyburide/2000 mg metformin.

Renal Dose Adjustments: patients with serum creatinine levels above the upper limit of normal for their age should not receive (glyburide and metformin)
Liver Dose Adjustments: (glyburide and metformin) should generally be avoided in patients with clinical or laboratory evidence of hepatic disease.

METHYL PREDNISOLONE (Medrol®)

- P/P: Medrol 4mg tab, 30's
- Adm: Should be taken with food.
- Category: Corticosteroid Hormones
- Indications: Treatment of acute adrenocortical insufficiency, allergic & rheumatic disorders & other conditions where corticosteroid therapy is required.
- Caution: Contra-Ind: D/I: Side effects: See Methyl prednisolone sodium succinate
- Dosage: Usual Adult Dose: 4 mg to 48 mg per day
Renal Dose Adjustments: Steroids should be used with caution in renal insufficiency
Liver Dose Adjustments: use with caution

METHYL PREDNISOLONE ACETATE (Depomedrol, Epizolone®)

- P/P: Depomedrol Inj (40mg/ml, 80mg/2ml)
Epizolone depot 40 mg inj
- Category: Corticosteroid Hormones
- Indications: For IM, intrasynovial, intralesional administration in corticosteroid-indicated cases.
- Caution: Unusual stress, intercurrent infection; immunization (defer); active or latent TB; ocular herpes simplex; renal insufficiency, HTN; osteoporosis; myasthenia gravis; pregnancy.
- Contra-Ind: Systemic fungal infection; lactation. Administration of live or live attenuated vaccine. Do not inj IV & intrathecal.
- D/I: Reduced efficacy w/ phenytoin, phenobarb, and rifampicin. Corticosteroids may reduce effects of diuretics, hypoglycaemics, anticholinesterases, salicylates.
- Side effects: Local atrophy, pigmentation changes, post-inj flare, sterile abscess, Charcot-like syndrome; Na & fluid retention; impaired wound healing, thin fragile skin; decreased carbohydrate tolerance; muscle weakness
- Dosage: Usual Adult Dose: 10–250 mg; may repeat up to 6 times daily.
Usual Pediatric Dose: Up to 11 years 1–2 mg/kg in 2 divided doses (maximum 60 mg daily)
11 years or older: 40 to 80 mg/day in divided doses 1 to 2 times/day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

METHYL PREDNISOLONE SODIUM SUCCINATE (Solumedrol®)

P/P:	Solumedrol Inj (40mg, 125mg, 500mg)
Adm:	IM/IV/IV infusion
Category:	Corticosteroid Hormones
Indications:	Suppression of inflammatory & allergic disorders, cerebral edema, rheumatic disease; immunosuppressant in spinal cord injury.
Caution:	May mask signs of infection & new infections may appear during use. Restrict use in fulminating or disseminated TB. Psychic derangements may occur. Caution in nonspecific ulcerative colitis.
Contra-Ind:	Systemic fungal infections. Premature infants. Administration of live or live attenuated vaccines in patients receiving immunosuppressive doses.
D/I:	Cyclosporin, phenobarb, phenytoin, rifampicin, troleandomycin, ketoconazole, aspirin, oral anticoagulants.
Side effects:	Fluid & electrolyte balance disturbance; musculoskeletal system effects; GI effects; skin reactions; -ve nitrogen balance due to protein catabolism; nervous system effects, seizures, psychic disorders; endocrine system disorders; immune system suppression.
Dosage:	see METHYL PREDNISOLONE ACETATE

NORETHISTERONE (Primolut N®)

P/P:	Primolut N 5mg tab, 30's
Adm:	May be taken with or without food
Category:	Progesterones & Related Synthetic Drugs
Indications:	Dysfunctional bleeding, timing of menstruation, primary & secondary amenorrhoea, premenstrual syndrome, mastopathy, endometriosis
Caution:	Hypertension, CVS disease, hepatic impairment, epilepsy. Lactation.
Contra-Ind:	Severe hepatic dysfunction; Dubin-Johnson syndrome; Rotor syndrome; undiagnosed vaginal bleeding; porphyria; pregnancy.
D/I:	May increase cyclosporin concentration. Reduced efficacy of anticoagulants, Requirements for oral antidiabetics & insulin can change.
Side effects:	Mental depression, cholestatic jaundice, porphyria, epilepsy, migraine, breast discomfort, dizziness, nausea and vomiting, changes in libido, appetite and weight.
Dosage:	Adult: 5mg two to three times a day. Renal Dose Adjustments: Special care should be taken when prescribing norethisterone in patients with Renal dysfunction

Liver Dose Adjustments: it is contraindicated in severe hepatic disease

OESTROGENS (Premarin®)

P/P:	Premarin 0.625mg tab, 100's; Premarin 1.25mg tab, 100's
Adm:	May be taken with or without food.
Category:	Oestrogens
Indications:	Vasomotor symptoms atrophic vaginitis & atrophic urethritis Osteoporosis Female hypoestrogenism; CV benefits;
Caution:	Cardiac/renal dysfunction, history of thromboembolic disease. Epilepsy, migraine. Asthma. Risk of endometrial hyperplasia. Gallbladder disease, impaired liver function, pancreatitis. Cervix, vag & liver cancers
Contra-Ind:	Known or suspected estrogen-dependent neoplasia. Active thrombophlebitis/thromboembolic disorders, known or suspected breast cancer. Undiagnosed abnormal genital bleeding; pregnancy.
D/I:	Rifampin may reduce effectiveness.
Side effects:	Nausea, abdominal cramps; edema, wt changes, breast changes, headache, migraine, rash, chloasma, melasma, steepening of corneal curvature
Dosage:	0.3 mg or 0.625 mg daily, up to 1.25 mg to 2 × 1.25 mg three times daily. Renal Impairment: no data available Hepatic Impairment: no data available

PIOGLITAZONE (Actos®)

P/P:	Actos 30mg tab, 30's, Actos 15 mg tab, 30's
Adm:	May be taken with or without food (Take before or after breakfast.).
Category:	Oral Antidiabetic Agents
Indications:	Adjunct to diet & exercise to improve glycemic control in patients w/ type II diabetes (NIDDM).
Caution:	Type I diabetes or diabetic ketoacidosis. Hypoglycemia; premenopausal anovulatory patients w/ insulin resistance; decreased Hb & hematocrit; edema; class III or IV cardiac status; hepatic dysfunction
Contra-Ind:	Hypersensitivity. Type 1 diabetes mellitus; history of heart failure; diabetic acidosis; active liver disease; children <18 yrs. Lactation.
D/I:	OCPs containing ethinyl estradiol & norethindrone, ketoconazole.

Side effects: Pharyngitis, oedema, headache, upper respiratory tract infection, sinusitis, anaemia; GI disturbances, weight gain, visual disturbances, dizziness, arthralgia, haematuria, impotence.

Dosage: Usual Adult Dose: 15 mg or 30 mg orally once a day, Maximum dose: 45 mg orally once a day.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: No adjustment recommended; however, caution is recommended in patients with liver disease.

PREDNISOLONE (Prednisolone, Gupisone, Predo®)

P/P: **Prednisolone 5mg tab, 30's, Gupisone 5mg tab, 20's**
Predo 15 mg /5 ml syrup

Adm: Should be taken with food.

Category: Corticosteroid Hormones

Indications: Suppression of allergic and inflammatory responses, bronchial asthma, severe dermatological reactions RA, rheumatic fever, allergic conditions. Immunosuppression

Caution: Cardiac or renal dysfunction, hypertension, migraine; osteoporosis; history of psychotic illness; latent TB; incomplete statural growth; pregnancy, lactation.

Contra-Ind: Gastric & duodenal ulcers; systemic fungal infection, certain viral infection; glaucoma. Hypersensitivity to glucocorticoids.

D/I: Diuretics &/or cardiac glycosides, antidiabetics, NSAIDs, oral anticoagulants, active vaccines

Side effects: Fluid & salt retention; hirsutism, Cushingoid state, menstrual irregularities, premature epiphyseal closure; osteoporosis, myopathy, aseptic necrosis; skin atrophy, acne;

Dosage: Usual Adult Dose: 5 to 60 mg per day in divided doses 1 to 4 times/day.
Usual Pediatric Dose: 0.1 to 2 mg/kg/day in divided doses 1 to 4 times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Progesterone (Cyclogest®)

P/P: **CYCLOGEST PESSARIES 400 MG, 200 MG**

Adm: Vaginal or Rectal pessaries

Category: Femal sex hormone

Indications: Prevention of endometrial hyperplasia, hormonal replacement therapy, secondary amenorrhea, neoplastic disease.has been used to prevent of habitual abortion but there is no evidence of benefit so it is not recommended for this purpose.

Cautions:	Should be used with caution in condition may worsen with fluid Retention eg: epilepsy, hypertension, migraine, asthma. history of depression. diabetes.
Contra-Ind:	Genital or breast cancer, severe arterial disease, Undiagnosed vaginal bleeding.
Side effects:	Menstrual disturbance. nausea, headache, dizziness, Insomnia, skin reaction And fluid retention.
Dosage:	The usual dose is 200mg once a day or 400mg twice a day by vaginal or rectal insertion. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

RALOXIFENE HCL (Evista®)

P/P:	Evista 60mg tab, 28's
Adm:	May be taken with or without food.
Category:	Agents Affecting Bone Metabolism
Indications:	Treatment & prevention of osteoporosis in postmenopausal women. Risk reduction of breast cancer in postmenopausal women w/ osteoporosis.
Caution:	Patients at risk of venous thromboembolic events of any aetiology. Co-administration w/ systemic oestrogens is not recommended.
Contra-Ind:	Women w/ childbearing potential; history of venous thromboembolic events; severe hepatic & renal impairment.
D/I:	Should not be co-administered w/ cholestyramine
Side effects:	Hot flushes, leg cramps, peripheral oedema, venous thromboembolic events.
Dosage:	1 tablet (60 mg) orally once a day. Renal Dose Adjustments: this drug should generally be avoided in patients with renal impairment. Liver Dose Adjustments: this drug should generally be avoided in patients with hepatic impairment.

REPAGLINIDE (Novonorm®)

P/P:	Novonorm 0.5mg tab,30's, Novonorm 1mg tab,30's, Novonorm 2mg tab,30's
Adm:	Should be taken with food (Take within 30 mins of meals.).
Category:	Oral Antidiabetic Agents
Indications:	Type 2 diabetes where hyperglycemia can no longer be controlled satisfactorily by diet, wt reduction & exercise

- Caution:** <18 yr old or >75 yr old. Major surgery, severe illness, or infection, kidney or liver problems.
- Contra-Ind:** Pregnancy, lactation, Type 1 diabetes, diabetic ketoacidosis, concomitant use of gemfibrozil, children <12 yr, severe hepatic disorders.
- D/I:** MAOIs, nonselective β-blockers, ACE inhibitors, NSAIDs, salicylates, octreotide, alcohol, & anabolic steroids. OCPs, thiazides, corticosteroids, danazol, thyroid hormones, & sympathomimetics,
- Side effects:** GI disturbances, abdominal pain, diarrhea, nausea, vomiting, constipation. Rarely, hypoglycaemia.
- Dosage:** Usual Adult Dose: 0.5 to 4 mg orally with each meal, Maximum Daily Dose: 16 mg per day.
Renal Dose Adjustments: Use with caution
Liver Dose Adjustments: Use with caution.

ROMOSOZUMAB (Evenity®) (Restricted)

- P/P:** **Evenity Solution Prefilled Syringe 105 mg per 1.17 mL (1.17 mL), for Subcutaneous.**
- Adm:** SUBQ: Each monthly dose consists of 2 consecutive SUBQ injections. Remove 2 syringes from carton and allow to sit at room temperature for at least 30 minutes before administration. Administer into the abdomen, thigh, or outer area of upper arm; should only be administered by a health care professional. Rotate injection sites; if the same injection site is chosen, do not inject into the same spot used for the first injection. Avoid areas of skin that are tender, bruised, red, hard, scarred, or with stretch marks. Solution in syringe should appear clear to opalescent, colorless to light yellow; do not use if cloudy, discolored, or contains particulate matter. Do not shake.
- Category:** Monoclonal Antibody; Sclerostin Inhibitor.
- Indications:** Osteoporosis, postmenopausal, fracture risk reduction: Treatment of postmenopausal osteoporosis in patients who are at high risk for fracture, or in patients in whom other available osteoporosis therapy has failed or cannot be taken.

Limitations of use: The anabolic effect of romosozumab wanes after 12 monthly doses of therapy. Therefore, the duration of romosozumab use should be limited to 12 monthly doses. If osteoporosis therapy remains warranted, continued therapy with an anti-resorptive agent should be considered.

- Caution:** Correct hypocalcemia and vitamin D deficiency (eg, to a 25-hydroxyvitamin D level ≥ 20 ng/mL [≥ 50 nmol/L]) prior to initiating therapy and ensure adequate calcium and vitamin D intake during therapy. Bone fractures; cardiovascular events; hypocalcemia; hypersensitivity; osteonecrosis of the jaw.

Use in Special Population:

Version 2024-2025
Jan.2025

Pregnancy Considerations:

Romosozumab is not indicated for use in females of reproductive potential.

Romosozumab is a humanized monoclonal antibody (IgG2). Potential placental transfer of human IgG is dependent upon the IgG subclass and gestational age, generally increasing as pregnancy progresses. The lowest exposure would be expected during the period of organogenesis (Palmeira 2012; Pentsuk 2009).

Breastfeeding Considerations:

It is not known if romosozumab is present in breast milk.

Romosozumab is not indicated for use in females of reproductive potential.

Contra-Ind: Hypersensitivity (eg, angioedema, erythema multiforme, urticaria) to romosozumab or any component of the formulation; uncorrected hypocalcemia.

D/I: Efgartigimod Alfa: May diminish the therapeutic effect of Fc Receptor-Binding Agents. Risk C: Monitor therapy

Side effects: >10%: Neuromuscular & skeletal: Arthralgia (8% to 13%)
1% to 10%:
Cardiovascular: Cardiac disorder (2%), peripheral edema (2%)
Central nervous system: Headache (5% to 7%), insomnia (2%), paresthesia (1%)
Dermatologic: Skin rash (1%)
Hypersensitivity: Hypersensitivity reaction (7%)
Local: Injection site reaction (5%), pain at injection site (2%), erythema at injection site (1%)
Neuromuscular & skeletal: Muscle spasm (3% to 5%), asthenia (3%), neck pain (2%)
<1%, postmarketing, and/or case reports: Acute myocardial infarction, angioedema, cerebrovascular accident, dermatitis, erythema multiforme, femur fracture, hypocalcemia, osteonecrosis of the jaw, urticaria

Dosage: Osteoporosis, postmenopausal, fracture risk reduction:

SUBQ: 210 mg once monthly for up to 12 months; each monthly dose is given as two separate 105-mg injections administered immediately one after the other.

Following a course of romosozumab, switch to antiresorptive therapy (eg, with a bisphosphonate or denosumab) to maintain bone density gains.

Note: For use as initial therapy in patients with very high fracture risk, including those with a T-score less than -3, a T-score less than -2.5 with fragility fracture history, or severe or multiple prior vertebral fractures. May also be used as an alternative agent in patients with high fracture risk in whom first-line therapies are ineffective or cannot be used. Do not use in patients at high risk of cardiovascular disease and stroke (eg, prior history of myocardial infarction or stroke)

Dosing in renal impairment and in HD patients: No dosage adjustment necessary; patients with eGFR <30 mL/minute/1.73 m² or receiving dialysis should be monitored closely for hypocalcemia.

Dosing in hepatic impairments: There are no dosage adjustments provided in the manufacturer's label.

SITAGLIPTIN (Januvia®)

P/P: **Januvia 100 mg tab28's**

Adm: May be administered with or without food

Category: Oral Antidiabetic

Indications: Management of type 2 diabetes mellitus as an adjunct to diet and exercise as monotherapy or in combination therapy with other antidiabetic agents

Caution: Avoid use in type 1 diabetes mellitus, diabetic ketoacidosispatients with moderate-to-sever renal dysfunction

Contra-Ind: Hypoglycemia, peripheral edema, Diarrhea, constipation, nausea, osteoarthritis

D/I: ACE Inhibitors, Corticosteroids, Digoxin, Hypoglycemic Agents

Dosage: Usual dose: 100 mg orally once a day.
Renal Dose Adjustments:
Mild renal impairment (CrCl 50 mL/min or more): No adjustment recommended
Moderate renal impairment (CrCl 30 to less than 50 mL/min): 50 mg orally once a day
Severe renal impairment (CrCl less than 30 mL/min): 25 mg orally once a day
Liver Dose Adjustments
Mild or moderate hepatic impairment: No adjustment recommended
Severe hepatic impairment: Use caution; no data available

SITAGLIPTIN + METFORMIN (Janumet®)

P/P: **Janumet 50/850 mg, 56s** (Sitagliptin 50 mg, metformin 850 mg)
Janumet 50/1000 mg, 56s (Sitagliptin 50 mg, metformin 1000 mg)

Adm: Should be taken after food

Category: Oral Antidiabetic

Indications: Management of type 2 diabetes mellitus as an adjunct to diet and exercise as monotherapy or in combination therapy with other antidiabetic agents

Caution: Avoid use in type 1 diabetes mellitus, diabetic ketoacidosispatients with moderate-to-sever renal dysfunction

Contra-Ind: Hypoglycemia, peripheral edema, Diarrhea, constipation, nausea, osteoarthritis

D/I: ACE Inhibitors, Corticosteroids, Digoxin, Hypoglycemic Agents

Dosage: Usual Adult Dose: one tablet of Sitagliptin 50 mg, metformin 850 mg or Sitagliptin 50 mg, metformin 1000 mg twice a day
Renal Dose Adjustments
Serum creatinine 1.5 mg/dL or more (males): Contraindicated
Serum creatinine 1.4 mg/dL or more (females): Contraindicate
Liver Dose Adjustments: Metformin-sitagliptin should be avoided.

SOLUBLE INSULIN (NEUTRAL) (Actrapid®)

P/P: **Actrapid HM100 units/ml, 10ml (human regular insulin, recombinant DNA origin, human, pyr)**
Humulin R 100units/ml, 10ml (Neutral human insulin, recombinant DNA origin, human, prb)

Adm: Should be taken on an empty stomach (Administer 30 mins before meals.).

Action profile: Onset after 1/2 hr, peak between 1st-3rd hr terminates after Approx 8 hr. (after SC Inj)

Category: Insulin

Indications: Diabetes when intense & rapid insulin action is required; intensified insulin treatment or continuous insulin infusion; diabetic emergencies e.g., diabetic coma/precoma; diabetics in need of IV insulin infusion; diabetes of pregnancy.

Caution: Monitor blood glucose carefully when changing insulin. Pregnancy.

Contra-Ind: Hypoglycemia, Insulinoma.

D/I: MAOIs, alcohol & β-blockers may enhance the hypoglycaemic effect of insulin.
Corticosteroids, thyroid hormones, OC & diuretics may increase insulin requirements.

Side effects: rare incidence of allergy & lipodystrophy at Inj site.

Dosage: The individual insulin requirement is usually between 0.3 and 1.0 international unit/kg/day.
Renal and hepatic impairment: In patients with renal or hepatic impairment, glucose monitoring should be intensified and the human insulin dose adjusted on an individual basis.

SOMAPACITAN (Sogroya®) (Restricted)

P/P: **Sogroya subcutaneous pen injection 5 mg/1.5 ml, 10 mg/1.5 ml, 15 mg/ 1.5 ml**

Adm: Administered subcutaneously into the abdomen, buttocks, thigh, or upper arm. Rotate injection site weekly to avoid lipohypertrophy. Solution should be clear to slightly opalescent and colorless to slightly yellow; do not use if solution is cloudy or contains particles. Once injected, keep the needle in the skin for ~6 seconds after the dose dial has returned to 0 mg before removing the needle to ensure the full dose has been administered.

Category: Growth Hormone

Indications:	<u>Growth failure</u> : Treatment of growth failure due to inadequate endogenous growth hormone secretion in pediatric patients ≥ 2.5 years of age. <u>Growth hormone deficiency</u> : Replacement of endogenous growth hormone in adults with growth hormone deficiency.
Caution:	Increased Risk of Neoplasm, Glucose Intolerance and Diabetes Mellitus, Intracranial Hypertension (IH), Hypersensitivity, Fluid Retention, Hypoadrenalinism, Hypothyroidism, Pancreatitis, Lipohypertrophy/lipoatrophy:
Contra-Ind:	Acute critical illness following open-heart surgery, abdominal surgery, or multiple accidental trauma, Acute respiratory failure, Active malignancy, Hypersensitivity to somapacitan or any of its excipients, Active proliferative or severe non-proliferative diabetic retinopathy, Pediatric patients with closed epiphyses; Prader-Willi syndrome in pediatric patients who are severely obese, have a history of upper airway obstruction or sleep apnea, or have severe respiratory impairment.
D/I:	Replacement Glucocorticoid Treatment: Patients treated with glucocorticoid for hypoadrenalinism may require an increase in their maintenance or stress doses following initiation Cytochrome P450-Metabolized Drugs Oral Estrogen: Larger doses of SOGROYA may be required Insulin and/or Other Hypoglycemic Agents
Side effects:	Back pain, arthralgia, dyspepsia, sleep disorder, dizziness, tonsillitis, peripheral edema, vomiting, adrenal insufficiency, hypertension, blood creatine phosphokinase increase, weight increase, anemia.
Dosage:	Initiate with a dosage of 1.5 mg once weekly for treatment naïve patients and patients switching from daily growth hormone. Increase the weekly dosage every 2 to 4 weeks by approximately 0.5 mg to 1.5 mg until the desired response has been achieved. Titrate the dosage based on clinical response and serum insulin-like growth factor 1 (IGF-1) concentrations. The maximum recommended dosage is 8 mg once weekly.

SOMATROPIN GH (Saizen Aluetta®)

P/P:	NA
Adm:	Do not shake. Do not inject IV. Rotate administration sites (back of upper arm, abdomen, buttock, or thigh) to avoid tissue atrophy.
Category:	Growth Hormone
Indications:	Growth hormone deficiency, HIV-associated wasting, cachexia, Short-bowel syndrome
Caution:	Chronic kidney disease, fluid retention, Glucose tolerance intracranial hypertension, lipoatrophy, neoplasm, pancreatitis, slipped capital femoral epiphyses
Contra-Ind:	Hypersensitivity to somatropin, growth promotion in pediatric patients with closed epiphyses, mortality following open heart or abdominal surgery, multiple accidental trauma, acute respiratory failure, active malignancy, active proliferative or severe non-proliferative diabetic retinopathy

Side effects:	Edema, Headache, hypersensitivity reaction, Arthralgia, myalgia, pharyngitis, upper respiratory tract infection, fever.
Dosage:	Saizen: SUBQ: ≤0.005 mg/kg/day; dose may be increased up to 0.01 mg/kg/day after 4 weeks.

TAMOXIFEN (Nolvadex®)

P/P:	Nolvadex 10mg tab, 30's
Adm:	May be taken with or without food.
Category:	Anti estrogen/Antineoplastics
Indications:	Adjuvant endocrine therapy of early breast cancer & palliative treatment of advanced disease. Treatment of anovulatory infertility.
Caution:	Hypercalcemia. Abnormal vaginal bleeding (increased risk of uterine malignancies). Decreased platelet counts.
Contra-Ind:	Coumarin-type anticoagulants; Pregnancy and lactation. Children, neonates. Hypersensitivity, not for prophylaxis. History of thromboembolic events. Porphyria.
D/I:	Coumarin-type anticoagulants, rifampicin or aminoglutethimide, phenobarbital, medroxyprogesterone
Side effects:	Hot flushes, nausea, vomiting, oedema, vaginal bleeding or discharge, pruritus vulvae, rashes, dry skin, increased incidence of thromboembolism & pulmonary embolism, alteration in blood lipid levels.
Dosage:	Usual Adult Dose: 20 to 40 mg orally Dosages greater than 20 mg should be given in divided doses (morning and evening). Usual Pediatric Dose: For use in girls age 2 to 10 years: 20 mg once a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TESTOSTERONE UNDECANOATE (Andriol, Testoviron, Androgel®)

P/P:	Andriol 40mg testocaps, 60's Testoviron 250mg Inj Androgel gel 50mg, 30 monodose sachets (AndroGel® should be applied once daily to clean dry skin. AndroGel® should not be applied to the scrotum)
Adm:	Oral prep should be taken with food. Injection by IM route Gel should be applied to the dry skin
Category:	Androgens & Related Synthetic Drugs

Indications:	Male: Hypogonadism, potency disturbances, male climacteric. Female: Supplementary therapy in progressive mammary carcinoma in the postmenopause.
Caution:	Latent or overt cardiac failure, renal dysfunction, HTN, epilepsy or migraine. Benign prostatic hypertrophy. Concomitant use of steroids.
Contra-Ind:	Prostatic or breast carcinoma in males. hypercalcemia accompanying malignant tumors; past or present liver tumors.
D/I:	May enhance insulin effect. Increased clearance w/ enzyme-inducing agents e.g., barbiturates. Increase plasma conc of oxyphenbutazone. Increase oral anticoagulant activity.
Side effects:	Priapism, signs of excessive sexual stimulation. In prepubertal boys, precocious sexual development, increased frequency of erections, phallic enlargement & premature epiphyseal closure. Oligospermia & decreased ejaculatory vol. Water & salt retention.
Dosage:	<p>Usual Adult Dose for Hypogonadism – Male IM INJECTION: 750 mg (3 mL) IM injection followed by 750 mg (3 mL) injected after 4 weeks, then 750 mg (3 mL) every 10 weeks thereafter ORAL: an initial dosage of 120-160mg daily for 2-3 weeks is adequate, followed by a maintenance dosage of 40-120mg daily TOPICAL: Gel: 5 g applied once a day, preferably in the morning. Usual Adult Dose for Breast Cancer-Palliative: 200 to 400 mg IM injection every 2 to 4 weeks.</p> <p>Usual Pediatric Dose for Delayed Puberty - Male IM INJECTION: 50 to 200 mg every 2 to 4 weeks for 4 to 6 months ORAL: should be used with caution.</p>
	Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TETRACOSACTRIN/ TETRACOSACTIDE (Synacthen®)

P/P:	Synacthen 1mg/ml depot Inj
Category:	Corticosteroid Hormones
Indications:	Collagen disease, chronic skin disorders, GI diseases, nephrotic syndrome, acute neurological conditions
Caution:	Allergic disorders, including asthma or allergic diathesis, hypersensitivity reactions. Do not add tetracosactide to blood & plasma transfusions
Contra-Ind:	Active or quiescent TB. Live vaccines. Cushing's syndrome; certain viral infection; adrenal steroid replacement therapy in Addison's disease or following adrenalectomy.
D/I:	Increased insulin required in diabetes mellitus.
Side effects:	Sodium and water retention, potassium loss. Stimulant effect induces adrenal hypertrophy. Abrupt withdrawal may result in symptoms of hypopituitarism
Dosage	Adults: 1mg intramuscularly daily or 1mg every 12 hours in acute cases.

Pediatric population:
Children aged 3 to 5 years: Initially 0.25 to 0.5mg intramuscularly daily; the maintenance dose is 0.25 to 0.5mg every 2 to 8 days.
Children aged 5 to 12 years: Initially 0.25 to 1mg intramuscularly daily; the maintenance dose is 0.25 to 1mg every 2 to 8 days.
Renal Dose Adjustments: use with caution
Liver Dose Adjustments: use with caution

TIBOLONE (Livial®)

P/P:	Livial 2.5mg tab, 28's
Adm:	May be taken with or without food
Category:	Oestrogens Related Synthetic Drugs
Indications:	Complaints due to natural or surgical menopause, prevention of postmenopausal osteoporosis in estrogen deficiency states.
Caution:	Liver disease, hypercholesterolemia. Discontinue if thromboembolic processes occur, liver function tests become abnormal or if cholestatic jaundice appears. Persistent vaginal bleeding.
Contra-Ind:	Pregnancy & lactation, hormone-dependent tumors, undiagnosed vag bleeding, severe liver disorders. Deep venous thrombosis or thromboembolic disorders. Hypersensitivity.
D/I:	May enhance the effect of anticoagulants e.g., warfarin, minimal interaction w/ cytochrome P450 enzymes. Enzyme-inducers accelerate metabolism of tibolone
Side effects:	Weight gain; dizziness; skin reactions; headache; GI symptoms; facial hair growth; pretibial oedema; depression; arthralgia or myalgia; vaginal bleeding.
Dosage:	Adult: The dosage is one tablet per day. Older people: No dose adjustment is necessary for the elderly. Pediatric population: There is no relevant use in the Pediatric population Renal Dose Adjustments: it is contraindicated Liver Dose Adjustments: use with caution

TRIAMCINOLONE ACETATE (Kenacort, Cinokort®)

P/P:	Kenacort A 40mg Inj, Cinokort 40mg Inj
Category:	Corticosteroid Hormones
Indications:	Allergic diseases, dermatosis, RA & other connective tissue disorders.
Caution:	Immunisation (defer); hypothyroidism; cirrhosis (enhanced effect); ocular herpes simplex; HTN, heart failure, diabetes; osteoporosis; thromboembolic disorders; glaucoma; myasthenia gravis; pregnancy, lactation,

Contra-Ind:	Active peptic ulcer, acute glomerulonephritis, TB, uncontrolled bacterial infection; unstable or infected joints; systemic fungal infection; idiopathic thrombocytopenic purpura
D/I:	Efficacy may be reduced by phenytoin, phenobarb, and rifampicin. Corticosteroids may reduce the effects of diuretics, hypoglycemics, and anticholinesterases. Aspirin.
Side effects:	Local atrophy (temporary). IA: post-inj flare, pigmentation, sterile abscess, Charcot-like arthropathy. Systemically, Na & fluid retention, peptic ulcer w/ possible perforation
Dosage:	Usual Adult Dose: 5 mg to 40 mg once the average is 25 mg. The maximum weekly dosage of triamcinolone diacetate is 75 mg. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TRIPTORELIN (Decapeptyl®)

P/P:	Decapeptyl 0.1mg Inj; Decapeptyl CR 3.75mg Inj
Category:	Gonadotropin releasing hormone analogues
Indications:	Situations where lowering of sex steroid serum levels to castrate level is desired e.g. prostate cancer, endometriosis or uterine myoma or assisted reproduction technique (ART). Treatment of confirmed central precocious puberty in girls <9 yr & boys <10 yr.
Caution:	Risk of tumor flare in men; patients with pituitary adenoma; weight-related amenorrhoea; polycystic ovary disease or endometriotic cysts; children
Contra-Ind:	Hypersensitivity to triptorelin and other luteinising hormone-releasing hormone or LHRH agonists; pregnancy; lactation.
D/I:	Hyperprolactinaemic drugs; dopamine agonists (e.g., antipsychotic, metoclopramide).
Side effects:	Men: Urinary symptoms, bone pain of metastatic origin & exacerbation of symptoms associated w/ medullary compression from spinal metastases at the start of treatment. Hot flushes, decreased libido & impotence during treatment. Women: Exacerbation of symptoms of endometriosis, Hot flushes, vaginal dryness, decreased libido, dyspareunia during treatment.
Dosage:	Usual Adult Dose: 3.75 mg intramuscularly (IM) every 4 weeks or 11.25 mg IM every 12 weeks or 22.5 mg IM every 24 weeks Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: No adjustment recommended.

UROFOLLITROPIN (follicle stimulating hormone (FSH) activity but virtually no luteinising activity.) (Fostimon®)

P/P:	Fostimon Inj, 75IU, 150IU
Category:	Gonadotropins
Indications:	Female infertility/polycystic ovarian disease, in vitro fertilization procedures, male infertility

Caution:	May result in multiple pregnancies. Lactation
Contra-Ind:	Pregnancy, ovarian cysts or enlargement, primary ovarian failure, organic intracranial lesion, uncontrolled thyroid and adrenal dysfunction, presence of any cause of infertility other than anovulation
Side effects:	Ovarian hyperstimulation, mild ovarian enlargement, ovarian cysts, abdominal pain, hypersensitivity, GI symptoms, irritation at inj site, breast tenderness & headache.
Dosage:	Usual Adult Dose: 150 international units per day, Maximum dose: 450 international units per day. Renal Dose Adjustments: No adjustment recommended. Liver Dose Adjustments: No adjustment recommended.

VILDAGLIPTIN (Galvus®)

P/P:	Galvus 50 mg tab 28's-56's
Adm:	May be administered with or without food
Category:	Oral Antidiabetic.
Indications:	Management of type 2 diabetes mellitus alone or in combination therapy with other antidiabetic agents.
Contra-Ind:	Hepatic impairment, ketoacidosis, renal impairment, pregnancy.
Side effects:	Nausea, peripheral oedema, headache, dizziness, rarely hepatic dysfunction
Dosage:	Adult the recommended daily dose of vildagliptin is 100 mg, administered as one dose of 50 mg in the morning and one dose of 50 mg in the evening. Pediatric population: it is not recommended for use in children and adolescents (< 18 years). Renal impairment: No dose adjustment is required in patients with mild renal impairment In patients with moderate or severe renal impairment or with end-stage renal disease the recommended dose is 50 mg once daily Hepatic impairment: should not be used in patients with hepatic impairment.

VILDAGLIPTIN+METFORMIN (Galvusmet®)

P/P:	Galvusmet 50/850 mg (Vildagliptin 50 mg + Metformin850 mg 60's) Galvusmet 50/1000 mg (Vildagliptin 50 mg+Metformin1000 mg 60's)
Adm:	Should be taken with food.
Category:	Oral Antidiabetic combination
Indications:	See vildagliptin.

Contra-Ind: See vildagliptin.

Side effects: See vildagliptin.

Dosage: Adult: 50 mg/500 mg, 50 mg/850 mg or 50 mg/1,000 mg tablet strength twice daily.

Pediatric: No pharmacokinetic data are available in children.

Renal impairment: it is contraindicated in patients with renal disease or renal dysfunction

Hepatic impairment: it is not recommended in patients with hepatic impairment.

EYE (OPHTHALMIC PREPARATIONS)

ADMINISTRATION OF DRUGS TO THE EYE

Drugs administered as eye drops penetrate directly into the globe through the cornea. Absorption may also occur into the general circulation via conjunctival vessels or from the nasal mucosa after drainage of excess preparation down through the tear ducts; this can produce systemic side-effects. Systemic absorption can be reduced by 'punctal occlusion', i.e. pressing tightly with a finger on the inside corner of the eye for about half a minute after instilling the eye drop.

Eye drops should be instilled by pulling down the lower eyelid and putting one drop into the pocket that is formed. The eye should then be closed tightly for about a minute. The conjunctival fornix can only accommodate one drop; since any extra will overflow (possibly leading to systemic absorption), only one drop should be used.

Eye ointments may be applied to the inside of the lower eyelid when a prolonged action is required.

Eye ointments are applied by starting at the inside corner of the eye and squeezing a thin line (about half a centimetre) along the inside of the lower lid, then blinking the eye.

Subconjunctival injection may be used to administer anti-infective drugs, mydriatics or corticosteroids for conditions not responding to topical therapy.

Contact lenses should not generally be worn while using eye drops containing preservatives, or eye ointments.

If using 2 different eye drops, leave a period of about 5 minutes between the two drops. If using drops and ointment, use the drop first then wait 5 minutes before applying the ointment.

Older patients may find it easier to apply eye ointment instead of eye drops.

ACYCLOVIR (Zovirax®)

P/P: **Zovirax eye oint,3%, 4.5gm**
Category: Eye Anti-infectives & Antiseptics

Indications: Herpes simplex keratitis.

Contra-Ind: Hypersensitivity to acyclovir.

Side effects: Transient mild stinging; superficial punctate keratopathy; local irritation & inflammation.

Dosage: Adults and children: The usual dose is 1cm (about $\frac{1}{2}$ an inch) of Zovirax applied to the infected eye five times a day

AFLIBERCEPT (Eylea®) (Restricted)

P/P: **Eylea 4mg/0.1ml vial intravitreal.**

Category: Vascular endothelial growth factor (VEGF) inhibitor.

Indications:	Treatment of neovascular (wet) age-related macular degeneration, diabetic macular edema, diabetic retinopathy, macular edema following retinal vein occlusion, retinopathy of prematurity.
Caution:	Retinopathy of prematurity (ROP): Following intravitreal injection, abnormal angiogenesis and tortuosity may recur. Infants should be closely monitored until retinal vascularization is complete or assurance that reactivation of ROP will not occur.
Contra-Ind:	Known hypersensitivity to afibercept or any component of the formulation; current ocular or periocular infection; active intraocular inflammation.
Side effects:	Cataract, Arterial thrombosis, Antibody development.
Dosage:	Usual Adult Dose: 2mg once every 4 weeks. Usual Pediatric Dose: Not recommended for pediatric. Renal Dose Adjustments: No dose adjustment required. Liver Dose Adjustments: No dose adjustment required.

ATROPINE (Atropine®)

P/P:	Atropine 1% eye drops, Riatropine 1% eye drops
Category:	Mydriatic Drugs
Indications:	Mydriasis&/or cycloplegia. For cycloplegic refraction, for pupillary dilation desired in acute inflammatory conditions of the iris & uveal tract.
Caution:	To avoid inducing angle-closure glaucoma, an estimate of the depth of the angle of anterior chamber should be made. Children.
Contra-Ind:	Primary glaucoma or a tendency toward glaucoma. Hypersensitivity.
Side effects:	Prolonged use may produce local irritation.
Dosage:	Usual Adult Dose: 1 to 2 drops to the affected eye(s) 4 times a day Usual Pediatric Dose: 1 to 2 drops (0.5% solution) to the affected eye(s) twice daily Renal Dose Adjustments: caution is recommended Liver Dose Adjustments: caution is recommended

BALANCE SALT SOLUTION

BSS is a sterile physiologically balanced salt solution

Each mL contains;

Sodium chloride (NaCl) 0.64%
Potassium chloride (KCl) 0.075%
Calcium chloride dihydrate (CaCl₂.2H₂O) 0.048%
Magnesium chloride hexahydrate (MgCl₂.6H₂O) 0.03%
Sodium acetate trihydrate (CH₃CO₂Na.3H₂O) 0.39%

Sodium citrate dihydrate ($C_6H_5O_7Na_3 \cdot 2H_2O$) 0.17%
Sodium hydroxide and/or hydrochloric acid (to adjust pH) and water for injection.

- P/P:** **BSS 15ml, BSS 500ml**
- Category:** Physiologic irrigation solution.
- Indications:** For irrigation during various surgical procedures of the eyes, ears, nose and/or throat.
- Caution:** This solution contains no preservative and should not be used for more than one patient. Use only if vacuum is present, and if container and seal are undamaged and solution is clear.
- Contra-Ind:** Injection or IV infusion
- Storage:** Store at 46° to 80°F. (8° to 27°C) Avoid excessive heat.
- Side effects:** When the corneal endothelium is abnormal, irrigation or any other trauma may result in bullous keratopathy. Postoperative inflammatory reactions as well as incidents of corneal edema and corneal decompensation have been reported.

BETAXOLOL (Betoptic, Rialol®)

- P/P:** **Betoptic 25mg/5ml eye drops**
Rialol 0.5%, 5ml eye drops
- Category:** Glaucoma Preparations
- Indications:** Chronic open-angle glaucoma & ocular HTN
- Caution:** Diabetes, thyrotoxicosis, patients w/ excessive restriction of pulmonary function, pregnancy.
- Contra-Ind:** Sinus bradycardia, ≥1st degree AV block, cardiogenic shock, overt cardiac failure
- D/I:** Epinephrine, catecholamine-depleting drugs, adrenergic psychotropic drugs (caution), oral β-blockers.
- Side effects:** rare instances of decreased corneal sensitivity, erythema, itching, corneal punctate staining, keratitis, anisocoria, photophobia, dryness, tearing, discomfort.
- Dosage:** Usual Adult Dose: 0.25% suspension: One drop in the affected eye(s) twice a day
0.5% solution: One to two drops in the affected eye(s) twice a day
Usual Pediatric Dose: .25% suspension: One drop in the affected eye(s) twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BIMATOPROST (Lumigan®)

- P/P:** **Lumigan 0.3mg/ml, 3ml eye drops**

Category: Glaucoma Preparations

Indications: Reduction of elevated intraocular pressure in patients w/ open-angle glaucoma or ocular HTN

Caution: May increase pigmentation of the iris, periorbital tissue and eyelashes. Patients with active intraocular inflammation. Pregnancy.

Side effects: Ocular irritation, conjunctival hyperaemia, transient punctate epithelial erosions and eyelid oedema. Darkening and thickening of the eye lashes may occur.

Dosage: The recommended dosage is one drop in the affected eye(s) once daily in the evening.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BIMATOPROST / TIMOLOL (Ganfort®)

P/P: **GANFORT 3 ML EYE DROPS**

Category: Beta Blocker, Nonselective; Ophthalmic Agent, Antiglaucoma; Prostaglandin, Ophthalmic

Indications: Elevated intraocular pressure

Caution: Anaphylactic reactions
Choroidal detachment
Ocular effects: May permanently darken iris pigmentation, eyelid skin, and eyelashes.
Ocular inflammation

Contra-Ind: Hypersensitivity to bimatoprost, timolol, or any component of the formulation;
bronchospasm; bronchial asthma or history of bronchial asthma; severe chronic obstructive pulmonary disease (COPD); sinus bradycardia; sick sinus syndrome; sino-atrial nodal block; second- or third-degree atrioventricular block not controlled with pacemaker;
symptomatic heart failure; cardiogenic shock.

Side effects: Conjunctival hyperemia, increased eyelash length, Erythema of eyelid, skin hyperpigmentation

Dosage: Elevated intraocular pressure: Ophthalmic: Instill 1 drop into the affected eye(s) once daily in the morning.

BRIMONIDINE TARTARATE (Alphagan®) (Restricted)

P/P: **Alphagan 0.2%, 5ml, Brimo 0.2%, 5ml**

Category: Glaucoma Preparations

Indications: To lower intraocular pressure in patients w/ open-angle glaucoma or ocular hypertension

Caution:	Severe CV disease; hepatic or renal impairment; depression, cerebral or coronary insufficiency, Raynaud's phenomenon, orthostatic hypotension or thromboangiitis obliterans. Pregnancy, lactation.
Contra-Ind:	Patients receiving MAOI therapy.
D/I:	Possible potentiating effect w/ CNS depressants. β -blockers (ophth & systemic), antihypertensives &/or cardiac glycosides. Tricyclic antidepressants.
Side effects:	Oral dryness, ocular hyperemia, burning & stinging, headache, blurring, foreign body sensation, fatigue/drowsiness,
Dosage:	The recommended dose is one drop of brimonidine tartrate ophthalmic solution 0.2% in the affected eye(s) three times daily, approximately 8 hours apart. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

BRIMONIDINE/ TIMOLOL (Combigan®)

P/P:	Combigan 5ml, eye drops
Category:	Glaucoma Preparations
Indications:	To lower intraocular pressure in patients w/ open-angle glaucoma or ocular hypertension
Couution, Contra-Ind and Side effects	see Brimonidine
Dosage:	Usual Adult Dose: 1 drop in the affected eye(s) twice per day, approximately 12 hours apart Usual Pediatric Dose: 2 years or older: 1 drop in the affected eye(s) twice per day, approximately 12 hours apart Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

BRINZOLAMIDE (Azopt®)

P/P:	Azopt 1%, 5ml eye drops
Category:	Glaucoma Preparations
Indications:	Treatment of elevated intraocular pressure in patients w/ ocular hypertension or open-angle glaucoma
Caution:	Hepatic impairment, ocular surgery or intercurrent ocular trauma or infection. Pregnancy & lactation, children.
Contra-Ind:	Acute angle-closure glaucoma. Severe renal impairment
D/I:	Concomitant oral carbonic anhydrase inhibitors. High dose salicylate therapy.

Side effects: Blurred vision, sour & unusual taste, blepharitis, dry eye; foreign body sensation, headache; hyperemia, ocular discharge & discomfort

Dosage: Usual Adult Dose: One drop in the affected eye(s) three times a day
Renal Dose Adjustments: Severe renal impairment (CrCl less than 30 mL/min): Not recommended.
Liver Dose Adjustments: Hepatic impairment: Data not available

BRINZOLAMIDE / TIMOLOL (Azarga®)

P/P: AZARGA 5 ML EYE DROPS

Adm: For ocular use. Patients should be instructed to shake the bottle well before use. After cap is removed, if tamper evident snap collar is loose, remove before using product. To prevent contamination of the dropper tip and the suspension, care must be taken not to touch the eyelids, surrounding areas or other surfaces with the dropper tip of the bottle. Instruct patients to keep the bottle tightly closed when not in use. If more than one topical ophthalmic medicinal product is being used, the medicinal products must be administered at least 5 minutes apart. Eye ointments should be administered last.

Category: EYE

Indications: Approved indications

Caution: Acid-base disturbances: • Anaphylactic reactions: • CNS effects: Impairment of mental alertness and/or physical coordination may occur. • Ocular effects: Patients with compromised corneas (eg, patients with diabetes or low endothelial cell counts) or contact lens wearers may have an increased risk for corneal edema; use caution. Choroidal detachment has been reported with aqueous suppression therapy after filtration procedures. Benzalkonium chloride may cause keratopathies; monitor closely with prolonged use. May cause temporary blurred vision or other visual disturbances; patients should not perform dangerous tasks (eg, driving, operating machinery) until vision clears. • Sulfonamide ("sulfa") allergy. • Systemic effects: Systemic absorption may occur; adverse effects observed with beta-blockers and/or sulfonamides may occur with ophthalmic use. Beta-blocker therapy should not be withdrawn abruptly in order to avoid acute tachycardia, hypertension, and/or ischemia.

Contra-Ind: Hypersensitivity to the active substances or to any of the excipients. • Hypersensitivity to other beta-blockers. • Hypersensitivity to sulphonamides. • Reactive airway disease including bronchial asthma or a history of bronchial asthma, or severe chronic obstructive pulmonary disease. • Sinus bradycardia, sick sinus syndrome, sino-atrial block, second or third degree atrioventricular block not controlled with pace-maker. Overt cardiac failure, cardiogenic shock. • Severe allergic rhinitis • Hyperchloraemic acidosis. • Severe renal impairment.

Side effects: 1% to 10%: Gastrointestinal: Dysgeusia (2%) Ophthalmic: Blurred vision (6%), eye irritation (4%), eye pain (3%), foreign body sensation of eye (1%)

Dosage: Eye drops, suspension (eye drops)

BROMENAC (Brofix®)

P/P: BROFIX 0.09% EYE DROP

Adm: Instill one drop of BromSite to the affected eye twice daily (morning and evening) beginning 1 day prior to surgery, the day of surgery, and 14 days postsurgery.

Category: NSAIDS

Indications: Bromfenac is a nonsteroidal anti-inflammatory drug (NSAID) indicated for the treatment of postoperative inflammation and prevention of ocular pain in patients undergoing cataract surgery.

Caution: Slow or Delayed Healing.
Potential for Cross-Sensitivity.
Increased Bleeding Time of Ocular Tissue.
Keratitis and Corneal Effects.
Contact Lens Wear.

Contra-Ind: None

Side effects: The most commonly reported adverse reactions in 1-8% of patients were: anterior chamber inflammation, headache, vitreous floaters, iritis, eye pain and ocular hypertension.

Dosage: Topical ophthalmic solution.

CARBOMER (Artelac®)

P/P: ARTELAC NIGHTTIME GEL 0.2% 10 GM

Adm: Hold tube upright so that a small drop forms and falls easily from the tip. Avoid contamination of the tip. Administer other ophthalmic products at least 5 minutes prior to instillation of carbomer. Contact lenses should be removed prior to application; wait 15 minutes before reinserting lenses.

Category: OCULAR LUBRICANT

Indications: Dry eyes

Caution: Contact lens wearers: Contact lenses should be removed prior to use; wait 15 minutes before reinserting lenses. • Cetrimide: Contains cetrimide as a preservative which may cause ocular irritation and may damage corneal epithelium with frequent or long-term use

Contra-Ind: Hypersensitivity to carbomer (polyacrylic acid) or any component of the formulation

Side effects: Central nervous system: Localized burning. Hypersensitivity: Hypersensitivity reaction
Ophthalmic: Corneal injury, eye irritation, eye redness, intraocular inflammation, stinging of eyes
Miscellaneous: Swelling

Dosage: Artelac Night Time: 0.2% (10 g)

CHLORAMPHENICOL (Riachol, Phenicol®)

P/P: 0.5%, 10ml eye drops (Riachol)
1%, 5gm eye oint (Riachol)
0.5%, 5gm eye oint (Phenicol)

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of bacterial conjunctivitis & other superficial ocular infections caused by susceptible organisms

Caution: Avoid prolonged use. Discontinue use if superinfection occurs.

Side effects: Stinging, itching, angioneurotic edema, urticaria & maculopapular dermatitis.

Dosage: The recommended dosage is for adults, and children aged 2 years and over.
One drop to be applied to the infected eye every 2 hours for the first 48 hours and then every 4 hours thereafter. Treatment should be continued for 5 days.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available.

CHLORAMPHENICOL + DEXAMETHASONE (Spersadex®)

P/P: Spersadex comp 5ml eye drops (Dexamethasone disodium phosphate 0.1 %, chloramphenicol 0.5 %)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

CHLORAMPHENICOL+HYDROCORTISONE (Cortiphenol H®)

P/P: Cortiphenol H eye oint 4gm (Hydrocortisone acetate 1%, chloramphenicol 1%)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: One drop, 1 to 4 times daily, into the lower eyelid.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CIPROFLOXACIN (Ciprocin, Ciloxan, Opticin®)

P/P: **0.3%, 5ml eye drops (Ciloxan, Opticin)**
0.3%, 5ml eye/ear drops (Ciprocin)
0.3%, 5gm eye oint (Ciprocin)

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of infections caused by susceptible microorganisms.

Caution: Prolonged use may result in overgrowth of nonsusceptible organisms. Children <1 yr. Eye oint may retard corneal healing & cause visual burning.

Contra-Ind: Hypersensitivity to quinolones

Side effects: Local burning or discomfort, itching, lid edema, tearing, white crystalline precipitates which resolve.

Dosage: Eye use: Days 1 and 2: 1 to 2 drops into the conjunctival sac of the affected eye(s) every 2 hours while awake.
Days 3 through 7: 1 to 2 drops into the conjunctival sac of the affected eye(s) every 4 hours while.

Ear use: ciprofloxacin 0.5 mg in 0.25 mL instilled into the affected ear twice daily (Approximately 12 hours apart) for 7 days.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CYCLOPENTOLATE (Cyclogyl, Pentolat®)

P/P: **Cyclogyl 1%, 15ml eye drops**
Pentolat 1%, 10ml eye drops

Category: Mydriatic Drugs

Indications: To produce mydriasis & cycloplegia

Caution: May cause CNS disturbances. Elevation of intraocular pressure. Down's syndrome. Predisposition to angle-closure glaucoma. Pregnancy & lactation. Children.

Contra-Ind: Narrow-angle glaucoma.

D/I: May interfere w/ ocular antihypertensive action of carbachol, pilocarpine or ophth cholinesterase inhibitors

Side effects: Local irritation, hyperaemia, oedema and conjunctivitis, increased IOP (may precipitate narrow-angle glaucoma), systemic anticholinergic effects

Dosage: Usual Adult Dose: one or two drops of 0.5%, 1%, or 2% solution in the eye(s). May repeat in 5 to 10 minutes if needed.

Usual Pediatric Dose: Small infants: one drop of 0.5% solution in the eye
Children: Instill one or two drops of 0.5%, 1%, or 2% solution in the eye. May repeat 5 to 10 minutes later with a second application of 0.5% or 1% solution if needed.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DEXAMETHASONE (Maxidex®)

P/P:	Maxidex 0.1%, 5ml eye drops
Category:	Ophthalmic Corticosteroids
Indications:	Short term local treatment of inflammation
Caution:	Prolonged use. Pregnancy.
Contra-Ind:	Epithelial herpes simplex, vaccinia, varicella, most other viral diseases of cornea & conjunctiva. TB of eye, fungal disease of ocular structures. Acute purulent untreated eye infections.
Side effects:	Increased intraocular pressure on prolonged use, perforation of globe in diseases causing thinning of cornea.
Dosage	One or two drops topically in the conjunctival sac(s). In severe disease, drops may be used hourly, being tapered to discontinuation as the inflammation decreases. In mild disease, drops may be used up to four to six times a day, being tapered to discontinuation as the inflammation decreases. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DEXAMETHASONE (Ozurdex®)

P/P:	Ozurdex 0.7 mg ocular implant; Intravitreal injection
Adm:	Administration instructions
Category:	Corticosteroid, anti-inflammatory
Indications:	Diabetic macular edema or macular edema, non-infectious uveitis
Caution:	Endophthalmitis, eye inflammation, ocular hypertension, glaucoma, perforations, retinal detachment, and immunosuppression
Contra-Ind:	Ocular or periocular infections, advanced glaucoma, non-intact posterior lens capsule, and hypersensitivity
Side effects:	Hypertension, cataract, Increased intraocular pressure, conjunctival hemorrhage (>10%) Aneurysm, anterior chamber inflammation, blepharitis, headache, conjunctival edema (1-10%)

Dosage: Adult: 0.7 mg implant injected in the affected eye.

Dextran (Tears Naturale®)

P/P: **Tears Naturale 15ml Eye Drops 1"S**

Adm: for topical ophthalmic use only

Category: Ophthalmic Agent, lubricating eye drops

Indications: Artificial tear substitute

Caution: If you are allergic to dextran 70, Hypromellose

Contra-Ind: Non

Side effects: may cause blurred vision, discomfort

Dosage: The usual dose is 1 or 2 drops in your eye (s) as often as you require to relieve the irritation.

DICLOFENAC SODIUM (Voltaren®)

P/P: **Voltaren eye drops 0.1%, 5 mL; Ocugesic eye drops 0.1%, 5ml**

Category: Other Eye Preparations

Indications: Post-op inflammation in cataract surgery & other surgical interventions. Prevention of cystoid macular edema after cataract extraction w/ lens implantation.

Caution: Patients with infection, hemostatic defects. Allow 15-min interval between two eye medications. 3rd trimester of pregnancy. Remove contact lenses prior to application, may be reinserted 15 min later.

Contra-Ind: Patients in whom attacks of asthma, urticaria or acute rhinitis have been precipitated by aspirin or other prostaglandin synthetase inhibitors.

Side effects: Transient mild to moderate burning sensation in the eyes. Itching, reddening of the eye & blurred vision immediately after instillation

Dosage: 1 to 2 drops to the affected eye(s) 4 to 5 times a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

DIPIVEFRINE HCL (Propine®)

P/P:	Propine eye 0.1%, 5ml drops
Category:	Glaucoma Preparations
Indications:	Reduction of intra ocular pressure in patients w/ open-angle glaucoma or ocular hypertension
Contra-Ind:	Hypersensitivity. Patients w/ narrow angles, since any pupillary dilatation may cause an attack of angle-closure glaucoma.
D/I:	Additive ocular hypotensive effects w/ other anti-glaucoma drugs
Side effects:	Ocular hyperaemia, burning, stinging, irritation, follicular conjunctivitis, mydriasis, allergic reactions, adrenochrome deposits in the conjunctiva and cornea, headache
Dosage:	Instill 1 drop into affected eye(s) every 12 hours. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DORZOLAMIDE (Trusopt, Xola®) (Restricted)

P/P:	Trusopt 2%, 5ml eye drops Xola 2%, 5ml eye drops
Category:	Glaucoma Preparations
Indications:	Treatment of elevated intraocular pressure in patients w/ ocular glaucoma, open-angle glaucoma& pseudoexfoliative glaucoma & other secondary open-angle glaucomas.
Caution:	Severe renal impairment; hepatic impairment; & acute angle-closure glaucoma. Should not be administered while wearing soft contact lenses.
Contra-Ind:	Severe renal impairment; hypersensitivity; hyperchloraemic acidosis. Lactation
D/I:	High dose of salicylate therapy. Potential additive effect w/ oral carbonic anhydrase inhibitors.
Side effects:	Hypersensitivity disorders, dizziness, paresthesia, ocular disorders, skin/mucous membranes disorders.
Dosage:	One drop in the affected eye(s) three times a day Renal Dose Adjustments: Severe renal impairment (CrCl less than 30 mL/min): Not recommended Liver Dose Adjustments: Hepatic impairment: Use with caution

DORZOLAMIDE+TIMOLOL MALEATE (Cosopt, Xolamol, Dorzalol®)

P/P:	Cosopt 5ml eye drops (Per mL Dorzolamide 20 mg, timolol 5 mg) Xolamol 5ml eye drops (Per mL Dorzolamide 20 mg, timolol 5 mg) Dorzalol 5ml eye drops (Per mL Dorzolamide 20 mg, timolol 5 mg)
Category:	Glaucoma Preparations
Indications:	Treatment of elevated intraocular pressure in patients w/ ocular glaucoma, open-angle glaucoma& pseudoexfoliative glaucoma & other secondary open-angle glaucomas when concomitant therapy is appropriate.
Dosage:	1 drop in the affected eye(s) 2 times per day Renal Dose Adjustments: Mild to moderate renal impairment: Data not available Severe renal impairment (CrCl less than 30 mL/min): Not recommended Liver Dose Adjustments: Hepatic impairment: Use with caution

EMEDASTINE (Emadine®)

P/P:	Emadine 2.5mg/5ml eye drops
Category:	Ophthalmologic antiallergics
Indications:	Temporary relief of the signs & symptoms of allergic conjunctivitis.
Caution:	Pregnancy, lactation.
Contra-Ind:	Paed <3 yr.
Side effects:	Transient burning or stinging, blurred vision, local oedema, keratitis, irritation, dry eye
Dosage:	1 drop in the affected eye(s) up to four times daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

Faricimab (Vabysmo®)

P/P:	Vabysmo Solution, Intravitreal [preservative free]: 6 mg/0.05 mL (120 mg/mL)
Adm:	<u>Intravitreal:</u> For ophthalmic intravitreal injection only. Administer under aseptic conditions. Don't freeze or shake vials & it should be protect it from light. Allow vial to reach room temperature prior to administration (at 20-25 degree C). Each vial should only be used for the treatment of a single eye. If the contralateral eye requires treatment, a new vial should be used and the sterile field, syringe, gloves, drapes, eyelid speculum, filter, and injection needles should be changed before Faricimab is administered to the other eye. Adequate anesthesia and a topical broad-spectrum antibiotic should be given before the procedure.

Category	Bispecific antibody, Angiopoietin-2 inhibitor, Vascular endothelial growth factor (VEGF) inhibitor.
Indications	Age-related macular degeneration, neovascular Diabetic macular edema Macular edema following retinal vein occlusion
Caution	<u>Hematologic:</u> Arterial thromboembolic events (nonfatal stroke, nonfatal myocardial infarction, or vascular death including deaths of unknown cause) have been reported. <u>Ophthalmic:</u> Endophthalmitis and retinal detachments have been reported. Transient increases in intraocular pressure have been observed within 60 minutes of injection; monitoring is recommended. Retinal vasculitis and retinal vascular occlusion, typically in the presence of intraocular inflammation, have been reported; discontinuation may be necessary.
Contra-Ind	Hypersensitivity (eg, rash, pruritus, urticaria, erythema, severe intraocular inflammation) to Faricimab or any component of the formulation. Ocular or periocular infections. Active intraocular inflammation.
Side effects	Cataract Arterial thromboembolism (including acute myocardial infarction and cerebrovascular accident) Conjunctival hemorrhage Eye discomfort, eye irritation, eye pain Increased intraocular pressure Increased lacrimation Intraocular inflammation (including iridocyclitis, iritis, uveitis, vitritis) Retinal pigment epithelium tear Retinal vascular disease (retinal vasculitis and retinal vascular occlusion) Vitreous detachment Vitreous opacity
Dosage (Adults)	<p>Age-related macular degeneration, neovascular</p> <p><u>Intravitreal:</u> Initial: 6 mg once every 4 weeks (approximately every 28 days) for 4 doses. Subsequent doses are individualized based on visual assessments, and are administered as one of the following regimens:</p> <ul style="list-style-type: none"> Every-8-week regimen: 6 mg on weeks 20, 28, 36, and 44. Every-12-week regimen: 6 mg on weeks 24, 36, and 48. Every-16-week regimen: 6 mg on weeks 28 and 44. <p>Note: Additional efficacy was not demonstrated with dosing every 4 weeks throughout therapy; however, some patients may require dosing every 4 weeks following the initial 4 doses.</p> <p>Diabetic macular edema</p> <p>Doses may be administered based on one of the following regimens:</p> <p>Fixed interval regimen: <u>Intravitreal:</u> 6 mg once every 4 weeks (approximately every 28 days) for 6 doses, followed by 6 mg once every 8 weeks.</p>

Variable interval regimen: Intravitreal: 6 mg once every 4 weeks (approximately every 28 days) for at least 4 doses, followed by 6 mg every 4 to 16 weeks (based on visual assessments).

Note: Additional efficacy was not demonstrated with dosing every 4 weeks throughout therapy; however, some patients may require dosing every 4 weeks following the initial 4 doses.

Macular edema following retinal vein occlusion

Intravitreal: 6 mg once every 4 weeks (approximately every 28 days) for 6 months.

Dose adjustments in special population:

Renal impairment: Dose adjustment not necessary.

Hepatic impairment: No pharmacokinetic studies have been performed.

Geriatric: Dose adjustment not necessary.

Retinal vascular occlusion: Discontinue use if develops

Retinal vasculitis: Discontinue use if develops

FLUOROMETHOLONE (FML, Flucon, Optilone®)

P/P: **0.1%, 5ml eye drops (FML, Flucon, Optilone)**

Category: Ophthalmic Corticosteroids

Indications: For steroid-responsive inflammation of the palpebral & bulbar conjunctiva, cornea & anterior segment of the globe

Caution: Glaucoma, diseases causing thinning of cornea or sclera, history of herpes simplex, acute purulent conditions.

Contra-Ind: Acute superficial herpes simplex keratitis, fungal diseases of ocular structure; vaccinia, varicella & other viral diseases of the cornea & conjunctiva, eye TB.

Side effects: Glaucoma w/ optic nerve damage, visual acuity or field defects, raised intraocular pressure, secondary infection (persistent corneal ulceration)

Dosage: 1 drop into the conjunctival sac 2 to 4 times per day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FUSIDIC ACID (Fucithalmic, Optifugin®)

P/P: **Fucithalmic 1%, 5 g, viscous eye drops**
Optifugin 1%, 5 g, viscous eye drops

Category: Eye Anti-infectives & Antiseptics

Indications: Bacterial infection, prophylaxis in ophth surgery & removal of foreign bodies.

Caution: Do not apply to eyes w/ contact lenses.

Side effects: Transient stinging.

Dosage: The usual dose is one drop twice each day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

GATIFLOXACIN (Zymar, Tymer®)

P/P: Zymar 0.3%, 5ml eye drops, Tymer 0.3%, 5ml eye drops

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of bacterial conjunctivitis caused by susceptible strains of both gm+ve & gm-ve microorganisms.

Caution: Prolonged use may cause overgrowth of nonsusceptible organisms. Hypersensitivity.
Pregnancy & lactation.

Side effects: Conjunctival irritation, increased lacrimation, keratitis & papillary conjunctivitis

Dosage: Days 1 and 2: 1 drop in the affected eye(s) every 2 hours while awake, up to 8 times a day.
Days 3 through 7: 1 drop in the affected eye(s) up to 4 times a day while awake.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

GENTAMICIN (Garamycin, Gentacin, Apigen®)

P/P: Garamycin 0.3%, 5ml eye drops
Gentacin 0.3%, 8ml eye/ear drops
Gentacin 0.3%, 5gm eye oint, Apigen 0.3%, 5gm eye oint
Apigen 0.3%, 10ml eye/ear drops

Category: Eye Anti-infectives & Antiseptics

Indications: Infection of the external eye & adnexa

Caution: Discontinue if irritation or sensitization occurs.

Side effects: Transient irritation, occasional burning or stinging sensation.

Dosage: Eye drops: one or two drops into the affected eye(s) every four hours. In severe infections, dosage may be increased to as much as two drops once per hour.
Eye ointment: Apply a small amount (about 1/2 inch) to the affected eye(s) two to three times a day.

Ear drops: 2 - 3 drops instilled in the affected ear three to four times a day and at night, or more frequently if required.
Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

GENTAMYCIN+BETAMETHASONE (Garasone®)

P/P: **Garasone 5ml eye/ear drops** (Gentamicin sulfate 0.3%, betamethasone Na phosphate 0.1 %.)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: Ophthalmic drops: two drops into the conjunctival sac of the affected eye three or four times daily. During the acute stage, two drops may be administered every two hours.
Otic use: three or four drops into the affected ear three times daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

GENTAMICIN+FLUOROMETHOLONE (Infectoflam®)

P/P: **Infectoflam 5ml eye drops**
Infectoflam 3.5gm eye oint
Per mL eye drops fluorometholone 1 mg, gentamicin sulfate 3 mg. Per g eye oint fluorometholone 1 mg, gentamicin sulfate 3 mg

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: 1 drop 5 times/day, may increase to 1 drop every one hour for 1-2 days.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

KETOROLAC TROMETAMOL (Acular®)

P/P: **Acular 0.5%, 5 ml eye drops**

Category: Other Eye Preparations

Indications: Relief of ocular itching due to seasonal allergic conjunctivitis. Prophylaxis & reduction of inflammation & associated symptoms after ocular surgery.

Caution: Known bleeding tendencies or receiving other medications which may prolong bleeding time. Late pregnancy, lactation. Avoid using contact lenses during therapy.

Side effects: Transient stinging & burning on instillation, ocular irritation, allergic reactions, superficial ocular infections, superficial keratitis.

Dosage: 1 - 2 drops (0.25 to 0.5 mg) four times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

KETOTIFEN (Zaditen®)

P/P: **Zaditen eye drops 0.025%, 5 mL,
Zaditen SDU 0.025%, 0.4 ml, 20's eye drops**

Category: Ophthalmic antiallergics

Indications: Treatment & prevention of signs & symptoms of allergic conjunctivitis.

Caution: Avoid wearing contact lenses. May affect ability to drive or operate machinery. Pregnancy.

Side effects: Changes in visual acuity, dry eyes, headache, fatigue, skin rash. Rarely, burning/stinging, conjunctivitis, subconjunctival hemorrhage, ophthalmalgia,

Dosage: 1 drop into the affected eye(s) every 8-12 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LATANOPROST (Xalatan, Latano®) (Restricted)

P/P: **Xalatan 0.005%, 2.5ml eye drops
Latano 0.005%, 2.5ml eye drops**

Category: Glaucoma Preparations

Indications: Open-angle & chronic angle-closure glaucoma, ocular hypertension.

Caution: Asthma, inflammatory ocular conditions, congenital glaucoma, open-angle glaucoma in pseudophakic patients, pigmentary glaucoma, pregnancy & lactation, contact lens users.

D/I: Effects additive to β -adrenergic antagonists, adrenergic agonists, carbonic anhydrase inhibitors & cholinergic agonists. Thimerosal-containing eye prep.

Side effects: Conjunctival hyperemia, iris pigmentation in mixed iris colour eyes.

Dosage: One eye drop in the affected eye(s) once a day in the evening.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LATANOPROST+TIMOLOL (Xalacom, Latanocom®)

P/P: **Xalacom 2.5ml eye drops (Per mL Latanoprost 50 mcg, timolol 5 mg)
Latanocom 2.5ml eye drops (Per mL Latanoprost 50 mcg, timolol 5 mg)**

Category: Glaucoma Preparations

Indications: Reduction of intraocular pressure in patients w/ open-angle glaucoma&ocular hypertension

Dosage: Recommended therapy is one eye drop in the affected eye(s) once daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LEVOBUNOLOL HCL (Betagan®)

P/P: **Betagan 0.5%, 5ml eye drops**

Category: Glaucoma Preparations

Indications: Chronic open-angle glaucoma; elevated intraocular pressure

Caution: Abnormally low heart rate & severe heart block; CHF should be adequately controlled before therapy; history of cardiac disease (monitor pulse rates); diminished pulmonary function

Contra-Ind: Severe COPD; bronchospasm, bronchial asthma & uncontrolled CHF.

D/I: Additive effects w/ systemic antihypertensives; systemic β-blockers may potentiate ocular hypotensive effects; adrenaline may cause mydriasis.

Side effects: Transient ocular burning, stinging, itching; dizziness, headache; rarely, urticaria; blepharoconjunctivitis & decrease in heart rate & BP.

Dosage: One to two drops in the affected eye(s) once a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LEVOCABASTINE (Livostin®)

P/P: **Livostin eye drops 0.05%, 4ml**

Category: Ophthalmologic antiallergics

Indications: Temporary relief of the signs & symptoms of allergic conjunctivitis.

Caution: Pregnancy. May impair ability to drive or operate machinery.

Contra-Ind: Significant renal impairment

Side effects: Transient stinging and burning of the eyes, urticaria, dyspnea, drowsiness and headache.

Dosage: 1 drop instilled into each eye 2-4 times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LODOXAMIDE (Alomide®)

P/P: Alomide 0.1%, 5ml eye drops

Category: Ophthalmologic antiallergics

Indications: Allergic/atopic conjunctivitis, vernal conjunctivitis, giant papillary conjunctivitis.

Caution: Pregnancy, lactation.

Contra-Ind: Soft lenses.

Side effects: Burning, stinging, itching or vision disorders.

Dosage: one or two drops in each eye four times a day at regular intervals.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

LOMEFLOXACIN (Okacin®)

P/P: Okacin 0.3%, 5ml eye drops

Category: Eye Anti-infectives & Antiseptics

Indications: Bacterial infections of the anterior segment including conjunctivitis, blepharitis, & blepharo-conjunctivitis.

Caution: Long-term treatment, avoid intensive exposure to sunlight or UV-radiation.

Contra-Ind: Hypersensitivity to quinolones

D/I: Opth prep containing heavy metals e.g. Zn, bacteriostatic ophth antibiotics.

Side effects: Slight & transient burning, photosensitization, allergic reactions, asthma, dyspnea, urticaria, erythema, pruritus & hypersensitization

Dosage: 1 drop in the lower eyelid of the eye (s) 2 to 3 times a day for 7-9 days. At the beginning of treatment may be recommended more frequent application, apply a 5 drops within 20 min., Or one drop every hour for 6-10 hours.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

Loteprednol (Lotemax®)

P/P: Lotemax 0.5% Eye Gel 5gm 1"S

Adm: Ophthalmic; Invert closed bottle and shake once to fill tip before instilling drops

Category: corticosteroid

Indications:	Treatment of post-operative inflammation and pain following ocular surgery
Caution:	Intraocular pressure (IOP) increase, cataracts, delayed healing, bacterial infections, viral infections, and fungal infections
Contra-Ind:	Contraindicated in most viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal diseases of ocular structures
Side effects:	The most common adverse drug reactions were anterior chamber inflammation (5%), eye pain (2%), and foreign body sensation (2%)
Dosage:	Apply one to two drops into the conjunctival sac of the affected eye four times daily beginning the day after surgery and continuing throughout the first 2 weeks of the post-operative period

MISCELLANEOUS COMBINATION PREPARATIONS

Efemoline eye drops, 5ml (Fluorometholone 0.1%, tetrahydrozoline HCl 0.025%)

Fluca eye drops, 5ml (Sodium cromoglicate 100mg+Fluorometholone 5mg)

Loxtra eye drops, 5ml (Ofloxacin15mg+Prednisolone 10mg+Tetrahydrazoline 2mg)

MOXIFLOXACIN (Vigamox®)

P/P: Vigamox 0.5%, 5ml eye drops

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of bacterial conjunctivitis caused by susceptible strains of organisms

Caution: Prolonged use may result in overgrowth of nonsusceptible organisms.

Contra-Ind: Hypersensitivity to quinolones.

Side effects: Decreased visual acuity, dry eye, keratitis, ocular discomfort, ocular hyperemia, ocular pain, ocular pruritus, subconjunctival hemorrhage, tearing.

Dosage: 1 drop in the affected eye(s) 3 times a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

NEOMYCIN+DEXAMETHASONE (Neodex®)

P/P: Neodex 5ml eye drops (Neomycin 0.5%+Dexamethasone 0.1%)

Category: Ophthalmic Antiseptics with Corticosteroids

Version 2024-2025

Jan.2025

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

NEOMYCIN+FLUOROMETHOLOINE (FML Neo)

P/P: **FML Neo 5ml eye drops** (Neomycin 0.5%+Fluorometholone 0.1%)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: 1 to 2 drops in the conjunctival sac two to four times daily. During the initial 24-48 hours, the dosage may be safely increased to 1 drop every hour.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

NEOMYCIN+POLYMYXIN B SULPHATE+DEXAMETHASONE (Maxitrol®)

P/P: **Maxitrol 5ml eye drops**

Maxitrol 3.5gm eye oint

Per ml susp/g oint Dexamethasone 0.1%, neomycin sulfate 3.5 mg, polymyxin B sulfate 6,000 u.

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Inflammatory conditions of palpebral & bulbar conjunctiva, cornea & anterior segment of the eye. Chronic anterior uveitis& corneal injury.

Dosage: Suspension:

Severe: 1 to 2 drops in the conjunctival sac of the affected eye(s) up to once every hour.

Mild: 1 to 2 drops in the conjunctival sac of the affected eye(s) 4 to 6 times daily.

Ointment: 1/2 inch ribbon into conjunctival sac of the affected eye(s) up to 3 to 4 times daily.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

NEOMYCIN+POLYMYXIN B SULPHATE+PREDNISOLONE (Neopred-P)

P/P: **Neopred-P, 5ml eye drops** (Prednisolone 5mg, neomycin sulfate 5 mg, polymyxin B sulfate 10,000 u)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Inflammatory conditions of palpebral & bulbar conjunctiva, cornea & anterior segment of the eye. Chronic anterior uveitis & corneal injury.

Dosage: 1 or 2 drops in the eye(s) every 3 or 4 h or more frequently as required
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

NORFLOXACIN (Apiflox®)

P/P: **Apiflox 0.3%, 10ml eye drops**

Category: Eye Anti-infectives & Antiseptics

Indications: Blepharitis, hordeolum, dacryocystitis, conjunctivitis, tarsadenitis, keratitis, corneal ulcer & post-op infection

Caution: Avoid long-term use.

Contra-Ind: Hypersensitivity to quinolones

Side effects: Irritative symptoms e.g., smarting, itching, conjunctival hyperemia, swelling & redness of eyelid, superficial keratitis, corneal epithelium abrasion.

Dosage: 1 or 2 drops to the affected eye(s) 4 times daily for up to 7 days. For severe infections, 1 or 2 drops to the affected eye(s) every 2 hours while awake on the first day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

OFLOXACIN (Oflox, Optiflox, Eylox®)

P/P: **0.3%, 5ml eye drops (Oflox, Optiflox)
0.3%, 10ml eye drops (Eylox)**

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of conjunctivitis, corneal ulcers, external infections of the eye & ocular surfaces caused by various gm +ve & gm -ve bacteria & anaerobic species.

Caution: Do not use for >14 days. Discontinue if adverse reaction appears.

Contra-Ind: Hypersensitivity to quinolones.

Side effects: Transient ocular burning or discomfort. Stinging, redness, itching, chemical conjunctivitis/keratitis, periocular/facial edema, foreign body sensation

Dosage: Days 1 and 2: 1 to 2 drops in the affected eye(s) every 2 to 4 hours.
Days 3 through 7: 1 to 2 drops in the affected eye(s) 4 times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

OFLOXACIN+DEXAMETHASONE (Dexaflox®)

P/P: **Dexaflox eye drops, 5ml** (Per ml, ofloxacin 3mg+dexamethasone 1mg)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: One or two drops instilled into the conjunctival sacs every 4 to 6 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Ofloxacin, Prednisolone, and Tetrazoline (Loxtra®)

P/P: **Loxtra 5ml Eye Drops 1"S**

Adm: For ophthalmic use

Category: Antibiotic; fluoroquinolone, corticosteroid, adrenergic agonist agent; imidazoline

Indications: Corticosteroid responsive inflammatory conditions of the conjunctiva, cornea and anterior segment of the eye

Caution: Should not be used while wearing soft contact lenses, prolonged use may result in over growth of non-susceptible organisms, including fungi.

Contra-Ind: Epithelial herpes simplex keratitis, vaccinia, varicella and many other viral diseases of the cornea and conjunctiva, tuberculosis of the eye, fungal diseases of the ocular structures, hypersensitivity to any ingredient of the medication

Side effects: Allergic reactions in the eye, anaphylactic reaction, Stevens-Johnson syndrome, and toxic epidermal necrolysis.

Dosage: 1 or 2 drops into the affected eye, 3 to 4 times daily

OLOPATADINE (Olopat, Patanol®)

P/P: **Patanol 0.1%, 5ml eye drops, Olopat 0.1%, 5ml eye drops**

Category: Ophthalmologic antiallergics

Indications: Temporary prevention of itching of the eye due to allergic conjunctivitis

Caution: Pregnancy, lactation.

Side effects: Asthenia, blurred vision, burning or stinging, cold syndrome, dry eye, foreign body sensation

Dosage: 1 drop in each affected eye twice per day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Oxybuprocaine (Benox®)

P/P: **Benox 0.4% 10ml Eye Drops, Oxybuprocaine HCL 0.4% Minims Eye drops 20"S**

Adm: For topical ophthalmic use only.

Category: Local anesthetic, Ophthalmic

Indications: Ophthalmological anesthesia

Caution: Blurred vision, corneal damage and keratitis.

Contra-Ind: Hypersensitivity to benoxinate.

Side effects: Transient stinging and blurring of vision may occur on instillation, burning sensation of eyes and blepharitis.

Dosage: Instill 1 drop into each eye, instill additional drops at interval > 90 seconds for deeper anesthetic effect.

PHENYLEPHRINE HCL (Mydfrin®)

P/P: **Mydfrin 2.5% eye drops**

Category: Mydriatic Drugs

Indications: Vasoconstrictor, decongestant, & mydriatic in ophthalmic conditions & procedures eg for pupillary dilation in uveitis& for refraction w/o cycloplegia

Caution: Caution if administered w/ or up to 3 wk after MAOI therapy. Infant w/ cardiac anomalies.

Contra-Ind: Narrow-angle glaucoma. Infant, elderly w/ severe arteriosclerotic, CV or cerebrovascular disease.

D/I: Tricyclic antidepressants. Propranolol.

Side effects	Marked increase in BP in low-wt neonates, infant & adult w/ idiopathic hypotension. CV reactions in the elderly.
Dosage:	one drop every 3 to 5 minutes to the conjunctival fornix as required up to a maximum of 3 drops per eye per day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

PILOCARPINE (Apicarpine, Isopto carpine®)

P/P:	Apicarpine 2%, 10ml eye drops Apicarpine 4%, 10ml eye drops Isopto carpine 2% eye drops
Category:	Miotic Drugs
Indications:	Control of intraocular pressure.
Caution:	Night driving & other hazardous occupations in poor light.
Contra-Ind:	Where constriction is undesirable eg in acute iritis, pupillary block glaucoma.
Side effects:	Slight ciliary spasm, conjunctival vascular congestion, temporal or supraorbital headache, myopia.
Dosage:	One drop of 1%, 2%, or 4% solution applied in the eye(s) up to four times a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

PREDNISOLONE (Predforte, Ultracortenol, Optired, Apicort®)

P/P:	Predforte 1%, 5ml eye drops Ultracortenol 0.5%, 5ml eye drops, Ultracortenol 0.5%, 5gm eye oint Optired 1%, 5ml eye drops Apicort 0.12%, 10ml eye drops, Apicort forte 1%, 10ml eye drops
Category:	Ophthalmic Corticosteroids
Indications:	Short term local treatment of inflammation
Contra-Ind:	Tuberculous & fungal diseases.
Side effects:	Increased intraocular pressure, glaucoma & infrequent optic nerve damage, posterior sub capsular cataract formation. Delayed wound healing.
Dosage:	Two drops topically in the eye(s) four times daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

RIMEXOLONE (Vexol®)

P/P:	Vexol 1%, 5ml eye drops
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Category: Ophthalmic Corticosteroids

Indications: Short term local treatment of inflammation

Caution: Prolonged use, pregnancy, lactation.

Contra-Ind: Acute superficial herpes simplex keratitis, fungal diseases of ocular structure; vaccinia, varicella & other viral diseases of the cornea & conjunctiva, eye TB

Side effects: Elevated intraocular pressure, cataract formation, secondary ocular infection, perforation of the globe, blurred vision, discharge, discomfort

Dosage: One drop into the conjunctival sac of the affected eye four times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SODIUM CROMOGLICATE (Apicrom, Vividrin, Croma®)

P/P: Apicrom 2% eye drops, 10ml
Vividrin 2% eye drops, 10ml
Croma 2% eye drops, 10ml

Category: Ophthalmologic antiallergics

Indications: Acute & chronic allergic conjunctivitis

Caution: Avoid wearing soft contact lenses during treatment.

Contra-Ind: 1st trimester of pregnancy.

Dosage: One or two drops into each eye up to four times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SODIUM HYALURONATE (Healon®)

P/P: Healon 10mg /ml, 0.4ml inj

Category: Diagnostic and Miscellaneous Eye Preparations

Indications: Cataract surgery, cornea transplant surgery, glaucoma surgery, trauma surgery, posterior segment surgery.

Caution: Monitor intraocular pressure.

Contra-Ind: Hypersensitivity to Na hyaluronate or avian proteins

Side effects: Transient rise in intraocular pressure, post-op inflammatory reactions.

Dosage: A sufficient amount of sodium hyaluronate is slowly, and carefully introduced using a cannula or needle into the anterior chamber.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SULPHACETAMIDE (Racetamide®)

P/P: **Racetamide 10%, 15ml eye drops, Racetamide 20%, 15ml eye drops**
Apisulfa 20%, 10ml eye drops

Category: Eye Anti-infectives & Antiseptics

Indications: Treatment of acute or chronic bacterial conjunctivitis, corneal ulcers or other superficial ocular infections; adjunct to systemic sulfonamide therapy of trachoma.

Caution: May result in the overgrowth of nonsusceptible microorganisms, including fungi. Children <2 month. Inactivated by aminobenzoic acid in purulent exudates.

Contra-Ind: Hypersensitivity to sulfonamide.

Side effects: Local conjunctival irritation, burning & stinging.

Dosage: 1 to 2 drops into the conjunctival sac(s) of the affected eye(s) every 2 to 3 hours
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SULPHACETAMIDE + PREDNISOLONE (Blephamide®)

P/P: **Blephamide 5ml eye drops** (Sulfacetamide Sodium 100mg/mL, Prednisolone Sodium Phosphate 2.5mg/mL)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: 2 drops into the conjunctival sac of the affected eye(s) every 4 hours.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TEAR DEFICIENCY/OCULAR LUBRICANTS/ASTRIGENTS

P/P: **Apifrin-Z eye drops, 10ml** (Phenylephrine 0.12%, Zinc sulphate 0.25%)
Apillerg eye drops 10ml (Antazoline HCl 0.05%, tetrahydrozoline HCl 0.04%)
Apisal eye drops 10ml (0.9% Sodium chloride)
Celluvisc 1% 0.4ml, 30's eye drops (Carboxymethylcellulose Na (preservative free).)
Duratears 3.5gm eye oint (White petrolatum, anhydrous liqd lanolin, mineral oil)
Hyfresh eye drops 10ml (Sodium hyaluronate 2mg/ml)
Hylo-comod 0.1%, 10ml eye drops (Sodium hyaluronate)
Hypotears 10gm ophthalmic gel (Retinol (Vit A) palmitate 0.12%, Polyacrylic acid 0.5%)
Lacr-lube 3.5gm eye oint (white soft paraffin 57.3 %, mineral oil (liquid paraffin) 42.5 %, lanolin alcohols 0.2 %)

Lid-care sterile cleanser,100ml(Miranol 2 MHT,PEG 20 sorbitan monolaurate,Propylene glycol,borate buffer,preserved with polyaminopropyl biguanide in purified water)

Liquifilm tears 15ml eye drops (polyvinyl alcohol 1.4 %)

Naphcon A eye drops (Naphazoline hydrochloride, Pheniramine maleate)

Oculac 10ml eye drops (Sodium Chloride+Hypromellose)

Oculosan eye drops 10ml (Naphazoline nitrate 0.005 %, Zn sulfate 0.02 %)

Oculotect 50mg/1mL x 0.4 mL x 20's Fluid sine eye drops (Polyvidone)

Oculotect 50mg/1mL x 10 mL Fluid eye drops (Polyvidone)

Ocured eye drops 10ml (Per 10ml, Antazoline sulphate 50mg+Naphazoline 1.5mg)

Optifresh eye drops 10ml (polyvinyl alcohol 1.4 %, povidone 0.6 %)

Optive 0.4 ML, 30"S (sodium carboxymethylcellulose, glycerol)

Prisoline eye drops 5%, 15ml (Chlorpheniramine Maleate, Naphazoline Hydrochloride)

Refresh P.M eye oint (Carboxymethylcellulose Na)

Refresh plus 0.5% 0.4ml, 30's eye drops (Carboxymethylcellulose Na (preservative free).)

Refresh tears 0.5% 0.4ml, 30's eye drops (polyvinyl alcohol 1.4 %, povidone 0.6 %)

Refresh tears 0.5% 15ml (Carboxymethylcellulose Na)

Spersallerg eye drops 10ml (Antazoline HCl 0.05%, tetrahydrozoline HCl 0.04%)

Tears Naturale 15ml eye drops (Duasorb water-soluble polymeric system)

Tears Naturale Free 0.9ml, 32's eye drops (Duasorb water-soluble polymeric system)

Uni-fresh 0.5% eye drops 0.4ml*30 dose (Carboxymethylcellulose Sodium)

Viscotears 0.2%, 10gm liquid eye gel (Polyacrylic acid)

TETRACYCLINE (Opticycline®)

P/P:	Opticycline 1%, 5gm eye oint
Category:	Eye Anti-infectives & Antiseptics
Indications:	Superficial bacterial infections, corneal ulcers
Caution:	Excessive exposure to sunlight or UV radiation treatment.
Contra-Ind:	Hypersensitivity to tetracyclines
Side effects:	Rarely allergic reaction and overgrowth of nonsusceptible microorganisms
Dosage:	Use every two to four hours. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TIMOLOL MALEATE (Timoptol, Optimol, Apimol®)

P/P:	0.25%, 5ml eye drops (Timoptol, Optimol, Apimol) 0.5%, 5ml eye drops (Timoptol, Optimol, Apimol)
Category:	Glaucoma Preparations
Indications:	Reduction of elevated intraocular pressure in ocular HTN or open-angle glaucoma.

Caution: Diabetes, renal & hepatic impairment, heart disease, surgical operation. Avoid wearing contact lenses during treatment.

Contra-Ind: Uncontrolled cardiac insufficiency or heart failure, bradycardia, cardiac conduction disturbances, circulatory peripheral disturbances, asthma

D/I: Amiodarone.

Side effects: Fatigue, cool extremities, bradycardia, digestive & intestinal troubles. Very rarely, cardiac troubles, asthma,

Dosage: One drop in the affected eye(s) twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TOBRAMYCIN (Tobrex®)

P/P: **Tobrex eye drops, 0.3%, 5ml**
Tobrex eye oint, 0.3%, 3.5gm

Category: Eye Anti-infectives & Antiseptics

Indications: External infection of the eye & its adnexa caused by susceptible bacteria.

Caution: Prolonged use, superinfection. May retard corneal wound healing. Concomitant administration w/ aminoglycoside.

Contra-Ind: Hypersensitivity.

Side effects: Localized ocular toxicity & hypersensitivity, including lid itching & swelling & conjunctival erythema.

Dosage: eye drops: one or two drops into the affected eye(s) every four hours. In severe infections, two drops into the eye(s) hourly until improvement.

eye ointment: In mild to moderate disease, apply a half-inch ribbon into the affected eye(s) two or three times per day. In severe infections, instill a half-inch ribbon into the affected eye(s) every three to four hours until improvement.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TOBRAMYCIN+DEXAMETHASONE (Tobradex, Optidex®)

P/P: **Tobradex 5ml eye drops; Optidex T 5ml eye drops** (Tobramycin 0.3%, dexamethasone 0.1%)
Tobradex 3.5gm eye oint (Tobramycin 0.3%, dexamethasone 0.1%)

Category: Ophthalmic Antiseptics with Corticosteroids

Indications: Steroid-responsive inflammatory ocular condition for which a corticosteroid is indicated & where superficial bacterial ocular infection or a risk of bacterial ocular infection exists.

Dosage: Eye drops: 1 or 2 drops into the conjunctival sac(s) every 4 to 6 hours
Ointment: Apply a small amount (approximately 1/2 inch ribbon) into the conjunctival sac(s) up to 3 or 4 times per day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TRAVOPROST (Travatan, Duotrav®)

P/P: **Travatan 0.004%, 2.5ml eye drops**
Duotrav 2.5 ml eye drops

Category: Glaucoma Preparations

Indications: Reduction of intraocular pressure in patients w/ open-angle glaucoma or ocular hypertension

Caution: May gradually change eye colour & eyelashes. Active intraocular inflammation. Aphakic patients, pseudophakic patients w/ a torn posterior lens capsule, or w/ known risk factors for macular edema. Lactation.

Contra-Ind: Pregnancy.

Side effects: Ocular hyperemia; decreased visual acuity, eye discomfort, foreign body sensation, pain & pruritus. Changes in eye colour & eyelash.

Dosage: One drop in the affected eye(s) once daily in the evening.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TROPICAMIDE (Mydriacyl®)

P/P: **Mydriacyl 1%, 15ml eye drops**

Category: Mydriatic Drugs

Indications: Mydriasis & cycloplegia for diagnostic purposes.

Caution: Caution when intraocular pressure is high or unknown or when anterior chamber is shallow.

Contra-Ind: Primary glaucoma or a tendency toward glaucoma.

Side effects: Increased intraocular pressure, psychotic reactions. Transient stinging, dry mouth, allergic reactions may occur.

Dosage: 1 or 2 drops of the 0.5% solution into each eye and repeat as needed
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

GASTRO-INTESTINAL SYSTEM

ACTIVATED CHARCOAL (Eucarbon®)

P/P: EUCARBON 145MG TABLET

Adm: Flavored beverages are known to reduce the adsorptive capacity and, consequently, the efficacy of activated charcoal. If possible, avoid these adjunctive agents in preference to activated charcoal-water slurries. Nevertheless, these flavoring agents do not completely compromise the effectiveness of activated charcoal and may be necessary in some circumstances to enhance compliance. Check for presence of bowel sounds before administration. IV antiemetics may be required to reduce the risk of vomiting. The activated charcoal container should be agitated thoroughly before administration. The container should be rinsed with a small quantity of water to ensure that the patient has received all of the activated charcoal

Category: ANTI-FOAMING AGENT

Indications: Acute poisoning, Gas retention, Intracranial hemorrhage associated with oral non-vitamin K antagonist anticoagulants

Caution: Vomiting, decreased peristalsis: Use with caution in patients with decreased peristalsis. Efficacy: Most effective when administered within 30 to 60 minutes of ingestion. The gritty and unpalatable consistency of activated charcoal can create compliance issues in a non-comatose patient and, therefore, impact efficacy.

Contra-Ind: There are no absolute contraindications listed within the manufacturer's labeling.

Side effects: The following adverse drug reactions and incidences are derived from product labeling unless otherwise specified. Frequency not defined. Gastrointestinal: Abdominal distension, appendicitis, constipation, dental discoloration (black; temporary), fecal discoloration (black), intestinal obstruction, mouth discoloration (black; temporary), vomiting. Ophthalmic: Corneal abrasion (with direct contact). Respiratory: Aspiration, respiratory failure

Dosage: EUCARBON 145MG TABLET

ALVERINE CITRATE (Spasmonal®)

P/P: 60mg caps, 20's (Spasmonal)

Adm: Should be taken with food (Take immediately before meals.).

Category: Antispasmodic

Indications: Adjunct in GIT disorders characterized by smooth muscle spasm, dysmenorrhoea

Caution: Pregnancy, Breast feeding

Contra-Ind: Paralytic ileus

Side effects: Nausea, headache, pruritus, rash and dizziness

Dosage: Adults and the elderly 1or 2 capsules one to three times daily.

Children below the age of 12 years not recommended.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ANTACID (ALGINATE PREPARATION) (Gaviscon®)

P/P: Sodium alginate 500mg+sodium bicarbonate 267mg+calcium carbonate 160mg per 10ml (**Gaviscon**)

Adm: Should be taken on an empty stomach (Take after meals & at bedtime.).

Category: Antacid

Indications: Dyspepsia, Mild symptoms of gastro-esophageal reflux disease

Caution: Enteric coated tab should be given at a gap of 1-2 hours

D/I: Tetracycline

Side effects: Diarrhea, constipation, belching

Dosage: Adults and children 12 years and over: 5-10 ml after meals and at bedtime
Children under 12 years: not recommended
Elderly: No dose modification is required for this age group.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ANTACID (ALUMINIUM AND MAGNESIUM) (Moxal, Mucogel, Rialox®)

P/P: Aluminum hydroxide 405mg+Magnesium hydroxide 100mg per 5ml (**Moxal 200ml susp**)
Aluminum hydroxide 215mg+Magnesium hydroxide 80mg+25mg simethicone per 5ml (**Moxal plus 100ml susp**)
Aluminum hydroxide 405mg+Magnesium hydroxide 100mg per tab (**Moxal chewable tab (30's)**)
Aluminum hydroxide 405mg+Magnesium hydroxide 100mg+simethicone 25mg (**Moxal plus chewable tab (30's)**)
Aluminum hydroxide 405mg+Magnesium hydroxide 100mg+125mg simethicone per 5ml (**Epicogel 125ml susp**)
Aluminum hydroxide 8.1gm+Magnesium hydroxide 2gm+0.2gm oxethazine per 100ml (**Mucogel 125ml susp**)
Magaldrate 540+simethicone 40mg per 5ml (**Acicone-S 200ml suspension**)
Magaldrate 720+simethicone 25mg (**Acicone-S tab (20's)**)
Aluminium hydroxide 225mg+Magnesium hydroxide 200mg per 5ml (**Rialox susp 180ml**)

Aluminium hydroxide 225mg+Magnesium hydroxide 100mg+simethicone 30mg per 5ml
(Rialox plus susp 180ml)
Aluminium hydroxide 225mg+Magnesium hydroxide 200mg per tab (**Rialox tab, 30's**)

Adm: Should be taken with food (Take 20-60 mins after meals)

Category: Antacid

Indications: Dyspepsia

Caution: Enteric coated tab should be given at a gap of 1-2 hours

D/I: Tetracycline

Side effects: Diarrhea, constipation, belching

Dosage: Adults (including the elderly): 10 – 20 ml or 1-2 tablets well chewed, taken 20 minutes to one hour after meals and at bedtime or as required.
Children: Not recommended for children under 14 years
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ANTACID (SODIUM BICARBONATE) (Fawar lemon and orange®)

P/P: 5gm sachet =2.8 gm sodium bicarbonate (**Fawar lemon and orange sachets 6x6**)

Adm: May be taken with or without food.

Category: Antacid, urine alkalinizer, systemic alkalinizer, electrolyte replenisher

Indications: Dyspepsia

Caution: Should be avoided in salt restricted diets

Side effects: Frequent urge to urinate; headache (continuing); loss of appetite (continuing); mood or mental changes; muscle pain or twitching

Dosage: Adults: Take 1 or 2 teaspoonfuls in a glass of water.
Children's dosage: Not suitable for children under 3 years old.
For children over 3 years old, reduce the dosage appropriately depending on size and age.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BISACODYL (Dulcolax, Laxocodyl®)

P/P: **Dulcolax 5mg tab, 30's**
Laxocodyl 5 mg tab, 30's

Adm: Should be taken on an empty stomach (Take on an empty stomach. Do not take within 1 hr of antacids, milk, or other dairy products)

Category:	Stimulant laxative
Indications:	Short-term relief of constipation, emptying the bowel prior to surgery or radiological examinations
Contra-Ind:	Intestinal obstruction or ileus, acute attacks of inflammatory bowel disease such as ulcerative colitis or Crohn's disease, sudden abdominal conditions requiring surgery, such as appendicitis
Side effects:	Abdominal pain or cramps, diarrhea
Dosage:	<p>Short-term treatment for constipation Adults and children over 10 years: 1 to 2 coated tablets (5 - 10 mg) daily before bedtime Children 4 – 10 years: 1 coated tablet (5 mg) daily before bedtime Bisacodyl should not be used in children aged 4 years or younger.</p> <p>For preparation of diagnostic procedures and preoperatively Adults and children over 10 years: 2 coated tablets (10 mg) in the morning and 2 coated tablets (10 mg) in the evening and 1 suppository (10 mg) on the following morning is recommended.</p> <p>Children aged 4 -10 years of age: 1 coated tablet (5 mg) in the evening and 1suppository (5 mg) on the following morning is recommended.</p> <p>Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available</p>

BUDENOSIDE (Entocort®)

P/P:	Entocort enema 7's (2mg/100ml)
Adm:	Should be administered rectally in the evening before going to bed. The tablet must be dissolved in liquid before use.
Category:	Corticosteroid
Indications:	Ulcerative colitis involving rectal and recto-sigmoid disease
Caution:	Children, adrenal suppression, pregnancy, breastfeeding
Contra-Ind:	Known sensitivity or allergy to any ingredient, Viral, bacterial or fungal infections in the treatment area
Side effects:	Diarrhea, insomnia, flatulence, nausea, adrenal suppression
Dosage:	<p>Adults: One Enema nightly for 4 weeks. Full effect is usually achieved within 2–4 weeks. If the patient is not in remission after 4 weeks, the treatment period may be prolonged to 8 weeks.</p> <p>Children: Not recommended</p> <p>Elderly: Dosage as for adults.</p> <p>No dosage reduction is necessary in patients with reduced liver function.</p> <p>Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available</p>

CASTOR OIL (Castor Oil®)

P/P: **CASTOR OIL 60 ML**

Adm: Do not administer at bedtime because of rapid onset of action. Should be administered on an empty stomach with juice or carbonated beverages.

Category: LAXATIVE

Indications: Bowel evacuation, constipation.

Caution: Appropriate use: Do not use for longer than 1 week or when abdominal pain, nausea, vomiting, or rectal bleeding are present unless directed by health care provider.

Contra-Ind: There are no Contra indications listed in the manufacturer's labeling.

Side effects: There are no adverse reactions listed in the manufacturer's labeling.

Dosage: CASTOR OIL 60 ML

Cholestyramine Resin (Cholestyramine®)

P/P: **Cholestyramine 4 gm sachets**

Category: Hypocholesterolemia agent

Indications: Adjunct therapy for primary hypercholesterolemia and in pruritus associated with elevated levels of bile acids

Caution: use with caution in patients with hypertriglyceridemia and renal disease

Contra-Ind: Biliary cirrhosis, biliary obstruction, cholelithiasis, Constipation, dysphagia, GI obstruction, hemorrhoids, ileus, Coagulopathy Phenylketonuria, Hypothyroidism, Pregnancy, Breast-feeding

Side effects: Flatulence, nausea, vomiting, colic, constipation, GI obstruction, night blindness peptic ulcer, pancreatitis, GI bleeding, uveitis

Dosage: Adults: 4 g PO 1 to 2 times daily, initially. Monitor lipid/lipoprotein concentrations at intervals of not less than every 4 weeks and adjust dose as needed. Usual dose: 4 to 8 g PO twice daily. May administer in 1 to 6 doses/day. Max: 24 g/day.

Adolescents: 240 mg/kg/day PO divided in 2 to 3 doses. Monitor lipid/lipoprotein concentrations at intervals of not less than every 4 weeks and adjust dose as needed. May administer in 1 to 6 doses/day. Usual Max: 8 g/day. The safety and

efficacy of long-term administration in maintaining lowered cholesterol concentrations are unknown.

DEXLANSOPRAZOLE (Instigar®) [LASA]

P/P:	(Instigar, 30 mg, Delayed release capsule) (Instigar, 60 mg, Delayed release capsule)
Adm:	Orally without regard to meals
Category:	Proton Pump Inhibitor
Indications:	Erosive esophagitis Symptomatic and nonerosive
Caution:	Disease-related concerns: Gastric malignancy, Gastrointestinal infection and Hepatic impairment. Concurrent drug therapy issues: PPIs may diminish the therapeutic effect of clopidogrel
Contra-Ind:	Known hypersensitivity to dexlansoprazole or any component of the formulation; concomitant use with products that contain rilpivirine.
Side effects:	Dermatologic reactions, Cutaneous and systemic lupus erythematosus, Clostridioides difficile-associated diarrhea, Fractures, Fundic gland polyps, Hypomagnesemia, Tubulointerstitial nephritis, Vitamin B ₁₂ deficiency.
Dosage:	<p>Adult: Eosinophilic esophagitis (off-label use): Oral: 30 mg once daily for an 8-week trial.</p> <p>Gastresophageal reflux disease, erosive or nonerosive: Initial therapy: Mild and intermittent symptoms (<2 episodes/week) without erosive esophagitis or Barrett esophagus: Oral: 30 mg once daily for 4 to 8 weeks Severe or frequent symptoms (≥ 2 episodes/week) without erosive esophagitis or Barrett esophagus: Oral: 30 mg once daily for 8 weeks. Erosive esophagitis or Barrett esophagus: Oral: 60 mg once daily for 8 weeks then 30 mg once daily indefinitely, or 30 mg once daily indefinitely.</p> <p>Residual symptoms despite 30 mg once daily: Recurrent symptoms after discontinuing acid suppression: Recurrent symptoms after ≥ 3 months: Repeat an 8-week course at the previously effective dose. Recurrent symptoms after <3 months: Long-term maintenance at the lowest effective dose.</p> <p>Pediatric: Erosive esophagitis: Healing: Children ≥ 12 years and Adolescents: Oral: 60 mg once daily for up to 8 weeks. Maintenance of healing: Children ≥ 12 years and Adolescents: Oral: 30 mg once daily. Gastresophageal reflux disease (GERD), symptomatic: Children ≥ 12 years and Adolescents: Oral: 30 mg once daily.</p>

DIMETHICONE/SIMETHICONE (Disflatyl, Deflat, Dentinox, Salinal®)

P/P: Simethicone 21mg/2.5ml (**Dentinox drops**)
Simethicone 41.2mg/ml (**Salinal drops**)
Simethicone 40mg/ml, 30ml (**Disflatyl drops, Deflat drops**)
Simethicone 40mg tab (**Disflatyl tabs 30's, Flaticon tabs 30's**)
Simethicone 42mg tab (**Salinal tab, 30's**)

Adm: Should be taken with food (Take after meals&Chew thoroughly.)

Category: Antifoaming, antiflatulant

Indications: Flatulence/Infantile colic

C/I: Gastrointestinal obstruction, gastrointestinal perforation

Side effects: Black Stools, diarrhea, vomiting

Dosage: Adult: 40 to 125 mg orally after meals and at bedtime, not to exceed 500 mg/24 hours.
Children: 0 to <2 years: 20 mg orally 4 times a day.
2 to 12 years: 40 mg orally 4 times a day.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DOCUSATE SODIUM (Norgalax®)

P/P: **Norgalax micro enema 0.12gm, 6's**

Adm: Ready to use disposable enema to be administered rectally as retention or flushing enema.

Category: Osmotic laxative, stimulant laxative

Indications: Constipation, Emptying the bowel prior to investigative procedures

Caution: Not to be given with liquid paraffin, avoid prolonged use

Contra-Ind: Intestinal obstruction, inflammatory bowel disease, haemorrhoids, anal fissure

Side effects: Anal or rectal burning or pain, diarrhea, rectal bleeding

Dosage: Adults and Children older than 12 years: Rectal 1 to 3 units daily.
Children 6 to 12 years of age: Rectal 1 unit daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DOMPERIDONE (Motilium, Dompy, Prokinin, Mododom®)

P/P: 10mg tab, 30's (Motilium, Dompy, Prokinin, Mododom)
1mg/ml syr, 200ml (Motilium, Dompy)
1mg/ml syr, 180ml (Prokinin)

10mg, 30mg, 60mg supp, 6's (Motilium)

- Adm: Should be taken on an empty stomach (Take ½ hr before meals.).
- Category: Anti-emetic, Dopaminergic blocking agent
- Indications: Treatment of gastrointestinal motility disorders: Nausea and vomiting
- Caution: Renal impairment
- Contra-Ind: Prolactinoma, hepatic impairment
- Side effects: Raised prolactin concentration, extra pyramidal effects
- Dosage: Adults and adolescents (12 years of age and older and weighing 35 kg or more)
One 10mg tablet or 10 ml (of 1mg/ml oral suspension) up to three times per day with a maximum dose of 30 mg per day.
- Neonates, infants and children (under 12 years of age and weighing less than 35kg)
The dose is 0.25mg/kg. This should be given up to three times per day with a maximum dose of 0.75mg/kg per day.
- Hepatic Impairment: Domperidone is contraindicated in moderate or severe hepatic Impairment, dose modification in mild hepatic impairment is however not needed.
- Renal Impairment: Since the elimination half-life of domperidone is prolonged in severe renal impairment, on repeated administration, the dosing frequency should be reduced to once or twice daily depending on the severity of the impairment, and the dose may need to be reduced. Such patients on prolonged therapy should be reviewed regularly.

ESOMEPRAZOLE (Nexium, Esomep®)

- P/P: **Nexium 20mg caps,14's, Nexium 20mg caps,28's, Nexium 40mg caps,14's, Nexium 40mg caps,28's, Nexium 40mg/5ml vial,10's
Esomep 20mg caps, 14's, Esomep 20mg caps, 28's, Esomep 40mg caps, 14's,
Esomep 40mg caps, 28's,**
- Adm: May be taken with or without food.
- Category: Proton pump inhibitor
- Indications: Benign gastric and duodenal ulcer, GERD, Zollinger-Ellison syndrome ulcer, NSAID associated Gastric/duodenal ulcer, eradication of helicobacter pylori in combination with antibacterial
- Caution: Liver disease, pregnancy, breast feeding. May mask symptoms of gastric cancer
- Contra-Ind: Contraindicated in persons with hypersensitivity to the drug, neonates and during lactation

D/I: Prolongs the elimination of diazepam, warfarin, phenytoin and aminophylline

Side effects: Constipation, diarrhea, head ache, abdominal pain, nausea, vomiting, dermatitis

Dosage: Adults and adolescents from the age of 12 years: 20mg-40mg esomeprazole once daily.

Pediatric population: Esomeprazole should not be used in children younger than 12 years. More appropriate pharmaceutical forms of esomeprazole may be available.

Patients with impaired renal function: Dose adjustment is not required in patients with impaired renal function. Due to limited experience in patients with severe renal insufficiency, such patients should be treated with caution.

Patients with impaired hepatic function: Dose adjustment is not required in patients with mild to moderate liver impairment. For patients with severe liver impairment, a maximum dose of 20 mg esomeprazole should not be exceeded.

Elderly: Dose adjustment is not required in the elderly

FAMOTIDINE(Pepcidin, Famodar, Famogen®)

P/P: 20mg, 30's (Pepcidin, Famodar, Famogen)
40mg, 10's (Pepcidin, Famodar)
40mg, 30's (Famogen)
10mg, 10's (Famogen)

Adm: May be taken with or without food.

Category: Histamine H₂ antagonist

Indications: Management of duodenal ulcer; treatment of gastro esophageal reflux disease (GERD), including erosive esophagitis; therapy for benign gastric ulcer; treatment of pathologic hypersecretory conditions; prevention of upper GI bleeding

Caution: Renal impairment, pregnancy, breast feeding

Contra-Ind: Hypersensitivity to nizatidine or other H₂ receptor antagonists

Side effects: Constipation, diarrhea, dizziness, headache

Dosage: Adults and children 16 years of age or older:
Acute Therapy: 40 mg once a day at bedtime or 20mg b.i.d. is also effective.
Maintenance Therapy: The recommended adult oral dose is 20 mg once a day at bedtime.
Elderly: No dosage adjustment is necessary.

Children less than 16 years of age: Not recommended.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Fosaprepitant (Fosaprepitant®)

P/P: **Fosaprepitant 150mg Vial I.V 1"S**

Adm: IV, Infuse over 20 to 30 minutes; infusion should be completed ~30 minutes prior to chemotherapy.

Infants ≥6 months and Children <12 years: Infuse over 60 minutes

Children ≥12 years and Adolescents <17 years: Infuse over 30 minutes

Adolescents ≥18 years: Infuse over 20 to 30 minutes

Category: Substance P/Neurokinin 1 Receptor Antagonist

Indications: Prevention of chemotherapy-induced nausea and vomiting

Caution: Hypersensitivity reactions, Infusion-site reactions, warfarin(risk of decreased INR): check INR particularly at 7 to 10 days, Hormonal Contraceptives: Efficacy of contraceptives may be reduced.

Contra-Ind: Hypersensitivity to fosaprepitant or any component of the formulation; concurrent use with pimozide.

Side effects: Fatigue, Diarrhea, Peripheral neuropathy, Neutropenia, asthenia, anemia, peripheral neuropathy, leukopenia, dyspepsia, urinary tract infection, pain in extremity.

Dosage: 150 mg on day 1 only.

Dosing: Altered Kidney Function: Adult
There are no dosage adjustments

Dosing: Hepatic Impairment: Adult
Mild to moderate (Child-Pugh class A or B): No dosage adjustment necessary
Severe (Child-Pugh class C): No clinical data are available

GLYCERINE (Laxolyne®)

P/P: **Laxolyne supp pediatric (0.9gm×10), Laxolyne supp adults (1.8g×10)**

Adm: To be inserted rectally when needed.

Category: Stimulant laxative

Indications: Constipation

Caution: Avoid prolonged use

Contra-Ind: Intestinal obstruction, fecal impaction

Side effects: Minor skin irritation around rectal area

Dosage: Adult: 2 to 3 g rectally once.
Pediatric: 2 to less than 6 years: 1 to 1.7 g rectally once
6 years or older: 2 to 3 g rectally once.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Granisetron (Sancuso®)

P/P: **Sancuso 3.1mg/24 Hours Transdermal Patch 1"S (7 Days Patch)**

Adm: Transdermal, Apply a single transdermal system (patch) to the upper outer arm a minimum of 24 hours before chemotherapy. The patch may be applied up to a maximum of 48 hours before chemotherapy as appropriate. Remove the patch a minimum of 24 hours after completion of chemotherapy. The patch can be worn for up to 7 days depending on the duration of the chemotherapy regimen.

Category: Selective 5-HT₃ Receptor Antagonist

Indications: Chemotherapy-associated nausea and vomiting, prevention of postoperative nausea and vomiting.

Caution: Long QT syndrome: Use with caution in patients with congenital long QT syndrome or other risk factors for QT prolongation.
Granisetron may mask a progressive ileus and/or gastric distention caused by the underlying condition.

- Serotonin syndrome has been reported particularly with concomitant use of serotonergic drugs
- Mild application site reactions have occurred; remove patch if severe reactions or a generalized skin reaction occur
- Avoid direct exposure of application site to natural or artificial sunlight by covering with clothing while wearing the patch and for 10 days after removing it.

Contra-Ind: Hypersensitivity to granisetron or any component of the formulation or to other 5-HT3 receptor antagonists.

Side effects: constipation, headache, prolonged QT interval on ECG

Dosage: 34.3 mg applied 24 to 48 hours prior to first dose of chemotherapy
Dosing: Altered Kidney Function: Adult: Non
Dosing: Hepatic Impairment: Adult: Non

HAEMORRHOIDAL PREPARATIONS

SUPPOSITORIES

Procto glyvenol® Suppositories, 10's (tribinoside, lidocaine)

Neohealar® suppositories, 10's (lupinus albus, vateria indica, mentha piperita, aloe vera)

Neohaemorrh® suppositories, 6's (ruscogenin, prednisolone acetate, lignocaine hcl, aluminium acetate, zinc oxide)

Hemagel procto®, 5's (2-hydroxyethyl methacrylate)

OINTMENTS

Procto glyvenol Oint 30gm (tribinoside, lidocaine)

Neohealar Oint 30gm (lupinus albus, vateria indica, mentha piperita, aloe vera)

Neohaemorrh Oint 12gm (ruscogenin, prednisolone acetate, lignocaine hcl, aluminium acetate, zinc oxide)

HYOCINE BUTYL BROMIDE (Buscopan, Scopinal, Hyoban, NO-Spasm®)

P/P: 10mg tab, 20's (Buscopan, Scopinal, Hyoban, NO-Spasm)

1mg/ml 100ml susp (Scopinal, Riaspasm)

20mg/ml Injection, 1*5's (Spasmopan, Scopinal)

Adm: May be taken with or without food.

Category: Antispasmodic, Anticholinergic

Indications: Symptomatic relief of GIT or genitor-urinary disorders characterized by smooth muscle spasm

Caution: Down syndrome, elderly and children

C/I: Angle closure glaucoma, myasthenia gravis, paralytic ileus

Side effects: Antimuscarinic side effects like constipation, transient bradycardia, urinary urgency and retention, reduced bronchial secretions

Dosage: Adults: 30 mg / day in 3 divided doses if needed dose can be increased to 80 mg / day in 4 divided doses. Injection: 20 mg IV/IM if needed same

Children 6 - 12 years: 10mg three times daily. Injection form is not recommended for children.

No specific information on the use of this product in the elderly is available.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

ISPAGHULA (Regulax, Fybogel®)

P/P: **Regulax sachets, Fybogel sachets, 10's (3.5gm)**

Adm: Should be taken with food (Best taken after meals.)

Category: Bulk-forming laxative

Indications: High cholesterol and lipid levels, constipation

Caution: Elderly people, maintain adequate fluid intake

Contra-Ind: Phenylketonuria, intestinal obstruction, faecal impaction, difficulty in swallowing, colonic atony

Side effects: Flatulence, abdominal distension, bloating, bowel obstruction

Dosage: Adults and children over 12 years: One sachet morning and evening.
Elderly: There is no indication that dosage needs to be modified for the elderly.
Children aged 6 to 12 years: Half to one level 5 ml spoonful depending on size and age, morning and evening.
Children under 6: To be taken only when prescribed by a doctor, half to one level 5 ml spoonfuls depending on age and size, morning and evening.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

KAOLIN, PECTIN (Kapect®)

P/P: **Kapect 100ml susp, Kaptin 200ml susp**

Adm: May be taken with or without food.

Category: Anti-diarrheal-adsorbent

Indications: Symptomatic treatment of colitis, enteritis and diarrhea

Caution: Avoid taking any other medicine, within 2 to 3 hours of taking kaolin and pectin. Taking the medicines together may prevent the other medicine from being absorbed by your body

Side effects: Constipation if taken in large quantity

Dosage: Adults and children over 12 years: Two 5ml spoonfuls, 3 times daily or as directed.
Children under 12 years: Not recommended for children under 12 years
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LACTULOSE (Duphalac, Lactulose, Ezilax®)

P/P:	3.35gm/5ml, 300ml (Duphalac syrup, Lactulose syr, Ezilax syr)
Adm:	May be taken with or without food (May be taken w/ meals to reduce GI discomfort. For constipation & the production of soft stools: preferably taken in one time during breakfast.)
Category:	Osmotic laxative
Indications:	Constipation, hepatic encephalopathy
Caution:	lactose intolerance, pregnancy, breast feeding
Contra-Ind:	Intestinal obstruction, galactosaemia
Side effects:	Diarrhea, abdominal cramps, flatulence
Dosage:	Adults and adolescents: 15-45 ml given as a single daily dose or in two divided doses. Children (7-14 years): 15 ml as a single daily dose or in two divided doses. Children (1-6 years): 5-10 ml as a single daily dose or in two divided doses. Infants under 1 year: up to 5 ml as a single daily dose or in two divided doses.
	Elderly patients and patients with renal or hepatic insufficiency: No special dosage recommendations exist Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

LANSOPRAZOLE (Takepron, Peptazol, Lansomed, Ultrazole®)

P/P:	15mg caps, 14's (Takepron, Peptazol) 15mg caps, 28's (Ultrazole) 30mg caps, 14's (Takepron, Peptazol, Lansomed, Ultrazole) 30mg caps, 15's (Lanzor), 15mg caps, 30's (Lanzor)
Adm:	Should be taken on an empty stomach (i.e. At least one hour before food or four hours after food)
Category:	Proton pump inhibitor
Indications:	Benign gastric and duodenal ulcer, GERD, Zollinger-Ellison syndrome ulcer, NSAID associated Gastric/duodenal ulcer, eradication of helicobacter pylori in combination with antibacterial
Caution:	Liver disease, pregnancy, breast feeding. May mask symptoms of gastric cancer
Contra-Ind:	Contraindicated in persons with hypersensitivity to the drug, neonates and during lactation
D/I:	Prolongs the elimination of diazepam, warfarin, phenytoin and aminophylline
Side effects:	Liver enzyme changes dysfunction, bullous eruption, constipation, diarrhea, head ache, nausea, vomiting

Dosage: Adult: 15-30 mg Lansoprazole once or twice daily.

Children: The use of Lansoprazole is not recommended in children as clinical data are limited.

Elderly: Due to reduced clearance of Lansoprazole in the elderly an adjustment of the dose may be necessary based on individual requirements. A daily dose of 30 mg should not be exceeded in the elderly unless there are compelling clinical indications.

Impaired hepatic or renal function: There is no need to change the dose in patients with impaired renal function.

Patients with moderate or severe liver disease should be kept under regular supervision and a 50% reduction of the daily dose is recommended

LIDOCAINE, HYDROCORTISONE ACETATE PREP (Xyloproct®)

P/P: **Xyloproct Ointment 20gm, Suppositories, 10's**

Adm: Intrarectal use: Supp Insert 1 supp morning & night after each defecation.
Ointment: External apply thin layer several times a day.

Category: Compound hemorrhoidal prep

Indications: Hemorrhoids, anal itch, anal fistula, anal fissure, proctitis

Caution: Avoid prolonged use, children with epilepsy

Contra-Ind: Pregnancy, atrophic skin

Side effects: local dermatitis, adrenal suppression

Dosage: Adult: for external use: Apply a thin film to affected area 2 to 3 times daily depending on the severity of the condition.
Rectal use: Twice daily, fill applicator and insert gently into anal area. Gently squeeze applicator until cream has covered all areas of discomfort.
Pediatric: apply of topical ointment amount commensurate with age, body weight and physical condition to affected area.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

LOPERAMIDE (Imodium, Lopodium®)

P/P: **Imodium 2mg caps, 6's, Lopodium 2mg, 10's**

Adm: May be taken with or without food.

Category: Antimotility, Anti-diarrheal

Indications:	Symptomatic treatment of acute diarrhea. Adjunct to rehydration in acute diarrhea in adult and children over 4 years
Caution:	Loperamide should not be used for more than 2 days, unless directed by your doctor
Contra-Ind:	Acute ulcerative colitis or Pseudomembranous colitis's associated with broad spectrum antibiotics, primary therapy in acute dysentery, condition where inhibition of peristalsis should be avoided
D/I:	loperamide increases plasma concentration of oral desmopressin
Side effects:	Bloating; constipation; loss of appetite; stomach pain (severe) with nausea and vomiting
Dosage:	Adults and children over 12: The usual dose is 3-4 capsules (6 mg – 8 mg) a day. The total daily dose should not exceed 6 capsules (12 mg).
	Elderly: No dose adjustment is required for the elderly.
	Renal Impairment: No dose adjustment is required for patients with renal impairment.
	Hepatic Impairment: Although no pharmacokinetic data are available in patients with hepatic impairment, Imodium should be used with caution in such patients because of reduced first pass metabolism.

MACROGOLS (Movicol, Moviprep®)

P/P:	Movicol 30 sachets, Moviprep 2 sachets (Macrogol (polyethylene glycol '3350'), sodium bicarbonate, sodium chloride, potassium chloride.)
Adm:	May be taken with or without food
Category:	Osmotic laxative
Indications:	Constipation, faecal impaction
Caution:	Pregnancy, breast feeding, cardiovascular impairment
Contra-Ind:	Intestinal obstruction, intestinal perforation, inflammatory bowel disease, toxic mega colon
Side effects:	Abdominal pain, Nausea, Vomiting, abdominal distension
Dosage:	<p>Chronic constipation: Adults, adolescents and older people: 1 –3 sachets daily in divided doses, according to individual response. For extended use, the dose can be adjusted down to 1 or 2 sachets daily.</p> <p>Fecal impaction: Adults, adolescents and older people: 8 sachets daily, all of which should be consumed within a 6-hour period.</p> <p>Children (below 12 years old): Movicol is not recommended.</p>

Patients with impaired cardiovascular function: For the treatment of faecal impaction the dose should be divided so that no more than two sachets are taken in any one hour.

Patients with renal insufficiency: No dosage change is necessary for treatment of either constipation or fecal impaction.

MEBEVERINE HYDROCHLORIDE (Duspatalin, Mebagen, Verine, Duspamen, Meva®)

- P/P: **200mg caps, 30's (Duspatalin PR, Verine SR)
135mg tab, 30's (Duspatalin, Mebagen, Verine, Duspamen, Meva)**
- Adm: Should be taken on an empty stomach (Take 20 mins before meals.).
- Category: Antispasmodic
- Indications: Adjunct in GIT disorders characterized by smooth muscle spasm
- Caution: Pregnancy, avoid in porphyria
- Contra-Ind: Paralytic ileus
- Side effects: Rarely allergic reaction like rash, urticaria, angioedema
- Dosage: Adults (including the elderly): One 135mg tablet three times a day, preferably 20 minutes before meals or 200mg MR tablet twice a day.

Pediatric Population: Mebeverine tablets are not recommended for use in children and adolescents below 18, due to insufficient data on safety and efficacy.

Special Population: No posology studies in elderly, renal and/or hepatic impaired patients have been performed.

MESALAZINE, MESALAMINE (Pentasa, Mezacol, Asacol®) (Restricted)

- P/P: **500mg tab, 50's (Pentasa)
400mg tab, 50's (Mezacol, Asacol)
Enema 40mg/60ml, 7's (Salofalk)
Enema 1% 100ml (Pentasa)
Supp 1gm, 14's (Pentasa)
2 GM sachets 60's (Pentasa)**
- Adm: Tab should be taken with food
- Category: Bowel anti-inflammatory
- Indications: Treatment of mild to moderate ulcerative colitis and maintenance of remission
- Caution: Renal and hepatic impairment, pregnancy, lactation
- Contra-Ind: Hypersensitivity to salicylates, severe liver, or kidney disease, blood clotting abnormalities

Side effects: Gastric discomfort, rash, urticaria, eczema

Dosage: Adults: 4g of mesalazine once daily or in two or three divided doses.
For enema the recommended dosage is one enema at bedtime.
There is only limited documentation for an effect in children (age 6-18 years).
Children 6 years of age and older: starting with 30-50 mg/kg/day in divided doses.
Maximum dose: 75 mg/kg/day in divided doses. The total dose should not exceed 4 g/day (maximum adult dose).
Elderly Patients: The usual adult dose applies.
Mesalamine is contraindicated in patient with Severe liver and/or renal impairment.

METOCLOPRAMIDE (Primperan, Premosan®)

P/P: 10mg tab, 20's (Primperan, Premosan)
1mg/ml, 120ml syrup (Premosan)
4mg/ml drops, 15ml (Premosan)
5mg/ml injection, 2ml×5 amp (Premosan)

Adm: Should be taken on an empty stomach (Take ½ hr before meals.).

Category: Antidopaminergic, GI stimulant

Indications: Treatment of gastrointestinal motility disorders: Nausea and vomiting with cytotoxic or radiotherapy

Caution: Renal impairment, hepatic impairment

Contra-Ind: Patients in whom increase in GI motility could be harmful (e.g., in presence of GI hemorrhage, mechanical obstruction, perforation); pheochromocytoma; epilepsy; patients receiving drugs likely to cause extra pyramidal reactions

Side effects: Extra pyramidal effects, drowsiness, fatigue, restlessness

Dosage: Adult: The recommended dose is 0.1 to 0.15 mg/kg body weight, repeated up to three times daily by oral route. The maximum dose in 24 hours is 0.5mg/kg body weight.
Pediatric patients aged 1-18 years: The recommended dose is 0.1 to 0.15 mg/kg body weight, repeated up to three times daily by intravenous route. The maximum dose in 24 hours is 0.5 mg/kg body weight. Metoclopramide should not be used in children younger than 1 year as there are insufficient data regarding efficacy and safety of the product in this patient population.
Elderly: In elderly patients a dose reduction should be considered, based on renal and hepatic function and overall frailty.
Renal impairment: In patients with end stage renal disease (Creatinine clearance ≤ 15 ml/min), the daily dose should be reduced by 75%.
In patients with moderate to severe renal impairment (Creatinine clearance 15-60 ml/min), the dose should be reduced by 50%.
Hepatic impairment: In patients with severe hepatic impairment, the dose should be reduced by 50%

Nifuroxazide (Antinal®)

P/P: **Antinal 200 MG Cap 24's**

Adm: Should be administer with food.

Category: Antiprotozoal

Indications: Treatment of diarrhea caused by Giardia lamblia or Cryptosporidium parvum

Caution: None

Contra-Ind: Hypersensitivity

Side effects: Abdominal pain, headache, chromaturia, and nausea

Dosage: 1-3 years: 100 mg nitazoxanide every 12 hours for 3 days
4-11 years: 200 mg nitazoxanide every 12 hours for 3 days
12 years and older: 500 mg nitazoxanide every 12 hours for 3 days

NIZATIDINE (Axid, Fixit®)

P/P: **150mg caps,28's (Axid, Fixit),300mg caps,14's(Fixit),150mg caps,14's(Fixit),75mg caps,14's(Fixit)**

Adm: May be taken with or without food

Category: Histamine H₂ antagonist

Indications: Treatment and maintenance of duodenal ulcer, gastro esophageal reflux disease (GERD) (including erosive or ulcerative disease), and benign gastric ulcer; prevention of heartburn

Caution: Renal impairment, pregnancy, breast feeding

Contra-Ind: Hypersensitivity to nizatidine or other H₂ antagonists

Side effects: Head ache, diarrhea, dizziness, drowsy, nausea, skin rash, vomiting

Dosage: Adults: the recommended dosage is from 150 mg twice daily, up to 300 mg twice daily.
Pediatric population: The safety and efficacy of nizatidine in children has not been established. No data are available.
Patients with impaired renal function: For patients who have moderate renal impairment (creatinine clearance less than 50 ml/min) or patients who have severe renal impairment (creatinine clearance less than 20 ml/min), the dosage should be reduced.

OMEPRAZOLE (Aciloc, Gasec, Omiz, Risek, Epirazole, Hyposec, Omedar, Oprazole, Gastrozole®)

P/P: 20mg caps, 14's (Aciloc, Gasec, Omiz, Risek, Epirazole, Hyposec, Omedar, Oprazole, Gastrozole)
20mg caps, 28's (Gasec)
40mg caps, 14's (Aciloc, Gasec)
40mg caps, 28's (Aciloc, Gasec, Omiz)
40mg inj, 5's (Risek, Oprazole, Ipproton)

Adm: Should be taken with food (Take immediately before a meal.).

Category: Proton pump inhibitor

Indications: Benign gastric and duodenal ulcer, GERD, Zollinger-Ellison syndrome ulcer, NSAID associated Gastric/duodenal ulcer, eradication of helicobacter pylori in combination with antibacterial

Caution: Liver disease, pregnancy, breast feeding. May mask symptoms of gastric cancer

Contra-Ind: Contraindicated in persons with hypersensitivity to the drug, neonates and during lactation

D/I: Prolongs the elimination of diazepam, warfarin, phenytoin and aminophylline

Side effects: Constipation, diarrhea, head ache, abdominal pain, nausea, vomiting

Dosage: Adult: 20 mg - 40mg once daily, when doses exceed 60 mg daily, the dose should be divided and given twice daily.
Pediatric population:
Children over 1 year of age and ≥ 10 kg: 10 mg once daily. The dose can be increased to 20 mg once daily if needed.
Children over 2 year of age and ≥ 20 kg: 20 mg once daily. The dose can be increased to 40 mg once daily if needed.
Elderly: Dose adjustment is not needed in the elderly

Renal impairment: Dose adjustment is not needed in patients with impaired renal function.
Hepatic impairment: In patients with impaired hepatic function a daily dose of 10–20 mg may be sufficient.

Otilonium bromide (Debromu®)

P/P: Debromu 40mg film coated tablet

Adm: Preferred to be taken 20 minutes before meals.

Category: Anti-Spasmotic drug for functional gastrointestinal disorders.

Indications: Irritable bowel syndrome and other gastrointestinal conditions characterized by painful bowel spasms, distension and motility problems in patients older than 18 years old.

Caution: Glaucoma, an enlarged prostate gland, pyloric stenosis, hemodialysis patient.

Contra-Ind: Hypersensitivity to otilonium bromide or any of the excipients of Spasmomen.

D/I: No interactions with other medicines have been reported

Side effects: Headache, dizziness, nausea, vomiting, stomach pain and abdominal discomfort.

Dosage: Usual Adult Dose: 40mg tablet 2 to 3 times daily
Renal Dose Adjustments: No dose adjustment required
Liver Dose Adjustments: No dose adjustment required

PANCREATIN (Zymogen®)

P/P: Zymogen tab,30's (lipase 25mg, amylase 30mg, protease 35mg, pepsin 50mg, dehydrocholic acid 50mg, hemicellulose)

Adm: Should be taken with food

Category: GIT regulators, antiflatulants

Indications: Pancreatic digestive enzyme supplement (chronic pancreatitis, cystic fibrosis, pancreatic cancer, pancreatectomy, gastrectomy)

Caution: Excessive heat should be avoided

D/I: Pancreatin possibly reduce the blood glucose lowering effect of the anti diabetic medicine acarbose

Side effects: Hyperuricemia, constipation, diarrhea, nausea and vomiting

Dosage Adults (including the elderly) and children: Initially one or two capsules with each meal.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PANTOPRAZOLE (Pantozol, Pantomax, Razon, Protoprazole, Pantover, Toprazol®)

P/P: 20mg tab, 15's (Pantozol, Pantomax, Proton, Toprazol)
20mg tab, 30's (Pantozol, Pantomax)
40mg tab, 15's (Pantozol, Pantomax, Razon, Protoprazole EC, Pantover, Toprazol)
40mg tab, 30's (Pantozol, Pantomax, Protoprazole EC, Proton)
40mg vial (Pantozol rifi)

Adm: Should be taken on an empty stomach (Take 1 hr before meals.)

Category: Proton pump inhibitor

Indications: Benign gastric and duodenal ulcer, GERD, Zollinger-Ellison syndrome ulcer, NSAID associated Gastric/duodenal ulcer, eradication of helicobacter pylori in combination with antibacterial

Caution: Liver disease, pregnancy, breast feeding. May mask symptoms of gastric cancer

Contra-Ind: Contraindicated in persons with hypersensitivity to the drug, neonates and during lactation

D/I: Prolongs the elimination of diazepam, warfarin, phenytoin and aminophylline.

Side effects: Liver enzyme changes, raised triglycerides, constipation, diarrhea, head ache, nausea, vomiting

Dosage: Adult: 20 mg -40 mg pantoprazole once daily (increase to 2 tablets Pantoprazole daily).
The recommended intravenous dose is one vial of pantoprazole (40 mg) per day.
Pediatric population: Pantoprazole is not recommended for use in children below 12 years of age due to limited data on safety and efficacy in this age group.
Older people: No dose adjustment is necessary in older people.
Patients with hepatic impairment: A daily dose of 20 mg pantoprazole (1 tablet of 20 mg pantoprazole/ half a vial of 40 mg pantoprazole) should not be exceeded in patients with severe liver impairment.
Patients with renal impairment: No dose adjustment is necessary in patients with impaired renal function.

PHOSPHATES (RECTAL) (Fleet®)

P/P: **Fleet enema adult** (Monobasic Na phosphate 19gm, Dibasic Na phosphate 7gm) per 118ml
Fleet enema child (Monobasic Na phosphate 9.5gm, Dibasic Na phosphate 3.5gm) per 59ml

Adm: Administer rectally when needed

Category: Osmotic laxative

Indications: Constipation, Emptying the bowel prior to investigative procedures, endoscopy, surgery

Caution: Impaired renal function, heart disease, electrolyte disturbance. Caution in those individuals who are on Calcium channel blockers, Diuretics, Lithium

Contra-Ind: Congenital megacolon, imperforated anus, CHF, nausea and vomiting

Side effects: Hyperphosphatasemia, local irritation

Dosage: Adults, Elderly and Children over 12 years old: 1 bottle (118ml delivered dose) no more than once daily or as directed by a physician.
Children aged 3 years to less than 12 years: As directed by a physician.
Fleet Ready-to-Use Enema is contraindicated in children less than 3 years of age.
Renal impairment: Do not administer to patients with clinically significant impairment of renal function. The product should be used with caution in patients with impaired renal function, when the clinical benefit is expected to outweigh the risk of hyperphosphatasemia.
Hepatic impairment: No dose adjustment is required in patients with hepatic impairment

PINAVERIUM (Dicetil®)

P/P: **50mg tab, 20's (Dicetil)**

Adm: To be taken with adequate quantity of water during meals.

Category: Antispasmodic, Anticholinergic

Indications: Adjunct in GIT disorders characterized by smooth muscle spasm

Caution: Pregnancy, avoid in porphyria

Contra-Ind: Paralytic ileus

Side effects: Antimuscarinic side effects like Constipation, transient bradycardia, urinary urgency and retention, reduced bronchial secretions.

Dosage: The usual adult dosage is 50 mg three times a day (total daily dose of 150mg) the dosage may be increased up to maximum 100mg taken three times a day (maximum total daily dose of 300mg).

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PROPYPHENAZONE (Spasmo-cibalgin®)

P/P: **Spasmo-cibalgin tab, 10's**

Adm: Should be taken with food

Category: Analgesic, Antispasmodic, Antipyretic

Indications: Pain associated with Git, Billiary passage, urogenital tract, and dysmenorrhoea

Caution: Renal and Hepatic impairment, Asthma

Contra-Ind: G6PD, porphyria, narrow angle glaucoma, paralytic ileus

Side effects: Nausea, vomiting pruritus, rash and dizziness

Dosage: The usual adult dose is one tablet three times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

RABEPRAZOLE (Pariet, Rabezole®)

P/P: **Pariet 20mg tab, 14's, Rabezole 20mg tab, 14's
Rabezole 10mg tab, 14's**

Adm: May be taken with or without food

Category: Proton pump inhibitors

Indications: Healing & maintenance of erosive or ulcerative GERD. Healing of duodenal ulcers.
Treatment of pathological hypersecretory conditions, including Zollinger-Ellison syndrome

Caution: Hepatic impairment, Elderly, Pregnancy

Contra-Ind: Hypersensitivity; lactation.

D/I: May increase absorption of digoxin. Reduced absorption w/ AL (OH)₃ or Mg (OH)₂.

Side effects: Potentially Life-threatening Adverse Drug Reactions (Anaphylaxis, agranulocytosis.)
Others: Headache, diarrhea, rash, infection and flu-like syndrome.

Dosage: Adult: the usual daily dose is 10-20 mg taken once daily, also single daily doses up to 100 mg/day may be given.
Children: Rabeprazole is not recommended for use in children, as there is no experience of its use in this group.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

RANITIDINE (Ranidine, Antagonin, Ranid, Ranzin, Ranimax, Apo – Ranitidine, Rantag, Zydac®)

P/P: 150mg tab, 20's (Ranidine, Antagonin, Ranid, Ranzin, Ranimax, Apo – Ranitidine, Rantag, Zydac)
150mg tab 30s (Navidine)
300mg, 10's (Ranidine)
75mg tab, 12's (Ranid, Acicare, Ranacid
25mg/ml Injection, 2ml*5(Rantag, Zydac)

Adm: May be taken with or without food.

Category: Histamine H₂ antagonist

Indications: Management of duodenal ulcer; treatment of gastro esophageal reflux disease (GERD), including erosive esophagitis; therapy for benign gastric ulcer; treatment of pathologic hypersecretory conditions; prevention of upper GI bleeding

Caution: Renal impairment, pregnancy, breast feeding, pophyria

Contra-Ind: Hypersensitivity to ranitidine or other H₂ antagonists

Side effects: Head ache, diarrhea, dizziness, drowsy, nausea, skin rash, vomiting

Dosage: Adults (including the elderly and Children 12 years and over): The usual dosage is 150 mg twice daily or 300 mg once daily.
Ranitidine Solution for Injection may be given at a dose of 50mg either as slow intravenous injection, intermittent intravenous infusion or intramuscularly which may be repeated every 6 to 8 hours.
Children/infants (6 months to 11 years): 1mg/kg (maximum 50 mg) every 6h to 8h.

Renal impairment: Accumulation of ranitidine with resulting elevated plasma concentrations will occur in patients with renal impairment (creatinine clearance less than 50 ml/min). Accordingly, it is recommended that the daily dose of ranitidine in such patients should be reduced to 150 mg once daily or 25 mg of injection

SENNNA GLYCOSIDES (Sennalax, Agiolax®)

P/P:	Sennalax tab, 20's, Senokot tab, 50's, Agiolax granules, 250gm
Adm:	May be taken with or without food.
Category:	Stimulant laxative
Indications:	Constipation
Caution:	Avoid prolonged use
Contra-Ind:	Intestinal obstruction, fecal impaction
Side effects:	Abdominal cramps, hypokalemia, atonic colon
Dosage	The general dosage is 1 – 2 teaspoonfuls – according to the individual requirement – followed by a glass of liquid. After the preparation has been effective, the dosage can be individually reduced to $\frac{1}{2}$ to 1 teaspoonful once or twice daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

STERCULIA, FRANGULA (Normacol®)

P/P:	Normacol granules, Normacol plus granules 200gm
Adm:	One or two sachets or 1-2 heaped 5ml spoonfuls once or twice daily with water after meals.
Category:	Bulk-forming laxative
Indications:	Constipation, managing patients with colostomy, ileostomy, hemorrhoids, anal fissure, and chronic diarrhea associated with diverticulitis, irritable bowel disease and as an adjunct in ulcerative colitis
Caution:	Elderly people, maintain adequate fluid intake
Contra-Ind:	Intestinal obstruction, faecal impaction, Difficulty in swallowing
Side effects:	Flatulence, abdominal distension, bloating, bowel obstruction, gastric disturbance.
Dosage:	The usual dose for adults and the elderly is 1 to 2 sachets, or 1 to 2 heaped 5ml spoonful, taken once or twice a day after meals. The usual dose for children aged 6 to 12 years old is half the adult dose (half to 1 sachet or half to 1 heaped 5ml spoonful). Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

SUCRALFATE (Gastrofait®)

P/P:	Gastrofait 500mg tab, 20's
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Adm: Should be taken on an empty stomach (Take on an empty stomach 1 hr before or 2 hr after meals.).

Category: Anti-ulcer agent, Gastric mucosa protectant

Indications: Benign gastric and duodenal ulcer, prophylaxis of ulcer, stress ulceration

Caution: Renal impairment, pregnancy, breast feeding

Contra-Ind: Patient on dialysis

D/I: Reduced absorption of quinolones, anticoagulants

Side effects: Constipation, diarrhea, nausea, gastric discomfort, indigestion, dry mouth, vertigo, dizziness.

Dosage: Adult: 1g- 2g twice to four times a day.
Pediatric: Safety and effectiveness of sucralfate tablet in pediatric patients have not been established
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SULFASALAZINE (Salazopyrin®) (Restricted)

P/P: Salazopyrin 500mg tab, 100's

Adm: Should be taken with food (Take after meals. Ensure adequate fluid intake.)

Category: Bowel anti-inflammatory, anti rheumatic, disease modifying

Indications: Treatment of mild to moderate ulcerative colitis and maintenance of remission. Active Crohn's disease; Rheumatoid arthritis

Caution: G6PD deficiency, renal and hepatic impairment, pregnancy, lactation

Contra-Ind: Hypersensitivity to salicylates, sulphonamides, severe liver, or kidney disease, blood clotting abnormalities

D/I: Absorption of digoxin possibly reduced

Side effects: Gastric discomfort, rash, urticaria, eczema, aching of joints; fever; headache (continuing); itching; skin rash; vomiting

Dosage: Adults: Salazopyrin 2-4 tablets four times a day may be given in conjunction with steroids as part of an intensive management regime Night-time interval between doses should not exceed 8 hours.
Children: 30-60mg/kg per day, the dose is reduced in proportion to body weight.
Elderly Patients: No special precautions are necessary.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TRIPOTASSIUM DICITRATOBIISMUTHATE (Denol®)

P/P: Denol 120mg tab, 40's

Adm: Either on empty stomach or half an hour before meals.

Category: Chelates and complexes

Indications: Benign gastric and duodenal ulcer, Helicobacter pylori infection

Contra-Ind: Severe Renal impairment, pregnancy

D/I: Reduced absorption of tetracyclines

Side effects: Nausea, vomiting, may darken tongue and blacken faeces

Dosage: The usual dose for adults and the elderly is one tablet to be taken four times a day or Two tablets twice daily

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

URSODEOXYCHOLIC ACID (Ursofalk®)

P/P: Ursofalk 250mg tab, 50's
Ursofalk 250 mg / 5 ml susp.

Adm: Should be taken with food.

Category: Cholagogues, cholelitholytics

Indications: Cholestatic liver disease, cholesterol gall stone dissolution, biliary reflux

Contra-Ind: Acute inflammation of the gall bladder, bile duct or cystic duct, pregnancy, lactation

D/I: Antacids, charcoal, colestipol and cholestyramine, oestrogenic hormones and oral contraceptives

Side effects: Pruritus, diarrhea, nausea, vomiting, gall stone calcification

Dosage: Adults: The usual dose is 8–12mg/kg/day.
Children aged 6 to 18 years: 20 mg/kg/day in 2-3 divided doses, with a further increase to 30 mg/kg/day if necessary.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

IMMUNOLOGICAL PRODUCTS AND VACCINES

CLASSIFICATION OF VACCINES

INACTIVATED OR ENGINEERED VACCINES AND TOXOIDS

Inactivated polio vaccine (IPV)
Hepatitis A vaccine
Hepatitis B vaccine
Influenza vaccine
Tetanus-Diphtheria (Td) vaccine
Pneumococcal vaccine
H. influenza vaccine (HiB)
Meningococcal vaccine
Rabies vaccine

LIVE ATTENUATED VACCINES

Varicella-Zoster virus vaccine (VZV)
Mumps, Measles, and Rubella vaccine (MMR)
Smallpox vaccine (Vaccinia)
Typhoid vaccine
Yellow Fever vaccine
Oral polio vaccine

ALLERGEN EXTRACT (House Dust Mite Allergen Extract) (Staloral®, Oraltek®)

P/P:	Staloral oral solution 300mg /ml and 100mg / ml. ALLERGOTEK Oraltek 30.000 TU/ml Solution
ADM.:	Oral solution, keep drops under the tongue for 2 min, then swallow Administered in the morning before breakfast.
Category:	Allergen-Specific Immunotherapy
Indications:	Allergic rhinitis, Allergic asthma, Atopic dermatitis, Eczema and Rhino-conjunctivitis.
Caution:	Have the ability during skin testing to elicit serious systemic reactions including anaphylactic shock and death. Caution is required in testing and treating high risk patients and those with medical conditions that reduce their ability to survive a serious systemic adverse event.
Contra-Ind:	Hypersensitivity to any of the excipients, Autoimmune diseases, Immune complex diseases or immunodeficiency diseases, Malignancies, Severe or uncontrolled asthma, Inflammatory oral disease associated with severe symptoms.
Special population:	Pregnancy: Category B. Avoid initiating treatment during pregnancy (precautionary measure). Continue treatment with close supervision if pregnancy occurs during treatment. Breast- feeding: Discontinue breastfeeding or treatment >> Use during lactation: Yes.
D/I:	Beta Adrenergic Drugs, Anti histaminic, topical corticosteroid, And tricyclic Antidepressant.

Side effects: Sever adverse effects: Asthenia, cephalgia, pre-existing atopic eczema aggravation, a delayed reaction of the “serum sickness” type may follow, with arthralgia myalgia, urticaria, nausea, adenopathy, fever. Such occurrence should terminate the treatment with Staloral®.

Common adverse effects: Oral: pruritus, edema, oropharyngeal discomfort, salivary glands disorders • Gastrointestinal: nausea, abdominal pain, vomiting, diarrhea Most of the time, these effects are mild to moderate and do not necessarily require any change to the dosing regimen.

Dosage: 120–300 IR once daily, according to the physician prescription.

**IR index of reactivity (1 IR & 30 bioequivalent allergy units.)

Renal insufficiency: No dosage adjustment.

Hepatic dysfunction: No dosage adjustment.

ANTI-D IMMUNOGLOBULIN (Rhesonativ, Rhophylac®) (Restricted)

P/P: **Rhesonativ 250mcg inj**
Rhophylac 300mcg inj

Content: Human anti-D Ig

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of Rh sensitization in Rho (D)-negative females at or below child bearing age.

Caution: Not for IV administration (risk of shock).

Contra-Ind: Hypersensitivity.

D/I: Active immunization w/ live virus vaccines should be postponed until 3 mth after Rhesonativ administration.

Side effects: Local pain & tenderness at inj site. Fever, malaise, headache, cutaneous reactions, & chills.

Storage: Store between +2 and +8°C (in a refrigerator). Do not freeze.

Dosage: I.M prophylaxis for child birth: 1,250 I.U. during wk.28-30 of pregnancy.
Prophylaxis after child birth: administer within 27 hr. of delivery standard dose:1,250 I.U
Spontaneous or induced abortion, ectopic pregnancy, or other fetomaternal hemorrhage:
Before 12th week of pregnancy 625I.U (125mg) after 12th week of pregnancy 1250I.U (250mg).
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ANTITHYMOCYTE GLOBULIN (RABBIT) (Thymoglobulin®)

P/P: **Thymoglobulin 25 mg/ml vial IV.**

Adm:	The first dose should be infused over at least 6 hours; doses on subsequent days should be infused over at least 4 hours, Premedication with corticosteroids, acetaminophen, and/or an antihistamine prior to each infusion is recommended.
Category:	an immunoglobulin G.
Indications:	indicated for the prophylaxis and treatment of acute rejection in patients receiving a kidney transplant. Use in conjunction with concomitant immunosuppression.
Caution:	THYMOGLOBULIN should only be used by physicians experienced in immunosuppressant therapy in transplantation.
	Immune-mediated reactions: THYMOGLOBULIN infusion could result in an anaphylactic reaction.
	Infusion-associated reactions: Close compliance with the recommended infusion time may reduce the incidence and severity of infusion-associated reactions.
	Hematologic effects: low counts of platelets and white blood cells have been identified and are reversible following dose adjustments.
	Infection: Infections and reactivation of infections have been reported. Monitor patients and administer anti-infective prophylaxis.
	Malignancy: Incidence of malignancies may increase.
	Immunization with attenuated live vaccines is not recommended for patients who have recently received THYMOGLOBULIN.
	THYMOGLOBULIN may interfere with rabbit antibody-based immunoassays and with cross-match or panel-reactive antibody cytotoxicity assays.
Contra-Ind:	Allergy or anaphylactic reaction to rabbit proteins or to any product excipients, or active acute or chronic infections which contraindicate any additional immunosuppression.
Side effects:	urinary tract infection, abdominal pain, hypertension, nausea, shortness of breath, fever, headache, anxiety, chills, increased potassium levels in the blood, low counts of platelets and white blood cells.
Dosage:	Treatment of acute rejection 1.5 mg/kg of body weight administered daily for 7 to 14 days. Prophylaxis of acute rejection 1.5 mg/kg of body weight administered daily for 4 to 7 days.

BARICITINIB (Olumiant®)

P/P:	Olumiant: 1 mg, 2 mg, 4 mg [contains soybean lecithin]
Adm:	Administer without regard to meals.
Category:	Antirheumatic Miscellaneous Janus Kinase Inhibitor Antirheumatic disease modifying

- Indications:** **Alopecia areata:** Treatment of severe alopecia areata in adults.
- Caution:** GI perforations: Use with caution in patients at increased risk for GI perforation
- Hematologic toxicity: Hematologic toxicity, including lymphopenia, anemia, and neutropenia, may occur and is generally reversible and managed by treatment interruption.
- Bariatric surgery: Dehydration: Avoid diuretics in the immediate postoperative period
- Hepatic effects: Increased incidence of liver enzyme elevation
- Hypersensitivity
- Infections: Patients receiving baricitinib are at increased risk for serious infections,
- Lipid abnormalities: Dose-dependent increases in lipid parameters
- Malignancy and lymphoproliferative disorders: Lymphoma and other malignancies have been observed in patients receiving baricitinib
- Tuberculosis: Tuberculosis (TB) (pulmonary or extrapulmonary) has been reported in patients receiving baricitinib.
- Contra-Ind:** Hypersensitivity to baricitinib or any component of the formulation; pregnancy.
- Side effects:** Hepatic: Increased serum alanine aminotransferase ($\geq 3 \times$ ULN: 18%), increased serum aspartate aminotransferase ($\geq 3 \times$ ULN: 12%)
Infection: Infection (29%; serious infection: 1%)
Respiratory: Upper respiratory tract infection (16% to 21%)
- Dosage:** Oral: Initial: 2 mg once daily; if response is inadequate may increase to 4 mg once daily.
For patients with nearly complete or complete scalp hair loss, with or without substantial eyelash or eyebrow hair loss, consider initiating therapy with 4 mg once daily. In patients receiving 4 mg once daily (as initial therapy or after a dose increase), reduce dose to 2 mg once daily once an adequate response is achieved.
- Altered kidney function:
Oral: Alopecia areata:

If initial recommended dose is 2 mg once daily:
eGFR ≥ 60 mL/minute/1.73 m²: No dosage adjustment necessary.
eGFR 30 to <60 mL/minute/1.73 m²: Reduce dose to 1 mg once daily.
eGFR <30 mL/minute/1.73 m²: Use is not recommended.

If initial recommended dose is 4 mg once daily:
eGFR ≥ 60 mL/minute/1.73 m²: No dosage adjustment necessary.
eGFR 30 to <60 mL/minute/1.73 m²: Reduce dose to 2 mg once daily.
eGFR <30 mL/minute/1.73 m²: Use is not recommended.

BCG VACCINE (BACILLUS CALMETTE-GUERIN) (BCG vaccine®)

P/P: BCG vaccine

Content: Live attenuated bacilli from a strain derived from the Calmette-Guerin strain

Category: Vaccines, Antisera & Immunologicals

Indications: Primary immunization of infants against TB & immunization or reimmunization of children or adults who reacted negatively to usual TB tests.

Caution: Avoid exposure of site of inj to direct sunlight. Patient should not take a shower on the day of inj.

Contra-Ind: Individuals w/ cell-mediated immune deficiency including treatment w/ immunosuppressive drugs. Persons w/ clinical AIDS.

Side effects: Papules may persist 15-30 min after inj. Keloid reaction.

Storage: Store between +2 and +8°C (in a refrigerator). Vaccine should not be exposed to sunlight, direct or indirect. Exposure to artificial light should be kept to a minimum.

Dosage: For infants < 12 months 0.05 ml of the reconstituted vaccine is recommended
For children > 12 months and adults 0.10 ml of the recinstituted vaccine is recommended.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

C1-Esterase Inhibitor (Human) (Cinryze®, Berinert®, Haegarda®)

P/P: **(Cinryze® IV, Berinert® IV, Haegarda® SubQ)**

Adm: Intravenous, SubQ

Category: C1 Esterase Inhibitor; Complement Inhibitor

Indications: Routine prophylaxis against angioedema attacks in adults, adolescents, and pediatric patients ≥ 6 years of age with HAE.

Caution: Hypersensitivity, Thrombotic events.

Contra-Ind: History of anaphylactic or life-threatening hypersensitivity reactions to C1 inhibitor (human) or any component of the formulation.

Side effects: Anaphylaxis, arterial thromboembolism, headache, skin rash, injection site reaction, nasopharyngitis.

Dosage: IV 1,000 units every 3 to 4 days

CRIZANLIZUMAB (Adakveo®)

P/P: Adakveo 100 mg/10ml via I.V

Category:	Humanized monoclonal antibodies
Indication:	is a selectin blocker indicated to reduce the frequency of vasoocclusive crises in adults and pediatric patients aged 16 years and older with sickle cell disease
Caution:	Infusion-Related Reactions: Monitor patients for signs and symptoms. Discontinue ADAKVEO infusion for severe reactions and manage medically. Interference with Automated Platelet Counts (platelet clumping): Run test as soon as possible or use citrate tubes.
Contra-Ind:	none
Side effects:	Most common adverse reactions (incidence > 10%) are nausea, arthralgia, back pain, and pyrexia.
Dosage:	Administer 5 mg/kg by intravenous infusion over a period of 30 minutes on Week 0, Week 2, and every 4 weeks thereafter.

DARATUMUMAB (Darzalex®)

P/P:	Darzalex 1800mg/15ml Vial Subcutaneous 1"S
Adm:	Week 1 infusion (500 mL [split-dose infusion; 8 mg/kg on days 1 and 2] or 1,000 mL volume [single-dose infusion; 16 mg/kg on day 1]) Week 2 infusion (500 mL volume; 16 mg/kg) Infuse at 50 mL/hour for the first hour, may increase the rate by 50 mL/hour every hour (maximum rate: 200 mL/hour).
	Subsequent infusions (500 mL volume; 16 mg/kg) Accelerated infusion rate (off-label): in patients with multiple myeloma who have received ≥ 2 daratumumab doses at the standard infusion rate.
Category:	Antineoplastic Agent, Anti-CD38; Antineoplastic Agent, Monoclonal Antibody
Indications:	Multiple myeloma, Systemic light chain amyloidosis (off-label)
Caution:	Bone marrow suppression, Hepatitis B virus reactivation, Severe and/or serious infusion reactions may occur, Interference with cross-matching and red blood cell antibody screening
Contra-Ind:	History of severe hypersensitivity (e.g. anaphylactic reactions) to daratumumab or any component of the formulation.
Side effects:	Bone marrow suppression, Hepatitis B virus reactivation, Severe and/or serious infusion reactions may occur
Dosage:	The initial daratumumab dose for multiple myeloma (16 mg/kg on week 1) may be divided over 2 consecutive days (by administering 8 mg/kg/day on days 1 and 2 of week 1 of therapy)

In combination with D-VMP regimen:

Weeks 1 to 6: IV: 16 mg/kg once weekly for 6 doses.
Weeks 7 to 54: IV: 16 mg/kg once every 3 weeks for 16 doses.
Weeks 55 and beyond: IV: 16 mg/kg once every 4 weeks until disease progression.

In combination with DRd regimen:
Weeks 1 to 8: IV: 16 mg/kg once weekly for 8 doses
Weeks 9 to 24: IV: 16 mg/kg once every 2 weeks for 8 doses.
Weeks 25 and beyond: IV: 16 mg/kg once every 4 weeks until disease progression.

In combination with DPd regimen:
Weeks 1 to 8: IV: 16 mg/kg once weekly for 8 doses.
Weeks 9 to 24: IV: 16 mg/kg once every 2 weeks for 8 doses.
Weeks 25 and beyond: IV: 16 mg/kg once every 4 weeks until disease progression.

In combination with DVd regimen:
Weeks 1 to 9: IV: 16 mg/kg once weekly for 9 doses.
Weeks 10 to 24: IV: 16 mg/kg once every 3 weeks for 5 doses.
Weeks 25 and beyond: IV: 16 mg/kg once every 4 weeks until disease progression

In combination with DKd regimen
Week 1: IV: 8 mg/kg on days 1 and 2.
Weeks 2 to 8: IV: 16 mg/kg once weekly for 7 doses.
Weeks 9 to 24: IV: 16 mg/kg once every 2 weeks for 8 doses.
Weeks 25 and beyond: IV: 16 mg/kg once every 4 weeks until disease progression.

Dosing: Altered Kidney Function: Adult
There are no dosage adjustments provided
Dosing: Hepatic Impairment: Adult
There are no dosage adjustments provided

DIPHTHERIA, TETANUS, ACELLULAR PERTUSSIS (DPT) (Infanrix®)

P/P:	Infanrix 0.5ml pre-filled syringe
Content:	Diphtheria toxoid, tetanus toxoid, & acellular pertussis vaccine components
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active primary immunization in children against DTP from 2 mth onwards.
Caution:	Acute severe febrile illness. Do not administer IV. Patients w/ thrombocytopenia or a bleeding disorder.
Contra-Ind:	Hypersensitivity. Encephalopathy of unknown aetiology occurring w/in 7 days following previous vaccination w/ pertussis-containing vaccine.
Side effects:	Infrequently, very low-grade fever & redness, swelling at inj site.
Storage:	Store at +2°C to +8°C. Do not freeze.
Dosage:	A 0.5-mL intramuscular injection given as a 5-dose series:

One dose each at 2, 4, and 6 months of age.
One booster dose at 15 to 20 months of age and another booster dose at 4 to 6 years of age.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DIPHTHERIA, TETANUS, ACELLULAR PERTUSSIS (DPT) (Boostrix®)

P/P: **Boostrix 0.5ml pre-filled syringe**

Content: Diphtheria toxoid, tetanus toxoid, & acellular pertussis vaccine components

Category: Vaccines, Antisera & Immunologicals

Indications: Active booster immunization in children against DTP from 4 years onwards.

Caution: Acute severe febrile illness. Do not administer IV. Patients w/ thrombocytopenia or a bleeding disorder.

Contra-Ind: Hypersensitivity. Encephalopathy of unknown aetiology occurring w/in 7 days following previous vaccination w/ pertussis-containing vaccine.

Side effects: Infrequently, very low-grade fever & redness, swelling at inj site.

Storage: Store at +2°C to +8°C. Do not freeze.

Dosage: A single 0.5 mL dose of the vaccine is recommended.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DIPHTHERIA, TETANUS & PERTUSSIS (DPT) (Tripacel®)

P/P: **Tripacel 0.5ml vial**

Contents: Acellular pertussis vaccine combined w/ diphtheria & tetanus toxoids adsorbed

Category: Vaccines, Antisera & Immunologicals

Indications: Primary immunization against diphtheria, tetanus, & pertussis.

Caution: Vaccine should not be administered into the buttocks or by intradermal route.
Immunocompromised persons (from disease or treatment) may not obtain the expected immune response. Consider delay of vaccination until after the completion of any immunosuppressive treatment.

Contra-Ind: Acute illness, including febrile illness. Vaccine should not be administered to children after their 7th birthday or to adolescents & adults because it may provoke enhanced local reactions, fever & malaise.

- Side effects:** Redness, swelling & mild tenderness. Other less frequent reactions: Vomiting, listlessness & pallor. Most reactions are described as mild & resolved spontaneously w/in 24-72 hr.
Following booster doses, local erythema & swelling
- Storage:** Store between +2°C and +8°C (in a refrigerator). Do not freeze
- Dosage:** Recommended Dose: 1 dose = 0.5 mL.
The immunization schedule with TRIPACEL® should follow local recommendations. As a and comprises 3 doses of 0.5 mL each, at intervals of two months followed by a booster dose administered approximately 6 to 12 months after the third dose.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DIPHTHERIA-TETANUS-ACELLULAR PERTUSSIS, HEPATITIS B, ENHANCED INACTIVATED POLIO VACCINE AND HAEMOPHILUS INFLUENZAE TYPE B VACCINE (Infanrix hexa®)

- P/P:** Infanrix hexa pre-filled syringe 0.5 ml
- Content:** Per 0.5 mL Diphtheria toxoid, tetanus toxoid, pertussis toxoid, polio virus [type 1 (Mahoney), type 2 (MEF-1) & type 3 (Saukett)], purified capsular polysaccharide of Haemophilus influenzae type B (HIB) vaccine (PRP) + HBsAg hepatitis B virus
- Category:** Vaccines, Antisera & Immunologicals
- Indications:** Primary immunization against diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis & Haemophilus influenza type b in infants from the age of 6 wk & in infants who received a 1st dose hepatitis B vaccine at birth.
- Caution:** Acute severe febrile illness. If any of the following occur, the decision to give further doses of pertussis-containing should be carefully considered: Temp ≥40°C; collapse or shock-like state; persistent, inconsolable crying lasting ≥3 hr, w/in 48 hr of vaccination; convulsion w/o fever, w/in 3 days of vaccination.
- Contra-Ind:** Hypersensitivity. Encephalopathy of unknown aetiology, occurring w/in 7 days following previous vaccination w/ pertussis-containing vaccine
- Side effects:** Local skin reaction, loss of appetite, fever, drowsiness, irritability, nervousness
- Storage:** Store at +2°C to +8°C. Protect from light.
- Dosage:** Primary vaccination: The primary vaccination schedule consists of three doses of 0.5 ml (Such as 2, 3, 4 months; 3, 4, 5 months; 2, 4, 6 months). There should be an interval of at least 1 month between doses. The Expanded Program on Immunisation schedule (at 6, 10, 14 weeks of age) may only be used if a dose of hepatitis B vaccine has been given at birth. Booster vaccination: After vaccination with 3 doses (e.g. 2, 3, 4 months; 3, 4, 5 months; 2, 4, 6 months) of Infanrix hexa a booster dose must be given at least 6 months after the last priming dose and preferably before 18 months of age.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

DIPHTHERIA, TETANUS, ACELLULAR PERTUSSIS AND ADSORBED CONJUGATED HAEMOPHILUS INFLUENZAE TYPE B VACCINE. (DPT-HIB) (Infanrix-Hib®)

P/P:	Infanrix-Hib 0.5ml pre-filled syringe
Content:	Per 0.5 mL Diphtheria toxoid ≥ 30 iu, tetanus toxoid 40 iu, pertussis toxoid 25 mcg, filamentous haemagglutinin 25 mcg, pertactin 8 mcg, purified capsular polysaccharide of Haemophilus influenzae type b vaccine
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active immunization of infant from 2 mth against diphtheria, tetanus, pertussis, & Hib.
Caution:	If any of the following occur, the decision to give subsequent doses of vaccine should be carefully considered: Temp ≥40.5°C, collapse, or shock-like state, persistent, inconsolable crying lasting ≥3 hr w/in 48 hr of vaccination, convulsions w/ or w/o fever w/in 3 day of vaccination. Patient receiving immunosuppressives or immunodeficient patient.
Contra-Ind:	Encephalopathy following a previous dose of pertussis vaccine. Neurological disorder. Acute severe febrile illness.
Side effects:	Local skin reaction, fever, unusual crying, vomiting, diarrhea, loss of appetite, restlessness.
Storage:	The lyophilised Hib vaccine and the DTPa vaccine have to be stored at +2°C to +8°C and be protected from light.
Dosage:	Primary Immunization: The primary immunization course is 3 doses of INFANRIX®-IPV/Hib 0.5 mL (combined diphtheria, tetanus, acellular pertussis, inactivated poliomyelitis, Haemophilus influenzae type b vaccine), given intramuscularly at 2, 4 and 6 months of age. Booster Immunization: A booster dose is recommended in the second year of life, with an interval of at least 6 months after completion of primary vaccination schedule. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DURVALUMAB (Imfinzi®)

P/P:	Imfinzi 500mg/10ml Vial I.V 1"S
Adm:	Infuse over 60 minutes through an IV line containing a sterile When used in combination with chemotherapy, administer durvalumab prior to chemotherapy on the same day. When used in combination with tremelimumab, administer tremelimumab first and observe patient for 60 minutes following completion of tremelimumab, then administer durvalumab on the same day. When used in combination with tremelimumab and platinum-based chemotherapy: Cycle 1: Administer tremelimumab first; 1 to 2 hours after completion of tremelimumab infusion, administer durvalumab over 60 minutes, then administer platinum-based chemotherapy 1 to 2 hours after the completion of the durvalumab infusion. When used in combination with tremelimumab and pemetrexed, administer tremelimumab first, followed by durvalumab and then pemetrexed on the day of dosing.

Category: Anti-PD-L1 Monoclonal Antibody, Immune Checkpoint Inhibitor.

Indications: Biliary tract cancer, locally advanced or metastatic, Hepatocellular carcinoma, unresectable in combination with tremelimumab, Non–small cell lung cancer, Small cell lung cancer, extensive stage

Caution: rash or dermatitis, immune-mediated pneumonitis, colitis, endocrinopathies hepatitis, patients who received allogeneic hematopoietic stem cell transplant (HSCT) before or after treatment with an anti-PD-1/PD-L1, Checkpoint inhibitors may worsen new myasthenia gravis use with caution

Contra-Ind: Hypersensitivity to durvalumab or any component of the formulation.

Side effects: Dermatitis, Skin rash, Colitis, Hepatotoxicity, Pneumonitis, Hypothyroidism.

Dosage: Biliary tract cancer, locally advanced or metastatic and small cell lung cancer, extensive stage:

Patients ≥30 kg: IV: 1,500 mg once every 3 weeks followed by 1,500 mg once every 4 weeks as a single agent

Patients <30 kg: IV: 20 mg/kg once every 3 weeks followed by 20 mg/kg once every 4 weeks as a single agent

Hepatocellular carcinoma, unresectable:

Patients ≥30 kg: IV: 1,500 mg on day 1 of cycle 1 (in combination with tremelimumab), followed by 1,500 mg once every 4 weeks as a single agent

Patients <30 kg: IV: 20 mg/kg on day 1 of cycle 1 (in combination with tremelimumab), followed by 20 mg/kg once every 4 weeks as a single agent

Non–small cell lung cancer, stage 3, unresectable:

Patients ≥30 kg: IV: 10 mg/kg once every 2 weeks or 1,500 mg once every 4 weeks

Patients <30 kg: IV: 10 mg/kg once every 2 weeks

Non–small cell lung cancer, metastatic:

Non-squamous or squamous tumor histologies:

Patients ≥30 kg: IV: 1,500 mg

Patients <30 kg: IV: 20 mg/kg

Dosing: Altered Kidney Function: Adult

CrCl 30 to 89 mL/minute: There are no dosage adjustments

CrCl 15 to 29 mL/minute: There are no dosage adjustments

Dosing: Hepatic Impairment: Adult

prior to treatment initiation: There are no dosage adjustments

Hepatotoxicity during treatment: interruption or discontinuation is required, administer systemic corticosteroids (1 to 2 mg/kg/day prednisone [or equivalent]) discontinue durvalumab if no complete or partial response within 12 weeks

Immune-mediated hepatitis without tumor involvement of the liver:

AST or ALT >3 up to 8 × ULN or total bilirubin >1.5 up to 3 × ULN withhold, if AST or ALT >8 × ULN or total bilirubin >3 × ULN: Discontinue durvalumab permanently.

Immune-mediated hepatitis with tumor involvement of the liver: Note: If AST and ALT are \leq ULN at baseline, follow recommendations for hepatitis without tumor involvement of the liver.

If baseline AST or ALT is >1 up to $3 \times$ ULN and increases to >5 up to $10 \times$ ULN or baseline AST or ALT is >3 up to $5 \times$ ULN and increases to >8 up to $10 \times$ ULN: Withhold durvalumab treatment. Resume durvalumab treatment with complete or partial resolution (to grade 0 or 1) of hepatitis after corticosteroid taper.

If AST or ALT increases to $>10 \times$ ULN or total bilirubin increases to $>3 \times$ ULN: Discontinue durvalumab permanently.

FILGRASTIM (Neupogen®)

P/P: Neupogen 30mio (300mcg/ml) Vial S.C/I.V 5"S

Neupogen 30mu (300mcg/0.5ml) Pref.Syr S.C/I.V 1"S

Adm: IV, short IV infusion over 15-30 min or continuous IV infusion. May be administered SUBQ

Category: Colony Stimulating Factor; Hematopoietic Agent

Indications: Chemotherapy-induced myelosuppression in non-myeloid malignancies, Acute myeloid leukemia following induction or consolidation chemotherapy, Bone marrow transplantation, acute Hematopoietic radiation injury syndrome, Peripheral blood progenitor cell collection and therapy, Severe chronic neutropenia, hematopoietic cell mobilization for autologous transplantation (off label use), myelodysplastic syndromes associated anemia (off label use).

Caution: *Fatal splenic rupture: Evaluate patients who report left upper abdominal or shoulder pain for an enlarged spleen or splenic rupture.

*Acute respiratory distress syndrome (ARDS): Evaluate patients who develop fever and lung infiltrates or respiratory distress for ARDS. Discontinue NEUPOGEN in patients with ARDS.

*Serious allergic reactions, including anaphylaxis: Permanently discontinue NEUPOGEN in patients with serious allergic reactions.

*Fatal sickle cell crises: Have occurred.

Contra-Ind: History of serious allergic reactions to human granulocyte colony-stimulating factors, such as filgrastim or pegfilgrastim, or any component of the formulation.

Side effects: Nausea, Diarrhea, Bone pain, Fever, alopecia, cough, dyspnea, rash

Dosage: Chemotherapy-induced myelosuppression in nonmyeloid malignancies: SUBQ, IV: 5 mcg/kg/day

Acute myeloid leukemia following induction or consolidation chemotherapy:

SUBQ, IV: 5 mcg/kg/day

Bone marrow transplantation: IV infusion: 10 mcg/kg/day (administer ≥ 24 hours after chemotherapy and ≥ 24 hours after bone marrow infusion)

When ANC $>1,000/\text{mm}^3$ for 3 consecutive days: Reduce dose to 5 mcg/kg/day.

If ANC remains $>1,000/\text{mm}^3$ for 3 more consecutive days: Discontinue.

Hematopoietic radiation injury syndrome, acute: SUBQ: 10 mcg/kg once daily

Peripheral blood progenitor cell collection and therapy: SUBQ: 10 mcg/kg daily, usually for 6 to 7 days

Severe chronic neutropenia:

Congenital: SUBQ: Initial: 6 mcg/kg/day in 2 divided doses

Idiopathic: SUBQ: Initial: 5 mcg/kg once daily total daily dose may be administered in 1 or 2 divided doses; mean dose: 1.2 mcg/kg/day.

Cyclic: SUBQ: Initial: 5 mcg/kg once daily total daily dose may be administered in 1 or 2 divided doses; mean dose: 2.1 mcg/kg/day.

Hematopoietic cell mobilization for autologous transplantation: SUBQ: 10 mcg/kg once daily

Myelodysplastic syndrome-associated anemia: SUBQ: 300 mcg weekly in 2 to 3 divided doses or 1 mcg/kg once daily.

Dosing: Altered Kidney Function: Adult:

No dosage adjustment necessary.

Dosing: Hepatic Impairment: Adult

No dosage adjustment necessary.

GALCANEZUMAB (Emgality®)

P/P: Emgality 120mg/ml Pre-Filled Pen Subcutaneous 1" S

Adm: Subcutaneous, Prior to administration, allow to come to room temperature for 30 minutes

Category: Calcitonin Gene-Related Peptide Antagonist; Monoclonal Antibody.

Indications: Cluster headache (prevention), Migraine (prevention).

Caution: Hypersensitivity reactions, use with caution in patient with cardiovascular disease or Peripheral vascular disease.

Contra-Ind: Serious hypersensitivity to Galcanezumab or any component of the formulation.

Side effects: Injection site reaction, Antibody development, Hypersensitivity reaction

Dosage: Cluster headache (prevention): SUBQ: 300 mg at the onset of the cluster period and then once monthly until the end of the cluster period.

Migraine (prevention): SUBQ: Initial: 240 mg as a single loading dose, followed by 120 mg once monthly

Dosing: Altered Kidney Function: Adult

There are no dosage adjustments

Dosing: Hepatic Impairment: Adult

There are no dosage adjustments

GOLIMUMAB (Simponi®)

P/P: Simponi 50mg/0.5ml Pref.Pen 1"S

Adm: Subcutaneous, A loud click is heard when injection has begun. Continue to hold autoinjector against skin until second click is heard (may take 3 to 15 seconds).

Category: Monoclonal Antibody; Tumor Necrosis Factor (TNF) Blocking Agent

Indications: Ankylosing spondylitis, Psoriatic arthritis, Rheumatoid arthritis, Ulcerative colitis, active, nonradiographic axial spondyloarthritis (off-label use)

Caution: serious Infections [US Boxed Warning]: Do not start SIMPONI during an active infection. Tuberculosis [US Boxed Warning] Active tuberculosis or reactivation of latent tuberculosis, invasive fungal, Rare reactivation of hepatitis B virus. Heart failure: Worsening, or new onset, may occur. Malignancy [US Boxed Warning]: Lymphoma and other malignancies have been reported. Rare cases of new-onset or exacerbation of demyelinating disorders.

Contra-Ind: Hypersensitivity to golimumab, latex, or any other component of formulation, patients with severe infections, moderate or severe heart failure (NYHA class III/IV).

Side effects: upper respiratory tract infection, nasopharyngitis, Infection, Increased ALT&AST, Hypertension, Dizziness, paresthesia, Bronchitis

Dosage: Ankylosing spondylitis, Psoriatic arthritis, Rheumatoid arthritis: 50 mg once a month

Ulcerative colitis: SubQ: Induction: 200 mg at week 0, then 100 mg at week 2, followed by maintenance therapy of 100 mg every 4 weeks

axial spondyloarthritis: SubQ: 50 mg once every 4 weeks for 16 weeks

Dosing: Altered Kidney Function: Adult

There are no dosage adjustments

Dosing: Hepatic Impairment: Adult

There are no dosage adjustments

GUSELKUMAB (Tremfya®)

P/P: Tremfya 100mg/1ml Pre-Filled Syringe Subcutaneous 1"S

Adm: Administer SubQ

Category: Interleukin-23 Inhibitor; Monoclonal Antibody

Indications:	Plaque psoriasis, Psoriatic arthritis
Caution:	Serious hypersensitivity reactions, including anaphylaxis, may occur, may increase the risk of infection. Tuberculosis (TB): Evaluate for TB prior to initiating treatment
Contra-Ind:	Serious hypersensitivity to guselkumab or any component of the formulation.
Side effects:	Infection, Upper respiratory tract infection, Diarrhea, Increased liver enzymes, Injection site reaction, Headache, Arthralgia. Herpes simplex infection.
Dosage:	100 mg at weeks 0, 4, and then every 8 weeks thereafter.
Dosing:	<p>Altered Kidney Function: Adult There are no dosage adjustments</p> <p>Dosing: Hepatic Impairment: Adult There are no dosage adjustments</p>

HAEMOPHILUS INFLUENZAE TYPE B, DIPHTHERIA, PERTUSSIS, TETANUS VACCINES (DPT-HIB) (Tetract-hib®)

P/P:	Tetract-hib 0.5 ml syringe
Contents:	Haemophilus influenzae type b polysaccharide conjugated to tetanus protein, diphtheria, pertussis, tetanus vaccines
Category:	Vaccines, Antisera & Immunologicals
Indications:	Prevention of invasive infections such as meningitis, septicaemia, epiglottis caused by Haemophilus influenzae type b, diphtheria, tetanus, & pertussis.
Caution:	Inj should be delayed in the presence of fever or acute infection.
Contra-Ind:	Fever or acute illness. History of encephalopathy or severe hypersensitivity to prep.
D/I:	Immunosuppressant.
Side effects:	Pain, erythema, induration & edema w/in 48 hr & persist for 1 or 2 days. Convulsion, acute reaction induced by a former inj of pertussis vaccine.
Storage:	Store between +2°C and +8°C (in a refrigerator). Do not freeze.
Dosage:	PRIMARY VACCINATION: over two months of age, 3 injections of a unit dose of vaccine (0.5 ml) at one or two months interval.

BOOSTER: 1 injection one year after the 3rd injection of the primary vaccination.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

HAEMOPHILUS INFLUENZAE TYPE B, DIPHTHERIA, PERTUSSIS, TETANUS VACCINES (DPT-HIB) (Actacel®)

P/P: Actacel single dose 0.5ml vial

Contents: Haemophilus influenzae type b polysaccharide conjugated to tetanus protein, diphtheria, pertussis, tetanus vaccines

Category: Vaccines, Antisera & Immunologicals

Indications: Primary vaccination of infants, ≥2 mth & as a booster in children up to their 7th birthday against diphtheria, tetanus, pertussis, & invasive Haemophilus influenzae type b infection.

Caution: Deferral of pertussis component in children w/ a progressive, evolving, or unstable neurological condition (including seizures). Deferral in children >6 mth during an outbreak of poliomyelitis. Persons w/ malignancies, receiving immunosuppressive therapies

Contra-Ind: Hypersensitivity. Acute illness, including febrile illness. Children after their 7th birthday, adolescents, adults.

Side effects: Fever, irritability, inconsolable crying, drowsiness, decreased feeding. Redness, tenderness, swelling at the vaccination site. Unusual high-pitched crying, vomiting, pallor, listlessness.

Storage: Store between +2°C and +8°C (in a refrigerator). Do not freeze.

Dosage: 1 dose = 0.5 mL, ACTacel® may be given as a 3-dose immunization series, with an interval of 2 months between each dose, followed by a fourth dose administered approximately 6 to 12 months after the third dose.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

HAEMOPHILUS INFLUENZAE TYPE B, DIPHTHERIA, PERTUSSIS, TETANUS VACCINES, INACTIVATED POLIO VACCINE (DPT-HIB-IPV) (Pediacel®)

P/P: Pediacel 0.5ml unit dose vial

Contents: Haemophilus influenzae type b polysaccharide conjugated to tetanus protein, diphtheria, pertussis, inactivated poliomyelitis, and tetanus vaccines

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of invasive infections such as meningitis, septicaemia, epiglottis caused by Haemophilus influenzae type b, diphtheria, tetanus, poliomyelitis& pertussis.

Caution: Inj should be delayed in the presence of fever or acute infection.

Contra-Ind: Fever or acute illness. History of encephalopathy or severe hypersensitivity to prep.

D/I: Immunosuppressant.

Side effects: Pain, erythema, induration & edema w/in 48 hr & persist for 1 or 2 days. Convulsion, acute reaction induced by a former inj of pertussis vaccine.

Storage: Store between +2°C and +8°C (in a refrigerator). Do not freeze.

Dosage: Recommended Dose 1 dose = 0.5 mL
PediaceL may be administered as a 4-dose series starting as early as 2 months of age with 3 doses at an interval of 2 months between each dose, followed by a booster dose approximately 6 to 12 months after the third dose.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HEPATITIS A AND RECOMBINANT DNA HEPATITIS B VACCINE (INACTIVATED) (Twinrix®)

P/P: Twinrix adult mono-dose pre-filled syringe 1 ml

Content: Combined hepatitis A & B vaccine.

Category: Vaccines, Antisera & Immunologicals

Indications: Vaccination of non-immune adult & children ≥ 1 yr at risk of both hepatitis A & B infection.

Caution: Immunodeficiency. Pregnancy & lactation.

Contra-Ind: Hypersensitivity to neomycin, acute severe febrile illness.

D/I: It may be expected that in patients receiving immunosuppressive treatment or patients with immunodeficiency, an adequate response may not be achieved

Side effects: Transient pain, redness, & swelling. Fever, headache, malaise, fatigue, nausea, & vomiting.

Storage: Store at 2-8°C. Do not freeze. Discard if the vaccine has been frozen.

Dosage

IMMUNISATION SCHEDULE

Standard (6 months) 1-15 years inclusive 2 doses 0, 6 to 12 months

Standard (6 months) 16 years and over 3 doses 0, 1 month, 6 months

Rapid (21 days + 12 months) 16 years and over 4 doses 0, 7 days, 21 days, 12 months

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HEPATITIS A VACCINE (Havrix®)

P/P:	Havrix 720 Junior Pre-filled syringe (720 ELISA units/0.5 mL)
Action:	Havrix protects against hepatitis A by inducing specific anti-HAV antibodies.
Content:	Hepatitis A virus vaccine
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active immunization against hepatitis A virus infection in subjects at risk of exposure to HAV.
Caution:	Acute severe febrile illness.
Contra-Ind:	Hypersensitivity.
Side effects:	Inj site soreness, mild redness & swelling, headache, malaise, vomiting, fever, nausea & loss of appetite.
Storage:	Store at +2 to +8°C. Do not freeze. Discard if vaccine has been frozen.
Dosage:	<p>Primary Immunization: Adults from 19 years onwards: A single dose of HAVRIX 1440 (hepatitis A vaccine, inactivated) (1.0 mL suspension) is used for primary immunization</p> <p>Children and adolescents from 1 year up to and including 18 years of age A single dose of HAVRIX 720 Junior (0.5 mL suspension) is used for primary immunization. If a pediatric vial is not available, a pediatric dose of 0.5 mL may be withdrawn from the HAVRIX 1440 vial.</p> <p>Booster Dose: A booster dose is recommended at any time between 6 and 12 months after a single dose of HAVRIX 1440 or HAVRIX720 Junior in order to ensure long-term protection.</p> <p>Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available</p>

HEPATITIS A VACCINE (INACTIVATED) (Avaxim®)

P/P:	Avaxim 80 pre-filled syringe 0.5ml
Contents:	AVAXIM is a sterile suspension containing formaldehyde inactivated hepatitis A virus (GBM strain) adsorbed onto aluminium hydroxide.
Category:	Vaccines, Antisera & Immunologicals
Indications:	Prevention of infection caused by hepatitis A virus in children from 2 yr & in adults.
Caution:	Patients on immunosuppressants or in a state of immune deficiency. Avoid injecting into buttocks & blood vessels. Patients w/ liver disease, hypersensitivity to neomycin.
Contra-Ind:	Postpone vaccination in the event of fever, acute illness, or chronic progressive disease. Pregnancy & lactation.
Side effects:	Local pain, redness, fever, fatigue, headache, muscle, or joint pains, GI upset.

Storage:	Store between +2°C and +8°C (in a refrigerator). Do not freeze.
Dosage:	Primary vaccination is achieved with one single dose of vaccine. The recommended dosage is 0.5 ml for each injection. In order to provide long-term protection, a booster dose is recommended within the 6-to-18-month period following the initial dose
Renal Dose Adjustments:	Data not available
Liver Dose Adjustments:	Data not available

HEPATITIS B IMMUNOGLOBULIN (Hepatect®)

P/P:	Hepatect 2ml, 50iu/ml injection
Content:	Hepatitis B immune globulin (human)
Category:	Vaccines, Antisera & Immunologicals
Indications:	Hepatitis B Immunoglobulin is indicated for post-exposure prophylaxis in persons who did not receive prior vaccination, or whose prior vaccination regimen is incomplete, or when the hepatitis B antibody level is inadequate (< 10 IU/L).
Contra-Ind:	Hepatitis B Immunoglobulin should not be given to patients suffering from severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.
Side effects:	Local pain & tenderness at the inj site, urticaria & angioedema, anaphylactic reactions.
Storage:	Store at 2°C to 8°C (Refrigerate. Do not freeze). Protect from light.
Dosage:	6 IU to 10 IU (0.12 to 0.2 ml) Hepatect® per kg body weight should be administered as soon as possible. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

HEPATITIS B VACCINE (Engerix®)

P/P:	Engerix B 10mcg/0.5ml vial Engerix B 20mcg/1ml vial
Action:	Engerix-B induces specific humoral antibodies against HBsAg (anti-HBs antibodies).
Content:	Adsorbed purified surface antigen of hepatitis-B virus
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active immunization against hepatitis B virus (HBV) infection caused by all known subtypes in subjects of all ages considered at risk of exposure to HBV.
Caution:	Postpone vaccination in patients w/ acute severe febrile illness. Patient undergoing hemodialysis, w/ HIV or w/ impaired immune system may require additional doses of vaccine to obtain adequate anti-HBs antibody titers. Pregnancy.

Contra-Ind: Hypersensitivity.

D/I: Immunosuppressives.

Side effects: Redness, pain, swelling at the inj site.

Storage: Store at +2 to +8°C. Do not freeze. Discard if vaccine has been frozen.

Dosage: For intramuscular administration.
Persons from birth through 19 years of age: A series of 3 doses (0.5 mL each) on a 0-, 1-, 6-month.
Persons 20 years of age and older: A series of 3 doses (1 mL each) on a 0-, 1-, 6-month.
Adults on hemodialysis: A series of 4 doses (2 mL each) as a single 2-mL dose or as two 1-mL doses on a 0-, 1-, 2-, 6-month.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HUMAN PAPILLOMAVIRUS VACCINE (Cervarix®)

P/P: Cervarix 0.5ml pre-filled syringe ((turbid, white suspension))

Adm: Vaccination schedule: 0, 1, 6 mth. IM inj in the deltoid region.

Content: Human Papillomavirus vaccine types 16 & 18 (recombinant, ASO4, adjuvanted, adsorbed)

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of high-grade cervical intraepithelial neoplasia (CIN grades 2 & 3) & cervical cancer causally related to human papillomavirus (HPV) types 16 & 18 (based on efficacy in women 15-25 yr following vaccination w/ Cervarix & on immunogenicity in girls & women 10-25 yr).

Caution: Anaphylactic event following administration. Do not administer intravascularly or intradermally. Thrombocytopenia or any coagulation disorder. Not a substitute for regular cervical screening or for precautions against exposure to HPV & STD. Does not prevent HPV-related lesions at the time of vaccination. Not for treatment of cervical cancer, CIN or any other HPV-related lesions. Lactation.

Contra-Ind: Hypersensitivity. Acute severe febrile illness. Pregnancy.

D/I: Immunosuppressive therapy.

Side effects: Headache, myalgia, inj site reaction (eg pain, redness, swelling), fatigue. GI symptoms, itching/pruritus, rash, urticaria, arthralgia, fever ($\geq 38^{\circ}\text{C}$).

Storage: Store in a refrigerator (2-8°C). Do not freeze. Store in the original package to protect from light.

Dosage: Three doses (0.5-mL each) by intramuscular injection according to the following schedule : 0, 1, and 6 months.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

INFLUENZA VACCINE (Vaxigrip®)

P/P: **Vaxigrip Pre-filled syringe (single-dose) 0.5 ml.**

Content: Inactivated influenza vaccine (split virion)

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of influenza, particularly in subjects showing a high risk associated complications.

Caution: Immunosuppression, pregnancy.

Contra-Ind: Allergy to eggs or chicken protein, neomycin, formaldehyde, or octoxinol-9; febrile illness or an acute infection.

Side effects: Erythema, swelling, pain, ecchymosis, induration, fever, dizziness, shivering, tiredness, headaches, sweating, muscle pains, joint pains.

Storage: Store at a temperature between +2°C and +8°C (in a refrigerator). Protect from light. Do not freeze.

Shelf-Life: 1 year

Dosage: Adults and children from 36 months: 0.5 ml.
Children from 6 months to 35 months: clinical data are limited. Dosages of 0.25 ml or 0.5 ml have been used. For children who have not previously been vaccinated, a second dose should be given after an interval of at least 4 weeks. Immunization should be carried out by intramuscular or deep subcutaneous injection.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

INFLUENZA VACCINE (Influvac®)

P/P: **Influvac Pre-filled syringe 0.5 mL (single-dose).**

Content: Inactivated purified influenza virus

Category: Vaccines, Antisera & Immunologicals

Indications: Vaccination against flu.

Caution: Fever.

Contra-Ind: Hypersensitivity to eggs or chicken products; serious reaction to a previous flu vaccine.

Side effects: Fever, feeling unwell, shivering, tiredness, headache, sweating, muscle & joint pain. Skin reactions e.g., redness

- Storage: Store at +2°C to +8°C (in a refrigerator). Protect from light. Do not freeze.
- Dosage: The recommended dose of INFLUVAC for adults above 18 years is 0.5 mL.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

LUSPATERCEPT (Reblozyl®) [LASA]

- P/P: **Reblozyl® 25 mg & 75 mg powder for solution for SUBQ injection**
- Category: Activin Receptor Ligand Trap; Hematopoietic Agent
- Indications: Anemia due to beta thalassemia or myelodysplastic syndromes.
- Caution: Extramedullary hematopoietic masses, Hypertension, Thromboembolic events.
- Contra-Ind: Hypersensitivity to Luspatercept or any component of the formulation.
- Side effects: Hypertension, peripheral edema, Abdominal pain, Diarrhea, Nausea, Increased liver enzymes, Dizziness ($\leq 18\%$), headache, Arthralgia, Decreased creatinine clearance, Cough, dyspnea .
- Storage: Store at +2°C to +8°C (in a refrigerator), Protect from light. Do not freeze.
- Dosage: Initial: 1 mg/kg once every 3 weeks, then titrate according to hemoglobin level.
Maximum dose: 1.25 mg/kg once every 3 weeks.

MEASLES, MUMPS AND RUBELLA LIVE TRIVALENT ATTENUATED VACCINE (MMR) (Priorix®)

- P/P: **Priorix 0.5ml pre-filled syringe**
- Content: Live attenuated Schwarz measles, RIT 4385 mumps (derived from Jeryl Lynn strain) and Wistar RA 27/3 rubella strains of viruses.
- Category: Vaccines, Antisera & Immunologicals
- Indications: Active immunization against measles, mumps&rubella.
- Caution: History of allergic diseases, convulsions.
- Contra-Ind: Acute febrile illness, known hypersensitivity to neomycin, pregnancy & subjects w/ impaired immune response
- Side effects: Local redness, rash, fever, local pain, local swelling, parotid swelling, febrile convulsion.
- Storage: Store in a refrigerator between +2°C and +8°C.

Dosage: The Canadian Immunization Guide recommends immunization at 12 months of age, or as soon as practicable thereafter. A second dose of MMR is recommended at least 1 month after the first dose, for the purpose of better measles protection. For convenience, options include giving it with the next scheduled vaccination at 18 months of age or with school entry (4-6 years) vaccinations (depending on the provincial/territorial policy), or at any intervening age that is practicable. The need for a second dose of mumps and rubella vaccine is not established but may benefit (given for convenience as MMR). A single 0.5 mL dose of the reconstituted vaccine is recommended.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

MEASLES, MUMPS, RUBELLA AND VARICELLA (MMRV) (Priorix-Tetra®)

P/P: **Priorix-Tetra 0.5ml pre-filled syringe**

Category: Vaccines, Antisera & Immunologicals

Indications: Active immunization against measles, mumps, rubella & chickenpox.

Caution: History of allergic diseases, convulsions.

Contra-Ind: Acute febrile illness, known hypersensitivity to neomycin, pregnancy & subjects w/ impaired immune response

Side effects: Local redness, rash, fever, local pain, local swelling, parotid swelling, febrile convulsion.

Dosage: Primary immunization consists of two doses of PRIORIX-TETRA® (combined measles, mumps, rubella and varicella vaccine, live, attenuated) vaccine. An interval of at least 6 weeks between doses is preferable and in no circumstances should this interval be less than 4 weeks.
If official recommendations call for a second dose of varicella, PRIORIX-TETRA® can be used in lieu of separate MMR and varicella vaccines. Refer to the Canadian Immunization Guide for current recommendations.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

MENINGOCOCCAL A+C VACCINE (Meningo A&C®)

P/P: **Meningo A&C vaccine vial**

Content: Polysaccharide of Neisseria meningitidis Group A 50 mcg, Group C 50 mcg

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of diseases caused by meningococci group A & C from the age of 2 yr.

Caution: Recommended for use to individuals >24 months. Caution use in individuals w/ partial immunodeficiency & w/ HIV infections. Pregnancy.

Contra-Ind: Febrile state, severe reaction to previous immunization w/ meningococcal vaccine, other acute diseases

Side effects: Transient local pain sometimes associated w/ swelling or redness, & fever.

Storage: Store between +2°C and +8°C (in the refrigerator). Do not freeze.

Dosage: Adults and Children \geq 2 years: 1 single dose (0.5 mL) of reconstituted vaccine.
The booster dose may be considered 2-4 years (3 years in average) after 1st dose, but the interval should not be less than 1 year since the 1st dose administration.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MENINGOCOCCAL ACWY VACCINE (Mencevax ACWY®)

P/P: Mencevax ACWY Vial 0.5 ml. (lyophilised powder for reconstitution)

Action: Mencevax ACWY induces bactericidal antibodies against meningococci of the serogroups A, C, W135 and Y.

Content: Meningococcal polysaccharide vaccine, group A, C, Y & W 135 combined

Category: Vaccines, Antisera & Immunologicals

Indications: Active immunization of adults & children >2 yr against meningococcal meningitis caused by groups A, C, Y & W 135 meningococci.

Caution: Patients w/ an impaired immune response, children <2 yr. Pregnancy, lactation.

Contra-Ind: Severe acute febrile illness.

D/I: Mencevax ACWY can be administered at the same time as other vaccines. Different injectable vaccines should always be administered at a different injection site.

Side effects: Erythema, slight induration, tenderness or pain at inj site. Rarely, headache, fatigue, fever, allergic reactions.

Storage: Store in a refrigerator between +2°C and +8°C.

Dosage: For adults and children over 2 years, one dose of vaccine is contained in 0.5 ml.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MENINGOCOCCAL ACW135&Y CONJUGATE (Aramen ACW135Y, Menactra ACW135Y®)

P/P: Aramen ACW135Y 0.5 ml vial
Menactra ACW135Y 0.5 ml vial

Action: Provide active immunization of children and adults against invasive meningococcal disease caused by *N. meningitidis* serogroups A, C, Y, and W-135.

Content: Meningococcal conjugated vaccine, group A, C, Y & W 135 combined

Category: Vaccines, Antisera & Immunologicals

D/I: Mencevax ACWY can be administered at the same time as other vaccines. Different injectable vaccines should always be administered at a different injection site.

Caution: Unlike polysaccharide vaccine it can be used for patient at age of 2 up to 55 years

Side effects: Erythema, slight induration, tenderness or pain at inj site. Rarely, headache, fatigue, fever, allergic reactions.

Storage: Store in a refrigerator between +2°C and +8°C.

Dosage: For adults and children over 2 years: 0.5 mL SC as a single dose
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

NORMAL HUMAN IMMUNOGLOBULIN (Pentaglobin, Octagam,Intraglobin,Intratect®)

P/P: **Pentaglobin 2.5gm/50ml vial**
Octagam 2.5gm/50ml vial
Intraglobin 2.5gm/50ml vial
Intratect 2.5gm/50ml vial

Content: Human Ig (Per mL: IgG 38 mg, IgA 6 mg, IgM 6 mg).

Category: Vaccines, Antisera & Immunologicals

Indications: Adjuvant therapy of severe bacterial infections additional to antibiotic therapy. Ig substitution in immunocompromised patients.

Caution: For IV use only. Pregnancy, lactation. Overweight, elderly, diabetics who have impaired renal function. In patient w/ signs of cerebral or cardiac ischemia.

Contra-Ind: Hypersensitivity to human Ig, circulating antibodies to IgA.

Side effects: Occasionally, chills, headache, fever, allergic reactions, nausea, arthralgia & mild back pain.

Storage: Store at +2°C to +8°C. Protect from light. Do not freeze.

Dosage: Usual Adult Dose: 400 to 600 mg/kg/dose IV, given as an infusion
Usual Pediatric Dose: 400 mg/kg/dose IV, given as an infusion
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ORAL POLIO VACCINE (OPV) (Oral polio®)

P/P: **Oral polio vaccine**

Adm:	May be taken with or without food
Content:	Live attenuated oral poliomyelitis vaccine (Sabin strains) of type 1, 2 & 3 poliovirus.
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active immunization of infants & susceptible children & adults against infection caused by polioviruses of type 1, 2 & 3.
Caution:	Postpone vaccination in patients w/ acute febrile illness, persistent diarrhea or vomiting.
Contra-Ind:	Hypersensitivity to neomycin. Primary & secondary immunodeficiencies. Acute intestinal diseases.
Side effects:	Asymptomatic infection, headache, vomiting & diarrhea.
Storage:	The OPV formulation corresponding to the WHO/EPI recommendations should be stored in a freezer at -20°C. The OPV formulation corresponding to the European Pharmacopoeia recommendations should be stored in a refrigerator between +2°C and +8°C.
Dosage:	Older Children, Adolescents and Adults: PO 0.5 mL. Give 2 doses no less than 6 wk apart (or 8 wk apart or less) followed by third dose 6 to 12 mo later. Infant: PO 0.5 mL. Administer at 2, 4, and 15 to 18 mo. A fourth dose is given when child begins school if third dose of primary series was administered before child's fourth birthday. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

PNEUMOCOCCAL CONJUGATE VACCINE (Prevenar®)

P/P:	Prevenar pre-filled syringe 0.5ml
Content:	Pneumococcal conjugate vaccine, 7-valent
Category:	Vaccines, Antisera & Immunologicals
Indications:	Active immunization of infant & children from age 6 wk-9 yr against invasive disease, pneumonia, & otitis media caused by Streptococcus pneumoniae.
Caution:	Delay vaccination in current or recent febrile illness. Infant or children w/ thrombocytopenia or any coagulation disorder.
Contra-Ind:	Hypersensitivity to any component of Prevenar, including diphtheria toxoid.
Side effects:	Erythema, induration/swelling, pain/tenderness; fever; decreases appetite, vomiting, diarrhea; drowsiness, restless sleep; irritability.
Storage:	Store at 2-8°C. Refrigerate. Do not freeze.
Dosage:	the immunization series of Prevnar® consists of three doses of 0.5 mL each, at approximately 2-month intervals, followed by a fourth dose of 0.5 mL at 12-15 months of

age. The customary age for the first dose is 2 months of age, but it can be given as young as 6 weeks of age. The recommended dosing interval is 4 to 8 weeks. The fourth dose should be administered at approximately 12-15 months of age, and at least 2 months after the third dose.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

PNEUMOCOCCAL VACCINE (Pneumo 23®)

P/P:	Pneumo 23 0.5 ml single-dose pre-filled syringe
Content:	Purified Strep pneumoniae polysaccharides of 23 types
Category:	Vaccines, Antisera & Immunologicals
Indications:	Prevention of pneumococcal infections, particularly of the resp type, in patient ≥ 2 yr, the elderly >65 yr w/ increased risk (diabetes, chronic bronchitis, resp insufficiency, CV failure), immunocompromised subject (asplenic, sickle cell disease, nephrotic syndrome) & subject w/ CSF leak.
Caution:	As a precautionary measure, pregnancy - use only on medical advice.
Contra-Ind:	Hypersensitivity. Previous inj (or pneumococcal infection) w/in last 3 yr.
D/I:	The expected serum antibody response may not be obtained in patients receiving immunosuppressive therapy.
Side effects:	Local reactions at the injection site: pain, erythema, induration and oedema. Hypersensitivity reactions.
Storage:	Store between $+2^{\circ}\text{C}$ and $+8^{\circ}\text{C}$ (in a refrigerator). Do not freeze
Dosage:	For adults and children over 2 years: Single 0.5-mL dose administered intramuscularly or subcutaneously only. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

RABIES VACCINE (Verorab®)

P/P:	Verorab vial
Content:	Inactivated rabies vaccine prepared on human diploid cells
Category:	Vaccines, Antisera & Immunologicals
Indications:	Pre- & post-exposure immunization against rabies.
Caution:	Subjects w/ documented allergy to neomycin.
Contra-Ind:	All C/I are secondary in cases of suspected rabid contamination. Pregnancy. Acute febrile illness.

Side effects: Rarely, erythema or mild induration of inj site. Fever w/ mild asthenia.

Storage: Store at a temperature between +2°C and +8°C (in a refrigerator). Protect from light. Do not freeze.

Dosage: primary vaccination: 3 injections on D0, D7, D28.
booster injection 1 year later.
booster injections every 5 years.
Vaccination of non-immunized subjects
The dosage is the same for adults and for children: it includes 5 x 0.5 ml injections on D0, D3, D7, D14 and D28.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

ROMIPLOSTIM (Nplate®)

P/P: Nplate 250 mcg powder for solution for injection

Adm: Adult (Subcutaneous):
Administer subcutaneously only. Administration volume may be small; use appropriate syringe (with graduations to 0.01 mL) for administration. Verify calculations, final concentration, and volume drawn up for administration. Do not pool unused portions from vials; do not administer more than one dose from a vial.

Pediatric:
Parenteral: SubQ: Administer subcutaneously only. Reconstitute and dilute (if needed [ie, dose < 23 mcg]) prior to administration. Verify calculations, final concentration, and volume drawn up for administration. Concentrations for administration are different based on dose (if dose <23 mcg: Concentration is 125 mcg/mL; if dose ≥23 mcg: Concentration is 500 mcg/mL). Administration volume may be small; only administer using a syringe with 0.01 mL graduations; round dose to the nearest 0.01 mL. Do not pool unused portions from vials; do not administer more than 1 dose from a vial.

Category: Colony Stimulating Factor; Hematopoietic Agent; Thrombopoietic Agent.

Indications: Hematopoietic syndrome of acute radiation syndrome, Immune thrombocytopenia.

Caution: Bone marrow reticulin: May increase the risk for bone marrow reticulin fiber formation; this formation may improve upon discontinuation of therapy.

Concomitant ITP medications: May be used in combination with other therapies for ITP, including corticosteroids, danazol, azathioprine, immune globulin, or Rho(D) immune globulin. Reduce dose of or discontinue ITP medications when platelet count $\geq 50,000/\text{mm}^3$.

Error prevention: To prevent overdose or underdose, use caution when calculating dose and appropriate volume for administration (volume may be very small; administer with syringe that allows for 0.01 mL graduations).

Hyporesponsiveness: Lack of response or failure to maintain platelet response should trigger investigation into causative factors, including neutralizing antibodies to romiplostim.

Malignancy: Progression from existing myelodysplastic syndrome (MDS) to acute myeloid leukemia (AML) has been observed in clinical trials studying romiplostim for severe

thrombocytopenia associated with MDS (not an approved indication); a higher percentage of patients receiving romiplostim experienced transformation to AML (compared to placebo). An increase in the percentage of circulating myeloblasts in peripheral blood counts was also noted (both in patients who progressed to AML and in those who did not); blast cells decreased to baseline after discontinuation in some patients.

Thromboembolism: Thromboembolism or thrombotic complications with romiplostim therapy may occur from increased platelet counts secondary to drug-induced thrombocytosis, regardless of the underlying disease. Follow dosage adjustment recommendations to minimize the risk for thrombotic or thromboembolic complications. Portal vein thrombosis has been observed in patients with chronic liver disease receiving romiplostim.

Contra-Ind: Canadian labeling: Hypersensitivity to romiplostim or any component of the formulation; known history of sensitivity or allergy to any E. coli-derived product.

Side effects: >10%:

Dermatologic: Skin rash (children and adolescents: 15%)

Gastrointestinal: Abdominal pain (11%), diarrhea (children and adolescents: 20%; adults: ≥5%), upper abdominal pain (children and adolescents: 14%)

Hematologic & oncologic: Acute myelocytic leukemia (4% to 12%), bruise (children and adolescents: 41%)

Nervous system: Dizziness (17%), headache (35%), insomnia (16%)

Neuromuscular & skeletal: Arthralgia (26%), limb pain (13%), myalgia (14%)

Respiratory: Oropharyngeal pain (children and adolescents: 25%; adults: ≥5%), upper respiratory tract infection (children and adolescents: 31%; adults: ≥5%)

Miscellaneous: Fever (children and adolescents: 24%)

1% to 10%:

Cardiovascular: Peripheral edema (children and adolescents: 7%)

Dermatologic: Urticaria (children and adolescents: 5%)

Gastrointestinal: Dyspepsia (7%), gastroenteritis (children and adolescents: 5%), nausea (≥5%), vomiting (≥5%)

Hematologic & oncologic: Purpuric disease (children and adolescents: 7%), thrombocythemia (2%)

Immunologic: Antibody development (children, adolescents, and adults: 6% to 9%; neutralizing: 3% to 7%)

Nervous system: Paresthesia (6%)

Neuromuscular & skeletal: Shoulder pain (8%)

Otic: Otic infection (children and adolescents: 5%)

Respiratory: Bronchitis ($\geq 5\%$), cough ($\geq 5\%$), sinusitis (children, adolescents, and adults: $\geq 5\%$)

<1%: Hematologic & oncologic: Myelofibrosis (bone marrow reticulin formation/deposition)

Postmarketing:

Cardiovascular: Erythromelalgia, portal vein thrombosis (in patients with chronic liver disease)

Hypersensitivity: Anaphylaxis, angioedema, hypersensitivity reaction

Dosage:

Adult

Hematopoietic syndrome of acute radiation syndrome: SubQ: 10 mcg/kg once; begin as soon as possible after suspected or confirmed exposure to radiation levels >2 (gray) Gy; do not delay romiplostim if CBC is not readily available.

Immune thrombocytopenia

Note: Use the lowest dose sufficient to maintain platelet count $\geq 50,000/\text{mm}^3$ as necessary to reduce the risk of bleeding. Do not use to normalize platelet counts.

SubQ: Initial: 1 mcg/kg once weekly (based on actual body weight); adjust dose by 1 mcg/kg/week increments to achieve platelet count $\geq 50,000/\text{mm}^3$ and to reduce the risk of bleeding; Maximum dose: 10 mcg/kg/week (median dose needed to achieve response in clinical trials: 2 to 3 mcg/kg).

Dosage adjustment recommendations:

Adjust dose based on platelet count response:

Platelet count $< 50,000/\text{mm}^3$: Increase weekly dose by 1 mcg/kg.

Platelet count $> 200,000/\text{mm}^3$ to $\leq 400,000/\text{mm}^3$ for 2 consecutive weeks: Reduce weekly dose by 1 mcg/kg.

Platelet count $> 400,000/\text{mm}^3$: Withhold dose; assess platelet count weekly; when platelet count $< 200,000/\text{mm}^3$, resume with the weekly dose reduced by 1 mcg/kg.

Discontinue if platelet count does not increase to a level sufficient to avoid clinically important bleeding after 4 weeks at the maximum recommended dose of 10 mcg/kg/week.

Pediatric

Hematopoietic syndrome of acute radiation syndrome: Infants, Children, and Adolescents: SubQ: 10 mcg/kg once; administer dose as soon as possible after suspected or confirmed exposure to radiation levels >2 (gray) Gy; do not delay romiplostim if CBC is not readily available.

Immune thrombocytopenia

Immune thrombocytopenia (ITP): Note: Use the lowest dose sufficient to maintain platelet count $\geq 50,000/\text{mm}^3$ as necessary to reduce the risk of bleeding. Do not use to normalize platelet counts. Reassess body weight every 12 weeks. Calculate dose using actual body weight.

Children and Adolescents: SubQ: Initial: 1 mcg/kg/dose once weekly; adjust dose by 1 mcg/kg/week increments to achieve platelet count $\geq 50,000/\text{mm}^3$ and to reduce the risk of bleeding; maximum dose: 10 mcg/kg/week.

Dosage adjustment recommendations:

Adjust dose based on platelet count response:

Platelet count $< 50,000/\text{mm}^3$: Increase weekly dose by 1 mcg/kg.

Platelet count $> 200,000/\text{mm}^3$ to $\leq 400,000/\text{mm}^3$ for 2 consecutive weeks: Reduce weekly dose by 1 mcg/kg.

Platelet count $> 400,000/\text{mm}^3$: Withhold dose; assess platelet count weekly; when platelet count $< 200,000/\text{mm}^3$, resume with the weekly dose reduced by 1 mcg/kg.

Discontinue if platelet count does not increase to a level sufficient to avoid clinically important bleeding after 4 weeks at the maximum recommended dose of 10 mcg/kg/week.

ROTAVIRUS VACCINE (Rotarix, Rotateq®)

P/P:	Rotarix oral vaccine (lyophilized powder) 1 ml Rotateq oral vaccine 2 ml
Adm:	May be taken with or without food.
Content:	Live attenuated human rotavirus vaccine RIX4414 strain
Category:	Vaccines, Antisera & Immunologicals
Indications:	Prevention of gastroenteritis caused by rotavirus, G1 & certain non-G1 serotypes.
Caution:	Postpone vaccination in acute severe febrile illness, diarrhea or vomiting. For oral use only & should under no circumstances be injected. Not for use in adults.
Contra-Ind:	History of chronic GI disease including any uncorrected congenital malformation of the GI tract. Hypersensitivity.
Side effects:	Loss of appetite, irritability, fever, fatigue, diarrhea, vomiting, flatulence, abdominal pain, regurgitation of food.
Storage:	Before Reconstitution: Rotarix must be stored at $+2^\circ\text{C}/+8^\circ\text{C}$ (in a refrigerator). The liquid diluent may be stored at either $+2^\circ\text{C}/+8^\circ\text{C}$ or at ambient temperature (the storage temperature must not exceed 37°C).
Dosage:	Each dose is 1-mL administered orally. Administer first dose to infants beginning at 6 weeks of age. Administer second dose after an interval of at least 4 weeks and prior to 24 weeks of age.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TETANUS TOXOID (Tetavax®)

P/P: **Tetavax 0.5ml amp**

Content: Adsorbed tetanus toxoid

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of tetanus& in particular, post-exposure prophylaxis for recent wounds that may have been contaminated w/ tetanus spores in subjects w/o any primary vaccination or w/ incomplete or uncertain primary vaccination.

Contra-Ind: Patients who have experienced allergic reactions or a neurological disorder following a previous injection of vaccine.

Side effects: Pain, erythema, nodule at inj site.

Storage: Store between +2 and +8°C (in a refrigerator). Do not freeze.

Dosage: Primary Immunization: 0.5 mL IM; repeat at 4-8weeks after first dose and at 6-12 months after second dose
Booster: 0.5 mL IM q10Years
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TYPHOID VACCINE (Typhim (vi)®)

P/P: **Typhim (vi) 0.5ml pre-filled syringe**

Content: Purified Vi capsular polysaccharide of *Salmonella typhi*

Category: Vaccines, Antisera & Immunologicals

Indications: Prevention of typhoid fever for adults & children >2 yr.

Caution: Pregnant women. Postpone vaccination in event of fever or severe infection.

Contra-Ind: Children <2 yr.

Side effects: Slight local pain, inflammation, local induration. Slight temp rise.

Storage: Store between +2°C and +8°C (in a refrigerator). Do not freeze

Dosage: Adults and Children over 2 years of age: A single dose of 0.5 milliliters.
Revaccination: A single dose at 3 yearly intervals in subjects who remain at risk from typhoid fever.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TYPHOID VACCINE (Typherix®)

P/P: Typherix Pre-filled syringe 25 mcg/0.5 ml

Content: Vi polysaccharide of *Salmonella typhi*

Category: Vaccines, Antisera & Immunologicals

Indications: Active immunization against typhoid fever for adults & children >2 yr.

Caution: Patients w/ thrombocytopenia. Pregnancy & lactation. Children <2 yr.

Contra-Ind: Acute severe febrile infection.

D/I: Immunosuppressives.

Side effects: Erythema, pain & inflammation at inj site; fever, headache, body ache, malaise, nausea, itching.

Storage: Store at 2-8°C. Protect from light.

Dosage: Primary Immunization: A single dose of 0.5 mL containing 25 µg of the Vi polysaccharide of *Salmonella typhi* is recommended.
For adults 19 years and older TYPHERIX can be co-administered with HAVRIX 1440 in opposite arms.
Booster Dose: For individuals who remain at risk, or who may be re-exposed to risk of typhoid fever, it is recommended that they be revaccinated using a single dose of vaccine every 3 years.

VARICELLA-ZOSTER VACCINE (VZV) (Varilrix®)

P/P: Varilrix vial 0.5ml vial

Content: Live attenuated Oka strain of varicella-zoster virus.

Category: Vaccines, Antisera & Immunologicals

Indications: Active immunization against varicella of healthy subjects from 12 mth onwards, susceptible high-risk patients & their susceptible healthy close contacts.

Caution: After reconstitution, Varilrix should be administered immediately. Alcohol and other disinfecting agents must be allowed to evaporate from the skin before injection of the vaccine since they may inactivate the virus.

Contra-Ind: Pregnancy. Acute febrile illness. Total lymphocyte count <1200/mm³. Hypersensitivity to neomycin.

Side effects: Occasionally, papulo-vesicular eruptions, inj site reactions, fever.

Storage: Store in a refrigerator between 2-8°C. Protect from light.

Dosage: Infants and Children (aged 9 months up to and including 12 years of age)
Children from the age of 9 months up to 12 years of age, two doses of VARILRIX administered at least 6 weeks apart is recommended for the benefit of enhanced immune response against varicella virus.
Adolescents and Adults (13 years of age and over)
Two 0.5ml doses of reconstituted VARILRIX, administered at least 6 weeks apart, are required.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

ZOSTER VACCINE RECOMBINANT ADJUVANTED (Shingrix®)

P/P: Shingrix (Varicella Zoster Vaccine) 50 mcg/0.5 ml Vial IM

Adm: Intramuscular, preferably in the deltoid muscle
Reconstitute the vaccine using the supplied adjuvant suspension by withdrawing the entire contents of the adjuvant vial and slowly transferring to the vaccine vial. Gently swirl until powder is completely dissolved. Do not shake vigorously. Suspension should be an opalescent, colorless to pale brownish liquid. Do not use if discolored or if contains particulate matter.

Category: Recombinant Vaccine

Indications: Prevention of herpes zoster (shingles)

Caution: Increased risk of Guillain-Barré syndrome
Syncope

Contra-Ind: Severe hypersensitivity to recombinant zoster vaccine or any component of the formulation.

Side effects: Fever, gastrointestinal adverse effects, Erythema at injection site, pain at injection site, swelling at injection site, Fatigue, headache, shivering, Myalgia

Dosage: Adults \geq 18 years of age (immunocompromised [current or future]): IM: 0.5 mL administered as a 2-dose series at 0 and 2 to 6 months; for persons who may benefit from a shorter vaccination schedule, may administer at 0 and 1 to 2 months.
Adults \geq 50 years of age (immunocompetent): IM: 0.5 mL administered as a 2-dose series at 0 and 2 to 6 months.
CDC/ACIP recommendations:
If the second dose is delayed or interrupted, the series does not need to be restarted. If the interval between dose 1 and 2 is <4 weeks, then the second dose should be repeated at least 4 weeks after the dose given too early.

MUSCULOSKELETAL SYSTEM

AESCIIN (Reparil®)

P/P: Reparil 20mg tab, 40's

Adm: Should be taken with food

Category: Phlebitis & Varicose Preparations

Indications: Traumatic swelling, haemorrhoids, varicose veins & leg ulcers, thrombophlebitis; prevention & treatment of oedema following surgical procedures, post-concussion headache.

Caution: Pregnancy.

D/I: Anticoagulants.

Dosage: Adult: The usual initial dose is 2 sugar-coated tablets 3 times daily.
Dosage for children: 1 sugar-coated tablet 2-3 times daily.
Renal impairment: it is contraindicated
hepatic impairment: it is contraindicated

ALLOPURINOL (No-uric, Purinol®)

P/P: No-uric 100mg tab, 50's, No-uric 300mg tab, 20's
Purinol 100mg tab, 100's, Purinol 300mg tab, 30's

Adm: Should be taken with food (Take immediately after meals.).

Category: Gout Preparations

Indications: Gout & hyperuricemia. Prophylaxis & treatment of Ca renal lithiasis in patient w/ raised uric acid levels.

Caution: Acute gout attack. Discontinue at 1st sign of rash & seek doctor's advice. Ensure adequate fluid intake. Hepatic and renal impairment.

Contra-Ind: Asymptomatic hyperuricaemia. Pregnancy, lactation.

D/I: Oral anticoagulants, azathioprine, cyclophosphamide, mercaptopurine

Side effects: Allopurinol hypersensitivity syndrome (fever, rash, leucocytosis, hepatitis, acute renal failure), nausea, vomiting, diarrhea, abdominal pain.

Dosage: Usual Adult Dose: 100 to 300 mg once a day, Maximum Dose: 800 mg per day.
Usual Pediatric Dose:
Age: Less than 6 years: 150 mg orally once a day or in divided doses
Age: 6 to 10 years: 300 mg orally once a day or in divided doses
Age: Greater than 10 years: 600 to 800 mg orally per day in divided doses.
After 48 hours, evaluate and adjust dose as needed
Renal Dose Adjustments
CrCl 10 to 20 mL/min: 200 mg IV/orally once a day
CrCl less than 10 mL/min: 100 mg IV/orally once a day
CrCl less than 3 mL/min: 100 mg IV/orally at extended intervals
Liver Dose Adjustments: Use with caution.

BACLOFEN (Lioresal®)

P/P: Lioresal 10mg tab, 50's, Lioresal 25mg tab, 50's

Adm: Should be taken with food.

Category: Muscle Relaxants

Indications: Muscle relaxant, antispasticity agent.

Caution: Cerebrovascular disorders, epilepsy, severe psychotic disorders, confusional states, history of peptic ulcer, resp depression, diabetes mellitus, hepatic or renal impairment. Elderly, pregnancy. Avoid sudden withdrawal.

Contra-Ind: Hypersensitivity. Active peptic ulcer disease.

D/I: CNS depressants and alcohol may potentiate CNS effects. Hypotensive effect may be increased with antihypertensives.

Side effects: Sedation, drowsiness, ataxia, dizziness, headache, confusion, hallucinations, skin reactions, GI symptoms, enuresis

Dosage: Usual Adult Dose: 40-80 mg/day. 80 mg/day doses should be administered in 4 divided doses.
Renal Dose Adjustments: dosage may need to be reduced and given with caution in patients with renal dysfunction.
Liver Dose Adjustments: Data not available.

Capsaicin (Qutenza®)

P/P: Qutenza 8% Patch- Capzasin Quick Relief Gel

Adm:

Topical products: Gently rub into painful area until thoroughly absorbed. Wash hands with soap and water immediately after applying (unless hands are part of the treatment area).
Topical patch: * ≤0.05% products: Apply patch externally to clean and dry affected area; Do not use within 1 hour prior to a bath or immediately after bathing. * 8% product: Patch should only be applied by a health care provider in a well-ventilated area

Category: Analgesic, Topical; Topical Skin Product; Transient Receptor Potential Vanilloid 1 (TRPV1) Agonist

Indications: Muscle/joint pain- Neuropathic pain- Neuropathic pain associated with diabetes mellitus

Caution:

May cause serious burns at the application site
Patients must be cautioned about performing tasks that require mental alertness
Continued use should be reevaluated for new onset or worsening of existing sensory deficits.

Contra-Ind: Hypersensitivity- do not use on wounds, damaged, broken, irritated skin, or into skin folds; do not cover with bandage; do not apply within 1 hour before or after bath, shower, hot tub,

or sauna; do not use in combination with external heat source (eg, heating pad); do not use concurrently with other topical analgesics.

Side effects: Application-site burning, pain or erythema- Limb pain

Dosage: Muscle/joint pain:

Topical: Cream, gel, liquid, lotion: Apply thin film to affected areas 3 to 4 times daily.

Patch: 0.025%, 0.03%, 0.0375%: Apply 1 patch to affected area for up to 8 hours (maximum: 4 patches/day); do not use for >5 consecutive days (product specific).

Neuropathic pain: Topical: Patch: Apply patch to most painful area for 60 minutes. Up to 4 patches may be applied in a single application.

Neuropathic pain associated with diabetes mellitus:

Cream (0.075%) (off-label use): Topical: Apply 4 times/day

Patch: Topical: Apply patch to most painful areas of the feet for 30 minutes. Up to 4 patches may be applied in a single application.

CELECOXIB (Celebrex®)

P/P: Celebrex 200mg caps, 20's

Adm: May be taken with or without food (Doses for OA/RA may be given w/ or without meals, but doses for FAP must be given w/ meals.).

Category: Antirheumatic, Anti-inflammatory Analgesics

Indications: Relief of signs & symptoms of osteoarthritis (OA), RA in adults & ankylosing spondylitis (AS). Management of acute pain in adults. Treatment of primary dysmenorrhea. Reduce the number of adenomatous colorectal polyps in familial adenomatous polyposis (FAP).

Caution: History of GI bleeding; renal/hepatic insufficiency; asthma or allergic disorders; hypertension; monitor hemoglobin or hematocrit levels for signs and symptoms of anemia.

Contra-Ind: Allergic-type reactions to sulphonamides. Patients who have experienced asthma, urticaria, allergic-type reactions after taking aspirin or other NSAIDs. Treatment of peri-operative pain in the setting of coronary artery bypass graft (CABG) surgery.

D/I: Co-administration with lithium salts results in an increase in plasma-lithium concentrations. ACE inhibitors, aspirin, fluconazole, furosemide. Anticoagulant activity should be monitored in patients taking warfarin or similar agents, particularly in the 1st few days after initiating or changing the dose of celecoxib.

Side effects: Abdominal pain, diarrhea, nausea, oedema, dizziness, headache, insomnia, upper respiratory tract infections; rash.

Dosage: Usual Adult Dose: Day 1: 400 mg orally once followed by an additional 200 mg orally if needed.

Usual dose: Usual dose: 200 mg orally once a day OR 100 mg orally twice a day

Usual Pediatric Dose: 2 years or older:

Weight: 10 kg to 25 kg: 50 mg orally twice a day
Weight: Greater than 25 kg: 100 mg orally twice a day.
Renal Dose Adjustments: Advanced Renal Disease: Use is not recommended
Mild to moderate renal impairment: No dose adjustment recommended
Liver Dose Adjustments: Severe hepatic impairment: Use not recommended
Moderate hepatic impairment: Reduce dose by 50%
Mild hepatic impairment: No dose adjustment recommended

CHLORZOXAZONE +PARACETAMOL (Parafon, Relaxon, Paraxone®)

P/P: Chlorzoxazone 250mg+Paracetamol 300mg caps, 30's (Parafon, Relaxon, Paraxone caps)

Adm: Should be taken with food.

Category: Muscle Relaxants

Indications: Relief of skeletal muscle pain& spasm.

Caution: Pregnancy. Sensitivity reactions. Liver dysfunction, skin rash, pruritus.

Contra-Ind: Hypersensitive to chlorzoxazone, paracetamol.

D/I: Concomitant use of alcohol or other CNS depressants have additive effects

Side effects: GI bleeding; drowsiness, dizziness, lightheadedness; nausea, vomiting; heartburn, malaise or overstimulation.

Dosage: Usual adult and adolescent dose:
500 mg of chlorzoxazone and 600 mg of acetaminophen four times a day.
Usual pediatric dose: Dosage of chlorzoxazone ranges between 125 and 500mg, administered three or four times a day. The quantity of acetaminophen in one tablet of the chlorzoxazone and acetaminophen combination (300 mg) may be administered to children six years of age or older, but the quantity presents in two tablets (600 mg) are higher than the maximum dose recommended for children younger than twelve years of age.
Renal impairment: it is contraindicated
Hepatic impairment: it is contraindicated

COLCHICINE (Colmediten®)

P/P: Colmediten 0.5mg tab, 20's

Adm: Should be taken with food.

Category: Gout Preparations

Indications: Acute gout; short-term prophylaxis during initial therapy w/ allopurinol; polyarthritis associated w/ sarcoidosis.

Caution: Elderly & debilitated patients, cardiac or GI disease, renal impairment.

Contra-Ind: Pregnancy & lactation.

D/I: With ciclosporin, risk of nephrotoxicity and myotoxicity may increase due to increased ciclosporin-plasma concentrations. Risk of colchicine toxicity when used w/ macrolides

Side effects: GI disturbances, reversible muscular weakness, urticaria, dermatitis, purpura. Rarely, hypersensitivity.

CYCLOBENZAPRINE (Benzaflex®)

P/P: **Benzaflex 5mg,10 mg and 15 mg F.C tab.**

Category: Muscle relaxant

Indications: Indicated as an adjunct to rest and physical therapy for relief of muscle spasm associated with acute, painful musculoskeletal conditions.

Caution: may enhance the effects of alcohol, barbiturates, and other CNS depressants.

Contra-Ind: Hypersensitivity to any component of this product. Concomitant use of monoamine oxidase (MAO) inhibitors or within 14 days after their discontinuation. Hyperpyretic crisis seizures, and deaths have occurred in patients receiving cyclobenzaprine (or structurally similar tricyclic antidepressants) concomitantly with MAO inhibitor drugs.

Side effects: Drowsiness, Dry mouth, Fatigue and Headache.

Dosage: 5 mg three times a day. Based on individual patient response, the dose may be increased to 10 mg three times a day. Use of for periods longer than two or three weeks is not recommended.

DENOSUMAB (Xgeva, Prolia®)

P/P: **Prolia 60 Mg/ML Pref. Syringe Subcut.,
Xgeva 120 Mg / 1.7 ML Vial Subcutaneous**

Adm: SUBQ route only. Prior to administration, bring to room temperature in original container (allow to stand ~15 to 30 minutes), do not use if cloudy, discolored or contains excessive particles
Xgeva: Use 27-gauge needle to withdraw dose from vial and administer subcutaneously.

Category: Bone-Modifying Agent; Monoclonal Antibody

Indications: bone metastases from solid tumors (Xgeva), Giant cell tumor of bone that is unresectable (Xgeva), Hypercalcemia of malignancy (Xgeva), Multiple myeloma (Xgeva), Osteoporosis/bone loss (Prolia)

Caution: Bone fractures, Dermatitis, eczema, and rash, hypersensitivity (including anaphylaxis) has been reported, Hypercalcemia, Serious infections

Contra-Ind:	Prolia: Hypersensitivity (systemic) to denosumab or any component of the formulation; preexisting hypocalcemia; pregnancy
Xgeva:	Known clinically significant hypersensitivity to denosumab or any component of the formulation; preexisting hypocalcemia
Side effects:	Hypocalcemia, Hypercalcemia(may occur in patients with giant cell tumor of bone), Infection, Osteonecrosis of the jaw, Dermatologic reactions.
Dosage:	Bone metastases from solid tumors (Xgeva): 120 mg every 4 weeks Giant cell tumor of bone (Xgeva): 120 mg once every 4 weeks; during the first month, give an additional 120 mg on days 8 and 15 Hypercalcemia (Xgeva): 120 mg once weekly for up to 3 doses Multiple myeloma (Xgeva): 120 mg every 4 weeks Osteoporosis/bone loss (Prolia): 60 mg once every 6 months
	Dosing: Altered Kidney Function: Adult No dosage adjustment necessary.
	Dosing: Hepatic Impairment: Adult There are no dosage adjustments

DICLOFENAC POTASSIUM (Cataflam, Rapidus, Joflam, Dolvic k, Fastflam®)

P/P:	25mg tab, 20's (Rapidus) 50mg tab, 10's (Cataflam) 50mg tab, 20's (Cataflam, Rapidus, Joflam, Dolvic k, Fastflam) Oflam 50mg powder sachets, 10's Catafast 50mg powder sachets, 9's
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DICLOFENAC SODIUM (Voltaren, Olfen, Rofenac®)

P/P:	75mg/2ml Inj, 5's (Voltaren, Olfen IM, Voltic IM) 25mg tab, 30's (Voltaren, Olfen, Rofenac) 50mg tab, 20's (Voltaren, Olfen, Rofenac, Votrex, Clofen, Diclomax, Diclogesic, Inflaban) 50mg Disp tab, 20's (Rofenac-D, Emifenac, Olfen-D) 75mg tab, 20's (Volatren, diclac) 75mg caps, 20's (Divido) 100mg S.R tab, 10's (Volatren, Olfen, Rofenac, Diclogesic) 12.5mg supp, 10's (Voltaren, Tabiflex, Rofenac) 25mg supp, 10's (Rofenac) 50mg supp, 10's (Voltaren, Olfen, Tabiflex) 100mg supp, 10's (Voltaren, Olfen, Tabiflex)
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Adm: Oral prep should be taken with food (Take immediately after meals. SR tab: Swallow whole, do not chew/crush.).

Category: Antirheumatic, Anti-inflammatory, Analgesics

Indications: Inflammatory & degenerative forms of rheumatism. Non-articular rheumatism, post-traumatic inflammation, & swelling.

Caution: Severe hepatic or renal damage, Peptic ulceration or GI bleeding. Asthma, Bronchospasm, CV disease, Elderly.

Contra-Ind: Hypersensitivity to aspirin & NSAIDs.

D/I: Increases plasma conc. of lithium, methotrexate, & warfarin. Reduces effects of diuretics & β-blockers. Alters plasma conc. of sulfonylurea, captopril, and triamterene.

Side effects: GI disturbances & bleeding, peptic ulceration, headache, dizziness.

Dosage: Usual Adult Dose: For the relief of osteoarthritis, the recommended dosage is 100-150 mg/day in divided doses (50 mg b.i.d. or t.i.d., or 75 mg b.i.d.).
For the relief of rheumatoid arthritis, the recommended dosage is 150-200 mg/day in divided doses (50 mg t.i.d. or q.i.d., or 75 mg b.i.d.).
For the relief of ankylosing spondylitis, the recommended dosage is 100-125 mg/day, administered as 25 mg q.i.d., with an extra 25-mg dose at bedtime if necessary.
For the treatment of acute pain, the recommended dose of diclofenac injection is 37.5 Mg administered by intravenous bolus injection over 15 seconds every 6 hours as needed, administered by intravenous bolus injection over 15 seconds every 6 hours as needed, administered by intravenous bolus injection over 15 seconds every 6 hours as needed, not to exceed 150 mg/day.
Renal Dose Adjustments:
Oral: Use with caution in patients with advanced renal disease; if treatment is initiated, Close monitoring of renal function is recommended.
Parenteral: Moderate to severe renal insufficiency: Use is contraindicated
Moderate to severe renal impairment: Use is not recommended
Liver Dose Adjustments
Oral: Use with caution; patients with hepatic disease may require reduced doses; start at the lowest dose, if efficacy is not achieved, consider drug discontinuation.
Parenteral: Mild hepatic impairment: No dosage adjustment recommended
Moderate to severe hepatic impairment: Use is not recommended.

ETORICOXIB (Arcoxia, Etoria®)

P/P: Arcoxia 60mg tab,28's, Arcoxia 90mg tab,28's, Arcoxia 120mg tab,7's,
Etoria 60mg tab,28's, Etoria 90mg tab,28's, Etoria 120mg tab,7's,

Adm: May be taken with or without food.

Category: Antirheumatic, Anti-inflammatory, Analgesics

Indications: Symptomatic relief of osteoarthritis& RA. Treatment of acute gouty arthritis, acute pain eg primary dysmenorrhea & dental pain.

Caution: Allergic disorders, coagulation defects; history of cardiac failure, left ventricular dysfunction, hypertension, or in patients with oedema due to other reasons; elderly, renal, cardiac or hepatic impairment. Etoricoxib should be withdrawn if GI lesions develop; pregnancy.

Contra-Ind: Inflammatory bowel disease, severe congestive heart failure, active peptic ulceration, severe renal and hepatic disease; lactation.

D/I: Warfarin, rifampin, methotrexate, ACE inhibitors, lithium, aspirin, OC, HRT.

Side effects: Asthenia/fatigue, dizziness, lower extremity oedema, upper resp infection; HTN; diarrhea, epigastric discomfort, heartburn, nausea; sinusitis; headache; UTI.

Dosage: Adults: Osteoarthritis: The recommended dose is 30 -60mg once daily
Rheumatoid arthritis: The recommended dose is 90 mg once daily.
Ankylosing spondylitis: The recommended dose is 90 mg once daily.
Acute gouty arthritis: The recommended dose is 120 mg once daily
Pediatric population: it is contra-indicated in children and adolescents under 16 years of age
Patients with hepatic impairment: in patients with mild hepatic dysfunction a dose of 60 mg once daily should not be exceeded. In patients with moderate hepatic dysfunction, the dose of 30 mg once daily should not be exceeded. In patients with severe hepatic dysfunction its use is contra-indicated.
Patients with renal impairment: No dosage adjustment is necessary for patients with creatinine clearance \geq 30 ml/min. The use in patients with creatinine clearance $<$ 30 ml/min is contra-indicated

Febuxostat (Agout, Goutex®)

P/P: Agout 40mg and 80 Tab 30"S , Goutex 40mg and 80 Coated Tab 30"S

Adm: Oral, Administer with or without meals or antacids.

Category: Antigout Agent; Xanthine Oxidase Inhibitor

Indications: Hyperuricemia, prevention of tumor lysis syndrome prevention alternative to allopurinol (off label use).

Caution: Hypersensitivity and serious skin reaction, Gout Flare, Cardiovascular Events (Monitor for signs and symptoms of myocardial infarction (MI) and stroke.), Hepatic Effects, Use in secondary hyperuricemia (e.g. malignancy).

Contra-Ind: Concurrent use with azathioprine or mercaptopurine

Side effects: Acute gout attacks, skin rash, severe cutaneous adverse reactions, liver function abnormalities, nausea, arthralgia.

Dosage: Hyperuricemia: 40 mg once daily; may increase to 80 mg once daily
TLS: 40 to 60 mg once daily or 120 mg once daily. Begin 1 to 2 days before the start of chemotherapy and continue for up to 14 days.

Dosing: Altered Kidney Function: Adult
CrCl <30 mL/minute: Initial: 20 to 40 mg once daily. Note: Observational studies in patients with hyperuricemia have reported safety and tolerability of 60 and 80 mg/day.

Hemodialysis, intermittent and Peritoneal dialysis: Initial: 20 to 40 mg once daily

CRRT and PIRRT: CrCl <30 mL/minute: Initial: 20 to 40 mg once daily.

Dosing: Hepatic Impairment: Adult
No dosage adjustment necessary.

HYALURONIC ACID SODIUM (Hyalgan®)

P/P: Hyalgan 20mg/2ml, 2ml pre-filled syringe

Adm: Intra-articular route

Category: Antirheumatic, Anti-inflammatory Analgesics

Indications: Treatment of degenerative joint diseases (osteoarthritis & related diseases).

Caution: Remove joint effusion prior to inj. Initiation of treatment should be evaluated when objective signs of inflammation are present. Do not overburden the joint immediately following IA inj.

Contra-Ind: Known hypersensitivity to avian proteins. Infections or skin diseases at the Inj site

D/I: Not for simultaneous administration or mixed w/ other IA inj. Do not use concomitantly w/ disinfectants containing quaternary ammon salts.

Side effects: Transient pain, swelling, heat & redness may occur sporadically at the inj site.

HYDROXYCHLOROQUIN SULPHATE (Plaquenil®)

P/P: Plaquenil 200mg tab, 60's

Adm: Should be taken with food.

Category: Antimalarials; Antirheumatic

Indications: Treatment of RA, juvenile chronic arthritis, discoid & SLE & dermatological conditions caused or aggravated by sunlight

Caution: Hepatic disease, alcoholism or concomitant use w/ hepatotoxic drugs. G6PD deficiency. Severe blood disorder. Psoriasis. Porphyria. Carry out periodic ophth exam.

Contra-Ind: Preexisting maculopathy, pregnancy.

D/I:	Increases plasma digoxin levels. Cimetidine increases levels and toxicity of hydroxychloroquine
Side effects:	Retinopathy, corneal changes, skin rashes, GI disturbances, CNS effects, myopathy, neuromyopathy, cardiomyopathy, bone marrow depression, porphyria.
Dosage:	<p>Usual Adult Dose for Malaria: 800 mg (620 mg base) followed in 6 to 8 hours by 400 mg (310 mg base), then 400 mg (310 mg base) once a day for 2 consecutive days; alternatively, a single dose of 800 mg (620 mg base) has also been effective.</p> <p>Suppression: 400 mg (310 mg base) orally on the same day every week.</p> <p>Usual Adult Dose for Rheumatoid Arthritis: Initial dose: 400 to 600 mg (310 to 465 mg base) orally once a day, Maintenance dose: 200 to 400 mg (155 to 310 mg base) orally once a day.</p> <p>Usual Pediatric Dose for Malaria: 1 year or older:</p> <p>First dose: 10 mg base/kg (not to exceed 620 mg base)</p> <p>Second dose: 5 mg base/kg (not to exceed 310 mg base) 6 hours after first dose</p> <p>Third dose: 5 mg base/kg 18 hours after second dose</p> <p>Fourth dose: 5 mg base/kg 24 hours after third dose</p> <p>Suppression: 1 year or older: 5 mg base/kg of body weight (not to exceed 310 mg base) orally on the same day every week</p>
Renal Dose Adjustments:	Data not available
Liver Dose Adjustments:	Data not available

IBUPROFEN (Brufen, Profinal, Advil, Sapofen, Emifen®)

P/P:	Brufen 200mg tab, 25's, Brufen 400mg tab, 25's, Brufen 600mg tab, 30's Profinal 200mg tab, 20's, Profinal 400mg tab, 25's, Profinal 600mg tab, 20's Prof 400 mg tab, 30s, Prof 600 mg tab, 30s Advil 200mg tab, 24's Sapofen 200mg tab, 20's, Sapofen 400mg tab, 20's, Sapofen 600mg tab, 30's Emifen 600mg tab, 20's 100mg/5ml syr(Nurofen, 150ml, Profinal 110ml, Sapofen 145ml, Prof 100ml, Emifen 100ml)
Adm:	Should be taken with food (Take immediately after meals.).
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Pain, inflammation in rheumatic disease & other musculoskeletal disorder; mild to moderate pain including dysmenorrhea; post-op analgesic; migraine; fever.
Caution:	Patients w/ active or severe peptic ulceration; pregnancy. History of bronchial asthma. Renal, cardiac or hepatic impairment. Pregnancy.
Contra-Ind:	Known hypersensitivity to Ibuprofen, aspirin or other NSAIDs; active GI bleeding.
D/I:	Digoxin, diuretics, lithium, phenytoin.
Side effects:	GI disturbances, peptic ulceration, GI bleeding, headache, dizziness, nervousness, skin rash, pruritus, tinnitus.
Dosage:	<u>Usual Adult Dose: Oral:400 to 800 mg orally every 6 to 8 hours.</u>

IV: Initial: 400 intravenously over 30 minutes
Maintenance: 400 to 800 mg intravenously over 30 minutes every 6 hours as needed.
Usual Pediatric Dose: pain or fever Infants and Children: 4 to 10 mg/kg orally every 6 to 8 hours as needed. The recommended maximum daily dose is 40 mg/kg.
For Rheumatoid Arthritis: 6 months to 12 years: Usual: 30 to 40 mg/kg/day in 3 to 4 divided doses;

Renal Dose Adjustments: Use with caution in patients with significantly impaired renal function A reduction in dosage should be anticipated to avoid drug accumulation.
Liver Dose Adjustments: Ibuprofen should be avoided in patients with severe hepatic disease.

INDOMETHACIN (Indocid, Indogesic, Rothacin®)

P/P:	25mg caps, 30's (Indocid, Indogesic, Rothacin) 75mg retard caps, 30's (Indocid) 100mg supp, 10's (Indocid)
Adm:	Should be taken with food (Take immediately after meals.).
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Pain& moderate to severe inflammation in rheumatic disease& other acute musculoskeletal disorders; acute gout; dysmenorrhea; closure of ductus arteriosus.
Caution:	Renal, cardiac or hepatic impairment
Contra-Ind:	Coagulation defects, active peptic ulceration. Pregnancy & lactation.
D/I:	Anticoagulants, probenecid, diuretics, antihypertensives.
Side effects:	GI discomfort, nausea, diarrhea; hypersensitivity reactions e.g., rash; headache, dizziness.
Dosage:	Usual Adult Dose: Immediate-release: 25-50 mg 3 times a day Extended Release: 75 mg orally once or twice a day Suppository: 50 mg rectally up to 3 times a day Usual Pediatric Dose: 2 to 14 years: Initial dose: 1 to 2 mg/kg/day orally in divided doses Maximum dose: 3 mg/kg/day or 150 to 200 mg/day,

Renal Dose Adjustments: Advanced Renal Disease: Not recommended

Liver Dose Adjustments: Patients who have an abnormal liver test or who develop signs or symptoms of liver dysfunction should be evaluated for hepatic dysfunction. If liver disease develops or if systemic manifestations such as eosinophilia or rash occur, this drug should be discontinued.

KETOPROFEN (Profenid, Ketofan®)

P/P:	Profenid 100mg tab, 10's Ketofan 25mg tab, 20's
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Adm:	Should be taken with food (Preferably taken w/ or after meals.)
Category:	Antirheumatic, Anti-inflammatory Analgesics
Indications:	RA, osteoarthritis, ankylosing spondylitis, acute articular & periarticular disorders
Caution:	Renal impairment, coumarin anticoagulant therapy.
Contra-Ind:	Active peptic ulceration, history of recurrent peptic ulcer or chronic dyspepsia, asthma or allergy provoked by aspirin.
D/I:	Protein-bound drugs e.g., anticoagulants, sulfonamides, hydantoins, NSAIDs.
Side effects:	GI intolerance, GI hemorrhage, headache, drowsiness, dizziness, edema, skin reactions, hepatic & renal impairment.
Dosage:	<p>Usual Adult Dose: 75 mg orally 3 times a day or 25 to 50 mg orally 4 times a day. The recommended maximum is 300 mg/day.</p> <p>Ketoprofen Extended-release: 100 mg orally one time or 200 mg orally once daily.</p> <p>Renal Dose Adjustments: The smallest recommended initial dosage should be used in patients with renal disease.</p> <p>Liver Dose Adjustments: Cirrhotic patients should receive the smallest recommended initial dosage.</p>

Ketorolac (Systemic) (Ketorolac®)

P/P:	Ketorolac Tromethamine 60mg/2ml Vial I.M 1"S
Adm:	Administer IM slowly and deeply into muscle
Category:	Nonsteroidal Anti-inflammatory Drug (NSAID)
Indications:	Pain management
Caution:	pregnancy
Contra-Ind:	Hypersensitivity to ketorolac, peptic ulcer disease, GI bleeding, asthma, urticaria, or allergic-type reactions after taking aspirin or other NSAIDs, advanced renal disease
Side effects:	Abdominal pain, dyspepsia, nausea, increased liver enzymes, headache
Dosage:	<p>General dosing:</p> <p>Weight \geq50 kg and $<$65 years of age: 30 to 60 mg as a single dose or 15 to 30 mg every 6 hours as needed; alternatively, may administer 10 to 30 mg every 4 to 6 hours as needed; maximum daily dose: 120 mg/day; maximum duration: 5 days</p> <p>Weight $<$50 kg or \geq65 years of age: 30 mg as a single dose or 15 mg every 6 hours as needed; alternatively, may administer 10 mg every 4 to 6 hours as needed; maximum daily dose: 60 mg/day; maximum duration: 5 days</p>

LORNOXICAM (Xefo®)

P/P:	Xefo 8mg F.C tab, 20's Xefo 8mg/2ml, Inj, 1's
Adm:	Oral prep should be taken with food
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Pain relief; osteoarthritis and rheumatoid arthritis, ankylosing spondylitis, painful post-traumatic and post-operative inflammation and swelling.
Caution:	History of peptic ulceration, patients w/ infections, hemorrhagic disorders, hypertension, impaired renal, hepatic or cardiac function. Reduce dose w/ the elderly. 3rd trimester pregnancy
Contra-Ind:	Peptic ulceration, hypersensitivity to aspirins or any other NSAIDs
D/I:	Enhanced effects of oral anticoagulants, eg azapropazone, phenylbutazone; phenytoin, sulfonylurea antidiabetics; increased plasma conc of lithium, methotrexate, cardiac glycosides
Side effects:	GI disturbances, eg GI discomfort, nausea, diarrhea, peptic ulcer, GI bleeding; headache, vertigo, dizziness, nervousness, tinnitus, depression, drowsiness, insomnia; hypersensitivity reactions
Dosage:	8-16 mg lornoxicam daily divided into 2 or 3 doses. Maximum recommended daily dose is 16 mg. Children and adolescents: Lornoxicam is not recommended for use in children and adolescents below age 18. Renal impairment: For patients with mild to moderate renal impairment the maximum recommended daily dose is 12 mg divided in 2 or 3 doses Hepatic impairment: For patients with moderate hepatic impairment the maximum recommended daily dose is 12 mg divided in 2 or 3 doses

LOXOPROFEN SODIUM (Roxonin®)

P/P:	Roxonin tab, 20's
Adm:	Should be taken with food (Take after meals.).
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Chronic articular rheumatism, osteoarthritis, lumbago, periarthritis of the shoulder & shoulder-arm-neck syndrome. Relieves pain& inflammation after operation, trauma & tooth extraction.
Caution:	History of gastritis & peptic ulcer, hematological disorder, hepatic impairment, renal impairment, bronchial asthma, cardiac dysfunction
Contra-Ind:	Peptic ulcer, pregnancy, lactation

D/I: Coumarin anticoagulants, quinolones, lithium, sulphonyl urea's

Side effects: GI disturbances, oedema, urticaria, rash

Dosage: Adult: the usual adult dosage is 60 mg three times a day.
Pediatric Use: The safety of LOXOPROFEN has not been established.
Renal impairment: it is contraindicated in patients with severe renal impairment.
Hepatic impairment: it is contraindicated in patients with severe hepatic functions disorders.

MEFENAMIC ACID (Tabigesic, Fendol, Fenam, Ponstan forte, Mafepain®)

P/P: 250mg tab, 20's (Fenam, Fendol)
500mg tab, 20's (Ponstan forte, Mafepain, Tabigesic)
50mg/5ml, 120ml syrup (Tabigesic, Fendol, Fenam)

Adm: Should be taken with food

Category: Antirheumatic, Anti-inflammatory, Analgesics

Indications: Relief of mild to moderate pain including headache, dental pain, post-op & postpartum pain, & dysmenorrhea. Rheumatic disorders e.g., osteoarthritis & RA.

Caution: Renal and hepatic impairment, asthma. Monitor blood counts and liver function during long-term therapy

Contra-Ind: Inflammatory bowel disease; peptic ulcer; neonates; pregnancy (3rd trimester), lactation

D/I: Enhances activity of oral anticoagulants but rarely significant. Increases risk of GI irritation with alcohol

Side effects: GI disturbances, peptic ulceration, GI bleeding, headache, drowsiness, dizziness, skin rashes, hematological effects.

Dosage: Usual Adult Dose: 500 mg orally followed by 250 mg every 6 hours as needed, not to exceed 7 days
Usual Pediatric Dose: 14 to 18 years: 500 mg orally followed by 250 mg every 6 hours as needed, not to exceed 7 days.
Renal Dose Adjustments: Use of mefenamic acid in patients with preexisting renal disease is contraindicated.
Liver Dose Adjustments: A lower dose should be considered in patients with hepatic dysfunction.

MELOXICAM (Mobic, Coxicam, Neoxicam®)

P/P: 7.5mg tab, 10's (Mobic, Coxicam, Neoxicam)
7.5mg tab, 30's (Mobic, Coxicam, Moven)
15mg tab, 10's (Mobic, Coxicam)
15mg tab, 30's (Mobic, Coxicam, Moven)
15mg supp, 6's (Mobic)

Adm:	May be taken with or without food
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Short-term symptomatic treatment of acute exacerbations of osteoarthritis (OA). Long-term symptomatic treatment of RA (chronic polyarthritis).
Caution:	Stomach or duodenal ulcer, esophagitis or gastritis; GI or cerebrovascular bleeding; serious liver or kidney disease; heart failure.
Contra-Ind:	Hypersensitivity to aspirin or other NSAIDs. Active or history peptic ulcer, severe hepatic failure, severe non-dialysed renal failure; GI, cerebrovascular or other bleeding disorders. Pregnancy & lactation. Children <15 yr.
D/I:	Monitor prothrombin time with co-administration with warfarin. Other NSAIDs including salicylates, lithium, methotrexate
Side effects:	GI disturbances, anemia, pruritus, skin rash, lightheadedness, headache, oedema.
Dosage:	Usual Adult Dose: 7.5 mg to 15 mg once daily Usual Pediatric Dose: Greater than or equal to 2 years: 0.125 mg/kg orally once daily Renal Dose Adjustment: No dosage adjustment is necessary in patients with mild to moderate renal failure. CrCl less than 20 mL/min: Patients with severe renal impairment have not been adequately studied; use is not recommended. Liver Dose Adjustments: No dosage adjustment is necessary in patients with mild to moderate hepatic insufficiency.

NAPROXEN (Proxen, Naprox, Riaproxen®)

P/P:	220mg tab, 20's (Proxepain) 250mg tab, 20's (Proxen, Naprox, Riaproxen) 500mg tab, 20's (Proxen, Naprox, Riaproxen) 500mg supp, 10's (Proxen)
Adm:	Should be taken with food
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	RA, osteoarthritis, ankylosing spondylitis, acute gout, acute musculoskeletal disorder, dysmenorrhoea, juvenile RA.
Caution:	History of peptic ulcer, bronchial asthma, allergic disorder. Pregnancy & lactation.
Contra-Ind:	Active peptic ulceration. Hypersensitivity to NSAIDs or aspirin. Pregnancy (3rd trimester).
D/I:	Anticoagulants, sulfonamides, hydantoins, lithium, methotrexate, probenecid.
Side effects:	Dyspepsia, heartburn, nausea, constipation, diarrhea, headache, insomnia. Rarely GI bleeding.
Dosage:	Usual Adult Dose: 250 mg to 500 mg twice a day. Usual Geriatric Dose: 220 mg every 12 hours or 250 mg orally every 8 hours as needed.

Usual Pediatric Dose: Greater than 2 years: 2.5 to 10 mg/kg/dose. Maximum daily dose is 10 mg/kg, given every 8 to 12 hours.

Renal Dose Adjustments: A lower dose should be considered in patients with renal impairment or in elderly patients. CrCl less than 30 mL/min: not recommended
Liver Dose Adjustments: A lower dose should be considered in patients with hepatic impairment.

PIASCLEDINE 300, capsule

P/P:	Avocado oil unsaponifiable 100mg Soyabean oil unsaponifiable 200mg Anhydrous colloidal silica 7mg Butylhydroxytoulene 0.03mg
Adm:	Should be taken with food
Category:	Slow acting osteoarthritis drug
Indications:	Adjunct therapy of osteoarthritis pain& certain diseases of the gum
Caution:	Pregnancy, Lactation
Contra-Ind:	Previous history of allergic reaction to any of the ingredients
Side effects:	Previous history of allergic reaction to any of the ingredients, extremely rare cases of increased blood liver enzymes (Transaminase, alkaline phosphatase and gamma-glutamyl transpeptidase)
Dosage:	The usual dosage is 1 capsule per day in the middle of a meal. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

PIROXICAM (Feldene, Unicam®)

P/P:	Feldene 10mg caps, 20's, Feldene 20mg caps, 10's Feldene 10mg tab, 20's, Feldene 20mg dispersable tab, 10's Feldene 20mg Inj, 5's Feldene 20mg supp, 10's Unicam caps, 20mg, 10's
Adm:	Should be taken with food
Category:	Antirheumatic, Anti-inflammatory, Analgesics
Indications:	Rheumatic disease, acute musculoskeletal pain, joint pain, juvenile idiopathic arthritis, acute gout & osteoarthritis.
Caution:	Upper GI disease. Compromised cardiac function. HTN. Liver cirrhosis, nephrotic syndrome & overt renal disease.

Contra-Ind: Asthma, rhinitis, angioedema or urticaria induced by aspirin or NSAIDs. History of GI hemorrhage or ulcers.

D/I: Interferes w/ diuretics & causes bleeding w/ anticoagulants.

Side effects: GI disturbances, peptic ulceration & GI bleeding, headache, dizziness, blurred vision, tinnitus, skin rashes, pruritus & edema.

Dosage: the recommended dose is 20 mg given orally once per day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PYRIDOSTIGMINE BROMIDE (Mestinon®)

P/P: Mestinon 60mg tab, 20's

Adm: Should be taken with food.

Category: Neuromuscular Disorder Drugs, Anticholinesterases

Indications: Intestinal atony, atonic constipation, Myasthenia gravis

Caution: Bronchial asthma, renal disease. Pregnancy & lactation.

Contra-Ind: GI or urinary obstruction.

D/I: May inhibit the metabolism of suxamethonium, thus concurrent use is not recommended.

Side effects: Muscarinic side effects e.g., nausea, vomiting, diarrhea, abdominal cramps, increased peristalsis, increased salivation, increased bronchial secretions, miosis and diaphoresis. Nicotinic side effects include muscle cramps, fasciculation and weakness.

Dosage: Usual Adult Dose: Effective doses have range from 60 mg to 1500 mg per day in 3 to 6 divided doses.
Usual Pediatric Dose: Neonatal: 5 mg every 4 to 6 hours
Children: 7 mg/kg/day in 5 to 6 divided doses
Renal Dose Adjustments: Dose adjustments may be required in patients with renal insufficiency. The dose should be individually titrated to achieve optimum response.
Liver Dose Adjustments: Data not available.

TENOXICAM (Tilcotil, Tenox®)

P/P: Tilcotil 20mg tab, 10's, Tilcotil 20mg tab, 30's, Tenox 20mg caps, 8's

Adm: Should be taken with food (Take w/ or immediately after meals.).

Category: Antirheumatic, Anti-inflammatory, Analgesics

Indications: RA, degenerative joint diseases, ankylosing spondylitis, extra-articular disorders, strains & sprains, acute gout.

Caution: Impaired renal function, hepatic cirrhosis, CHF, vol depletion. Pregnancy, lactation.

Contra-Ind: Active peptic ulcer, GI bleeding; hypersensitivity to tenoxicam or other NSAIDs eg, aspirin; pregnancy (3rd trimester).

D/I: Increased concentrations of lithium, cardiac glycoside; enhances effects of oral anticoagulants. K-sparing diuretics.

Side effects: Hypersensitivity reactions, rash; headache, dizziness, insomnia, nervousness, depression, GI upsets including epigastric pain and gastritis.

Dosage: Adults: The recommended dosage is a single daily dose of 20mg taken at the same time each day.
Children: not recommended.
Use in renal and hepatic insufficiency:
Creatinine clearance Greater than 25ml/min: Usual dosage but monitor patients carefully,
Creatinine clearance Less than 25ml/min: Insufficient data to make dosage recommendations.
There are insufficient data to make dosage recommendations for Tenoxicam in patients with pre-existing hepatic impairment.

TIAPROFENIC ACID (Surgam®)

P/P: **Surgam 300mg tab, 30's**

Adm: Should be taken with food

Category: Antirheumatic, Anti-inflammatory, Analgesics

Indications: Relief of pain and inflammation associated w/ musculoskeletal joint and soft-tissue disorders

Caution: Asthma, bronchospasm, bleeding disorders, CV disease, history of peptic ulceration, liver and renal function impairment, heart failure, hypertension. Discontinue use if urinary tract symptoms occur. Lactation. Elderly.

Contra-Ind: Hypersensitivity. Active peptic ulceration; urinary tract disorder, prostatic disease.

D/I: Oral anticoagulants, lithium, methotrexate, cardiac glycosides, ACE inhibitors, cyclosporin, tacrolimus, β-blockers, quinolones, potassium-sparing diuretics,

Side effects: GI disturbances, activation of peptic ulcer, CNS effects, hypersensitivity reactions, nephrotoxicity, cystitis and hematuria.

Dosage: Adults: 300mg twice a day.
Children: There are insufficient data to recommend use in children.
In cases of renal, cardiac or hepatic impairment, the dosage should be kept as low as possible. It is suggested that in such cases, the dosage be reduced to 200 mg twice daily.

TIZANIDINE (Tilax, Sirdalud®)

P/P: **Sirdalud 2mg tab, 30's, Sirdalud 4mg tab, 30's**

Tilax 2 mg tab, 30's, Tilax 4 mg tab, 30's

- Adm: Should be taken with food.
- Category: Muscle Relaxants
- Indications: Symptomatic relief of spasticity associated with multiple sclerosis or with spinal cord injury & treatment of painful muscle spasm associated with musculoskeletal conditions
- Caution: Hepatic or renal insufficiency; concomitant antihypertensive therapy; activities requiring mental alertness. Children, elderly, pregnancy and lactation.
- Contra-Ind: Significantly impaired hepatic function; concomitant use of fluvoxamine or ciprofloxacin.
- D/I: Antihypertensives, including diuretics, alcohol & sedatives. Antiarrhythmics, cimetidine, fluoroquinolones, rofecoxib, OCs
- Side effects: Drowsiness, fatigue, dizziness, dry mouth, nausea, GI disturbances, slight reduction in BP. Muscle weakness & insomnia, hypotension & bradycardia
- Dosage: Usual Adult Dose: Initial dose: 4 mg orally every 6 to 8 hours (maximum of 3 doses in 24 hours). Dose may be increased in 2 to 4 mg steps to optimum effect and tolerance.
Maintenance dose: 8 mg orally every 6 to 8 hours (maximum of 3 doses in 24 hours)
Maximum dose: Three doses in 24 hours; 12 mg per dose; 36 mg per day
Renal Dose Adjustments:
CrCl less than 25 mL/min: Tizanidine should be used with caution as clearance is reduced by more than 50%, they should be monitored closely for the onset or increase in severity of the common adverse
Liver Dose Adjustments Tizanidine should ordinarily be avoided or used with extreme caution in this patient population.

TOPICAL ANALGESICS & ANTI-INFLAMMATORIES

- Caution: Avoid contact w/ broken skin, eyes & mucous membranes

DICLOFENAC

**Volatren emulgel 1% 50gm
Olfen gel 1%, 50gm
Diclomax emulgel 1%, 50gm
Tabiflex cool gel 1%, 50gm
Rumafen gel 1%, 50gm
Diclogesic 1% gel 30 gm
Flector EP tissugel 1gm patch, 5's (Apply to affected area bd for not >14 days.)**

IBUPROFEN

Sapofen gel 5%, 30gm
Profinal gel 5%, 30gm
Phorpain gel 5%, 30gm
Ibuphil gel 5%, 30gm

KETOPROFEN

Fastum 2.5 %, 50 gm

METHYL SALICYLATE

Avalon Muscle pain relief cream100ml
Rub A535 Heat cream 100gm
Rub A535 Extra-strength Cream 100gm

TRIETHANOLAMINE SALICYLATE

Rub A535 No Odour gel 100g

AESCI

Reparil gel N 40gm
Reparil gel N 100gm
Repaderm gel 40gm

NUTRITION AND BLOOD

ACETYL-L-CARNITINE (Acetyl-L-carnitine®)

- P/P:** **Acetyl-L-carnitine 500mg caps, 30's**
- Adm:** Should be taken with food (Take w/ or just after meals.).
- Category:** Nootropics & Neurotonic
- Indications:** Primary & secondary carnitine deficiency; Primary & secondary degenerative disease caused by cerebrovascular disease.
- Caution:** Recently stroked patients
- Contra-Ind:** Pregnancy, lactation
- D/I:** Didanosine, zalcitabine, stavudine. Valproic acid, pivalic acid-containing antibiotics.
- Side effects:** Mild GI disturbances. Mild myasthenic symptoms in patients' with uremia.
- Dosage:** UsualAdult Dose: 1500-3000 mg daily, usually divided into two or three doses during the day.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ALBUMIN (HUMAN ALBUMIN) (Albumin®)

P/P: **Albumin 20%, 50ml**

Adm: IV route

Category: Intravenous & Other Sterile Solutions; blood substitutes and plasma protein fractions

Indications: Albumin replacement in patients w/ major albumin deficiency (Shock, burns, hypoproteinemia, hyperbilirubinemia, cardiopulmonary bypass procedures)

Caution: Hypertension or low cardiac reserve; additional fluids for dehydrated patients. Monitor for signs of cardiac overload in injured or postoperative patients

Contra-Ind: Hypervolemia, hemodilution; decompensated cardiac insufficiency, HTN, esophageal varices, severe anemia.

D/I: Albumin solution should not be mixed by protein hydrolysates or alcoholic solutions.

Side effects: Allergic reactions, nausea, vomiting, increased salivation, fever and chills; vascular overload, hemodilution and pulmonary oedema.

Dosage:
Usual Adult Dose: 200 to 300 mL IV
Usual Pediatric Dose: Albumin 5%: 4.5 to 6.8 mL per kg of body weight IV.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ALFACALCIDOL (1 α -HYDROXYCHOLECALCIFEROL) (One alpha®)

P/P: **One alpha 0.25mcg caps, 30's, one alpha 1mcg caps, 100's
One alpha 2mcg/ml, 20ml drops; one alpha 1mcg/0.5ml Inj, 10's**

Adm: Treatment of hypocalcemia

Category: Vitamin D and analogues; Fat soluble vitamins

Indications: Should be taken with food.

Caution: Pregnancy and lactation, renal impairment, infants, elderly. Monitor serum levels in patients with renal failure. Caution in hypercalciuria especially in those with history of renal calculi. Infant.

Contra-Ind: Hypercalcemia, hyperphosphatasemia (except when occurring with hypoparathyroidism), hypermagnesemia.

D/I: Thiazide diuretics cause hypercalcemia by increasing renal tubular reabsorption of calcium and thus increase the hypercalcaemic response to alfacalcidol. Antiepileptics increase vit. D requirements.

Side effects: Hypercalcaemia, hypercalciuria and ectopic calcification. In case of renal impairment, hyperphosphataemia. In hypercalcaemic dialysis patients, possibility of calcium influx from the dialysate should be considered.

Dosage: Adults: 1 microgram/day
Dosage in the elderly: 0.5 microgram/day
Neonates and premature infants: 0.05 – 0.1 microgram/kg/day
Children under 20kg bodyweight: 0.05 microgram/kg/day
Children over 20kg bodyweight: 1 microgram/day

Renal Dose Adjustments: It is particularly important to make frequent plasma calcium measurements in patients with chronic renal failure because prolonged hypercalcemia may aggravate the decline of renal function.

Liver Dose Adjustments: Data not available

Antihemophilic Factor (Recombinant [Fc Fusion Protein]) (Alprolix®)

P/P: **Alprolix 1000 UI injection**

Adm: IV: Infuse at a rate of ≤10 mL/minute (maximum: 10 mL/minute).

Category: Antihemophilic Agent.

Indications: Treatment and control of bleeding episodes or perioperative management
Routine prophylaxis to prevent or reduce the frequency of bleeding episodes.

Caution: Antibody formation: The development of factor VIII antibodies has been reported with antihemophilic factors; monitor for signs of formation of antibodies to factor VIII; may occur at any time but more common in young children with severe hemophilia. Suspect factor VIII antibodies if the plasma factor VIII level does not increase as expected or if bleeding is not controlled after administration.

Hypersensitivity reactions: Allergic hypersensitivity reactions (including anaphylaxis) may occur; discontinue if hypersensitivity symptoms occur and administer appropriate treatment.

Contra-Ind: Life-threatening hypersensitivity to antihemophilic factor or any component of the formulation.

Side effects:

Catheter site thrombosis, Papular rash, Bradycardia, chest pain, deep vein thrombosis, flushing, hypertension, procedural hypotension.

Dosage: Intermittent IV bolus dosing: IV: Individualize dosage based on coagulation studies performed prior to treatment and at regular intervals during treatment. In general, administration of factor VIII 1 unit/kg will increase circulating factor VIII levels by ~2 units/DI

Antihemophilic Factor/von Willebrand Factor Complex (Human) (Wilate®)

P/P:	Wilate 500 international unit/5 ml Vial IV, Wilate 1000 international unit/10 ml Vial IV																						
Adm:	Infuse slowly at a rate of 2 to 4 mL/minute; reduce the rate or interrupt administration in patients who experience a marked increase in the pulse rate.																						
Category:	Hemostatic agent																						
Indications:	WILATE is indicated in children and adults with von Willebrand disease for: On-demand treatment and control of bleeding episodes Perioperative management of bleeding WILATE is indicated in adolescents and adults with hemophilia A for: Routine prophylaxis to reduce the frequency of bleeding episodes On-demand treatment and control of bleeding episodes																						
Caution:	Anaphylaxis and severe hypersensitivity reactions are possible thromboembolic events may occur. Monitor plasma levels of FVIII activity. Development of neutralizing antibodies to FVIII and to VWF, especially in VWD type 3 patients, may occur WILATE is made from human plasma and carries the risk of transmitting infectious agents																						
Contra-Ind:	Do not use in patients with known hypersensitivity reactions, including anaphylactic or severe systemic reaction, to human plasma-derived products, any ingredient in the formulation, or components of the container																						
Side effects:	The most common adverse reactions ($\geq 1\%$) in clinical studies on VWD were hypersensitivity reactions, urticaria, and dizziness (6.1) The most common adverse reaction ($\geq 1\%$) in clinical studies in hemophilia A was pyrexia (fever)																						
Dosage:	VWD Use the following formula to determine required dosage: Required IU = body weight (BW) in kg x desired VWF: RCo rise (%) (IU/dL) x 0.5 (IU/kg per IU/dL) Adjust dosage and duration of the substitution therapy depending on the severity of the VWD, on the location and extent of the bleeding, and on the patient's clinical condition																						
<table border="1"><thead><tr><th>Type of Hemorrhages/ Surgery</th><th>Loading Dosage (IU VWF: RCo/ kg BW)</th><th>Maintenance Dosage (IU VWF: RCo/ kg BW)</th><th>Therapeutic Goal</th></tr></thead><tbody><tr><td>Minor Hemorrhages</td><td>20-40 IU/kg</td><td>20-30 IU/kg every 12-24 hours</td><td>VWF: RCo and FVIII activity trough levels of $>30\%$</td></tr><tr><td>Major Hemorrhages</td><td>40-60 IU/kg</td><td>20-40 IU/kg every 12-24 hours</td><td>VWF: RCo and FVIII activity trough levels of $>50\%$</td></tr><tr><td>Minor Surgeries (including tooth extractions)</td><td>30-60 IU/kg</td><td>15-30 IU/kg or half the loading dose every 12- 24 hour for up to 3 days</td><td>VWF: RCo peak level of 50% after loading dose and trough levels of $>30\%$ during maintenance doses</td></tr><tr><td>Major Surgeries</td><td>40-60 IU/kg</td><td>20-40 IU/kg or half the loading dose</td><td>VWF: RCo peak level of 100% after</td></tr></tbody></table>				Type of Hemorrhages/ Surgery	Loading Dosage (IU VWF: RCo/ kg BW)	Maintenance Dosage (IU VWF: RCo/ kg BW)	Therapeutic Goal	Minor Hemorrhages	20-40 IU/kg	20-30 IU/kg every 12-24 hours	VWF: RCo and FVIII activity trough levels of $>30\%$	Major Hemorrhages	40-60 IU/kg	20-40 IU/kg every 12-24 hours	VWF: RCo and FVIII activity trough levels of $>50\%$	Minor Surgeries (including tooth extractions)	30-60 IU/kg	15-30 IU/kg or half the loading dose every 12- 24 hour for up to 3 days	VWF: RCo peak level of 50% after loading dose and trough levels of $>30\%$ during maintenance doses	Major Surgeries	40-60 IU/kg	20-40 IU/kg or half the loading dose	VWF: RCo peak level of 100% after
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Hemophilia A

One International Unit (IU) of factor VIII (FVIII) activity per kg body weight increases the circulating FVIII level by approximately 2 IU/dL (1.7 IU/dL for adolescents and 2.3 IU/dL for adults).

Use the following formula to determine required dosage (2.1): Required IU = body weight (BW) in kg x desired Factor VIII rise (%) (IU/dL) x 0.5 (IU/kg per IU/dL)

Dosing for routine prophylaxis:

Patients	Dose (IU/kg)	Frequency of infusions
Adolescents and adults	20-40 IU/kg	Every 2 to 3 days

Apixaban (Eliquis, Apixaban FC, Paquix®)

P/P: Eliquis, Apixaban FC, Paquix 2.5 mg and 5 mg F.C tab

Adm: Administer without regard to meals.

Category: is a factor Xa inhibitor anticoagulant.

Indications: indicated to reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation.

Caution: can cause serious, potentially fatal bleeding
Prosthetic heart valves: ELIQUIS use not recommended.

Contra-Ind: Active pathological bleeding.
Severe hypersensitivity to ELIQUIS.

Side effects: Most common adverse reactions (>1%) are related to bleeding.

Dosage: The recommended dose is 5 mg orally twice daily.
In patients with at least 2 of the following characteristics: age ≥80 years, body weight ≤60 kg, or serum creatinine ≥1.5 mg/dL, the recommended dose is 2.5 mg orally twice daily.

ASCORBIC ACID (VITAMIN C) (Redoxan, Cevitil, Viforcit, Vita-C, VC®)

P/P: Redoxan 1gm effervescent tab, 10's
Cevitil 1gm effervescent tab, 12's
Viforcit 1gm effervescent tab, 10's
Vita-C 500mg chewable tab, 40's
500mg chewable tab, 30's

Adm: May be taken with or without food

Category:	Water soluble vitamins
Indications:	Treatment of scurvy & in healing wounds, common colds, prevents fragility of small blood vessels & gums, normocytic or macrocytic anemia, cartilage & bone. Increased resistance to stress & infections.
Caution:	G6PD deficiency. Haemochromatosis; hyperoxaluria. Diabetics; patients prone to recurrent renal calculi. Neonates; pregnancy (Ingestion of large doses has resulted in scurvy in neonates); lactation.
D/I:	Increased Fe absorption, increased ethinyl estradiol concentration. Decreased fluphenazine & warfarin serum concentrations.
Side effects:	Diarrhea, GI disturbances. May cause acidification of the urine; precipitation of urate, cystine or oxalate stones, or drugs in the urinary tract.
Dosage:	Usual Adult Dose: 100 to 250 mg once or twice daily Usual Pediatric Dose: 35 to 100 mg/day 100 to 300 mg/day in divided doses. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

CALCIUM CARBONATE (Sea-cal, Adcal, Calcinate, Vitacal, Calcicare®)

P/P:	Sea-cal 500mg tab, 60's, Adcal 500mg tab, 60's, Calcinate 600mg tab, 60's Calcium sandoz forte effeve 500mg tab, 10's, Vitacal 500mg tab, 60s, Sea-cal 200ml syrup, Calcicare 150ml syrup
Adm:	May be taken with or without food (May be taken w/ meals for better absorption.).
Category:	Calcium supplements
Indications:	Treatment of Ca deficiency; dietary supplement.
Caution:	Renal impairment; hypercalcemia-associated disease e.g., other malignancies; sarcoidosis; elderly.
Contra-Ind:	Patients with calcium renal calculi or history of renal calculi; hypercalcemia; hypophosphatemia.
D/I:	Inhibits absorption of tetracyclines. Enhances cardiac effects of digitalis glycosides and may precipitate digitalis intoxication.
Side effects:	Constipation, flatulence; hypercalcemia; metabolic alkalosis; milk-alkali syndrome, tissue-calcification. Gastric hypersecretion and acid rebound (with prolonged use).
Dosage:	Usual Adult Dose: 900 to 2500 mg/day orally in 2 to 4 divided doses Usual Pediatric Dose: Neonatal: 50 to 150 mg/kg/day in 4 to 6 divided doses; not to exceed 1 g/day Children: 45 to 65 mg/kg/day in 4 divided doses.

Renal Dose Adjustments: Patients with renal dysfunction have an increased risk of hypercalcemia. The use of calcium carbonate is not indicated for the treatment of hyperphosphatemia in patients with calculated or estimated creatinine clearance equal to or greater than 25 mL/min.

Liver Dose Adjustments: Data not available

CALCIUM CHLORIDE, CALCIUM GLUCONATE (Calcium chloride®, Calcium Gluconate®)

P/P:	Calcium chloride 10%, 10ml Inj (PSI); Calcium gluconate 10% Inj
Adm:	IV route
Category:	Electrolytes & Minerals
Indications:	Hypocalcaemic tetany. Cardiac resuscitation; treatment of severe hyperkalaemia; antidote in severe hypermagnesaemia
Caution:	Renal impairment, cardiac disease or sarcoidosis.
Contra-Ind:	Patient receiving cardiac glycosides, ventricular fibrillation
D/I:	Synergistic inotropic & toxic effects w/ cardiac glycosides. Complex w/ tetracycline's.
Side effects:	Rapid inj: Chalky taste, hot flush, peripheral vasodilatation
Dosage:	Usual Adult Dosage: 500 mg to 1 Pediatric Dosage: 0.2 mL /kg of body weight. Renal Dose Adjustments: Patients with renal dysfunction have an increased risk of hypercalcemia. Periodically checking the serum calcium level, especially if signs or symptoms of hypercalcemia are detected, is recommended. Liver Dose Adjustments: Data not available

CALCIUM COMBINATION PREPARATIONS

P/P:	Sandoz Osteo-mix® effervescent tab, 20's (Calcium, Magnesium, Zinc, Vitamin D₃, Vitamin K₁) Caltrate D® 600mg tab, 60's (Calcium, Vitamin D₃) Osteocare® 200ml Liquid (Calcium, Magnesium, Zinc, Vitamin D₃) Osteoguard® tab, 60's (Calcium, Magnesium, Zinc, Vitamin D₃) Osteocare® tab, 30's (Calcium, Magnesium, Zinc, Vitamin D₃) Osteocare® fizz tab, 20's (Calcium, Magnesium, Zinc, Vitamin D₃) Calcium® sandoz+Vit C effervescent tab, 10's (Calcium, Ascorbic acid) Glovit® cal tab, 30's (Calcium, Vitamin D₃, Minerals) Cal-C-Vita® effervescent tab, 10's (Calcium, Vit B₆, Ascorbic acid, Vit D₃) Calcium+Vit C® Injection, 5's (Calcium, Ascorbic acid) Calcichew D₃® chewable tab, 30's (Calcium, Vitamin D₃) One-A-Day® cod liver oil+Calcium tab, 30's (omega-3 fish oil, Vit A, Vit D, Vit E, Calcium)
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Bio-cal® 500mg tab, 60's (Calcium, Vitamin D₃)
Pical-D® 120ml syrup (Calcium, Vitamin D₃, Vit B₁₂)
Seacal plus® tab, 30's (Calcium, Magnesium, Zinc, Vitamin D₃)

CALCIUM GLUBIONATE (Hi-cal®)

P/P: Hi-cal 1.2gm 100ml syrup

Adm: May be taken with or without food (May be taken w/ meals for better absorption.).

Category: Calcium supplements

Indications: Treatment of Ca deficiency; dietary supplement

Caution: Impaired renal function. Avoid high doses of vit D. Diabetics.

Contra-Ind: Hypercalcemia, severe hypercalciuria, severe renal failure, galactosemia.

D/I: Oral tetracycline, fluoride, vit D, Ca-channel blockers, digitalis.

Side effects: Mild GI disturbances

Dosage: Usual Adult Dose: 15 mL orally 3 times a day
Usual Pediatric Dose: 1 to 6 months: 200 mg/day, 7 to 12 months: 260 mg/day, 1 to 3 years: 700 mg/day, 4 to 8 years: 1000 mg/day, 9 to 18 years: 1300 mg/day
Renal Dose Adjustments Periodically checking the serum calcium level, especially if signs or symptoms of hypercalcemia are detected, is recommended.
Liver Dose Adjustments: Data not available

CALCIUM POLYSTYRENE SULPHONATE (Calcium Resonium®)

P/P: Calcium Resonium 300gm powder

Adm: Should be taken on an empty stomach

Category: Detoxifying Agents

Indications: Hyperkalemia associated w/ anuria or severe oliguria to remove excess K from the body.

Caution: Renal failure. Hyperparathyroidism & multiple myeloma. Monitor serum K & Ca levels regularly. Elderly, pregnancy, delivery, & lactation.

Contra-Ind: Hyperparathyroidism; multiple myeloma, sarcoidosis; hypercalcemia, metastatic cancer w/ renal failure together w/ hypercalcemia; hypokalemia.

D/I: Enhanced digitalis intoxication w/ digoxin; reduced efficacy & systemic alkalosis w/ Al-, Mg- or Ca-containing antacids & laxatives.

Side effects: GI effects, occasionally fecal impaction (elderly); electrolyte disturbances (monitor).

Dosage: Usual Adult Dose: Oral: 15 g orally once a day, Maximum dose: 15 g orally 4 times a day.

Usual Pediatric Dose: Calculate dose based on 1 mEq potassium per 1 g resin

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CHOLECALCIFEROL (VITAMIN D3); COLECALCIFEROL (VI De3, Vidrop®)

- P/P: VI De3 drops, 10ml (4500 IU/ml)
Vidrop , 10ml (4500 iu/ml)
- Adm: Should be taken with food.
- Category: Vitamin D and analogues; Fat soluble vitamins
- Indications: Treatment of hypocalcemia; treatment of rickets or osteomalacia
- Caution: Ensure correct dose in infants; monitor plasma calcium in patients receiving high doses and in renal impairment.
- Contra-Ind: Hypercalcemia; metastatic calcification
- Side effects: Hyperphosphatasemia or hypercalcemia (in excessive intake).
- Dosage: Usual Adult Dose for Vitamin D Insufficiency: 400 to 1000 international units orally once a day
Usual Adult Dose for Vitamin D Deficiency: 1000 international units orally once a day
Usual Pediatric Dose for Vitamin D Insufficiency: Neonates, infants and children: 200 international units orally once daily.
Usual Pediatric Dose for Vitamin D Deficiency: Infants 1 to 12 months: 1000 to 5000 international units/day.
Children older than 12 months: 5000 to 10,000 international units/day
- Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CYANACOBALAMIN (Betolvex, Cytobion®)

- P/P: Betolvex 1mg/ml Inj, 1's
Cytobion 1mg/ml Inj, 3's
- Category: Anti-anemic preparations; Water-soluble vitamin
- Indications: Prophylaxis and therapy of pernicious anemia and other conditions with vitamin B₁₂ deficiency.
- Caution: Serum potassium concentration should be monitored during early vitamin B₁₂ therapy. The increase in nucleic acid degradation produced by vitamin B₁₂ administration could result in gout in susceptible patients.

Contra-Ind: Known allergy to vitamin B₁₂. Leber's optic atrophy, inherited optic atrophy, tobacco-alcohol amblyopia, tropical atoxic neuropathy.

D/I: Chloramphenicol, Colchicine, para-aminosalicylic

Side effects: Generally non-toxic but mild temporary diarrhea, peripheral vascular thrombosis, itching has been reported.

Dosage: Usual Adult Dose: 1000 mcg intramuscularly once every other day for 7 days, then once every 3 to 4 days for another 2 to 3 weeks is recommended.
Usual Pediatric Dose: Neonates and Infants: Intramuscular or Subcutaneous: 0.2 mcg/kg for 2 days, followed by 1000 mcg/day for 2 to 7 days; maintenance: 100 mcg/month.
Children: Intramuscular or Subcutaneous: 30 to 50 mcg/day for 2 or more weeks (to a total dose of 1000 mcg), then follow with 100 mcg/month.

Renal Dose Adjustments: Data not available.
Liver Dose Adjustments: Data not available.

DARBEPoETIN ALPHA (Aranesp®) (Restricted)

P/P: Aranesp prefilled syringe (20mcg, 30mcg, 40mcg)

Category: Hematopoietic Agents

Indications: Anemia in chronic renal failure and cancer patients

Caution: Pregnancy, children. Hypertension; history of seizures; hepatic impairment; sickle cell anemia; sudden stabbing migraine-like pain (warning sign of hypotensive crisis); increased risk of thrombosis when used for anemia before orthopedic surgery; CV disease including recent MI/cerebrovascular accident.

Contra-Ind: Hypersensitivity, uncontrolled hypertension, lactation.

D/I: Antagonism of hypotensive effect and increased risk of hyperkalemia with ACE inhibitors and angiotensin II receptor antagonists. Ethanol.

Side effects: Hypertension, hypotension, chest pain, fatigue, fever, headache, dizziness, GI effects; myalgia, arthralgia, limb pain; skin reactions; shunt reactions, hyperkalaemia; dyspnea, cough, bronchitis; infection; transient increase in platelet count; influenza-like symptoms; peripheral oedema;

Dosage: For adult patients with chronic renal failure on dialysis: The recommended starting dose is 0.45 mcg/kg intravenously or subcutaneously as a weekly injection or 0.75 mcg/kg once every 2 weeks as appropriate.
For adult patients with chronic renal failure not on dialysis: The recommended starting dose is 0.45 mcg/kg body weight intravenously or subcutaneously given once at four-week intervals as appropriate.
Patients on Cancer Chemotherapy: 2.25 mcg/kg every week subcutaneously until completion of a chemotherapy course, 500 mcg every 3 weeks subcutaneously until completion of a chemotherapy course
For pediatric patients with chronic renal failure: The recommended starting dose for pediatric patients (less than 18 years) is 0.45 mcg/kg body
Liver Dose Adjustments: Data not available

Deferasirox (Exjade®, Jadenu®)

P/P:	Exjade 250mg, 500mg Disp. Tab 28"S Jadenu 90 mg, 180 mg, 360 mg Tab
Adm:	Administer tablets by making an oral suspension; do not chew or swallow tablets whole. Completely disperse tablets in water, orange juice, or apple juice. (use 105 mL for total doses <1 g; 210 mL for doses ≥1 g)
Category:	Chelating Agent
Indications:	Chronic iron overload due to blood transfusions Chronic iron overload in non-transfusion-dependent thalassemia syndromes and with a liver iron concentration of at least 5 mg of iron per gram of liver dry weight (mg Fe/g dry weight) and a serum ferritin >300 mcg/L.
Caution:	Fatal and non-fatal gastrointestinal bleeding, ulceration, and irritation may occur, Cytopenia, including agranulocytosis, neutropenia and thrombocytopenia, Serious hypersensitivity reaction, Hepatic injury and failure, Renal failure particularly in patients with comorbidities
Contra-Ind:	Known hypersensitivity to deferasirox or any component, eGFR <40 mL/minute/1.73 m ² , poor performance status, platelet counts <50,000/mm ³
Side effects:	Gastrointestinal upset, Renal toxicity, Proteinuria, Hepatic toxicity, Gastrointestinal perforation or hemorrhage.
Dosage:	Chronic iron overload due to blood transfusions: Initial: 20 mg/kg once daily
Maintenance:	Adjust dose every 3 to 6 months based on serum ferritin trends; adjust by 5 or 10 mg/kg/day. (doses up to 40 mg/kg/day may be considered for serum ferritin levels persistently >2,500 mcg/L and not decreasing over time) If serum ferritin falls to <500 mcg/L, interrupt therapy and continue monitoring monthly.
	Chronic iron overload in non-transfusion-dependent thalassemia syndromes Significant drug interactions exist, requiring dose/frequency adjustment or avoidance.
Dosing:	Altered Kidney Function: Adult, Pediatric Renal impairment at treatment initiation: eGFR >60 mL/minute/1.73 m ² : No dosage adjustment necessary. eGFR 40 to 60 mL/minute/1.73 m ² : Initial: Reduce dose by 50%. eGFR <40 mL/minute/1.73 m ² : Use is contraindicated.
Renal toxicity during treatment:	Transfusional iron overload: increase in serum creatinine ≥33% above the average baseline, repeat serum creatinine within 1 week; if still elevated by ≥33%: Reduce daily dose by 10 mg/kg (for Exjade) Non-transfusion-dependent thalassemia syndromes: increase in serum creatinine ≥33% above the average baseline, repeat serum creatinine within 1 week; if still elevated by

$\geq 33\%$ Interrupt therapy if the dose is 5 mg/kg; reduce dose by 50% if the dose is 10 or 20 mg/kg
eGFR <40 mL/minute/1.73 m²: Discontinue treatment.
All patients: eGFR <40 mL/minute/1.73 m²: Discontinue treatment.

Dosing: Hepatic Impairment: Adult, Pediatric
Hepatic impairment at treatment initiation:
(Child-Pugh class A): No dosage adjustment necessary
(Child-Pugh class B): Initial: Reduce dose by 50%
(Child-Pugh class C): Avoid use.
Hepatic toxicity during treatment: Severe or persistent increases in transaminases/bilirubin: Reduce dose or temporarily interrupt treatment.

Dosing: Pediatric
Note: Use the minimum effective dose to achieve a trend of decreasing ferritin and to maintain iron burden in the target range.

DESFERRIOXAMINE MESILATE (Desferal®)

P/P:	Desferal 500mg Inj, 10's
Category:	Iron chelating agents; Detoxifying Agents
Indications:	Chronic Iron overload; acute Fe poisoning. Aluminum overload
Caution:	Rapid IV inj, high dose continuous IV infusions, patients undergoing hemodialysis; Impaired renal function, severe fungal infections. Children <3 yrs. Increased susceptibility to infection, particularly for Yersinia species. Pregnancy and lactation.
Contra-Ind:	Absence of excess Fe stores. Pregnancy; Hypersensitivity, severe renal disease or anuria except those on dialysis
D/I:	Phenothiazine derivatives, methyldopa. Concurrent use w/ vit C may cause enhancement of tissue Fe toxicity esp. in the heart causing cardiac decompensation.
Side effects:	Hypotension, tachycardia, arrhythmia, shock. Pulmonary syndrome of a moderate to life-threatening nature. Visual & auditory disturbances including acute audiovisual neurotoxicity, opacities of the lens & irreversible loss of vision & hearing. Headache, neurological disturbances, reversible aphasia, bone dysplasia.
Dosage:	Usual Adult Dose: 1000 to 2000 mg, subcutaneously over 8 to 24 hours, daily or 40 to 50 mg/kg/day, IV over 8 to 12 hours (maximum IV rate: 15 mg/kg/hour), 5 to 7 days per week, Maximum IV dose: 60 mg/kg/day or 500 to 1000 mg, IM, Maximum IM dose: 1000 mg/day. Usual Pediatric Dose: years and older: 1000 to 2000 mg, subcutaneously over 8 to 24 hours, days per week, Maximum IV dose: 40 mg/kg/day (until growth has ceased) or 500 to 1000 mg, IM, Maximum IM dose: 1000 mg/day Renal Dose Adjustments: Contraindicated in severe renal impairment Liver Dose Adjustments: Data not available

DEXTROSE SOLUTION (ORAL) (Dextrose 5%®)

P/P: Dextrose 5% oral solution, 90ml

Adm: Oral route

Category: Electrolytes and minerals

Indications: Mild infant jaundice; oral nutrition supplement

Dosage: Dosing of dextrose solution varies based on individual patient requirements such as age, current medical conditions, and clinical state.

EPOETIN ALPHA (Recombinant human erythropoietin) (Eprex®)

P/P: Eprex pre-filled syringe (1000 IU, 2000 IU, 4000 IU)

Category: Hematopoietic Agents

Indications: Anaemia associated w/ chronic renal failure (CRF) in patients on dialysis; symptomatic renal anaemia in patients not yet undergoing dialysis. Prevention & treatment of anaemia in adult patients w/ solid tumors & treated w/ platinum-based chemotherapy prone to induce anaemia. Increasing the yield of autologous blood from patients in pre-donation programmes. Prevention of anaemia of prematurity in infant w/ birth wt 750-1,500 g & gestational age <34 wk.

Caution: CRF, IHD, hypertension, pregnancy, seizures, liver dysfunction, lactation. Conditions associated w/ thrombotic vascular events. Hepatic dysfunction. History of gout. Known porphyria.

Contra-Ind: Uncontrolled HTN. Patients, who in the month preceding treatment have suffered a MI or stroke, unstable angina pectoris, Patients at risk of DVT. Pregnancy, lactation.

D/I: Cyclosporine. Haematinics enhance efficiency. Increased dose of heparin in patients undergoing dialysis.

Side effects: Increased BP, thrombosis of vascular access sites. Flu-like symptoms, bone pain, & chills after Inj. Seizures. Skin reactions

Dosage: Adults: Cancer Patients
Subcutaneous 150 units/kg 3 times weekly, or 40,000 units weekly
Children 5 to 18 y of age: IV Weekly dosing: 600 units/kg weekly
Chronic Kidney Disease: Adults: IV/Subcutaneous 50 to 100 units/kg 3 times weekly.
Children 1 mo to 16 y of age on dialysis: IV/Subcutaneous 50 units/kg 3 times weekly.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Etamsylate (Dicynone®)

P/P: **Dicynone**

Version 2024-2025
Jan.2025

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Almoosa Specialist Hospital 

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- Adm: Oral: Administer capsules and tablets with meals and with a sufficient amount of water. Solution for injection may be diluted in 1/2 cup of water and administered orally.
- Category: Hemostatic Agent
- Indications: Treatment or prevention of acute capillary hemorrhage, Treatment of primary menorrhagia, Menorrhagia due to intrauterine device, Perioperative bleeding
- Caution: Severe hypersensitivity reactions, Hypotension may occur with parenteral administration
- Contra-Ind: Hypersensitivity to Etamsylate, acute porphyria, some products contain sulfites and are therefore contraindicated in patients with bronchial asthma
- Side effects: Hypotension and thromboembolism (injectable solution), Headache, Diarrhea, nausea, stomach pain, vomiting, may induced hematologic disorders
- Dosage:
- Acute capillary hemorrhage: IV, IM: 500 to 750 mg 3 times daily or 250 to 500 mg every 4 to 6 hours
 - Menorrhagia, primary: Oral: 500 mg 4 times daily from the start of bleeding until menstruation ceases
 - Menorrhagia due to intrauterine device: Oral: 500 mg 3 times daily for 10 days, beginning 5 days prior to onset of menses
 - Perioperative bleeding:
 - Preoperative:
 - IV, IM: 250 to 500 mg 1 hour before surgery. Additional doses may be required during surgery.
 - Oral: 500 mg 1 hour before surgery
 - Postoperative:
 - IV, IM: 250 mg twice daily or up to 250 to 500 mg every 4 to 6 hours
 - Oral: 500 mg every 4 to 6 hours as risk of bleeding persists
 - Dosing: Altered Kidney Function: Adult
 - There are no dosage adjustments
 - Dosing: Hepatic Impairment: Adult
 - There are no dosage adjustments

Ferric Carboxymaltose (Ferinject®)

P/P: **Ferinject 500MG/10ML Vial I.V 1" S**

Adm: May administer as slow IV push (undiluted) or as IV infusion. Administer IV push doses >200 to 500 mg at a rate of 100 mg/minute. Administer IV infusion doses >200 to 500 mg over at least 6 minutes. Administer doses >500 mg to 1,000 mg (IV push or infusion) over at least 15 minutes.

Category: Iron Preparations

Indications: Iron-deficiency anemia, Iron deficiency in patients with heart failure

Caution: Concerns related to adverse effects, Hypersensitivity Reactions: Observe for signs and symptoms of hypersensitivity during and after administration for at least 30 minutes and until clinically stable following completion of each administration. Transient elevations in systolic blood pressure resolved within 30 minutes, Hypophosphatemia

Contra-Ind: Hypersensitivity to ferric carboxymaltose or any component of the formulation.

Side effects: nausea, hypertension, flushing, injection site reactions, erythema, hypophosphatemia, and dizziness.

Dosage: Abdominal surgery, major (perioperative anemia management) (off-label use): IV: 15 mg/kg prior to surgery; maximum dose: 1,000 mg. Postoperatively (within 2 days of surgery), patients received 0.5 mg ferric carboxymaltose per 1 mL of blood loss (if blood loss was at least 100 mL)

Chemotherapy-associated anemia (off-label use): IV: 1,000 mg (range: 600 to 1,500 mg) (Steinmetz 2013); consider dividing larger doses to a maximum single dose of 750 mg and separate by 7 days.

Iron-deficiency anemia, treatment:

Maximum single dose: IV: 1,000 mg (15 mg/kg for IV injection or 20 mg/kg for IV infusion); maximum weekly dose: 1,000 mg.

Cumulative treatment dose: IV: Note: May require multiple injections to achieve cumulative dose; do not exceed maximum single dose or maximum weekly dose recommendations. Reassess hemoglobin level at least 4 weeks after the last injection of the treatment course; may repeat course based on recalculated iron need.

Body weight <35 kg: 500 mg.

Body weight 35 to <70 kg:

Hemoglobin <10 g/dL: 1,500 mg.

Hemoglobin 10 to <14 g/dL: 1,000 mg.

Hemoglobin ≥14 g/dL: 500 mg.

Body weight ≥70 kg:

Hemoglobin <10 g/dL: 2,000 mg.

~~Hemoglobin 10 to <14 g/dL: 1,500 mg.~~

Hemoglobin ≥14 g/dL: 500 mg.

Pregnant patients: IV: Maximum cumulative dose:

Hemoglobin <9 g/dL: 1,500 mg.

Hemoglobin ≥9 g/dL: 1,000 mg.

Iron-deficiency anemia in inflammatory bowel disease (off-label use): IV: 500 or 1,000 mg/dose on day 1 (and if needed based on hemoglobin values, days 8 and 15); patients <67 kg received a maximum of 500 mg per infusion

Iron deficiency in heart failure with reduced ejection fraction (off-label use)
serum ferritin level <100 mcg/L or a serum ferritin level of 100 to 300 mcg/L
IV: 200 mg once weekly (until iron repletion is achieved), and then 200 mg once every 4 weeks during maintenance

Restless legs syndrome (off-label use): IV: 1 g as a single dose. May repeat at least 12 weeks after initial infusion based on initial response, recurrence of restless legs syndrome symptoms, and if serum ferritin <300 mcg/L and TSAT <45%

Dosing: Altered Kidney Function: Adult

Chronic kidney disease not on dialysis: no dosage adjustment

Chronic kidney disease on dialysis: Maximum single dose: 200 mg/day

Dosing: Hepatic Impairment: Adult

no dosage adjustments

Ferric derisomaltose (Iron isomaltoside) (Monofer®)

P/P: Monofer 500mg/5ml Vial I.V 5"S

Adm: For intravenous use

Category: Iron Preparations

Indications:

It is an iron replacement product indicated for the treatment of iron deficiency anemia in adult patients:

Who have intolerance to oral iron or have had unsatisfactory response to oral iron.

Who have non-hemodialysis dependent chronic kidney disease.

Caution:

Hypersensitivity Reactions: Monitor patients for signs and symptoms of hypersensitivity during and after Monoferic administration for at least 30 minutes and until clinically stable following completion of the infusion

Iron Overload: Do not administer Monoferic to patients with iron overload

Contra-Ind: Serious hypersensitivity to Monoferic or any of its components

Side effects: Most commonly reported adverse reactions (incidence ≥1%) are rash and nausea

Dosage:

For patients weighing 50 kg or more: Administer 1,000 mg of Monoferic as an intravenous infusion

For patients weighing less than 50 kg: Administer Monoferric as 20 mg/kg actual body weight as an intravenous infusion
Repeat Monoferric treatment if iron deficiency anemia reoccurs.

FERROUS SULPHATE (Feromin, Ferrovit®)

P/P:	Feromin 190mg tab, 30's (60mg of elemental iron) Ferrovit tab, 30's
Adm:	Should be taken on an empty stomach (Best taken on an empty stomach. May be taken w/ meals to reduce GI discomfort.).
Category:	Antianaemics
Indications:	Prevention & treatment of Fe-deficiency anemia, anemia associated w/ undernourishment, pregnancy & menstrual blood loss.
Caution:	Intestinal ulcer. Elderly presenting w/ blood or Fe loss of unknown origin.
Contra-Ind:	Esophageal stricture, haemochromatosis, chronic haemolysis, sideroblastic anaemia, leads anaemia, thalassaemia & forms of anemia secondary to other hemoglobinopathies.
D/I:	Tetracycline's, quinolones, antacids
Side effects:	Diarrhea, constipation, heartburn or vomiting, hypersensitivity reactions. Dark coloration of feces may occur.
Dosage:	Usual Adult Dose: 300 to 325 mg orally once a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

FERRIC HYROXIDE-POLYMALTOSE COMPLEX (Ferose, Hemamax®)

P/P:	Ferose 100mg chewable tab, 30's Hemamax 100mg chewable tab, 30's Ferose 50mg/5ml, 100ml syrup Hemamax 50mg/100 ml, 100ml syrup
Adm:	Preferably taken with or after the meals.
Category:	Antianaemics
Indications:	Prevention and treatment of iron deficiency anaemia
Contra-Ind:	Disturbance in Iron utilization (Lead anaemia), thalassemia; hypersensitivity or intolerance to iron; Anaemia not caused by iron.
Side effects:	Diarrhea, constipation, heartburn or vomiting, hypersensitivity reactions. Dark coloration of feces may occur.

Dosage: Adult: As chewable tablet/syrup/drops: Doses equivalent to 100 mg of elemental iron daily, up to 300 mg daily.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FOLIC ACID (Vifolin, Folicum, Folic acid, Befolvit®)

P/P: Vifolin 5mg tab, 100's
5mg tab, 20's (Folicum, Folic acid, Befolvit)
1mg tab, 20's (Folicum, Folic acid, Befolvit)

Category: Antianemics/Pre & Post Natal Vitamins

Indications: Prevention & treatment of folate deficiency.

Caution: Folate dependent cancer; Folic acid alone in pernicious anaemia and other megaloblastic anaemias where Vit B₁₂ is deficient.

Contra-Ind: Hypersensitivity to folic acid

D/I: Plasma concentration of antiepileptic drugs like phenobarbital, phenytoin and primidone possibly reduced in presence of folic acid.

Side effects: May cause allergic reactions including erythema, pruritus.

Dosage: Usual Adult Dose: 1mg to 5 mg once per day

Usual Pediatric Dose: Premature neonates: 50 mcg/day (15 mcg/kg/day).

Full-term neonates and infants 1 to 6 months: 25 to 35 mcg/day.

Children: 1 to 3 years: 150 mcg/day, 4 to 8 years: 200 mcg/day, 9 to 13 years: 300 mcg/day.

14 years and older: 400 mcg/day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FOOD SUPPLEMENTS (MISCELLANEOUS)

P/P: Pharmaton caps, 30's (Ginseng, Multivitamin&multimineral prep)
V2- plus caps, 24's (Ginseng, Multivitamin&multimineral prep)
Glovit tab, 30's (Multivitamin, multimineral &Amino acids prep)
Espigingal caps, 30's (Spirulina, Korean ginseng, Lyophilized royal jelly)
Seven seas vitrite caps, 60's (Ginseng, Multivitamin&multimineral prep)
Ginsavit caps, 24's (Ginseng, Multivitamin&multimineral prep)
Fosgingal caps, 30's (Royal jelly, Korean ginseng, lecithin phosphorous)
Minadex tonic syr, 200ml (Vit A,Vit D,Vit K,Ca,Fe,Mn,Cu)
Cod liver oil syrorange, 150ml (Vit A, Vit D, Vit E, Vit C, Vit B₆)
Glovit for ladies caps, 30's (Primrose oil, Calcium, Vit D3)
Marvit oil cao, 60s (primrose oil)
One-A-day cod liver oil caps, 60's (Omega-3 fish oil, Vit A, Vit D, Vit E)

GLUCOSAMINE SULPHATE (Dorofen, Glucosamine sulphate®)

P/P: **Glucosamine sulphate 750mg caps, 30's**
Dorofen 500/50 MG caps, 30's (Glucosamin, Ginko Biloba)

Adm: Should be taken with food (Preferably taken at meals.)

Category: Antirheumatic, Anti-inflammatory Analgesics

Indications: Rheumatic disorders; osteoarthritis

Caution: Diabetic patients, patients on heparin. Pregnancy and lactation.

Contra-Ind: Allergy to shellfish.

Side effects: Heart burn, epigastric pain/tenderness, diarrhea, nausea, dyspepsia, constipation, abdominal pain, palpitations, drowsiness, skin reaction, headache, indigestion.

Dosage: 1500 mg once daily or 500 mg three times daily.
Renal Dose Adjustments: No adjustment recommended
Liver Dose Adjustments: No adjustment recommended

HYDROXOCOBALAMIN (Depovit®)

P/P: **Depovit B12 1000mcg Inj, 2's**

Category: Anti-anaemic preparations; Water-soluble vitamin

Indications: Prophylaxis and therapy of pernicious anaemia and other conditions with vitamin B12 deficiency

Caution, Contra-Ind, Side effects: See Cyanacobalamin

Dosage: See Cyanacobalamin

INTRAVENOUS & OTHER STERILE SOLUTIONS

P/P: **Dextrose 10% 500ml**
Dextrose 1/2 normal saline 500ml
Dextrose 5% normal saline 500ml
Dextrose 5% 250ml
Normal Saline 0.9% 500ml
Dextrose 5%+1/4 normal saline 500ml
Ringer lactate 500ml
Dextrose 1/5 normal saline 500ml
Dextrose 5% 500ml
Sodium chloride 0.9% 10ml
Dextrose 25% 500ml
Sodium chloride 0.45% 500ml
Sodium chloride 0.9% 250ml

Dextrose 50% 50ml
Dextrose 50% 500ml
Sodium chloride 3% 500ml
Water for injection 10ml
Ringer solution 500ml
Balance salt solution (BSS) 500ml
Balance salt solution (BSS) 15ml
Mannitol 20% 500ml infusion (See Cardiovascular system)

INTRAVENOUS NUTRITION (Aminoplasmal, Lipofundin®)

P/P: **Aminoplasmal 10% 500ml** (19 crystalline L-amino acids & glycine in 10% w/ or w/o electrolytes)

Category: Parenteral Nutrition

Indications: Supply of substrate for protein synthesis in the setting of parenteral nutrition.

Caution: Disorders of amino acid metabolism, electrolyte & fluid imbalances in hyperhydration, hypokalaemia, hyponatraemia. Hepatic & renal insufficiency

Precautions: Regular monitoring should include water balance, serum ionogram, blood glucose levels and serum osmolality.
Individual regimens must be established in patients with hepatic and renal failure. Aminoplasmal has to be combined with appropriate non-protein calories (carbohydrate solutions, fat emulsions). Too rapid infusion may lead to symptoms of intolerance, renal amino acid losses and imbalances.

Contra-Ind: Life-threatening unstable circulation (shock), cellular hypoxia or acidosis; Infants below 2 years. Disturbances of amino acid metabolism, acidosis, overhydration. Hyperkalaemia.

Side effects: Not anticipated if contraindications, dosage guidelines and precautions are respected.

P/P: **Lipofundin 20% 500ml (MCT/LCT)**
1000 ml emulsion contain:
Soybean oil 100.0 g
Mediumchain Triglycerides 100.0 g
Glycerol 25.0 g
Egg yolk phospholipids 12.0 g

Category: Parenteral Nutrition

Indications: Lipofundin MCT/LCT is indicated as a source of calories and essential fatty acids for patients requiring parenteral nutrition.

Caution: Caution should be exercised in administering intravenous fat emulsions in patients with metabolic acidosis, severe liver damage, pulmonary disease, sepsis, diseases of the reticuloendothelial system, anaemia or blood coagulation disorders or where there is danger of fat embolism.

Contra-Ind: The administration of Lipofundin MCT/LCT is contraindicated in patients demonstrating disturbances in normal fat metabolism such as pathologic hyperlipaemia, lipoid nephrosis, or acute pancreatitis if accompanied by hyperlipaemia. It is further contraindicated in patients with ketoacidosis or hypoxia, in thromboembolism and in acute shock states.

Dosage: Adults: up to 20ml/kg body weight/day depending on the patient's requirements for amino acids, electrolytes and fluid

Children: Recommended daily dose: 3rd–5th year: 15 ml/kg b.w./day (1.5 g amino acids/kg b.w./day) 6th–14th year: 10 ml/kg b.w./day (1.0 g amino acids/kg b.w./day)

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

IRON COMBINATION PRODUCTS (Feroglobin, Ferrobiotron, Seven Seas Vitrite with Iron, Happy Deef with Iron®)

P/P: **Feroglobin caps,30's,** (Fe fumarate, Zn sulphate, copper sulphate, vit B₁₂ , folic acid , vit B₆,vit B₁,iodine)

Feroglobin liquid, 200ml(Thiamine ,Riboflavin,pyridoxine ,cyanocobalamin ,folic acid ,ascorbic acid,pantothenic acid,niacin,iron,,copper,manganese,lysine ,honey ,malt)

Ferrobiotron cap,20's (Fe fumarate, Zn sulphate, copper sulphate, vit B₁₂ , folic acid , vit B₆,vit B₁,iodine)

Seven Seas Vitrite with Iron caps, 60's (Iron, ginseng, multivitamin&multimineral prep)

Happy Deef with Iron 100ml syrup (Iron, multivitamin prep)

Adm: Should be taken with food

Category: Antianemics/Pre & Post Natal Vitamins

Indications: Fe deficiency anemia, anemia due to menstrual blood loss, pregnancy or diet

Contra-Ind: Hypersensitivity to any component of the product.

D/I: Tetracycline reduces Fe absorption.

Dosage: capsules: Adult: 1 capsule daily

Liquid daily divided doses: Adolescents (11-19 years):10 ml, children (1-10 years):5 ml, infants (6 months -1 year): 2.5 ml -5 ml, pregnancy: 10ml-15ml, lactation: 5 ml

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

IRON+FOLIC ACID (Ferose-F, Fefol, Hemamax-F®)

P/P:	Ferose-F® tab, 30's (Ferric hydroxide-polymaltose complex 100mg+Folic acid 350µg) Fefol® caps, 30's (Ferrous sulphate 150mg+Folic acid 5mg) Hemamax-F® 30's (Ferric hydroxide-polymaltose complex 100mg+Folic acid 350µg)
Adm:	Preferably taken with or after the meals.
Category:	Antianaemics
Indications:	Prevention and treatment of iron and folic acid deficiency anemia during pregnancy and lactation
Contra-Ind:	Overloading of iron (Haemochromatosis, chronic hemolysis); disturbance in iron utilization (lead anemia, sidero-achrestic anemia), thalassemia; megaloblastic anemia due vitamin B12 deficiency.
Side effects:	Diarrhea, constipation, heartburn or vomiting, hypersensitivity reactions. Dark coloration of feces may occur.
Dosage:	2-3 tablets daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

IRRIGATING SOLUTIONS

P/P:	Normal saline irrigation solution 1000ml Normal saline irrigation solution 2000ml (Bag) Water for irrigation 1000ml Glycine 1.5% 2000ml bag
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L-ARGININE (L-Arginine®)

P/P:	L-Arginine powder caps, 60's
Adm:	May be taken with or without food
Category:	Dietary supplement
Indications:	Dietary supplement.
Caution:	Liver cirrhosis, diabetes, diabetic retinopathy, renal disease or anuria, sepsis, herpes simplex. Pregnancy & lactation.
D/I:	Amiloride, estrogen, spironolactone, triamterene.
Side effects:	Thrombocytopenia, hypotension, GI effects, dermatologic reactions.
Dosage:	6 to 30 g/day Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

L-ORNITHINE-L-ASPARTATE (Hepa-merz®)

P/P: **Hepa-merz 5gm/10ml Inj, 5's**
Hepa-merz granules 3gm sachets, 10's

Adm: Oral prep should be taken with food (Take w/ or after meals.).

Category: Cholagogues, Cholelitholytics & Hepatic Protectors

Indications: Intensive treatment of liver diseases esp treatment of hepatic pre coma& coma patients.
Granules; Reduction of elevated blood ammonia values in serious liver diseases.

Caution: Infants, fructose intolerance.

Contra-Ind: Severe renal insufficiency.

Side effects: Nausea, vomiting (isolated cases).

Dosage: Infusion Concentrate: Up to 4 ampoules can be applied daily.
In precoma and coma up to 8 ampoules within 24 hours as initial
Granules: 1-2 sachets up to 3 times a day
Renal Dose Adjustments: severe renal dysfunction is a contraindication to the use of the product.
Liver Dose Adjustments: Data not available

MAGNESIUM (ORAL) (Magnesium-OK®)

P/P: **tab, 30's** (Elemental magnesium 175mg, +multivitamins)

MAGNESIUM SULPHATE INJECTION (Magnesium sulphate®)

P/P: **Magnesium sulphate 50%, 10ml Inj (4 mEq/ml, PSI)**

Adm: IV route

Category: Anticonvulsants; Electrolytes & Minerals

Indications: Treatment of acute hypomagnesaemia. Prevention of hypomagnesaemia in patient receiving TPN. Prevention & treatment of life-threatening seizures in the treatment of toxemias of pregnancy. Emergency treatment of arrhythmias such as torsade's de pointes and those associated with hypokalemia

Caution: Impaired renal function. May precipitate acute myasthenic crisis. Monitor serum Mg levels, patellar reflex, respiration rate & urine output periodically. Pregnancy & lactation.

Contra-Ind: Heart block, renal failure. Do not administer to pregnant women 2 hr prior to delivery.

D/I: Cardiac glycosides/digitalis, CNS depressants, neuromuscular-blocking agents, nifedipine

Side effects: Nausea, vomiting, flushing, hypotension, muscle weakness & paralysis, blurred or double vision, CNS depression, loss of reflexes. Severe hypermagnesemia may result in resp depression & paralysis, renal failure, coma, cardiac arrhythmias & arrest.

Dosage: Adult: Mild magnesium deficiency: 1g intramuscularly every 6 hours for 4 doses.
Severe magnesium deficiency: Up to 250mg/kg intramuscularly given within a period of 4 hours or 5g/liter of infusion solution intravenously over 3 hours.
Children: It is recommended that the solution be diluted to 20% w/v prior to intramuscular injection.
Renal Dose Adjustments: Magnesium sulfate is contraindicated in patients with severely impaired renal function.
Liver Dose Adjustments: Data not available

MECOBALAMIN (Methycobal®)

P/P: **Methycobal amp 500 mg 10's.**
Methycobal tab 500 mg 30's.

Category: Anti-anemic preparations.

Indications: peripheral neuropathies, megaplastic anemia due to vitamin B12 deficiency.

Caution: Hypersensitivity.

Side effects: Pain at site of injection, Headache, Sweating

Dosage: The usual dosage for adults is 1 ampule (500 µg of mecobalamin) daily,
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Mepolizumab (Nucala®)

P/P: **Nucala 100mg/ml Pre-filled Pen Subcut 1"S**

Adm: Subcutaneous use only

Category: Erleukin-5 (IL-5) antagonist monoclonal antibody (IgG1 kappa)

Indications: Add-on maintenance treatment with severe asthma and with an eosinophilic phenotype, chronic rhinosinusitis with nasal polyps (CRSwNP), eosinophilic granulomatosis with polyangiitis (EGPA), hypereosinophilic syndrome (HES) for ≥6 months without an identifiable non-hematologic secondary cause

Caution: None

Contra-Ind: History of hypersensitivity to mepolizumab or excipients in the formulation

Side effects: Asthma, headache, injection site reaction, back pain, and fatigue, oropharyngeal pain and arthralgia

Dosage:
Severe asthma in patients aged 12 years and older: 100 mg subcutaneously once every 4 weeks.
Severe asthma in patients aged 6 to 11 years: 40 mg subcutaneously once every 4 weeks.
CRSwNP: 100 mg subcutaneously once every 4 weeks.
EGPA: 300 mg as 3 separate 100-mg subcutaneously once every 4 weeks.
HES: 300 mg as 3 separate 100-mg subcutaneously once every 4 weeks.

Mercaptopurine (Purinethol®)

P/P: **Purinethol 50mg Tab 25"S**

Adm: Can be taken with or without food.

Category: Nucleoside metabolic inhibitor

Indications: Acute lymphoblastic leukemia (ALL)

Caution: Myelosuppression, Hepatotoxicity, Immunosuppression, Treatment Related Malignancies, Macrophage Activation Syndrome, Embryo-Fetal Toxicity.

Contra-Ind: None

Side effects: Myelosuppression, including anemia, leukopenia and thrombocytopenia, anorexia, nausea, vomiting, diarrhea, malaise and rash.

Dosage:
Usual dose: 1.5 mg/kg to 2.5 mg/kg orally once daily
Renal Impairment: Use the lowest recommended starting dose or increase the dosing interval.
Hepatic Impairment: Use the lowest recommended starting dose.

MULTIVITAMIN AND MINERALS PREP

ADULT

P/P: **Centrum tab, 30's (Multivitamin&multimineral prep)**
Dynamisan tab, 30's (Multivitamin&multimineral prep)
Supradyn caps, 30's (Multivitamin&multimineral prep)
Vitop caps, 30's (Multivitamin&multimineral prep)
Enervit tab, 30's (Multivitamin&multimineral prep)
Mixavit tab, 40's (Multivitamin prep)
Materna tab, 30's (Multivitamin&multimineral prep)

Daily formula tab, 30's (Multivitamin&multimineral prep)

CHILDREN

P/P: **Multisanostal syrup 200ml** ((Multivitamin&multimineral prep)
Seven seas multivitamin syr 150ml (Multivitamin prep)
Pharmaton kidi 200ml syrup (Vit B, lysine, Vit D₃, Vit E, Calcium)
Kiddi pharmaton fizz tab, 20's (Multivitamin&multimineral prep)
Junior syrup 120ml (Multivitamin prep)
Happy Deef 100ml syrup (Multivitamin prep)
Hypol cherry flavour 200ml syrup (Omega-3, Vit A, Vit D, Calcium, Zinc, Magnesium)
Mixavit 120ml syrup (Multivitamin prep)
Riavita 100ml syrup (Multivitamin prep)

ORAL REHYDRATION SOLUTION (Babylite, Oralite®)

P/P: **Babylite 240ml solution**
Oralite sachets, 10s

Adm: May be taken with or without food.

Category: Electrolytes & Minerals

Indications: Prevention of dehydration & maintenance of normal fluid electrolyte balance in mild to moderate diarrhea, vomiting& physical exertion.

Caution: Cardiac failure, HTN. Impaired renal function

Contra-Ind: Renal failure; hyperkaliemia; Intractable vomiting, adynamic ileus, intestinal obstruction, bowel perforation

Dosage: Usual adult and adolescent dose: 50 ml to 100ml per kg of body weight over six hours
Usual pediatric dose: Children up to 2 years of age: 150 mL of solution per kg of body weight over twenty-four hours (75 mL per kg of body weight during the first eight hours, and 75 mL per kg of body weight during the next sixteen hours).
Children 2 to 10 years: 50 mL of solution per kg of body weight over the first four to six hours, and 100 mL of solution per kg of body weight over the next eighteen to twenty-four hours
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

PARENTERAL IRON (Ferosac, Feroton®)

P/P: **Ferosac 100mg/5ml Inj, 5's, Feroton 100mg/5ml inj** (Standardized aqueous alkaline solution of iron (III) Hydroxide Saccharate Complex (Iron saccharate))

Category: Antianaemics

Indications: Severe iron deficiency (hemorrhage, disturbance in iron absorption in GIT)

Caution: Ferosac IV should not be mixed with any other medication.

Contra-Ind: All cases of iron overload or disturbance in utilization of iron

Side effects: Rarely anaphylaxis.

Dosage: Adult: Total dose of iron needed (mg): Wt (kg) x (normal hemoglobin - actual hemoglobin in g/L) x 0.24 + iron depot. Iron depot calculated as 15 mg/kg up to a wt of about 34 kg, max of 500 mg for body wt \geq 34 kg. May give dose as alternate day inj of 2 ml (or 4 ml at longer interval) until total dose is reached. Max single daily dose: >10-45 kg: 2 ml; >45 kg: 4 ml.

Child: Total dose of iron needed (mg): Wt (kg) x (normal hemoglobin - actual hemoglobin in g/L) x 0.24 + iron depot. Iron depot calculated as 15 mg/kg up to a wt of about 34 kg, max of 500 mg for body wt \geq 34 kg. Max single daily dose: >10-45 kg: 2 ml; 5-10 kg: 1 ml; infants (up to 5 kg): 0.5 ml.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

PENTASTARCH (Haes-teril, Voluven®)

P/P: Haes-teril 6% 500ml; Voluven 6% 500ml

Adm: IV route

Category: Intravenous & Other Sterile Solutions

Indications: Therapy & prophylaxis of hypovolaemia, acute normovolaemic haemodilution technique.

Caution: Avoid fluid overload esp. for patients w/ cardiac insufficiency or severe kidney dysfunction. Severe dehydration, severe liver disease or severe bleeding disorders. Children. Pregnancy

Contra-Ind: Fluid overload including pulmonary oedema, renal failure w/ oliguria or anuria. Patients receiving dialysis treatment. Intracranial bleeding. Severe hypernatraemia or severe hyperchloraemia.

Side effects: Anaphylactoid reactions, pruritus after prolonged use of high doses, coagulopathy.

Dosage: Adult: Daily dose up to 20 ml/kg b.w./day
Pediatric use: the safety and effectiveness children have not been established.
Renal Dose Adjustments: it is contraindicated in renal failure with oliguria or anuria not related to hypovolemia
Liver Dose Adjustments: Data not available

POTASSIUM (ORAL) (Slow-K, Kalium, Apo – K®)

P/P: Potassium Gluconate 595mg tab, 60's (Elemental K⁺ 99mg, Twin lab)
Kalium 100ml syrup (Potassium Gluconate + Potassium chloride)
Apo - K 600 mg tab, 60's (Potassium chloride)

Adm: Should be taken with food.

Category: Electrolytes & Minerals

Indications: Prevention &/or correction of hypokalemia

Caution: Monitor plasma electrolytes during prolonged therapy, impaired renal function, GI lesions, hepatic cirrhosis, treatment w/ ACE inhibitors or w/ anticholinergic drugs, history of peptic ulcer; pregnancy.

Contra-Ind: All forms of hyperkaliemia; concomitant treatment w/ K-sparing diuretics Severe tissue destruction, burns, advanced renal failure, untreated Addison's disease, acute dehydration, metabolic acidosis.

D/I: Slowing of GI motility w/ anticholinergics. Increased risk of hyperkaliemia w/ K-sparing diuretics

Side effects: Nausea, flatulence, vomiting, abdominal pains, diarrhea, GI bleeding.

Dosage: Usual Adult Dose: 40 to 100 mEq orally once a day given in equally divided doses
Usual Pediatric Dose: 2 to 5 mEq/kg/day in divided doses; not to exceed 1 to 2 mEq/kg as a single dose.
Renal Dose Adjustments: CrCl less than 25 mL/min: Extreme caution is recommended because of the high risk of hyperkalemia. Chronic potassium chloride therapy is generally not required nor recommended for patients with renal dysfunction.
Liver Dose Adjustments: Data not available

POTASSIUM CHLORIDE INJECTION (Potassium chloride®)

P/P: Potassium chloride Inj 15%, 10ml IV (PSI)

Category: Electrolytes & Minerals

Indications: K deficiency.

Caution: Renal or adrenal insufficiency; cardiac disease; acute dehydration; heat cramps.

Contra-Ind: Hyperkalemia, severe renal failure, untreated Addison's disease, GI ulceration or obstruction

D/I: K-sparing diuretics. Increase serum K, decrease toxicity & effectiveness of cardiac glycosides

Side effects: GI disturbances, hyperkalemia

Dosage: Usual Adult Dose :40 to 100 mEq potassium chloride for injection diluted in an appropriate amount and type of solution to be intravenously infused once at a rate not to exceed 10 to 40 mEq/hour

Usual Pediatric Dose: 0.5 to 1 mEq/kg/dose (maximum dose: 40 mEq) to infuse at 0.3 to 0.5 mEq/kg/hour (maximum dose/rate: 1 mEq/kg/hour).

Renal Dose Adjustments: CrCl less than 25 mL/min: Extreme caution is recommended because of the high risk of hyperkalemia. Chronic potassium chloride therapy is generally not required nor recommended for patients with renal dysfunction.

Liver Dose Adjustments: Data not available

SELENIUM (Selenium-ACE®)

P/P:	Selenium-ACE tab, 30's
Adm:	Should be taken with food
Category:	Dietary supplements.
Indications:	Selenium deficiency.
Caution:	Renal dysfunction & GI malfunction. Pregnancy
Dosage:	Adult: 200 -400 micrograms a day Renal Dose Adjustments: it is contraindicated Liver Dose Adjustments: Data not available

SEVELAMER (Renagel®)

P/P:	Renagel 800mg F.C tab, 180's
Adm:	Should be taken with food (Swallow whole, do not chew/crush.).
Category:	Electrolytes & Minerals; Antidotes
Indications:	Reduction of serum phosphorus in patients w/ end-stage renal disease (ESRD).
Caution:	Dysphagia, swallowing disorders, severe GI motility disorders, or major GI tract surgery. Consequently, caution should be exercised in patients with these GI disorders. Pregnancy and lactation.
Contra-Ind:	Patients with hypophosphatemia or bowel obstruction; hypersensitivity to the drug or any of the constituents of the formulation.
D/I:	Decreased absorption by some drugs (e.g., antiarrhythmic and antiseizure medications) due to binding in the GI tract; should be taken at least 1 hr before or 3 hrs after a dose of sevelamer hydrochloride.
Side effects:	For long-term treatment: Headache, infection, pain, hypertension, hypotension, thrombosis, diarrhea, flatulence, dyspepsia, nausea, vomiting, constipation and cough. Pruritus, rash and abdominal pain.
Dosage:	The recommended starting dose is 800 to 1600 mg.
	Liver Dose Adjustments: Data not available

SILYMARIN (Legalon, Hepaticum, Mepasil, Cefasilymarin, Hepaticum®)

P/P:	Legalon 70mg tab, 80's, Cefasilymarin 140mg tab, 20's Hepaticum 140mg tab, 10's, Hepaticum 140mg tab, 30's Mepasil 160 mg tab, 20s
Adm:	Should be taken with food.
Category:	Hepatic Protectors
Indications:	Cirrhosis, fatty degeneration. Prophylaxis & treatment of toxin/drug-induced liver disorders. Supportive treatment of acute & chronic hepatitis.
Contra-Ind:	Closure of bile ducts. Gallstones
Side effects:	Occasional laxative effects. Abdominal bloating, diarrhea, flatulence, loss of appetite, anorexia, nausea, stomach upset.
Dosage:	Dosage In severe cases 140mg three times daily, As a maintenance dose and as initial dosage in moderate cases 70mg tablet three times daily. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

SODIUM BICARBONATE INJECTION (Sodium bicarbonate®)

P/P:	Sodium bicarbonate 8.4% 50ml Inj
Category:	Intravenous & Other Sterile Solutions
Indications:	Diabetic coma, eclampsia, corrections of metabolic acidosis caused by cardiac arrest.
Caution:	Epilepsy, CHF, renal impairment, liver cirrhosis, hypertension, oedema, eclampsia, aldosteronism. Monitor serum-electrolytes concentrations and acid-base status during treatment of acidosis. Pregnancy; lactation
Contra-Ind:	Resp & metabolic acidosis, hypoventilation, hypernatremia, cardiac insufficiency, edema, HTN, eclampsia, renal impairment.
D/I:	Increases toxicity of amphetamines, ephedrine, pseudoephedrine, flecainide, quinidine, and quinine. Decreases effects of lithium, chlorpropamide, and salicylates.
Side effects:	Metabolic alkalosis; mood changes, tiredness, shortness of breath, muscle weakness, irregular heartbeat; muscle hypertonicity, twitching, tetany
Dosage:	Usual Adult Dose: HCO3 (mEq) required = 0.5 x weight (kg) x [24 - serum HCO3 (mEq/L)] Usual Pediatric Dose: HCO3 (mEq) required = 0.5 x weight (kg) x [24 - serum HCO3 (mEq/L)].
	Renal Dose Adjustments: Due to the risk of hypernatremia, electrolyte shifts, and systemic pH changes, it is recommended that sodium bicarbonate be used with caution due to this patient's renal dysfunction.
	Liver Dose Adjustments: Due to the risk of hypernatremia, electrolyte shifts, and systemic pH changes, it is recommended that sodium bicarbonate be used with caution due to the patient's liver disease.

VITAMIN A (RETINOL, BETA-CAROTENE) (Univit A forte®)

P/P: Univit A forte 50,000 IU soft gel caps, 20's

Adm: Should be taken with food.

Category: Fat soluble vitamins

Indications: Treatment of xerophthalmia; vitamin a deficiency in patients with biliary cirrhosis and chronic cholestatic liver disease

Caution: Cholestatic jaundice; fat-malabsorption conditions. Monitor patients closely for toxicity.

Contra-Ind: Hypervitaminosis A; pregnancy (dose exceeding RDA).

D/I: Decreased absorption with neomycin, cholestyramine or liquid paraffin. Increased risk of hypervitaminosis A with synthetic retinoids eg, acitretin, isotretinoin and tretinoin.

Side effects: Hypervitaminosis A characterized by fatigue, irritability, anorexia, weight loss, vomiting and other GI disturbances, low-grade fever, hepatosplenomegaly, skin changes, alopecia, dry hair, cracking and bleeding lips

Dosage: Recommended Dietary Allowances (RDAs) for Vitamin A
0–6 months* 400 mcg RAE
7–12 months* 500 mcg RAE
1–3 years 300 mcg RAE
4–8 years 400 mcg RAE
9–13 years 600 mcg RAE
14–18 years 900 mcg RAE
19–50 years 900 mcg RAE
51+ years 900 mcg RAE
Pregnancy: 700 mcg RAE
Lactation: 1200 mcg RAE
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

VITAMIN A, D and E COMBINATION (Cod liver oil)

P/P: Cod liver oil caps, 60's, Cod liver oil caps, 120's (Cod liver oil 0.32mL, vit A 200 mcg, vit D 1.63 mcg, vit E 0.2mg)

VITAMIN B GROUP

P/P: Neurobion tab, 20's (B₁ 100mg, B₆ 200mg, B₁₂ 200µg)
Neuro B tab, 20's (B₁ 100mg, B₆ 200mg, B₁₂ 200µg)
Neurobion 3ml I.M Inj, 3's (B₁ 100mg, B₆ 100mg, B₁₂ 1000µg)
Neurorubine-forte tab, 20's (B₁ 200mg, B₆ 50mg, B₁₂ 1000µg)
Neurorubine 3ml IM Inj, 3's (B₁ 200mg, B₆ 50mg, B₁₂ 1000µg)
Tri-B tab, 20's (B₁ 125mg, B₆ 125mg, B₁₂ 125µg, Folic acid 5mg)

Tri-B Inj, 3's (B₁ 100mg, B₆ 40mg, B₁₂ 1000µg)
Neurovitab, 30's (Octotiamine 25mg, Pyridoxine 40mg, Riboflavin 2.5mg, Cyanocobalamin 0.25mg)
Becovit 100ml syr (B₁, B₂, B₆, nicotinamide, Ca pantothenate);
Vitamin B-complex tab, 40's (B₁, B₂, B₆, nicotinamide, Ca pantothenate)

Adm: May be taken with or without food
Category: Water soluble vitamins
Indications: Vit B supplement.
Dosage:
Oral: one to three tablets daily
Injection: 1 ampoule I.M 2- 3 times weekly in sever case 1-amp I.M. daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

VITAMIN E (Dl-α- tocopheryl acetate) (Evion, Univit E, Vit E®)

P/P: Evion 100mg tab, 20's
Univit E 100mg soft gel caps, 20's
Vit E 400mg soft gelatin caps, 50's
Adm: Should be taken with food.
Category: Fat soluble vitamins
Indications: Treatment & prevention of vit E deficiency. Supportive therapy in muscle & connective tissue disease; myocardial insufficiency; intermittent claudication; male fertility disorders.
Contra-Ind: Hypoprothrombinemia due to vit K deficiency.
D/I: Anticoagulants, cholestyramine, colestipol, orlistat.
Side effects: Rarely, GI disorders, hypersensitivity reactions.
Dosage:
Usual Adult Dose: 200-100 unit per day
Usual Pediatric Dose: 1 unit/kg/day orally of water-miscible vitamin E
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

VITAMIN K (PHYTOMENADIONE; VITAMIN K1) (Konakion®)

P/P: Konakion 10mg chewable tab, 10's
Konakion 10mg/ml, 5's Inj
Adm: Oral prep may be taken with or without food
Category: Hemostatic
Indications: Treatment of hemorrhage or threatened hemorrhage associated w/ a low blood level of prothrombin. Vitamin K deficiency due to drugs or malabsorption; prevention of vitamin k deficiency bleeding; treatment of hemorrhagic disease of the newborn

Caution: Parenteral administration. Severe hemolytic anemia in neonates after large doses (10-20 mg); severe hepatic impairment; pregnancy.

Contra-Ind: Hypersensitivity.

D/I: Dicoumarol & its derivatives; Co administration of anticonvulsants can impair the action of Phytomenadione.

Side effects: Rarely, severe, shock-like reactions, phlebitis; flushing of the face, sweating, chest constriction on too rapid administration.

Dosage: Usual adult and adolescent dose: Oral, 2.5 to 10 mg, or up to 25 mg (rarely up to 50 mg)
Subcutaneous: 2.5 to 10 mg, or up to 25 mg (rarely up to 50 mg) may be repeated after six to eight hours if necessary
Usual pediatric dose: oral: Safety and efficacy have not been established.
Prophylaxis—Intramuscular, 0.5 to 1 mg within one hour of birth
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ZINC (Zinc AMR, Zinc-ACE®)

P/P: Zinc AMR 50mg caps, 60's (Elemental zinc 50mg)
Zinc-ACE tab, 30's (Elemental zinc 15mg+multivitamins)

Adm: Should be taken on an empty stomach (Best taken at least 1 hr before or 2 hr after meals.)

Category: Electrolytes & Minerals

Indications: Zn supplement

Caution: Pregnancy.

D/I: Chelation w/ tetracycline.

Side effects: Mild epigastric discomfort, nausea.

Dosage: 200 mg two to three times daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ZINC COMBINATION PREP (Stress tab®)

Stress tab with zinc tab, 30's (Vit C, Vit E, Vit B group, Ca, Zinc, Phosphorous, Cu)

OBSTETRICS, GYNAECOLOGY AND URINARY-TRACT DISORDERS

ALFUZOSIN HCL (Xatral XL®)

P/P:	Xatral XL 10mg tab, 30'S
Adm:	Should be taken with food
Category:	Alpha-adrenoreceptor antagonists.
Indications:	Treatment of certain functional symptoms of benign prostatic hypertrophy.
Caution:	Elderly. Coronary insufficiency; discontinue if angina reappears or worsens.
Contra-Ind:	Orthostatic hypotension, hepatic insufficiency, severe renal insufficiency, intestinal occlusion.
D/I:	Avoid combination w/ other α1-blockers or Ca antagonists
Side effects:	More frequently: GI disturbances, lipothymic events & headache. Less frequently: Dry mouth, tachycardia, chest pain, asthenia, drowsiness, rash, pruritus & flushes. Palpitation, orthostatic hypotension, & edema.
Dosage:	Usual Adult Dose: 10 mg orally once a day Renal Dose Adjustments: Severe renal insufficiency: Caution is advised Liver Dose Adjustments: Severe hepatic insufficiency: Contraindicated

ALPROSTADIL (Prostin VR®) (Restricted)

P/P:	Prostin VR 500mcg Inj
Category:	Prostaglandins; Drugs for Erectile Dysfunction
Indications:	Parenteral Maintenance of patency of ductus arteriosus in neonates with congenital heart disease Urethral; Intracavernosal Management of erectile dysfunction; diagnosis of erectile dysfunction
Caution:	Neonates receiving PGE1 for more than 120 hrs should be closely monitored for antral hyperplasia and gastric outlet obstruction; history of hemorrhage; monitor blood pressure, blood oxygenation and blood pH continually. Caution in COPD.
Contra-Ind:	Hypersensitivity to ingredients, hyaline membrane disease. Pregnancy.
Side effects:	Apnea, seizures, flushing. Bradycardia, hypotension, tachycardia. Bradypnea, bronchial wheezing, hypercapnia, resp depression. GI disturbances. Haematologic reactions.
Dosage:	Usual Adult Dose: INTRACAVERNOSUS: 1 to 40 mcg intracavernous injection into the lateral penis given over 5 to 10 seconds TRANSURETHRAL: 125 or 250 mcg inserted into the urethra Usual Pediatric Dose: 0.05 to 0.1 mcg/kg/min continuous IV infusion Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

ATOSIBAN (Tractocil®) (Restricted)

P/P: **Tractocil 7.5mg /ml Vial, Tractocil 37.5mg/ml Vial.**

Category: Oxytocin Receptor Antagonist (tocolytic)

Adm: Administer the loading infusion by infusing 24ml/hr (18gm/h) over 3 hrs under Adequate medical supervision in an obstetric unit, after 3 hrs the infusion rate is reduced to 8ml/hr.

Indications: To suppress premature labour.

Caution: Patient w/ abnormal placental site, intra-uterine growth restriction, multiple pregnancy, Hepatic impairment, lactation.

Contra-Ind: Gestational age below 24 or over 33 completed weeks
Premature rupture of the membranes >30 weeks of gestation
Abnormal foetal heart rate - Antepartum uterine hemorrhage,
Requiring immediate delivery - Eclampsia and severe pre-Eclampsia requiring delivery - intra-uterine foetal death,
Suspected intra-uterine infection, placenta praevia, abruptio placentae.

Side effects: Nausea, vomiting, headache, dizziness, flushes, insomnia, rashes, bleeding,
Allergic reaction, lung edema, tachycardia, hyperglycemia.

D/I: Increased risk of pulmonary oedema, w/ other tocolytic drugs.

Dosage: Adult: Females: IV: Initial: 6.75 mg bolus injection, followed by continuous infusion of 300 mcg/minute for 3 hours. Then decrease infusion rate to 100 mcg/minute for up to 45 hours; maximum: 330.75 mg/48 hours.
Renal Dose Adjustments: No dose adjustment required.
Liver Dose Adjustments: No dose adjustment required.

CARBETOCIN (Pabal®) (Restricted)

P/P: **Pabal 100 mg inj, 5's**

Category: Oxytocic agent

Adm: Administer as bolus I.V. injection over 1 minute only after delivery.

Indications: Prevention of uterine atony and postpartum hemorrhage following cesarean section

Caution: Hyponatremia, cardiovascular disease

Contra-Ind: Pre- eclampsia and eclampsia, epilepsy, hepatic impairment, renal impairment

Side effects: Flushing, hypotension, Headache, Chest pain, tachycardia, Baker pain.

Dosage: Adult: 100 micrograms carbetocin and administer only by intravenous injection.
Renal Dose Adjustments: renal disease: Contraindicated
Liver Dose Adjustments: Hepatic disease: Contraindicated.

CETRORELIX (Cetrotide®)

P/P: Cetrotide 0.25 MG VIAL SUBCTANEOUS

Adm: Administer by SUBQ injection following proper aseptic technique procedures. Injections should be to the lower abdomen, preferably around the navel (but staying at least 1 inch from the navel). The injection site should be rotated daily.

Category: OBSTERICS-GYNAECOLOGY

Indications: Cetrotide® (cetrorelix acetate for injection) is indicated for the inhibition of premature LH surges in women undergoing controlled ovarian stimulation.

Caution: Cetrotide® (cetrorelix acetate for injection) should be prescribed by physicians who are experienced in fertility treatment. Before starting treatment with Cetrotide®, pregnancy must be excluded (see CONTRAINDICATIONS and PRECAUTIONS).

Contra-Ind: Hypersensitivity to cetrorelix acetate, extrinsic peptide hormones or mannitol.
Known hypersensitivity to GnRH or any other GnRH analogs.
Known or suspected pregnancy, and lactation (see PRECAUTIONS).
Severe renal impairment

Side effects: 1% to 10%: Gastrointestinal: Nausea (1%)

Genitourinary: Ovarian hyperstimulation syndrome (4%)

Hepatic: Increased liver enzymes (1% to 2%; including increased gamma-glutamyl transferase, increased serum alanine aminotransferase, increased serum alkaline phosphatase, increased serum aspartate aminotransferase)

Nervous system: Headache (1%)

Dosage: Cetrotide® (cetrorelix acetate for injection) may be administered subcutaneously either once daily (0.25 mg dose) or once (3 mg dose) during the early- to mid-follicular phase.

CLINDAMYCIN PHOSPHATE (Dalacin, Avocin®)

**P/P: Dalacin vag cream 2%, 40gm
Avocin vag cream 2% 40 gm**

Adm: Intravaginally

Category: Anti-infective and antiseptics for vaginal conditions

Indications: For the treatment of bacterial vaginosis (also known as *H. vaginalis* vaginitis, *G. vaginalis* vaginitis, nonspecific vaginitis, *Corynebacterium* vaginitis, or anaerobic vaginosis).

Caution: Pregnancy, Lactation

Contra-Ind: Hypersensitivity to preparations containing clindamycin, lincomycin, or any components of the cream

Side effects: Itching; thick, white vaginal discharge with no odor or with mild odor

Dosage: Usual Adult Dose: Insert 1 applicatorful intravaginally once a day, preferably at bedtime.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

CLINDAMYCIN / TRETINOIN (Acretin-C)

P/P: **Acretin-C gel 30 gm**

Adm: Apply a pea-sized amount to the entire face once daily at bedtime. Do not apply to eyes, mouth, angles of the nose, or mucous membranes.

Category: Anti Acne

Indications: Indicated for the topical treatment of acne vulgaris in patients 12 years or older.

Caution: Colitis: Clindamycin can cause severe colitis, which may result in death. Diarrhea, bloody diarrhea, and colitis (including pseudomembranous colitis) have been reported with the use of clindamycin. Should be discontinued if significant diarrhea occurs.

Ultraviolet Light and Environmental Exposures: Avoid exposure to sunlight and sunlamps. Wear sunscreen daily.

Contra-Ind: in patients with regional enteritis, ulcerative colitis, or history of antibiotic-associated colitis.

Side effects: Observed local adverse reactions were skin erythema, scaling, itching, burning, and stinging. Other most commonly reported adverse events ($\geq 1\%$) were nasopharyngitis, pharyngolaryngeal pain, dry skin, cough, and sinusitis.

Dosage: Topical gel: Clindamycin phosphate 1.2% and tretinoin 0.025% gel in 2-, 30-, and 60-gram tubes.

CLOTRIMAZOLE (Canesten®)

P/P: Canesten vag tab 0.1gm, 6's, Canesten 1 vag tab 0.5gm
Canesten 1 vag cream 0.5gm

Adm: Intravaginally

Category: Antifungal vaginal preparations

Indications: Infectious vaginal discharge caused by fungi mainly Candida species. Superinfection w/
sensitive bacteria.

Caution: 1st trimester of pregnancy, children <2 yr.

D/I: Latex contraceptives

Side effects: Rarely local mild burning or irritation.

Dosage: Usual Adult Dose: 100 mg to 500mg intravaginally once a day or One applicatorful of 2%
clotrimazole vaginal cream intravaginally once daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

COMBINED ORAL CONTRACEPTIVES (Restricted)

Logynon tab, 21's (6 light brown tab contains Levonorgestrel 0.05mg+Ethynodiol diacetate 0.03mg; 5 white tab
contains Levonorgestrel 0.075mg+Ethynodiol diacetate 0.04mg; 10 ochreous tab
contains Levonorgestrel 0.125mg+Ethynodiol diacetate 0.03mg)

Microgynon tab, 21's (Levonorgestrel 150mcg+Ethynodiol diacetate 30mcg)

Cilest tab, 21's (Norgestimate 250mcg+ Ethynodiol diacetate 35mcg)

Marvelon tab, 21's (Desogestrel 150mcg+ Ethynodiol diacetate 30mcg)

Marvelon tab, 63's (Desogestrel 150mcg+ Ethynodiol diacetate 30mcg)

Minulet tab, 21's (Gestodene 75mcg+ Ethynodiol diacetate 30mcg)

Gynera tab, 21's (Gestodene 75mcg+ Ethynodiol diacetate 30mcg)

Gracial tab, 22's (7 blue tab's contains Desogestrel 250mcg+ Ethynodiol diacetate 40mcg; 15 white tab's
contains Desogestrel 125mcg+ Ethynodiol diacetate 30mcg)

Yasmin tab, 21's (Drospirenone 3mg+ Ethynodiol diacetate 0.030mg)

CONTRACEPTIVE PATCH (Evra®)

P/P: **Evra transdermal patch, 3's** (Norelgestromin 6 mg, ethynodiol diacetate 600 mcg)

(Releasing ethinyl estradiol approx.20mcg/24 hours and norelgestromin approx.150mcg/24 hours)

Adm: 1 patch applied on the buttock, abdomen, upper outer arm or upper torso on the 1st day of menses & worn for 7 days. Change days will be on cycle Days 8, 15, 22 & Day 1 of the next cycle. 7 patch-free days should start on Day 22.

Category: Other Contraceptives

Indications: Female contraception

Caution: Contra-Ind: D/I: Side effects: See Estrogens, progestogens

Dosage: A patch is applied each week for three weeks (21 total days).

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

DARIFENACIN (Enablex®)

P/P: **Enablex 7.5 mg tab, 28s**
Enablex 15 mg tab, 28s

Adm: May be taken with or without food.

Category: Anticholinergic agent

Indications: Management of bladder overactivity (urge incontinence, urgency, and frequency)

Contra-Ind: Hypersensitivity, uncontrolled narrow-angle glaucoma; urinary retention

Side effects: Hypertension, peripheral edema, Headache, dizziness, vomiting, weight gain

Dosage: Usual Adult Dose: 7.5 mg to 15 mg orally once daily

Renal Dose Adjustments: No adjustment recommended

Liver Dose Adjustments: Mild hepatic impairment: No adjustment recommended

Moderate hepatic impairment: Not to exceed 7.5 mg orally once daily

Severe hepatic impairment: Not recommended

Dapoxetine (Lejam®)

P/P: **Lejam 30mg F.C Tab 4"S, Lejam 60mg F.C Tab 4"S**

Adm: Oral, Administer with a glass of water, with or without food

Category: Selective Serotonin Reuptake Inhibitor (SSRI)

Indications: Premature ejaculation (PE) in adult males 18 to 64 year

Caution: Suicidal thinking/behavior, increase the risk with major depressive disorder and other psychiatric disorders

Contra-Ind: significant ischemic or valvular heart disease and cardiac conditions including heart failure (class II-IV), history of syncope, history of mania or severe depression, moderate to severe hepatic impairment, use with MAO inhibitors, other SSRIs, SNRIs, TCAs.

Side effects: Dizziness, Headache, Nausea, palpitation, increased blood pressure and anxiety (1% to <10%).

Dosage: Premature ejaculation: Initial: 30 mg once every 24 hours; administer 1 to 3 hours prior to sexual activity as needed, may increase to a maximum dose of 60 mg after 4 weeks without success if the initial dose is well-tolerated
Dosing: Altered Kidney Function: Adult CrCl 30 to 80 mL/minute: there are no dosage adjustment, use with caution CrCl <30 mL/minute: Use is not recommended
Dosing: Hepatic Impairment: Adult Mild impairment (Child-Pugh class A): There are no dosage adjustments, use caution Moderate to severe impairment (Child-Pugh class B or C): Use is contraindicated

DESMOPRESSIN ACETATE (See Endocrine system)

DESOGESTREL (Cerazette®) (Restricted)

P/P: Cerazette tab, 28's

Adm: May be taken with or without food.

Category: Progestogens; Oral Contraceptives

Indications: Contraception.

Caution: Increase risk of breast cancer; liver cancer; increased incidence of venous thromboembolism; diabetes, ectopic pregnancy. Avoid exposure to sun or UV radiation.

Contra-Ind: Known or suspected pregnancy. Active venous thromboembolic disorder. Presence or history of severe hepatic disease. Progestogen-dependent tumors. Undiagnosed vaginal bleeding.

D/I: Reduced efficacy with enzyme-inducing drugs; aminoglutethimide. May inhibit cyclosporin metabolism

Side effects: Mood alteration, decreased libido, headache, nausea, acne, breast pain, irregular menstruation, amenorrhea, wt increase.

Dosage: one tablet a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Dienogest (Visanne®)

P/P: Visanne 2mg Tab 28"S

Adm: Administer preferably at the same time each day with liquid and without regard to meals. Tablets should be taken continuously regardless of any vaginal bleeding. If vomiting and/or diarrhea occur within 3 to 4 hours of administration, repeat dose.

Category: Antiandrogen; Progestin

Indications: Endometriosis Management of pelvic pain associated with endometriosis

Caution: Use is associated with irregular menstrual bleeding, patients with a history of chloasma should avoid sun or ultraviolet radiation exposure during therapy, Ovarian cysts, Bone mineral density loss
In patients at risk for breast cancer, Use with caution in patients with cardiovascular disease, patients with depression.

Contra-Ind: Undiagnosed abnormal vaginal bleeding, active venous thromboembolic disorder; history of or current arterial and cardiovascular diseases, history of or current severe hepatic disease

Side effects: headaches, irregular uterine bleeding, breast tenderness, nausea/vomiting, acne and increased weight

Dosage: 2 mg once daily. Dosing may begin on any day of the menstrual cycle.

Dosing: Altered Kidney Function: Adult
No dosage adjustment necessary.

dosing: Hepatic Impairment: Adult
Mild to moderate impairment: No dosage adjustment provided
Severe impairment: Use is contraindicated in patients with a history of or current severe hepatic disease.

DINOSPROSTONE (Propess, Prostin®) (Restricted)

P/P: Prostin E2 2mg vaginal gel, 1's
Prostin E2 3mg vaginal tab, 4's
Propess 10mg vaginal pessary

Adm: Insert high into the posterior fornix.

Category: Prostaglandins; Drugs Acting on Uterus

Indications: Cervical priming, induction, and augmentation of labor

Caution: Glaucoma, history of asthma. Cephalopelvic relationships should be carefully evaluated before use. During use, uterine activity, fetal status & the progression of cervical dilatation should be evaluated at frequent interval. Possible uterine rupture if high-tone myometrial contractions are sustained. Monitor uterine activity if oxytocin is used.

Contra-Ind: Hypersensitivity to prostaglandins. Patients in whom oxytocics are generally contraindicated or those with history of pelvic inflammatory disease; active cardiac, pulmonary, renal or hepatic disease.

D/I: Concomitant use of oxytocin may lead to uterine rupture.

Side effects: GI upsets, uterine hypercontractility w/ or w/o fetal bradycardia, rapid cervical dilatation w/ low Apgar score; headache.

Dosage:

Usual Adult Dose for Labor Induction: Cervical gel: The 20 mm endocervical catheter should be used if no effacement is present, and the 10 mm catheter should be used if the cervix is 50% effaced.

Vaginal insert: The dosage of dinoprostone in the vaginal insert is 10 mg designed to be released at approximately 0.3 mg/hour over a 12-hour period. The dinoprostone vaginal insert should be removed upon onset of active labor or 12 hours after insertion.

Vaginal suppository: A suppository containing 20 mg of dinoprostone should be inserted high into the vagina. The patient should remain in the supine position for 10 minutes following insertion.

Renal Dose Adjustments

Cervical gel: recommends caution when administering this drug to patients with renal dysfunction.

Vaginal insert: Data not available

Vaginal suppository: Contraindicated in patients with active renal disease

Liver Dose Adjustments:

Cervical gel: recommends caution when administering this drug to patients with hepatic dysfunction.

Vaginal insert: Data not available

Vaginal suppository: Contraindicated in patients with active hepatic disease.

DOXAZOSIN (See Cardiovascular System)

Drospirenone and Ethynodiol (Yasmin®)

P/P: **Yasmin Tab 21"S**

Adm: Dose should be taken at the same time each day, preferably either after the evening meal or at bedtime.

Category: Contraceptive

Indications: Acne vulgaris, Contraception, Premenstrual dysphoric disorder, off-label use: (primary dysmenorrhea and secondary dysmenorrhea associated with endometriosis, hirsutism, hyperlactation, menstrual suppression, polycystic ovarian syndrome).

Caution: Bleeding irregularities, light increased risk of cervical cancer, Lipid effects
In patients at risk for breast cancer due to family history or susceptibility genes, Use with caution in patients with risk factors for cardiovascular disease, Use with caution in patients with depression, patient with migraine or headache

Contra-Ind: Breast cancer, Adrenal insufficiency, hepatic tumors or disease, renal impairment, undiagnosed abnormal uterine bleeding; use of hepatitis C drug combinations containing ombitasvir/paritaprevir/ritonavir with or without dasabuvir.
patients at high risk of arterial or venous thrombotic diseases including: Cerebrovascular disease, coronary artery disease, diabetes mellitus with vascular disease, deep vein thrombosis or pulmonary embolism.

Side effects: Premenstrual syndrome, headache /migraine, breast pain/tenderness/discomfort, nausea/vomiting, abdominal pain/tenderness/discomfort, mood changes

Dosage: Acne vulgaris, inflammatory, moderate to severe: Ethinyl estradiol 0.02 mg and drospirenone 3 mg
Contraception: Ethinyl estradiol 0.03 mg and drospirenone 3 mg
Hyperlactation (off-label use): ethinyl estradiol 0.02 to 0.035 mg. Do not initiate treatment <6 weeks postpartum; discontinue once milk production decreases (may significantly decrease within 7 days)
Menstrual suppression (off-label use): 1 tablet once daily. May consider initiating as cyclic therapy for 3 to 6 months, then transitioning to extended cycles.
Polycystic ovary syndrome in patients with hyperandrogenism and/or menstrual irregularities) (off-label use): 1 tablet once daily. Use a preparation with the lowest effective dose of ethinyl estradiol (eg, 0.02 to 0.03 mg)

Premenstrual dysphoric disorder: Ethinyl estradiol 0.02 mg and drospirenone 3 mg:

Dosing: Altered Kidney Function: Adult
Contraindicated in patients with renal dysfunction.

Dosing: Hepatic Impairment: Adult
Contraindicated in patients with hepatic dysfunction.

DULOXETINE (See Central nervous system)

ECONAZOLE NITRATE (Gyno-pevaryl, Gyno-coryl®)

P/P: 150mg vag ovules, 3's (Gyno-pevaryl, Gyno-coryl)
Vaginal cream 78gm (Gyno-coryl)

Adm: Intravaginally

Category: Antifungals

Indications: Vulvovaginal mycosis, balanitis mycotica, gm +ve infection.

Caution: Appropriate therapy is indicated if the sexual partner is also infected

Contra-Ind: Hypersensitivity. Porphyria; pregnancy.

D/I: Contact should be avoided between latex products such as contraceptive diaphragms or condoms and Gyno-Pevaryl since the rubber might be damaged.

Side effects: Burning sensation; erythema; itching

Dosage: Adults: One pessary should be inserted high into the vagina each evening for three consecutive days.
or One applicator full (approximately 5 g) intravaginally once daily
Children: pessary is not indicated for use in children under the age of 16 years.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

FENTICONAZOLE (Gyno-lomexin®)

P/P:	Gyno-lomexin 600mg vag supp, 1's Gyno-lomexin vag cream 25%
Adm:	Intravaginally
Category:	Antifungals
Indications:	Genital candidiasis (vulvovaginitis, colpitis), trichomoniasis, & mixed infections from sensitive organisms
Caution:	Appropriate therapy is indicated if the sexual partner is also infected
Contra-Ind:	Hypersensitivity to imidazole derivatives.
D/I:	Contact should be avoided between latex products such as contraceptive diaphragms or condoms and Gyno-Lomexin since the rubber might be damaged.
Side effects:	Erythematous reactions, burning sensation.
Dosage:	Adults: One 600 mg vaginal capsule once only, at bedtime or One applicator full (about 5 g) is administered into the vagina by a re-usable applicator (morning and evening for three days). Children: The use in children is not recommended. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

FLAVOXATE HYDROCHLORIDE (Genurin semplice®)

P/P:	Genurin semplice tab, 30's
Adm:	Should be taken on an empty stomach
Category:	Urinary antispasmodics
Indications:	Symptomatic relief of some disorders of the lower urinary tract, dysuria, nocturia& relief of vesico-urethral spasms resulting from instrumentation or surgery.
Caution:	Glaucoma, pregnancy. Lactation, hepatic and renal impairment.
Contra-Ind:	Childn <12 yr. Pyloric or duodenal obstruction, obstructive intestinal lesions of ileus, GI hemorrhage, obstructive uropathies of the lower urinary tract.
D/I:	Amantadine, some antihistamines, phenothiazine antipsychotics, tricyclic antidepressants, MAOIs; parasympathomimetics.
Side effects:	Nervousness, headache, drowsiness, increased ocular tension, disturbance in eye accommodation, urticaria, mental confusion, tachycardia, palpitation, hyperpyrexia, eosinophilia, and leukopenia
Dosage:	Usual Adult Dose: 100 to 200 mg orally 3 to 4 times daily

Usual Pediatric Dose: Greater than 12 years: 100 to 200 mg orally 3 to 4 times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Follitropin Alfa and Lutropin Alfa (Pergoveris®)

P/P:	Pergoveris 150/75 or 300/150 International Units Vial Subcutaneous 1"S
Adm:	subcutaneous injection
Category:	Gonadotropin; Ovulation Stimulator
Indications:	Infertility, ovulation induction
Caution:	Ectopic pregnancy, Ovarian enlargement, Ovarian hyperstimulation syndrome(rare), Pulmonary effects, Thromboembolic events, Gonadotropins may increase the risk of an acute porphyric attack in patients with porphyria or a family history of porphyria.
Contra-Ind:	Hypersensitivity to follitropin alfa, lutropin alfa or any component of the formulation, primary ovarian failure or anovulation with normal levels of LH and FSH; uncontrolled thyroid or adrenal dysfunction; tumors of the hypothalamus or pituitary gland; ovarian enlargement or cyst of undetermined origin; gynecological hemorrhages of undetermined origin; sex hormone dependent tumors of the reproductive tract and accessory organs; current pregnancy or lactation.
Side effects:	Abdominal pain, constipation, flatulence, nausea, Dysmenorrhea, mastalgia, ovarian cyst, pelvic pain, Fatigue, headache
Dosage:	(FSH) 150 units/luteinizing hormone (LH) 75 units once daily. If an increase in FSH is necessary, dose may be adjusted in increments of FSH 37.5 to 75 units every 7 to 14 days. Duration of stimulation in any 1 cycle may be extended up to 5 weeks
Dosing:	Altered Kidney Function: Adult There are no dosage adjustments
Dosing:	Hepatic Impairment: Adult There are no dosage adjustments

Ganirelix (Orgalutran®)

P/P:	Orgalutran 0.25mg/0.5ml Pre-Filled Syringe Subcutaneous 1"S
Adm:	Administer Subcutaneous
Category:	Gonadotropin Releasing Hormone Antagonist
Indications:	Adjunct to controlled ovarian hyperstimulation: To inhibit premature luteinizing hormone surges in patients undergoing controlled ovarian hyperstimulation.
Caution:	Concerns related to adverse effects, Hypersensitivity reactions

Contra-Ind:	Hypersensitivity to ganirelix, latex, or any component of the formulation; hypersensitivity to gonadotropin-releasing hormone (GnRH) or any other GnRH analog; known or suspected pregnancy, Moderate or severe renal impairment; moderate or severe hepatic impairment
Side effects:	Headache, Abdominal pain, nausea, Ovarian hyperstimulation syndrome, pelvic pain, vaginal hemorrhage, Injection-site reaction
Dosage:	250 mcg once daily during the mid-to-late phase after initiating follicle-stimulating hormone on day 2 or 3 of cycle. Treatment should be continued daily until the day of chorionic gonadotropin administration.
Dosing: Altered Kidney Function: Adult	There are no dosage adjustments
Dosing: Hepatic Impairment: Adult	There are no dosage adjustments

INTRA-UTERINE CONTRACEPTIVE DEVICE (Multiload Cu, Nova T Cu®)

P/P:	Multiload Cu 250 SL Copper contraceptive IUD Multiload Cu 375 SL Copper contraceptive IUD Nova T Cu 200 AG IUD
Adm:	To be inserted into the uterus. One administration is effective for 5 yr.
Category:	Other Contraceptives
Indications:	Intrauterine contraception
Caution:	Nulliparity; recent history of pelvic inflammatory disease; epilepsy; medical diathermy of abdominal & sacral area; valvular heart disease, anemia; severe dysmenorrhea; uterine scars, small uterine fibromyomata, endometrial polyps or endometriosis. Treatment w/ corticosteroids or NSAIDs.
Contra-Ind:	Pregnancy; ectopic pregnancy or predisposing factors; malformations or distortions of uterus or cervix; active pelvic inflammatory disease, presence or history of venereal disease, infected abortion w/in 3 mth; undiagnosed vag bleeding; coagulopathy, treatment w/ anticoagulant; disorders of copper metabolism; severe anemia. Large or multiple uterine fibromyomata w/ heavy menstrual periods.
D/I:	Effectiveness may be reduced by long-term treatment w/ NSAIDs, corticosteroids, antibiotics
Side effects:	Uterine cramps &/or abdominal pain; syncope, bradycardia, other neurovascular episodes during or immediately after insertion or removal of IUDs; breakthrough bleeding, prolongation of menstruation, dysmenorrhea; back & leg pain, dyspareunia; pelvic inflammatory disease; abnormal vag discharge; perforated uterus or cervix; spontaneous abortion; septicemia; ectopic pregnancy.

INTRA-UTERINE PROGESTOGEN ONLY CONTRACEPTIVE (Mirena®)

P/P:	Mirena Levonorgestrel IUCD
Adm:	To be inserted into the uterus. One administration is effective for 5 yr.
Category:	Other Contraceptives
Indications:	Contraception. Idiopathic menorrhagia. Protection from endometrial hyperplasia during estrogen replacement therapy.
Caution:	Discontinue treatment & remove system if patient experiences migraine for the 1st time, exceptionally severe headache; marked BP increase. The system should be removed after 5 yr.
Contra-Ind:	Known or suspected pregnancy; genital infection; confirmed or suspected uterine or cervical malignancy; undiagnosed abnormal uterine bleeding; congenital or acquired uterine anomaly including fibroids if they distort the uterine cavity; acute liver disease or liver tumor; active thrombophlebitis or thromboembolic disorder.
D/I:	Primidone, barbiturates, phenytoin, carbamazepine, rifampicin, oxcarbazepine, griseofulvin
Side effects:	Bleeding changes, benign ovarian cysts. Edema, wt gain, depressive mood, nervousness, mood lability, headache, abdominal & pelvic pain, nausea, acne, back pain, dysmenorrhea, vag discharge, cervicitis, breast tension, mastalgia, expulsion.

LEVONORGESTREL (Microlut®) (Restricted)

P/P:	Microlut tab, 35's
Adm:	May be taken with or without food
Category:	Progestogens Oral Contraceptives
Indications:	Contraception; 30 or 37.5 mcg daily when used alone or 50-250 mcg daily when used as a combination contraceptive Emergency contraception; 750 mcg as soon as possible or within 72 hrs of unprotected sexual intercourse, a 2nd dose is given after 12 hrs.
Caution:	Heart disease, sex-steroid dependent cancer, past ectopic pregnancy, malabsorption syndromes, functional ovarian cysts, active liver disease, recurrent cholestatic jaundice, history of jaundice in pregnancy
Contra-Ind:	Pregnancy, undiagnosed vaginal bleeding, severe arterial disease; liver adenoma, porphyria; after evacuation of hydatidiform mole; history of breast cancer.
D/I:	Reduced efficacy with enzyme-inducing drugs; aminoglutethimide. May inhibit ciclosporin metabolism

Side effects:	Menstrual irregularities; nausea, vomiting, headache, dizziness, breast discomfort, gynecomastia, depression, skin disorders, disturbance of appetite, weight changes, fluid retention, oedema, changes in libido, cholestatic jaundice, hair loss or hirsutism.
Dosage:	One tablet daily without any break, taken at the same time each day with some liquid as needed. Renal Dose Adjustments: Data not available Liver Dose Adjustments: contraindicated in presence or history of severe hepatic disease as long as liver function values have not returned to normal

MAGNESIUM CITRATE (Epimag, Magasorb, Magvyet®)

P/P:	Epimag sachets, 10's Magasorb 150 mg cap, 60s. Magvyet 250 mg cap, 60s
Adm:	take magnesium citrate on an empty stomach followed by a full glass of water
Category:	Mineral, Laxative
Indications:	Oxaluria, mild constipation
Caution:	Impaired renal function, rectal bleeding, pregnancy, lactation
Contra-Ind:	Hypersensitivity to any ingredient; nausea, vomiting or other symptoms of appendicitis; acute surgical abdomen; fecal impaction; intestinal obstruction; undiagnosed abdominal pain; intestinal bleeding; renal disease.
D/I:	May interact with tetracyclines, fluoroquinolones, nitrofurantoin
Side effects:	Palpitations, Dizziness; fainting, Excessive bowel activity; perianal irritation; bloating; flatulence; abdominal cramping, Sweating; weakness; fluid and electrolyte imbalance
Dosage:	Usual Adult Dose: 240 mL orally one time. Usual Pediatric Dose : < 6 years: 0.5 mL/kg orally up to a maximum of 200 mL 6 to 12 years: 100 to 150 mL orally one time. Renal Dose Adjustments: CrCl < 50 mL/min: Not recommended Liver Dose Adjustments: Data not available

METHYLERGOMETRINE HYDROGEN MALEATE (Methergin®)

P/P:	Methergin 0.2mg/ml Inj, 5's Methergin 0.125mg tab, 30's
Adm:	Oral prep may be taken with or without food
Category:	Ergot alkaloids; Drugs Acting on Uterus
Indications:	Prevention & treatment of postpartum hemorrhage, management of the 3rd stage of labor, uterine atony/hemorrhage/subinvolution, lochiometra & puerperal bleeding.
Caution:	Breech and abnormal fetal presentation; hypertension; chronic anemia; hepatic, renal, respiratory or cardiac impairment; toxemia; lactation.

Contra-Ind:	Pregnancy, 1st and 2nd stage of labor, patients with preeclampsia, eclampsia or threatened spontaneous abortion; porphyria.
D/I:	Enhanced vasoconstrictive effects with sympathomimetics and other vasoconstrictors. Halothane causes relaxation of uterine muscle and may interfere with ergometrine action. Enhanced uterotonic effect with prostaglandins and oxytocin.
Side effects:	Nausea, vomiting, abdominal pain, diarrhea; headache, dizziness; tinnitus; chest pain, palpitation, bradycardia, transient hypertension and other cardiac arrhythmias; dyspnea, sometimes rashes, shock.
Dosage:	Usual adult and adolescent dose: Oral, 200 to 400 mcg (0.2 to 0.4 mg) two to four times a day (every six to twelve hours) until the danger of uterine atony and hemorrhage has passed. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

METRONIDAZOLE (Amrizole®)

P/P:	Amrizole 500mg vaginal supp, 5's
Adm route:	Intravaginal
Category:	Preparations for Vaginal Conditions
Indications:	Leukorrhoea & vaginitis caused by Trichomonas vaginalis &/or bacteria & nonspecific vaginitis.
Caution:	Sexual partner should be treated concurrently.
Contra-Ind:	History of blood dyscrasia, active organic disease of CNS, 1st trimester of pregnancy, lactation.
Side effects:	Local irritation.
Dosage:	The usual dose: Adults and children over 10 years Use one 1g suppository, every 8 hours for 3 days. Children aged 5 - 10 years: Use one 500mg suppository, every 8 hours for 3 days Children aged 1 - 5 years: Use one half of a 500mg suppository, every 8 hours for 3 days Infants under 1 year old: Use one quarter of a 500mg suppository, every 8 hours for 3 days Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

MICONAZOLE NITRATE (Gyno-Daktarin, Mycoheal, Gyno-Mikazol®)

P/P:	400mg vag supp, 3's (Gyno-Daktarin, Mycoheal, Gyno-Mikazol) 200mg vag supp, 7's (Mycoheal, Gyno-Mikazol) 1200mg supp, 1's (Gyno-Daktarin) Vaginal cream (Gyno-daktarin 78gm, Mycoheal 50gm, Gyno-mikazol 78gm)
Adm:	Intravaginally

Category: Antifungal vaginal preparation

Indications: Local treatment of vulvovaginal candidosis & superinfection due to gm+ve bacteria.

Caution: Appropriate therapy is indicated if the sexual partner is also infected.

Contra-Ind: Hypersensitivity.

D/I: Contact should be avoided between latex products such as contraceptive diaphragms or condoms and Gyno-Daktarin since the rubber might be damaged.

Side effects: Rarely Burning, itching or irritation

Dosage:

Usual Adult Dose

Vaginal suppository:

1 day therapy: Insert 1200 mg suppository intravaginally at bedtime for 1 day.

3 day therapy: Insert 200 mg suppository intravaginally at bedtime for 3 days.

7 day therapy: Insert 100 mg suppository intravaginally at bedtime for 7 days.

Vaginal cream:

Intravaginally:

2% cream: Insert one applicatorful intravaginally at bedtime for 3 to 7 days.

4% cream: Insert one applicatorful intravaginally at bedtime for 3 days.

Usual Pediatric Dose: Topically: Apply to external vulvar area twice a day for up to 7 days, as needed.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

OXYTOCIN (Syntocinon®) (Restricted)

P/P: Syntocinon 5 IU Inj, 5's

Category: Drugs Acting on Uterus

Indications: Induction or enhancement of labour; Prevention & treatment of post-partum hemorrhage; incomplete, inevitable or missed abortion; Caesarean section after delivery. Puerperal hemorrhage, subinvolution of the uterus

Caution: Cardiovascular disorders; >35 yrs or other risk factors; for induction or enhancement of labour, use Syntocinon only as IV infusion; careful monitoring of foetal heart sounds & uterine contractions required.

Contra-Ind: Significant cephalopelvic disproportion, foetal malpresentation; placenta praevia, placental abruption, grand multiparity, history of major uterine surgery including caesarean section; severe toxemia, severe CV disorders.

D/I: Prostaglandins, inhalation anesth, vasoconstrictor agents.

Side effects: Occasionally, GI upset, water intoxication following prolonged administration of high doses of oxytocin in association w/ a large quantity of soln. Rapid infusion may result in acute, transient fall in BP. Cardiac arrhythmias. Neonatal jaundice

Dosage:

Induction or Stimulation of Labor: The initial dose should be 0.5–1 mU/min (equal to 3–6 mL of the dilute oxytocin solution per hour). At 30–60 minute intervals the dose should be gradually increased in increments of 1–2 mU/min until the desired contraction pattern has

been established. Once the desired frequency of contractions has been reached and labor has progressed to 5–6 cm dilation, the dose may be reduced by similar increments.

Control of Postpartum Uterine Bleeding: 1. Intravenous infusion 10 to 40 units of oxytocin may, (maximum 40 units to 1000 mL).

Intramuscular administration. (One mL) Ten (10) units of can be given after the delivery of the placenta.

Treatment Of Incomplete, Inevitable, Or Elective Abortion: Intravenous infusion of 10 units of added to 500 mL of a physiologic saline solution or 5% dextrose-in-water solution may help the uterus contract after a suction or sharp curettage for an incomplete, inevitable, or elective abortion.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

PARENTERAL PROGESTOGEN-ONLY CONTRACEPTIVE (Depo-Provera®)

Depo-Provera 150mg/ml, 3.3ml Inj (See Endocrine system)

PIPERAZINE+KHELLIN+HEXAMINE (Coli urinal®)

P/P:	Coliurinal effervescent granules 60gm (Each 100gm contains Piperazine citrate 3gm+Khellin 35mg+Hexamine 10gm)
Adm:	Coliurinal is better to be given after meals.
Category:	Urinary anti-infectives
Indications:	Urinary tract infections: pyelitis, pyelonephritis, cystitis, urethritis, etc. May help as adjuvant in cases of recurrent urate calculi.
Contra-Ind:	Impairment of renal or hepatic function
D/I:	Sulphathiazole (and may be other sulphonamides) forms insoluble urinary crystals with formaldehyde. Avoid such combination with hexamine containing preparations.
Side effects:	Occasionally slight nausea may occur.

POLICRESULEN (Condensation product of metacresolsulfonic acid & methanal) (Albothyl®)

P/P:	Albothyl Vaginal Supp, 6's
Adm:	1 supp to be inserted into vag every other day
Category:	Anti-infective and Antiseptics for vaginal conditions
Indications:	Vaginitis, vag & cervical discharge, ectopia of the portio vaginalis w/ inflammatory processes & erosion vera, cervicitis, hemostasis after biopsies & removal of cervical polyps, external urethral erosions.

Caution:	1st trimester of pregnancy. Lactation
Contra-Ind:	Concomitant use of other topical agents in treating the affected areas.
D/I:	The use of other local drugs on the same area should be avoided during treatment with albothyl.
Side effects:	Occasionally, mild local discomfort at beginning of treatment which disappears on continuation
Dosage:	<p>The usual dose is one vaginal suppository insert deeply to vagina at bed time.</p> <p>Renal Dose Adjustments: Data not available</p> <p>Liver Dose Adjustments: Data not available</p>

POTASSIUM IODIDE+ICHTHAMMOL+HAMAMELIS EXTRACT (Decongestyl®)

P/P:	Decongestyl Suppositories, 10's (Per supp: Potassium iodide 0.10gm+Ichthammol 0.5gm+Hamamelis extract 0.1gm)
Adm:	Rectal route
Category:	Prostate decongestant
Indications:	Relief of congestion in senile hypertrophy and inflammation of the prostate.
Dosage:	<p>One rectal suppository once or twice daily.</p> <p>Renal Dose Adjustments: Data not available.</p> <p>Liver Dose Adjustments: Data not available.</p>

POVIDONE IODINE V.D (Betadine, Betasept, Povidine, Piiodine®)

P/P:	Betadine V.D 120ml, Betasept V.D 130ml, Povidine V.D 200ml, Piiodine V.D 120ml
Adm:	Wash on the external genitals for approximately 15 sec
Category:	Anti-infective and Antiseptics for vaginal conditions
Indications:	Itching & irritation due to infection, menstruation, excessive secretions, menopause & pregnancy, postepisiotomy or repair of vag lacerations during childbirth
Caution:	Pregnancy, lactation
Contra-Ind:	Thyroid disorders; before or after radioactive Iodine therapy; should not be use prior to radio iodine scintigraphy or radio iodine treatment of thyroid carcinoma
D/I:	Concomitant use of products containing enzymatic component, hydrogen peroxide and silver leads to weakening effect of both substances. Absorbtion of iodine may interfere with thyroid function test.
Dosage:	<p>once to twice daily</p> <p>Renal Dose Adjustments: Data not available</p>

Liver Dose Adjustments: Data not available

ROWANEX CAPS (α -Pinene 24.8 mg, β -Pinene 6.2 mg, camphene 15 mg, borneol 10 mg, anethol 4 mg, fenchone 4 mg, cineol 3 mg, olive oil 33 mg) (Rowanex®)

P/P:	Rowanex caps, 100's
Adm:	Should be taken on an empty stomach
Category:	Urological drug; urolithiatic agent
Indications:	Prophylaxis & therapy of urolithiasis, cystitis, cystopyelitis, nephropathies, subacute & chronic nephritis; renal stones
Caution:	Patients receiving oral anticoagulant or other agents metabolized by the liver; Lactation. Increase liqd intake during therapy.
Contra-Ind:	1st trimester of pregnancy.
D/I:	Rowanex should be used with caution in patients on anticoagulants or drugs dependent on the liver for metabolism and excretion.
Dosage:	Adults: The usual dosage is 1 capsule 4 to 5 times daily before meals Children aged 6 to 14 years: The usual dosage is 1 to 2 capsules twice daily before meals. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

SILDENAFIL CITRATE (Viagra, Vero, Erecta®)

P/P:	Viagra 50mg tab, 4's, Viagra 100mg tab, 4's Vero 50mg tab, 4's, Erecta 50mg tab
Adm:	May be taken with or without food.
Category:	Erectile dysfunction drugs; phosphodiesterase type-5 (PDE5) inhibitors
Indications:	Treatment of erectile dysfunction
Caution:	In men for whom sexual activity is inadvisable. Patient w/ increased susceptibility to vasodilators. Patient at risk of non-arteritic anterior ischemic optic neuropathy (NAION); retinitis pigmentosa; bleeding disorders or active peptic ulceration. Anatomical deformation of the penis or in patients who have conditions which may predispose them to priapism.
Contra-Ind:	Men for whom sexual activity is inadvisable (patients w/ severe CV disorders eg unstable angina or severe cardiac failure). Severe hepatic impairment, hypotension (<90/50 mm Hg), recent history of stroke or MI, known hereditary degenerative retinal disorders such as retinitis pigmentosa. Co-administration w/ nitric oxide donors (eg amyl nitrite), nitrates in any form. Hypersensitivity to sildenafil.

D/I: Organic nitrates, nitric oxide donors (amyl nitrite), ritonavir, ketoconazole, itraconazole, erythromycin, cimetidine, saquinavir,

Side effects: Headache, flushing, dizziness, dyspepsia, nasal congestion, altered vision.

Dosage: Usual Adult Dose: Initial dose: 50 mg orally once a day, as needed, 1 hour prior to sexual activity, Maintenance: 25 to 100 mg orally once a day, as needed, 1 hour prior to sexual activity
Usual Geriatric Dose: Initial dose: 25 mg orally once a day 1 hour prior to sexual activity
Renal Dose Adjustments: Mild to moderate renal dysfunction (CrCl 30 to less than 80 mL/min): No adjustment recommended.
Severe renal dysfunction (CrCl less than 30 mL/min): 25 mg orally once a day 1 hour prior to sexual activity.
Liver Dose Adjustments: Initial dose: 25 mg orally should be considered in patients with any degree of hepatic impairment.

SODIUM BICARBONATE +SODIUM CHLORIDE+ +BORAX+MENTHOL (Vagyl®)

P/P: **Vagyl powder 10gm sachets, 10's** (Per 100 gm, Sodium Bicarbonate 77gm +Sodium Chloride 8gm+ +Borax 13.75 gm+Menthol 1.25gm)

Adm: Dissolve the content of one packet in one litre of warm water and mix thoroughly to be used as vaginal douche once or twice daily.

Category: Vaginal douche

Indications: Itching & irritation due to infection, menstruation, excessive secretions, leucorrhea, routine cleansing of vagina.

Dosage: once to twice daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SOLIFENACIN (Vesicare®) (Restricted)

P/P: **Vesicare 5mg tab, 30's**
Vesicare 10mg tab, 30's

Adm: May be taken with or without food

Category: Urinary antispasmodics

Indications: Treatment of symptoms of overactive bladder

Caution: Significant bladder outflow obstruction, GI obstructive disorders & decreased GI motility, severe renal & moderate to severe hepatic impairment. Children. Pregnancy & lactation

Contra-Ind: Patient undergoing kidney dialysis. Severe liver disease. Intolerance to some sugars.
Patient suffering from urinary retention; severe stomach or bowel condition; myasthenia gravis; high pressure in eyes w/ gradual loss of eyesight (glaucoma).

D/I:	Other anticholinergic agents, cholinergic receptor agonists (e.g., pilocarpine), metoclopramide.
Side effects:	Dry mouth, constipation, nausea, indigestion, abdominal pain, blurred vision
Dosage:	Usual Adult Dose: 5 mg to 10 mg orally per day. Renal Dose Adjustments: CrCl less than 30 mL/min: daily dose should not exceed 5 mg Liver Dose Adjustments: Solifenacin should not be administered in patients with severe liver dysfunction.

SPASMO-URGENIN TAB (Sabal extr, trospium Cl, echinacea extr) (Spasmourgenin®)

P/P:	Spasmourgenin tab, 40's
Adm:	Should be taken with food
Category:	Antispasmodic
Indications:	Micturition disorders in uncomplicated urethrocystitis, nonspecific urethritis, urethral syndrome, prostatitis& early benign adenomatous prostatic obstruction.
Contra-Ind:	Acute urinary retention, glaucoma, tachyarrhythmia, megacolon, prostatic enlargement w/ residual urine >100 mL, mechanical stenosis of GIT.
Side effects:	Possibility of adverse effects on reaction time
Dosage:	The usual dose is 2 tablets 3 times daily after meals. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TADALAFIL (Cialis Snafi®)

P/P:	Cialis 20mg tab, 4's; Snafi 20mg tab, 4's Cialis 5 mg tab, 28's
Adm:	May be taken with or without food.
Category:	Erectile dysfunction drugs; phosphodiesterase type-5 (PDE5) inhibitors
Indications:	Treatment of erectile dysfunction.
Caution:	Consider CV status of patient. Severe renal & hepatic insufficiency. Priapism-predisposing conditions. Anatomical penile deformation
Contra-Ind:	Concomitant use w/ organic nitrates. Men w/ cardiac disease for whom sexual activity is inadvisable
D/I:	Plasma conc increased by ketoconazole, ritonavir, saquinavir, erythromycin, clarithromycin, itraconazole& reduced by rifampicin, phenobarb, phenytoin, carbamazepine.

Side effects: Headache, dyspepsia, dizziness, flushing, nasal congestion, back pain, myalgia, swelling of eyelids, eye pain, conjunctival hyperaemia.

Dosage: Usual Adult Dose: 5 to 20 mg orally once a day, as needed, prior to sexual activity
Renal Dose Adjustments: CrCl 30 to 50 mL/min: 5 mg orally once a day. The maximum dose is 10 mg not more than once in every 48 hours.
CrCl less than 30 mL/min or on hemodialysis: The maximum dose is 5 mg orally once every 72 hours.
Liver Dose Adjustments: Mild to moderate hepatic dysfunction 10 mg orally once a day
Severe hepatic dysfunction: Not recommended.

TAMSULOSIN HYDROCHLORIDE (Omnic, Prosta®) (Restricted)

P/P: Omnic Ocas 0.4mg tab, 30's
Prosta – tab 0.4mg tab, 30's

Adm: Should be taken with food

Category: Alpha-adrenoreceptor antagonists

Indications: Bladder outlet obstruction associated w/ benign prostatic hyperplasia

Caution: Prostate carcinoma, orthostatic hypotension. Serious hepatic or renal dysfunction. Elderly.

Contra-Ind: Hypersensitivity, severe hepatic impairment; lactation. Concomitant use w/ vardenafil HCl hydrate.

D/I: Concomitant administration with cimetidine causes significant decrease in tamsulosin clearance. Vardenafil HCl hydrate, other antihypertensives, sildenafil citrate.

Side effects: Postural hypotension, dizziness and vertigo; headache, infection, asthenia, back pain, chest pain, somnolence, insomnia, decreased libido, rhinitis,

Dosage: Usual Adult Dose: 0.4 mg orally once a day, Maximum Dose: 0.8 mg orally once a day
Renal Dose Adjustments: Renal impairment (CrCl greater than 10 mL/min): No adjustment recommended, End-stage renal disease (CrCl less than 10 mL/min): Data not available
Liver Dose Adjustments: Mild or moderate hepatic impairment: No adjustment recommended, Severe hepatic impairment: Data not available.

TERAZOSIN (See Cardiovascular System)

TOLTERODINE TARTARATE (Detrusitol®)

P/P: Detrusitol 2mg tab, 28's
Detrusitol Retard 4mg tab, 14's

Adm: May be taken with or without food.

Category: urinary antispasmodics

Indications: Treatment of overactive bladder w/ symptoms of urinary urgency, frequency or urge incontinence.

Caution: Significant bladder outlet obstruction at risk for urinary retention, GI obstructive disorders, renal disease, hepatic disease, autonomic neuropathy, hiatus hernia.

Contra-Ind: Urinary retention, uncontrolled narrow angle glaucoma, myasthenia gravis, severe ulcerative colitis, toxic megacolon. Pregnancy, lactation

D/I: Muscarinic cholinergic receptor agonists, metoclopramide, cisapride, erythromycin, clarithromycin, ketoconazole, itraconazole, miconazole.

Side effects: Dry mouth, GI disturbances, headache, xerophthalmia, dry skin, somnolence, nervousness, paresthesia, accommodation disturbances, chest pain, urinary retention, confusion.

Dosage: Usual Adult Dose: 2 mg orally twice a day, Extended-release tablets: 4 mg orally once a day.
Renal Dose Adjustments: Significantly reduced renal function:
Tablets: 1 mg orally twice a day
Extended-release tablets: 2 mg orally once a day
Liver Dose Adjustments: Significantly reduced hepatic function
Tablets: 1 mg orally twice a day
Extended-release tablets: 2 mg orally once a day

TROPIUM (Spasmolyt, Spasmex®)

P/P: **Spasmolyt 20mg tab, 30's**
Spasmex 30 mg tab, 50's

Adm: Should be taken on an empty stomach.

Category: urinary antispasmodics

Indications: Overactive bladder and symptoms of urinary incontinence, frequency, and urgency

Contra-Ind: Urinary retention, renal failure, severe GI conditions.

D/I: Amantadine, metoclopramide

Side effects: Dry mouth, dyspepsia, constipation, abdominal pain and nausea

Dosage: Usual Adult Dose: Immediate-release tablets: 20 mg orally twice daily
Extended-release tablets: 60 mg orally once daily in the morning
Usual Geriatric Dose: Immediate-release tablets: Greater than or equal to 75 years: 20 mg orally once daily.
Renal Dose Adjustments: Immediate-release tablets: CrCl 30 mL/min: 20 mg orally once daily at bedtime.
Extended-release: CrCl 30 mL/min: Not recommended, CrCl 30 to 80 mL/min: Data not available.

Liver Dose Adjustments: Caution should be exercised in patients with moderate and severe hepatic dysfunction.

URALYT U GRANULES (Uralyt U®)

P/P:	Uralyt U granules
Adm:	Should be taken with food
Category:	Drugs for urological problems.
Indications:	Uralyt-U is used to dissolve uric acid calculi in the urinary tract and to prevent further stone formation.
Caution:	Investigation of the state of electrolyte and acid-base balance in patients with impaired excretory function (renal failure, anuria) or dehydration. Retention of K+ and Na+ may occur in patients with bilateral impairment of renal function.
Contra-Ind:	Uralyt-U should not be used in patients with acute or chronic renal failure; in cases where sodium chloride is absolutely prohibited; in serious disorders of acid-base balance (metabolic alkalosis); or in chronic urinary tract infections with urea splitting bacteria.
D/I:	If the patient is concurrently taking digitalis, the physician should bear in mind that the average daily dose of Uralyt-U (10 g of granules) contains approximately 1.75 g (44 mmol) of potassium.
Side effects:	Gastrointestinal discomfort may occur, although very rarely.
Dosage:	Four measuring spoon (10 g of the granules) per day. Renal Dose Adjustments: it is contraindicated in patient with acute or chronic renal failure. Liver Dose Adjustments: use with Caution.

VARDENAFIL HCL TRIHYDRATE (Levitra®)

P/P:	Levitra 10mg tab, 4's; Levitra 20mg tab, 4's
Adm:	May be taken with or without food.
Category:	Erectile dysfunction drugs; phosphodiesterase type-5 (PDE5) inhibitors
Indications:	Treatment of erectile dysfunction.
Caution:	Consider CV status. Anatomical deformation of penis or conditions predisposing to priapism. Severe hepatic impairment, renal disease requiring dialysis, hypotension, recent history of stroke or MI, unstable angina, retinal disorders. Bleeding disorders or active peptic ulceration.
Contra-Ind:	Patients treated w/ nitrates or nitric oxide donors. HIV protease inhibitors e.g., indinavir & ritonavir.

D/I: Erythromycin, ritonavir, indinavir, itraconazole&ketoconazole oral form may increase plasma levels of vardenafil.

Side effects: Headache, flushing, dizziness, nasal congestion, dyspepsia, nausea.

Dosage: Adults: 10 mg approximately 60 min prior to sexual activity, Max dosage is 20 mg once daily

Elderly (65 y and older): 5 mg starting dose is recommended.

Hepatic Function Impairment: 5 mg dose is recommended in patients with moderate hepatic impairment. it is contraindicated in patients with moderate or severe hepatic impairment

Renal dose Adjustment: Do not use in patients on renal dialysis

RESPIRATORY SYSTEM

AMBROXAL (Mucosolvan, Ambolar, Riabroxal®)

P/P: 30mg tab, 20's (Mucosolvan, Riabroxal)
3mg/ml, 100ml syrup (Mucosolvan, Ambolar, Riabroxal)

Adm: Should be taken with food.

Category: Mucolytics

Indications: Acute & chronic diseases of the resp tract esp. chronic bronchitis, Bronchial asthma, bronchiectasis.

Caution: Pregnancy, Lactation

Side effects: Mild GI effects & allergic reactions.

Dosage: Adults: daily dose of 30 mg to 120 mg taken in 2 to 3 divided doses

Children up to 2 years: half teaspoonful Ambroxol syrup twice daily

Children 2 - 5 years: half teaspoonful Ambroxol syrup 3 times daily

Children over 5 years: One teaspoonful Ambroxol syrup 2-3 times daily.

BECLOMETHASONE DIPROPIONATE (Becloforte, Becotide, Beclazone®)

P/P: Becloforte 250mcg inhaler, Clenil forte 250mcg spray
Becotide inhaler (50mcg, 100mcg)
Beclazone inhaler (100mcg, 250mcg, 50mcg)

Category: Inhalation Corticosteroid, antiasthmatic

Indications: Bronchial asthma & asthmatic bronchitis which are not adequately controlled w/ the usual doses of inhaler

Caution: Patients undergoing systemic corticotherapy or experiencing periods of stress or severe asthma attacks, Pregnancy, Prolonged use

Contra-Ind: Active or quiescent pulmonary TB & local viral infections, herpes simplex.

Side effects: Occasionally, oropharyngeal candidiasis, hoarseness, & dry mouth

Dosage: Children 5 to 11 years: Initial: 40 mcg twice daily; maximum dose: 80 mcg twice daily
Children ≥12 years, Adolescents, and Adults: Patients previously on bronchodilators only: Initial dose 40 to 80 mcg twice daily; maximum dose: 320 mcg twice daily
Patients previously on inhaled corticosteroids: Initial dose 40 to 160 mcg twice daily; maximum dose: 320 mcg twice daily

BENZOIN TINCTURE COMP

P/P: **Sumatra benzoin (10%), Styrax (5%), Alcohol (96%) to complete 100ml**

Indications: In the form of a tincture (i.e., a solution in alcohol) benzoin is used as an inhalant with steam for the relief of cough, laryngitis, bronchitis, and upper respiratory tract disorders. It can be applied to minor cuts as a styptic and antiseptic. It is also used as an oral mucosal protectant, for recurring canker sores.

BERACTANT (Survanta®)

P/P: **Survanta intratracheal suspension 25mg/ml, 8ml vial**

Category: Pulmonary surfactant

Indications: Prevention & treatment of respiratory distress syndrome (RDS) (hyaline membrane disease) in premature infant

Caution: Continuous monitoring required avoiding hyperoxaemia

Side effects: Pulmonary hemorrhage

Dosage: Usual Pediatric Dose: Less than 48 hours of life:
Prevention of RDS in infants less than 1250 g birth weight: 100 mg/kg birth weight intratracheally, preferably within 15 minutes of birth
Treatment (rescue) of RDS: 100 mg/kg birth weight intratracheally, preferably by 8 hours of age
Maintenance dose: Doses of 100 mg/kg birth weight can be repeated every 6 hours
Maximum dose: Total of 4 doses within 48 hours of life
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BREXIPIRAZOLE (Rexulit®)

P/P:	Rexulit 1mg tab, 28's Rexulit 2mg tab, 28's Rexulit 3mg tab, 28's Rexulit 4mg tab, 28's
Adm:	Oral prep should be taken with or without food.
Category:	Atypical Antipsychotic.
Indications:	Major depressive disorders and schizophrenia.
Caution:	CNS depression, Dyslipidemia and extrapyramidal symptoms
Contra-Ind:	Hypersensitivity (eg, anaphylaxis, facial swelling, rash, urticaria) to brexpiprazole or any component of the formulation
D/I:	Acetylcholinesterase Inhibitors, Antidiabetic Agents and Anti-Parkinson Agents.
Side effects:	Central nervous system, Endocrine & metabolic disorder.
Dosage:	Oral: Initial: 0.5 mg or 1 mg once daily; titrate at weekly intervals based on response and tolerability to 1 mg once daily (if initial dose is 0.5 mg), followed by 2 mg once daily; maximum daily dose: 3 mg

BROMHEXINE (Bisolvon, Riaxine, Mucolyte®)

P/P:	4mg tab, 20's (Bisolvon) 8mg tab, 20's (Bisolvon, Ezolvin) 4mg/5ml Elixir, 100ml (Bisolvon, Riaxine, Mucolyte) 2mg/ml solution, 40ml (Bisolvon) 4mg/2ml inj, 5's (Bisolvon)
Adm:	Oral prep should be taken with food.
Category:	Mucolytics
Indications:	Reduction of sputum viscosity.
Caution:	Gastric ulceration, 1st trimester of pregnancy.
Contra-Ind:	Lactation.
D/I:	Oral anticoagulants.
Side effects:	GI discomfort, transitory rise in serum transaminase levels.
Dosage:	Adults and children 12 years and older: One tablet to be taken 3 times daily or 10mL to be taken 3 times daily Children 6-12 years old: Half tablet to be taken 3 times daily or 5mL to be taken 3 times daily Children 2-5 years old: 2.5 mL to be taken 3 times daily

BUDESONIDE (Pulmicort®)

P/P: Pulmicort turbohaler, 200 doses (100mcg, 200mcg)
Pulmicort nebulles 1mg/2ml, 5's

Category: Inhalation Corticosteroid, antiasthmatic

Indications: Maintenance treatment of asthma as prophylactic therapy in adults and children and for patients requiring oral corticosteroid therapy for Bronchial asthma.

Caution: Care in patients transferred from systemic to inhaled glucocorticosteroids. Impaired liver function. Pulmonary TB, Children, pregnancy, & lactation.

Contra-Ind: Not intended for rapid relief of acute episodes of asthma where an inhaled short-acting bronchodilator is required

D/I: Concomitant administration of strong CYP3A4 inhibitors e.g. ketoconazole, ritonavir, Grapefruit juice

Side effects: Mild irritation in the throat & hoarseness occasionally. Candida infection in the oropharynx, rash, contact dermatitis, urticaria, angioedema, & bronchospasm, nervousness, restlessness, depression, & behavioral disturbance.

Dosage: Inhalation powder: Usual Adult Dose: 200 mcg to 400 mcg twice daily.
Usual Pediatric Dose: 6 years or older: 200 mcg to 400 mcg twice daily.
Inhalation suspension: 1 to 8 years: 0.5 mg to 1 mg /day given once or twice daily in divided doses
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Patients with moderate to severe liver disease should be monitored for increased signs and/or symptoms of hypercorticism.

CALFACTANT (Infasurf®)

P/P: Infasurf 35mg/ml 6ml Vial Intratracheal

Adm: FOR INTRATRACHEAL ADMINISTRATION ONLY
Infasurf should be administered under the supervision of clinicians experienced in the acute care of newborn infants with respiratory failure who require intubation.

Category: PULMONARY SURFACTANT

Indications: Infasurf is indicated for the prevention of respiratory distress syndrome (RDS) in premature infants at high risk for RDS and for the treatment ("rescue") of premature infants who develop RDS. Infasurf decreases the incidence of RDS, mortality due to RDS, and air leaks associated with RDS.

Caution: When repeat dosing was given at fixed 12-hour intervals in the Infasurf vs Exosurf Neonatal® trials, transient episodes of cyanosis, bradycardia, reflux of surfactant into the endotracheal tube, and airway obstruction were observed more frequently among infants in the Infasurf-treated group. An increased proportion of patients with both intraventricular

hemorrhage (IVH) and periventricular leukomalacia (PVL) was observed in Infasurf-treated infants in the Infasurf-Exosurf Neonatal® controlled trials. These observations were not associated with increased mortality. No data are available on the use of Infasurf in conjunction with experimental therapies of RDS, e.g., high-frequency ventilation. Data from controlled trials on the efficacy of Infasurf are limited to doses of approximately 100 mg phospholipid/kg body weight and up to a total of 4 doses.

- Contra-Ind: There are no contraindications listed in the manufacturer's labeling.
- Side effects: The most common adverse reactions associated with Infasurf dosing procedures in the controlled trials were: cyanosis (65%), airway obstruction (39%), bradycardia (34%), reflux of surfactant into the endotracheal tube (21%), requirement for manual ventilation (16%), and reintubation (3%). These events were generally transient and not associated with serious complications or death.
- Dosage: Each dose of Infasurf is 3 mL/kg body weight at birth. Infasurf has been administered every 12 hours for a total of up to 3 doses.

CARBOCISTEINE (Rhinathiol®)

- P/P: Rhinathiol 375mg caps, 30's
Rhinathiol Adult syrup, 250mg/5mL, 125 mL
Rhinathiol Ped syrup, 100mg/5mL, 125 mL
Rhinathiol Promethazine syrup, 125mL (Per 5 mL Carbocisteine 100 mg, promethazine HCl 2.5 mg)
- Adm: Should be taken with food
- Category: Mucolytic
- Indications: Resp disorders w/ difficulty in expectorating by loosening bronchial secretions in cases of bronchial congestion, particularly during acute episodes of bronchitis.
- Caution: History of peptic ulceration.
- Contra-Ind: Active peptic ulceration.
- Side effects: Nausea, gastric discomfort, GI bleeding, skin rash.
- Dosage: Adults including the elderly: 10 to 15 ml three times daily
Children: The normal daily dosage is 20 mg/kg bodyweight in divided doses.

CETIRIZINE HYDROCHLORIDE (Glotrin, Cetralon, Zyrtec, Artiz, Zertazine®)

- P/P: 10mg tab, 10's (Zyrtec, Artiz, Zertazine)
10mg tab, 20's (Zertazine)
5mg/5mL x 75 ml (Zyrtec, Cetralon)

5mg/5mL x 100 ml (Zertazine, Glotrizin)

Adm: May be taken with or without food.

Category: Non-sedating Antihistamines & Antiallergics

Indications: Chronic urticaria, pruritus, allergic rhinitis, & conjunctivitis

Caution: May cause drowsiness and may affect ability to drive/operate machines.

Contra-Ind: Pregnancy, Breast feeding, severe renal impairment

D/I: Alcohol, CNS depressants, other cough, cold, or allergy medicines.

Side effects: Headache, pharyngitis, abdominal pain, coughing, somnolence, diarrhea, epistaxis, bronchospasm, nausea, vomiting, excessive tiredness, dry mouth, sore throat, dizziness, fatigue.

Dosage: Usual Adult Dose: 5 to 10 mg once a day.
Usual Pediatric Dose: 6 months to 2 years: 2.5 mg orally once a day, 12 months and older may be increased to 2.5 mg orally twice a day.
2 to 5 years: 2.5 mg orally once a day, may be increased to 5 mg/day in 1 to 2 divided doses.
6 years or older: 5 to 10 mg once a day.

CETYL PYRIDINIUM (Septolete®)

P/P: Septolete 1.2 MG LOZENGE

Adm: Vigorously swish between teeth; do not swallow.

Category: Antiseptic, Oral Mouthwash

Indications: Antiseptic

Caution: Accidental ingestion: If an amount greater than used for rinsing is swallowed, seek professional assistance or contact a poison control center immediately. • Self-medication (OTC use): Stop use and consult a healthcare professional if symptoms or condition worsening or persists; if gingivitis, bleeding, or redness persists for more than 2 weeks; if gums are painful and swollen; if pus from the gum line, loose teeth, or increased spacing between the teeth occurs. Avoid contact with eyes.

Contra-Ind: Hypersensitivity to cetylpyridinium or any component of the formulation

Side effects: There are no adverse reactions listed in the manufacturer's labeling.

Dosage: SEPTOLETE 1.2 MG LOZENGE

Chlorphenamine (Allerfin, Zistan®)

P/P:	Allerfin 10 mg/ml ampule, Zistan 2mg/5ml syrup, Zistan 4 mg tab
Adm:	Intravenous and Oral
Category:	Anti-Histaminic
Indications:	Oral Solution is a combination of hydrocodone bitartrate, an antitussive, and chlorpheniramine maleate, a histamine-1 (H1) receptor antagonist, indicated for relief of cough and symptoms associated with upper respiratory allergies or a common cold
Caution:	Dose-related respiratory depression: Use with caution Drug Dependence: Prescribe with caution that is appropriate to the use of other opioids
Contra-Ind:	Patients with known hypersensitivity to hydrocodone bitartrate, chlorpheniramine, or any of the inactive ingredients Patients receiving monoamine oxidase inhibitor (MAOI) therapy or within 14 days of stopping such therapy Patients with narrow angle glaucoma, urinary retention, severe hypertension or severe coronary artery disease
Side effects:	Most common adverse reactions were sedation, somnolence, mental clouding, lethargy, impairment of mental and physical performance, anxiety, fear, dysphoria, dizziness, nausea, psychic dependence, mood changes; blurred, double, or other visual disturbances; confusion, headache, euphoria, facial dyskinesia, feeling faint, lightheadedness, agitation, irritability, tremor
Dosage:	Oral: Immediate release: Oral liquid (2 mg/5 mL): Children 2 to <6 years: Limited data available: 1 mg every 4 to 6 hours; maximum daily dose: 6 mg/day (Fitzsimons 2015). Children 6 to <12 years: 2 mg every 4 to 6 hours; maximum daily dose: 12 mg/day. Children ≥12 years and Adolescents: 4 mg every 4 to 6 hours; maximum daily dose: 24 mg/day. Tablets: Children 6 to <12 years: 2 mg every 4 to 6 hours; maximum daily dose: 12 mg/day. Children ≥12 years and Adolescents: 4 mg every 4 to 6 hours; maximum daily dose: 24 mg/day. Extended-release tablet: Children ≥12 years and Adolescents: 12 mg every 12 hours; maximum dose: 24 mg in 24 hours. IM, IV, or SUBQ [International product]: Infants 1 month to <1 year: 0.25 mg/kg per dose. Children 1 to <6 years: 2.5 to 5 mg per dose or 0.2 mg/kg per dose.

Children 6 to 12 years: 5 to 10 **mg** per dose or 0.2 **mg/kg** per dose.
Children >12 and Adolescents: 10 to 20 **mg** per dose or 0.2 **mg/kg** per dose.

Ciclesonide (Alvesco®)

P/P: **Alvesco 160 mcg, inhaler.**
Alvesco 80 mcg, inhaler.

Category: Inhalation Corticosteroid

Indications: Prophylactic management of bronchial asthma

Caution: May cause hypercorticism or suppression of hypothalamic-pituitary-adrenal (HPA),
Particularly in patients receiving high doses for prolonged periods.

Contra-Ind: Hypersensitivity to Ciclesonide or any component of the formulation primary treatment
of acute asthma or status asthmaticus; moderate-to-severe bronchiectasis.

Side effects: Headache, Nasopharyngitis, facial edema, urticaria, oral candidiasis, nasal congestion

Dosage: Patients ≥ 12 years who received bronchodilators alone: 80 mcg to 160 mcg twice daily
Patients ≥ 12 years who received inhaled corticosteroids: 80 mcg to 320 mcg twice daily.
Patients ≥ 12 years who received oral corticosteroids: 320 mcg twice daily.

CLEMASTINE HYDROGEN FUMARATE (Tavegyl®)

P/P: **Tavegyl 1mg tab, 20's**
Tavegyl syr 0.1mg/ml, 100ml
Tavegyl 2mg/2ml, 3's

Adm: Oral may be taken with or without food

Category: Sedating Antihistamines & Antiallergics

Indications: Urticaria, drug eruptions, itching dermatoses, adjuvant in acute & chronic eczema, insect stings, & bites. Hay fever & other allergic rhinopathies.

Caution: Caution when driving vehicles or operating machinery, stenosing peptic ulcer, pyloroduodenal obstruction, prostatic hypertrophy w/ urinary retention or bladder neck obstruction. Pregnancy

Contra-Ind: Hypersensitivity; narrow-angle glaucoma; neonates, lactation; porphyria.

D/I: MAOIs, sedatives, hypnotics, alcohol

Side effects: Fatigue, sedation. Rarely, dry mouth, headache, dizziness, skin rash, GI disturbances

Dosage:
Usual Adults Dose: 1mg Clemastine base (one tablet) night and morning.
Children: 1 to 3 years: 250 micrograms to 500 micrograms night and morning.
3 to 6 years: 500 micrograms night and morning.
6 to 12 years: 500 micrograms to 1000 micrograms night and morning.

COMPOUND ANTIHISTAMINIC PREPARATIONS

P/P: Carboxoxamine maleate 2mg, pseudoephedrine 25 mg/1ml (**Rhinostop 15ml oral drops**)
Cetirizine HCl 5 mg, pseudoephedrine HCl 120 mg (**Cirrus caps, 14's**)
Chlorpheniramine maleate 0.75mg, pseudoephedrine HCl 15 mg, Paracetamol 120mg/5ml
(**Fludrex syrup, 120ml**)
Chlorpheniramine maleate 2mg, pseudoephedrine HCl 30 mg, Paracetamol 500mg
(**Panadol Cold & Flu tab,24's**)
Chlorpheniramine maleate, 2mgpseudoephedrine HCl 30 mg, Paracetamol 325mg (**Adol allergy sinus caplet, 24's**)
Diphenhydramine 25mg, pseudoephedrine HCl 30 mg Paracetamol 500mg (**Flutab, 20's, Otricold, 20s**)
Diphenhydramine HCL 25mg, Paracetamol 325mg (**Adol PM Caplet, 24's**)
Diphenhydramine HCL 25mg, Paracetamol 500mg (**Panadol Night Caplets, 20's**)
Loratadine 5 mg, pseudoephedrine 120 mg (**Claritin tab, 14's**)
Loratadine 5 mg, pseudoephedrine 60 mg/5ml (**Lorinase 100ml syrup, Defonase**)
Paracetamol 400mg, Pseudoephedrine 30mg, Caffeine 32mg, Chlorpheniramine maleate 3mg
(**Fludrex tab,24's**)
Pseudoephedrine HCl 30 mg Ibuprofen 200mg (**Advil cold & sinus tab, 20's**)
Pseudoephedrine HCl 30 mg, Paracetamol 325mg (**Adol Sinus Caplet, 24's**)
Pseudoephedrine HCl 30 mg, Paracetamol 325mg, Dextromethorphan 15mg (**Adol cold caplet, 24's**)
Pseudoephedrine HCl 30 mg, Paracetamol 500mg (**Panadol Sinus Caplet, 24's**)
Pseudoephedrine HCl 30 mg, Paracetamol 500mg (**Sino free tab, 20's**)
Triprolidine HCl 1.25 mg, pseudoephedrine HCl 30 mg, Guaifenesin 100mg/5ml (**Rinofed Exp syr, 100ml**)
Triprolidine HCl 1.25 mg, pseudoephedrine HCl 30 mg/5ml (**Rinofed syr,100ml, Sedofan syr,100ml**)

Triprolidine HCl 1.5 mg, pseudoephedrine HCl 30 mg/5ml (**Flucare syr, 100ml**)

Triprolidine HCl 2.5 mg, pseudoephedrine HCl 60 mg (**Actifed tab, 25's, Sedofan tab, 30's, Trifed tab, 20's**)

CYPROHEPTADINE HCL (Periactin®)

P/P:	Periactin 4mg tab, 20's
Adm:	May be taken with or without food (May be taken w/ meals to reduce GI discomfort.)
Category:	Serotonin and histamine antagonist.
Indications:	Symptomatic relief of allergy such as hay fever, urticaria; migraine, appetite stimulant
Caution:	Elderly; epilepsy; tasks requiring mental alertness e.g., driving or operating machinery; symptomatic prostate hypertrophy; epilepsy; alcoholism; pregnancy.
Contra-Ind:	Narrow-angle glaucoma; acute asthmatic attack; bladder neck obstruction; stenosing peptic ulcer; GIT obstruction; MAOIs therapy; hypersensitivity; neonates, lactation.
D/I:	Potentiate CNS depressant actions of alcohol, barbiturates, sedatives, opioid analgesics, and neuroleptics. Additive antimuscarinic action with MAOIs, atropine and tricyclic antidepressants
Side effects:	Slight to moderate drowsiness, fatigue; dry mouth, GI upsets, nausea; appetite increase, weight gain and impaired alertness.
Dosage:	Usual Adult Dose: 12 to 16 mg/day Usual Pediatric Dose: 0.25 mg/kg/day taken two to three times a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: caution is advised when it is administered to patients with impaired hepatic function.

DESLORATADINE

P/P:	5mg tab, 18's (Aerius, Neorin, Lorinex) 2.5mg/5ml, 150ml (Aerius, Neorin, Lorinex)
Adm:	May be taken with or without food.
Category:	Non-sedating Antihistamines & Antiallergics
Indications:	Treatment of seasonal & perennial allergic rhinitis & chronic idiopathic urticaria.
Side effects:	See Loratadine
Dosage:	Usual Adult Dose: 5 mg orally once a day Usual Pediatric Dose: 6m <12m: 1 mg orally once a day >=1y <6y: 1.25 mg orally once a day

>=6y <11y: 2.5 mg orally once a day
>=12 years of age: 5 mg orally once a day
Renal Dose Adjustments: 5 mg orally once every other day.
Liver Dose Adjustments: 5 mg orally once every other day.

DEXTROMETHORPHAN (Tussilar, Codilar, Riaphan, Kafosed, Dextrokuf®)

P/P:	15mg/5ml, 100ml syrup (Riaphan, Kafosed, Dextrokuf) 15mg/5ml, 120ml syrup (Codilar) 15mg tab, 20's (Tussilar tab)
Adm:	May be taken with or without food
Category:	Antitussive
Indications:	Dry and painful non-productive cough
Caution:	3rd trimester of pregnancy; atopic childn; child <1 yr; sedated or debilitated patients; patients confined to supine position; history of asthma. Moderate to severe renal impairment; liver disease.
Contra-Ind:	Patients at risk of developing respiratory failure; during an acute attack; Patients receiving MAOI or for 2 weeks after discontinuing them; Persistent or chronic cough.
D/I:	Potentially Hazardous Interactions; Mementine, Moclobemide Other Interactions; Tricyclic antidepressants (TCAs), antipsychotic, anxiolytics and hypnotics
Side effects:	Dizziness, GI disturbances, constipation
Dosage:	Usual Adult Dose: 10 to 30 mg orally every 4 to 8 hours. Usual Pediatric Dose: 1 to 3 months: 0.5 to 1 mg orally every 6 to 8 hours. 4 to 6 months: 1 to 2 mg orally every 6 to 8 hours 7 months to 1 year: 2 to 4 mg orally every 6 to 8 hours. 2 to 6 years: 2.5 to 7.5 mg orally every 4 to 8 hours. 7 to 12 years: 5 to 10 mg orally every 4 hours or 15 mg every 6 to 8 hours. 12 years or older: 10 to 30 mg orally every 4 to 8 hours. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DIPHENHYDRAMINE HYDROCHLORIDE (Amydramine®)

P/P:	Cough&cold prep like Amydramine syr
Adm:	May be taken with or without food
Category:	Antihistamines & Antiallergics
Indications:	Symptomatic relief of allergic conditions including urticaria, angioedema, rhinitis, and pruritus

Caution:	Epilepsy; elderly; performing tasks which require mental alertness; angle-closure glaucoma; pyroduodenal obstruction; urinary tract obstruction; hyperthyroidism; raised intraocular pressure; CV disease; pregnancy.
Contra-Ind:	Hypersensitivity; acute asthma; neonates, lactation.
D/I:	Potentiates CNS depression with alcohol, barbiturates, analgesics, sedatives, and neuroleptics. Additive antimuscarinic action with MAOIs, atropine and tricyclic antidepressants.
Side effects:	CNS depression, dizziness, headache, sedation; paradoxical stimulation in children; dryness of mouth, thickened respiratory secretion, blurring of vision, urinary retention; GI disturbances; blood dyscrasias.
Dosage:	<p>Usual Adult Dose: 25 to 50 mg orally every 4 to 6 hours as needed, not to exceed 300 mg/24 hours.</p> <p>Usual Pediatric Dose: Greater than or equal to 2 to less than 6 years: 6.25 mg orally every 4 to 6 hours, not to exceed 37.5 mg/24 hours.</p> <p>Greater than or equal to 6 to less than 12 years: 12.5 to 25 mg orally every 4 to 6 hours, not to exceed 150 mg/24 hours.</p> <p>Greater than or equal to 12 years: 25 to 50 mg orally every 4 to 6 hours, not to exceed 300 mg/24 hours.</p>
Renal Dose Adjustments:	Data not available
Liver Dose Adjustments:	Data not available

DIMETHINDENE MALEATE, DIMETHPYRINDENE (Fenistil®)

P/P:	Fenistil 1mg tab, 20's; Fenistil 4mg caps, 10's Fenistil syr 0.5mg/5ml, 100ml Fenistil drops 1mg/ml
Adm:	Oral prep should be taken with food.
Category:	Sedating Antihistamines & Antiallergics
Indications:	Endogenous pruritus, pruritus in pregnancy, German measles, chickenpox; senile pruritus; anogenital pruritus; allergic or nonallergic pruritic dermatoses & eczemas; Symptomatic treatment of allergy.
Caution:	Avoid operating vehicles or machinery, narrow angle glaucoma, urethroprostatic disorders, COPD, children less < 1yrs (sleep apnea), pregnancy
Contra-Ind:	Hypersensitivity, neonates, breast feeding
D/I:	Alcohol, hypnotics & sedatives, MAO inhibitors
Side effects:	Drowsiness. Occasionally: GI disturbances, dryness of mouth & throat, vertigo, excitation, headache
Dosage:	<p>Average daily dosage (in three doses spread over the day):</p> <p>Drops: Infants up to 1 year, 10-30 drops; Infants of 1 to 3 years, 30-45 drops; Children over 3 years, 45-60 drops; Adults, 60-120 drops.</p> <p>Syrup: Infants up to 1 year, 1-3 teaspoons; Infants of 1 to 3 years, 3-4 teaspoons; Children over 3 years, 4-6 teaspoons; Adults, 6-12 teaspoons.</p>

Coated tablets: Adults, 3-6 tablets.
Capsule: Once Daily

Dupilumab (Dupixent®) (Restricted)

P/P:	Dupixent 300 mg / 2ml prefilled syring subcut 2'S.
Category:	Interleukin-4 Receptor Antagonist, Monoclonal Antibody, Anti-asthmatic.
Indications:	Chronic severe Asthma, Atopic dermatitis, Chronic Rhinosinusitis with nasal polyposis.
Caution:	Hypersensitivity, eosinophilia and vasculitis, Ocular effects.
Contra-Ind:	Hypersensitivity to dupilumab or any component of the formulation.
D/I:	Vaccines (Live): Dupilumab may enhance the adverse/toxic effect of Vaccines (Live). <i>Risk X: Avoid combination.</i>
Side effects:	Insomnia, Antibody development, neutralization, injection site reaction, oral herpes simplex infection, eosinophilia, arthralgia, eye pruritis, oropharyngeal pain.
Dosage	<p>Adult Recommended dose: Asthma, moderate to severe: SubQ: Initial: 400 mg (given as two 200 mg injections) or 600 mg (given as two 300 mg injections). Maintenance: 200 mg (following 400 mg initial dose) or 300 mg (following 600 mg initial dose) once every other week. Asthma, oral corticosteroid dependent or with comorbid moderate to severe atopic dermatitis: SubQ: Initial: 600 mg (given as two 300 mg injections), Maintenance: 300 mg once every other week. Atopic dermatitis: SubQ: Initial: 600 mg (given as two 300 mg injections), Maintenance: 300 mg once every other week. Rhinosinusitis (chronic) with nasal polyposis: SubQ: 300 mg once every other week. Missed doses: If a dose is missed, administer within 7 days from the missed dose and then resume the original schedule. If the missed dose is not administered within 7 days, wait until the next dose on the original schedule. Dosage adjustment for concomitant therapy: Significant drug interactions exist, requiring dose/frequency adjustment or avoidance. Consult drug interactions database for more information.</p> <p>Pediatric Recommended Dose: Asthma (moderate to severe), maintenance treatment: Children ≥12 years and Adolescents: SubQ: Initial: 400 mg once (administered as two 200 mg injections), followed by a maintenance dose of 200 mg every other week or 600 mg once (administered as two 300 mg injections), followed by a maintenance dose of 300 mg every other week. <i>Corticosteroid-dependent asthma or comorbid moderate to severe atopic dermatitis:</i> SubQ: Initial: 600 mg once (administered as two 300 mg injections), followed by a maintenance dose of 300 mg every other week. Atopic dermatitis (AD), moderate to severe:</p>

Children ≥6 years and Adolescents ≤17 years:

15 to <30 kg: SubQ: Initial: 600 mg once (administered as two 300 mg injections), followed by a maintenance dose of 300 mg every 4 weeks.

30 to <60 kg: SubQ: Initial: 400 mg once (administered as two 200 mg injections), followed by a maintenance dose of 200 mg every other week.

≥60 kg: SubQ: Initial: 600 mg once (administered as two 300 mg injections), followed by a maintenance dose of 300 mg every other week.

Adolescents ≥18 years: SubQ: Initial: 600 mg once (administered as two 300 mg injections), followed by a maintenance dose of 300 mg every other week. Once clinical response achieved, continue with maintenance schedule of every-other-week administration; less frequent dosing (every 4 or 8 weeks) has been associated with diminution of efficacy (Worm 2019).

Renal dose adjustment: there are no dosage adjustments.

Hepatic dose adjustment: there are no dosage adjustments.

EXPECTORENT AND DEMULCENT COUGH PREPARATIONS

Guaiphenesin 20mg, Pseudoephedrine HCL 20mg/1ml (**Bronex 15ml drops**)

Guaiphenesin 100mg, Dextromethorphan HCL 10mg/5ml (**Robitussin DM syr, 118ml**)

Chlorpheniramine maleate 1mg, Dextromethorphan HCL 5mg, Pseudoephedrine HCL 15mg /5ml (**Flumed DM Paed100ml syr**)

Guaiphenesin 100mg, Dextromethorphan HCL 10mg /5ml (**Flumed DM Adult, 100ml syr**)

Diphenhydramine 12.5mg, pseudoephedrine HCl 30 mg, Dextromethorphan HCL 15mg, Ammonium Cl 125mg, Sodium citrate 57mg, Menthol 1mg/5ml (**Mentex Syr,120ml, Ezipect syr,100ml**)

Propolis 5%, eucalyptus honeys 85%, thyme 2.15%, menthol 0.5%, and acerola 0.35%. (**Propolsaft 125 ml**)

Ivy leaf extract (Dried), 0.7 g of potassium sorbate 0.134 g (preservative)/ 100 ml (**Prospan syr, 150ml, Tussipan Syr 150ml, Activox 125 ml, Efeu 100 ml, Ivy 100 ml, Jos-pan 100ml, Ezipan syr, 150ml**)

Diphenhydramine HCL 7mg, Menthol 0.55mg/5ml (**Exylene Syr paed, 100ml**)

Diphenhydramine HCL 14mg, Ammonium chloride 135mg.Menthol 1.1mg/5ml (**Exylene syr adult, 100ml**)

Diphenhydramine HCL 7mg, Menthol 0.55mg, Sodium citrate 28.5mg/5ml (**Amydramine paed syr,120ml**)

Diphenhydramine HCL 13.5mg, Ammonium chloride 131.5mg, Menthol 1mg, Sodium citrate 57mg/5ml (**Amydramine adult syr, 120ml**)

Diphenhydramine HCL 0.27gm, Ammonium chloride 2.63gm, Menthol 0.02gm, Sodium citrate 1.1gm/100ml (**Isilin syr,120ml**)

Hedera helix dry leaf extracts 37mg/5ml (**Hederal syrup**)

Thyme fluid extracts 15gm /100ml (**Melrosum syr, 100ml**)

Thyme fluid extract 5gm, Primula root fluid extract 2.5gm/100ml (**Bronchicum syr, 100ml**)
Guaiaphenesin 100mg, Dextromethorphan HCL 10mg, Pseudoephedrine 30mg/5ml
(**Robitussin CF syr**)

FEXOFENADINE HYDROCHLORIDE (Telfast, Fenadex®)

P/P:	Fexofenadine 60mg tab, 30'S (Fenadex) Fexofenadine 120mg tab, 15'(Telfast, Fenadex) Fexofenadine 180mg tab, 15's (Telfast) Fexofenadine 120mg tab, 14's (Fexodine, Fexotel) Fexofenadine 180mg tab, 14's (Fexodine)
Adm:	May be taken with or without food
Category:	Non-sedating Antihistamines & Antiallergics
Indications:	Seasonal Allergic rhinitis, chronic idiopathic urticaria
Caution:	Renal or hepatic impairment. Pregnancy & lactation, Elderly.
D/I:	Erythromycin or ketoconazole Increased levels with ST. John's wort
Side effects:	Viral infection (cold/flu); headache, dizziness, drowsiness, fatigue; nausea, dyspepsia
Dosage:	Usual Adult Dose: 60 mg orally twice a day or 180 mg once daily. Usual Pediatric Dose: 6 to 11 years: 30 mg orally twice a day 12 years or older: 60 mg orally twice a day or 180 mg once daily Renal Dose Adjustments: CrCl less than 80 mL/min: Oral Tablets: Initial dose 6 to 11 years: 30 mg orally once a day, Initial dose 12 years or over: 60 mg orally once a day Liver Dose Adjustments: Data not available

FLUTICASONE PROPIONATE (Flixotide®)

P/P:	Flixotide evohaler (25mcg, 50mcg, 125mcg, 250mcg) Flixotide nebulles, 10's (0.5mg/ml, 2mg/ml)
Category:	Inhalation Corticosteroid, antiasthmatic
Indications:	Prophylactic management in mild, moderate, or severe asthma; symptomatic treatment of COPD.
Caution:	Not for acute attacks. Caution when transferring patients from systemic steroid treatment. Avoid abrupt withdrawal. May unmask underlying eosinophilic conditions e.g. Churg Strauss syndrome; Active or quiescent pulmonary TB, Pregnancy; Monitor height of children on long-term treatment.
Nebules:	Administer via mouthpiece to avoid possibility of atrophic changes of facial skin.

Contra-Ind:	Primary treatment of status asthmaticus or other acute episodes of asthma in which intensive measures are required
D/I:	Concomitant administration of strong CYP3A4 inhibitors e.g. ketoconazole, ritonavir. Amiodarone, tricyclic antidepressants
Side effects:	Mouth & throat candidiasis, hoarseness, paradoxical bronchospasm, cutaneous hypersensitivity reactions. Systemic effects: Adrenal suppression, growth retardation in children & adolescent, decrease in bone mineral density, cataract, & glaucoma.
Dosage:	Adults and children over 16 years: 100 to 1,000 micrograms twice daily, usually as two twice daily inhalations. or 500-2,000 micrograms twice daily nebul. Children over 4years of age: 50 to 100 micrograms twice daily, the maximum licensed dose in children is 200 micrograms twice daily. Or 1000 mcg twice daily nebul.

Fluticasone and Formoterol (Flutiform®)

P/P:	Flutiform 125/5mcg Evhohaler 1"S (120 doses) Flutifrom 250/10mcg Evhohaler 1"S (120 doses).
Adm:	Metered-dose Inhaler: Shake well before use, If inhaler is exposed to freezing conditions allow to warm to room temperature 30 minutes and then prime. inhale deeply through the mouth. Allow 30 seconds between inhalations. Rinse mouth with water.
Category:	Beta ₂ Agonist; Beta ₂ -Adrenergic Agonist, Long-Acting; Corticosteroid, Inhalant (Oral)
Indications:	Asthma
Caution:	Adrenal suppression, increased risk of severe exacerbations and asthma-related deaths with LABA, use with caution in patients with major risk factors for decreased bone mineral count, Oral candidiasis
Contra-Ind:	Hypersensitivity to fluticasone, formoterol, or any component of the formulation.
Side effects:	Headache, Upper respiratory tract infection, Oral candidiasis, tremor.
Dosage:	Usual dosage range: Fluticasone/formoterol 50 mcg/5 mcg or 125 mcg/5 mcg or 250 mcg/10 mcg Oral inhalation: 2 inhalations twice daily (morning and evening) (maximum dose: Fluticasone/formoterol 250 mcg/10 mcg; 2 inhalations twice daily). <u>Note:</u> treatment should not be stopped abruptly due to risk of exacerbation.
Dosing:	Altered Kidney Function: Adult There are no dosage adjustments
Dosing:	Hepatic Impairment: Adult There are no dosage adjustments

Fluticasone and Vilanterol (Relvar Ellipta®)

P/P:	Relvar Ellipta 200/25Mcg Inhalation Powder (30 Dose) 1"S
Adm:	Dry powder inhaler, Administer at the same time each day. Do not use more than one inhalation in 24 hours. Exhale fully before taking one long, steady, deep breath through the mouthpiece, hold breath for 3 to 4 seconds and exhale slowly and gently. Patient should rinse mouth with water after inhalation and expectorate rinse solution.
Category:	Beta ₂ Agonist; Beta ₂ -Adrenergic Agonist, Long-Acting; Corticosteroid, Inhalant (Oral)
Indications:	Asthma, Chronic obstructive pulmonary disease (Fluticasone 100 mcg/vilanterol 25 mcg is the only strength indicated for the treatment of COPD).
Caution:	Adrenal suppression, increased risk of severe exacerbations and asthma-related deaths with LABA, use with caution in patients with major risk factors for decreased bone mineral count, Oral candidiasis.
Contra-Ind:	Primary treatment of status asthmaticus or acute episodes of COPD or asthma requiring intensive measures. Severe hypersensitivity to milk proteins or any ingredients. Hypersensitivity to fluticasone, vilanterol, or any component of the formulation
Side effects:	Extrasystoles, hypertension, Oral candidiasis, Arthralgia, back pain, nasopharyngitis, pneumonia, sinusitis, upper respiratory tract infection, bronchitis
Dosage:	Asthma: Dry powder inhaler: One inhalation of fluticasone Vilanterol 100/25 or 200/25 Maintenance of COPD: one inhalation of fluticasone Vilanterol 100/25 Dosing: Altered Kidney Function: Adult No dosage adjustment necessary. Dosing: Hepatic Impairment: Adult Mild impairment: There are no dosage adjustments Moderate to severe impairment: systemic fluticasone exposure may be increased up to threefold in patients with hepatic impairment; use with caution and monitor closely.

Fluticasone, Umeclidinium, and Vilanterol (Trelegy®)

P/P:	Trelegy Ellipta 100/62.5/25Mcg Inhalation Powder (30 Dose) 1"S
Adm:	Dry powder inhaler, Administer at the same time each day. Exhale fully before taking one long, steady, deep breath through the mouthpiece, hold breath for 3 to 4 seconds and exhale slowly and gently. Patient should rinse mouth with water after inhalation and expectorate rinse solution.
Category:	Anticholinergic Agent, Long-Acting; Beta ₂ Agonist; Beta ₂ -Adrenergic Agonist, Long-Acting; Corticosteroid, Inhalant (Oral)
Indications:	Asthma for maintenance, Chronic obstructive pulmonary disease for Maintenance.

Caution:	Adrenal suppression, increased risk of severe exacerbations and asthma-related deaths with LABA, use with caution in patients with major risk factors for decreased bone mineral count, Oral candidiasis.
Contra-Ind:	Hypersensitivity to fluticasone, umeclidinium, vilanterol, or any component of the formulation; severe hypersensitivity to milk proteins; primary treatment of status asthmaticus or other acute episodes of chronic obstructive pulmonary disease or asthma where intensive measures are required.
Side effects:	Nasopharyngitis, pharyngitis, candidiasis, pneumonia, respiratory tract infection, sinusitis, Bronchitis, Palpitations, Headache
Dosage:	Asthma: one inhalation once daily of 100mcg/62.5mcg/25mcg OR 200mcg/62.5 mcg/25 mcg depending on disease severity COPD: fluticasone furoate 100 mcg/umeclidinium 62.5 mcg/vilanterol 25 mcg is the only strength indicated for COPD, one inhalation once daily Dosing: Altered Kidney Function: Adult No dosage adjustment necessary. Dosing: Hepatic Impairment: Adult Mild impairment: There are no dosage adjustments Moderate to severe impairment: There are no dosage adjustments, systemic fluticasone exposure may be increased up to threefold in patients with hepatic impairment; use with caution and monitor closely.

FORMOTEROL+BUDESONIDE (Symbicort®)

P/P:	Symbicort turbohaler (Formoterol fumarate 4.5 mcg Budesonide 160 mcg) Symbicort turbohaler (Formoterol fumarate 4.5 mcg Budesonide 80 mcg)
Category:	Respiratory inhalant combination, Bronchodilator
Indications:	Regular treatment of asthma where use of a combination (inhaled corticosteroid & long-acting β-agonist) is appropriate. Symptomatic treatment of patients w/ moderate-severe COPD, w/ significant symptoms & a history of exacerbations
Caution:	Thyrotoxicosis, phaeochromocytoma, diabetes mellitus, untreated hypokalaemia, hypertrophic obstructive cardiomyopathy, idiopathic subvalvular aortic stenosis, severe HTN, aneurysm, or other severe CV disorder. Acute severe asthma. Pregnancy & lactation
Contra-Ind:	Primary treatment of status asthmaticus or other acute episodes of asthma in which intensive measures are required, Initial management of asthma. Childn <6 yr.
D/I:	Mifepristone, other long-acting inhaled beta 2 –agonists Ketoconazole, β-adrenergic blockers, quinidine, disopyramide, procainamide, phenothiazines, antihistamines, MAOIs, tricyclic antidepressants, L-dopa, L-thyroxine, oxytocin, alcohol, digitalis glycosides.
Side effects:	Tremor, palpitation, headache, oral candidiasis, mild throat irritation, coughing, hoarseness
Dosage:	Adults: 2 inhalations twice daily Adolescents (12 – 17 years): 1-2 inhalations twice daily. Children (6 years and older): use lower strength for children 6-11 years. Children under 6 years: It is not recommended for children younger than 6 years.

Glycopyrronium Bromide [Glycopyrrolate] (Glycopyrronium®)

P/P: Glycopyrronium Bromide 200 MCG/ML AMP I.V/I.M 10"S

Adm: IV, IM: administer at a rate of 0.2 mg over 1-2 min. For IV administration, glycopyrrolate may be administered by IM or IV without dilution, may also be administered via the tubing of a running IV infusion of NS.

Category: Anticholinergic Agent

Indications: Chronic drooling, Reduction of secretions, Reversal of bradycardia, vagal reflexes, Reversal of muscarinic effects of cholinergic agents, primary focal hyperhidrosis (off-label use).

Caution: may impair mental abilities, Slowing of GI muscular action can occur resulting in constipation or intestinal pseudo-obstruction, Heat prostration, Use with caution in patients with Cardiovascular disease, Hepatic impairment, Hiatal hernia, hyperthyroidism, autonomic neuropathy, Renal impairment and Ulcerative colitis.

Contra-Ind: Hypersensitivity to glycopyrrolate or any component of the formulation; medical conditions that preclude use of anticholinergic medication (e.g. severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, paralytic ileus, obstructive disease of GI tract [e.g. achalasia, pyloroduodenal stenosis, strictures], bleeding GI ulcer, intestinal atony in older adult or debilitated patients, unstable cardiovascular status in acute hemorrhage, glaucoma, obstructive uropathy [e.g. bladder neck obstruction due to prostatic hypertrophy], myasthenia gravis)

Side effects: Flushing, cardiac arrhythmias, hypertension, Headache, Vomiting, xerostomia, constipation, Urinary retention, Nasal congestion, upper respiratory tract infection.

Dosage:

Indication	Dosage
Reduction of secretions (preoperative)	IM: 4 mcg/kg 30 to 60 minutes before anesthesia. ≤2 years: IM: 4 to 9 mcg/kg/dose
Reversal of bradycardia, vagal reflexes (intraoperative)	IV: 0.1 mg as a single dose; repeat as needed at 2- to 3-minute intervals Infants, Children, and Adolescents: IV: 4 mcg/kg/dose(max 100mcg/dose)
Reversal of muscarinic effects of cholinergic agents	IV: 0.2 mg for each 1 mg of neostigmine or 5 mg of pyridostigmine administered
Primary focal hyperhidrosis (off-label)	1 to 2 mg once or twice daily

Dosing: Altered Kidney Function

use with caution; dosage adjustment may be necessary.

Dosing: Hepatic Impairment

use with caution; consider dose reduction.

GUAIFENESIN (Guaphan, Robitussin®)

P/P:	100mg/5ml syrup, 100ml (Guaphan, Robitussin) 600 mg tab, 20s (Mucinex)
Adm:	Should be taken with food.
Category:	Mucolytic
Indications:	Productive cough
Caution:	Persistent cough e.g., occurs with smoking, asthma, chronic bronchitis, or emphysema; cough accompanied by excessive secretions; cough with a fever, rash, or persistent headache; Pregnancy and lactation, porphyria.
Contra-Ind:	Hypersensitivity.
Side effects:	GI discomfort, nausea and vomiting; dizziness, drowsiness, headache; rash; decreased uric acid levels; urinary calculi (large doses).
Dosage:	Usual Adult Dose: 200 to 400 mg orally every 4 hours as needed, not to exceed 2.4 g/day. Sustained release formulation: 600 to 1200 mg orally every 12 hours, not to exceed 2.4 g/day Usual Pediatric Dose: Immediate release formulation: less than 2 years: 12 mg/kg/day orally in 6 divided doses 2 to 5 years: 50 to 100 mg orally every 4 hours as needed, not to exceed 600 mg/day 6 to 11 years: 100 to 200 mg orally every 4 hours as needed, not to exceed 1.2 g/day 12 years or older: 200 to 400 mg orally every 4 hours as needed, not to exceed 2.4 g/day Sustained release formulation: 2 to 5 years: 300 mg orally every 12 hours, not to exceed 600 mg/day. 6 to 11 years: 600 mg orally every 12 hours, not to exceed 1.2 g/day, 12 years or older: 600 to 1200 mg orally every 12 hours, not to exceed 2.4 g/day Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

GUAIFENESIN AND DEXTROMETHORPHAN (Contra®)

P/P:	Contra 15/200 Mg Softgel Cap 30"S
Adm:	Oral, Administer with water. Do not crush or chew.
Category:	Antitussive; Expectorant
Indications:	Cough (antitussive/expectorant)

Caution:	CYP2D6 poor metabolizers, Use with caution in atopic children, Use with caution in patients who are sedated, debilitated or confined to a supine position
Contra-Ind:	When used for self-medication, do not use with or within 14 days of stopping a monoamine oxidase inhibitor; children <12 years of age
Side effects:	Associated with Dextromethorphan: Dizziness, drowsiness, nervousness, restlessness, nausea and vomiting, abdominal pain. Associated with Guaifenesin: Dizziness, drowsiness, headache, nausea and vomiting, abdominal pain, hypouricemia.
Dosage:	Guaifenesin 200 to 400 mg and dextromethorphan 10 to 20 mg every 4 hours (maximum dose: Guaifenesin 2,400 mg and dextromethorphan 120 mg per day)
	Dosing: Altered Kidney Function: Adult: There are no dosage adjustments
	Dosing: Hepatic Impairment: Adult: There are no dosage adjustments

HEXOPRENALINE SULPHATE (Ipradol®)

P/P:	Ipradol 0.5mg tab, 100's Ipradol amp 5mcg/2ml, 5's
Adm:	Tab should be taken on an empty stomach (i.e., At least one hour before food or four hours after food)
Category:	Adrenoreceptor agonist, Bronchodilator
Indications:	Treating or preventing symptoms of asthma, emphysema, bronchitis, and other reversible breathing problems; premature labour
Caution:	Heart disease or Hypertension; epilepsy or another seizure disorder; diabetes; hyperthyroidism; or liver disease, Pregnancy, lactation
Contra-Ind:	Heavy genital hemorrhage, premature separation of the placenta, intra-uterine infections, severe myocardial insufficiency.
D/I:	MAOIs, tricyclic antidepressants, beta-blockers, calcium- and vitamin D-containing preparations, dihydrotachysterol, mineralocorticoids
Side effects:	Occasionally, tachycardia. Palpitation and skeletal muscle tremor (on high and cumulative doses).

Dosage: Adult: 0.5 to 1 mg tablet three times daily

Acute attack of bronchial asthma: 1 - 2 x (2 mL) ampoules I.V
Severe Dyspnea: 1 to 1½ (2 mL) ampoules to a maximum dose of 2 ampoules.
Status Asthmaticus: 1 x 2 mL ampoules 3 - 4 times within 24 hours if required.
Ampoules: Infants and children: 5 micrograms hexopremaline sulphate per 2 mL parenterally.
Infants 3 - 6 months: 1 microgram i.v. 1 - 3 times daily.
Infants 6 - 12 months: 2 micrograms i.v. 1 - 3 times daily.
Children 1 - 3 years: 2 - 3 micrograms i.v. 1 - 3 times daily.
Children 3 - 10 years: 3 - 4 micrograms i.v. 1 - 3 times daily.

HYDROXYZINE HYDROCHLORIDE (Atarax®)

P/P:	Atarax 25mg tab, 25'S
Adm:	May be taken with or without food.
Category:	Anxiolytics / Antihistamines & Antiallergics
Indications:	Symptomatic relief of anxiety & tension associated w/ psychoneurosis& as an adjunct in organic disease states in which anxiety is manifested. As a sedative used as premed & following general anesth. Symptomatic treatment in atopic pruritus.
Caution:	Glaucoma, bladder outflow obstruction, decreased GI motility, myasthenia gravis, dementia, predisposition to cardiac arrhythmia or concomitant treatment w/ potentially arrhythmogenic drug, hepatic dysfunction, moderate or severe renal impairment. Childn; elderly.
Contra-Ind:	Previous hypersensitivity to cetirizine, other piperazine derivatives, aminophylline, or ethylenediamine. Porphyria; pregnancy & lactation
D/I:	Alcohol, CNS depressants, MAOI, betahistine, anticholinesterase drugs
Side effects:	Sedation, somnolence, dizziness, dry mouth, urinary retention. Rarely, tremor, convulsions.
Dosage:	For symptomatic relief of anxiety and tension associated with psychoneurosis and as an adjunct in organic disease states in which anxiety is manifested: in adults, 50–100 mg q.i.d.; children under 6 years, 50 mg daily in divided doses and over 6 years, 50–100 mg daily in divided doses. For use in the management of pruritus due to allergic conditions such as chronic urticaria and atopic and contact dermatoses, and in histamine-mediated pruritus: in adults, 25 mg t.i.d. or q.i.d.; children under 6 years, 50 mg daily in divided doses and over 6 years, 50–100 mg daily in divided doses.
	As a sedative when used as a premedication and following general anesthesia: 50–100 mg in adults, and 0.6 mg/kg in children.

INDACATEROL/GLYCOPYRRONIUM (Ultibro®)

P/P:	Ultibro inhalation powder hard capsules
Category:	long-acting beta-adrenergic agonists or long-acting muscarinic antagonists.

Indications: Ultibro Breezhaler is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease

Contra-Ind: Hypersensitivity to the active substances or to any of the excipients

Caution: Ultibro Breezhaler should not be administered concomitantly with medicinal products containing other long-acting beta-adrenergic agonists or long-acting muscarinic antagonists, Asthma used with caution in patients with cardiovascular, disorders, used with caution in patients with severe renal impairment, t Caution required with concomitant use Hypokalaemic treatment,

Pregnancy: There are no data from the use of Ultibro Breezhaler in pregnant women available.

Breast-feeding: The use of Ultibro Breezhaler by breast-feeding women should only be considered if the expected benefit to the woman is greater than any possible risk to the infant.

Side effects: Upper respiratory tract infection, Nasopharyngitis, Urinary tract infection, Sinusitis, Rhinitis, Dizziness, Headache, Cough, Oropharyngeal pain including throat irritation, Dyspepsia, Gastroenteritis, Dental caries, Musculoskeletal pain, Pyrexia, Chest pain.

D/I Beta-adrenergic blockers, Anticholinergics, Sympathomimetic agents.

Dosage: The recommended dose is the inhalation of the content of one capsule once daily Using the Ultibro Breezhaler inhaler.

Pediatric population: There is no relevant use of Ultibro Breezhaler in the Pediatric population

Renal impairment: Ultibro Breezhaler can be used at the recommended dose in patients with mild to moderate renal impairment. In patients with severe renal impairment or end-stage renal disease requiring dialysis it should be used only if the expected benefit outweighs the potential risk.

Hepatic impairment: Ultibro Breezhaler can be used at the recommended dose in patients with mild and moderate hepatic impairment. There are no data available for the use of Ultibro Breezhaler in patients with severe hepatic impairment, therefore caution should be observed in these patients

IPRATROPIUM (Atrovent®)

P/P: Atrovent Inhaler 20mcg
Atrovent 250mcg nebulles, 10's
Atrovent 500mcg nebulles, 10's

Category: Antimuscarinic bronchodilators

Indications: Treating and preventing bronchospasm (wheezing or difficulty breathing) associated with chronic obstructive pulmonary disease (COPD), including chronic bronchitis and emphysema.

Caution:	Narrow-angle glaucoma, BPH, or urinary blockage or retention, pregnant, or are breast-feeding, paradoxical bronchospasm (First dose of nebulised sol should be inhaled under medical supervision)
Contra-Ind:	Allergic to atropine or similar drugs
D/I:	Anticholinergic medicines (eg, benz tropine, diphenhydramine)
Side effects:	Cough; dizziness; dry mouth; dry nose or nose irritation; flu-like symptoms; headache; nausea; nervousness; pain; runny nose; sinus infection; sore throat; upper respiratory tract infection
Dosage:	<p>Adults (including the elderly) and children over 12 years of age: 250 - 500 micrograms (i.e., one vial of 250 micrograms in 1 ml or 1 vial of 500 micrograms in 2 ml) 3 to 4 times daily.</p> <p>Children 6 - 12 years of age: 250 micrograms (i.e., one vial of 250 micrograms in 1ml) up to a total daily dose of 1mg (4 vials).</p> <p>Children 0 – 5 years of age (for treatment of acute asthma only): 125 – 250 micrograms (i.e., half to one vial of 250 micrograms in 1 ml) up to a total daily dose of 1 mg (4 vials).</p> <p>Ipratropium bromide should be administered no more frequently than 6 hourlies in children under 5 years of age.</p>

KETOTIFEN FUMARATE (Zaditen, Tefanyl, Ketofen®)

P/P:	1mg tab, 30's (Zaditen, Tefanyl, Ketofen) 1mg/5ml x 100 ml (Zadin, Ketonil, Ketofen)
Adm:	Should be taken with food.
Category:	Asthma prophylactic, Antihistamine
Indications:	Prophylactic treatment of bronchial asthma. Symptomatic treatment of allergic rhinitis, dermatitis, urticaria, & pruritus.
Caution:	Concomitant use w/ oral antidiabetic agents may cause reversible fall in platelet count. W/draw gradually. Pregnancy & lactation. May affect ability to drive or operate machinery
Contra-Ind:	Acute asthma attacks. Premature infants, neonates
D/I:	Potentiates effects of sedatives, hypnotics, antihistamines, & alcohol.
Side effects:	Sedation, dry mouth, dizziness, increased appetite & wt gain
Dosage:	<p>Usual adult and adolescent dose Asthma, atopic (prophylaxis) Oral, 5 mL (1 mg) twice daily, in the morning and evening.</p> <p>Usual pediatric dose: Asthma, atopic (prophylaxis) Infants and children 6 months to 3 years of age: Oral, 0.25 mL (50 mcg or 0.05 mg) per kg of body weight twice daily, in the morning and evening.</p> <p>Children older than 3 years of age: See Usual adult and adolescent dose.</p>

LEVOCETIRIZINE HYDRCHLORIDE (Xyzal, Levozal®)

P/P: **Xyzal 5mg tab, 20's**
Levozal 5 mg tab, 20's

Adm: May be taken with or without food.

Category: Non-sedating Antihistamines & Antiallergics

Indications: Seasonal, perennial, & persistent allergic rhinitis including ocular symptoms, chronic idiopathic urticaria.

Caution: Childn <6 yr. Hereditary problems of galactose intolerance, lactase deficiency or glucose-galactose malabsorption. Pregnancy & lactation.

Contra-Ind: Severe renal impairment

Caution: D/I: Side effects: See Cetirizine

Dosage: Adults and Children 12 Years of Age and Older: 5 mg once daily in the evening.
Children 6 to 11 Years of Age: is 2.5 mg (1/2 table) once daily in the evening.

LORATADINE (Claritine, Clara, Lorine, Loraday, Loramax®)

P/P: **10mg tab, 20's (Claritine, Lorine)**
10mg tab, 10's (Clara, Lorine, Loraday, Loramax)
5mg/5ml, 100ml (Claritine, Clara, Lorine, Glora)

Adm: May be taken with or without food.

Category: Non-sedating Antihistamines & Antiallergics

Indications: Relief of symptoms associated w/ allergic rhinitis, chronic urticaria& other dermatological disorder.

Caution: Severe hepatic impairment. Childn <2 yr. Pregnancy & lactation, BPH

Contra-Ind: Pregnancy, Breast feeding,

D/I: Ketoconazole, erythromycin, cimetidine, & other hepatic enzyme inhibitors.

Side effects: Rarely, headache, sedation, nervousness.

Dosage: Usual Adult Dose: 10 mg orally once a day
Usual Pediatric Dose: 2 to 5 years: 5 mg orally once a day (syrup)
6 years or older: 10 mg orally once a day.
Renal Dose Adjustments: CrCl less than 30 mL/min: administer dosage every other day initially
Liver Dose Adjustments: Liver failure: administer dosage every other day initially

MONTELUKAST (Singulair, Airfast®)

P/P:	Singulair chewable tablets, 28's (4mg, 5mg) Singulair F.C tablets, 28's (10mg) Singulair oral granules, 28's (4mg) Airfast 10 mg tab, 30's, Airfast chewable tablets, 30's (4mg, 5mg)
Adm:	May be taken with or without food
Category:	Leukotriene receptor antagonist
Indications:	Prophylaxis & chronic treatment of asthma in adults & paed ≥12 mth. Relief of seasonal allergic rhinitis in adult ≥15 yr.
Caution:	Should not be used to treat acute asthma attacks. Should not be abruptly substituted for inhaled or oral corticosteroids. Patients w/ known aspirin sensitivity should continue avoidance of aspirin or NSAIDs while taking Singulair. Pregnancy & lactation. Paed <6 mth.
Contra-Ind:	Hypersensitivity.
D/I:	Phenobarbital, rifampin
Side effects:	Abdominal pain, headache & thirst; diarrhea, hyperkinesia, asthma, eczematous dermatitis & rash; somnolence.
Dosage:	Usual Adult Dose: 10 mg orally once a day. Usual Pediatric Dose: 15 years or older: 10 mg orally once a day. 6 years to 14 years: 5 mg chewable tablet orally once a day. 2 years to 5 years: mg chewable tablet or 4 mg granules orally once a day. 1 year to 2 years: 4 mg granules orally once a day in the evening. 6 months to 23 months: 4 mg granules orally once a day Renal Dose Adjustments: Data not available Liver Dose Adjustments: use with caution.

ORCIPRENALE / METAPROTERENOL (Alupent®)

P/P:	Alupent syrup, 125ml 10mg/5ml
Adm:	May be taken with or without food
Category:	Adrenoreceptor agonist, Bronchodilator
Indications:	Treating or preventing symptoms of asthma, emphysema, bronchitis, and other reversible breathing problems.
Caution:	Heart disease or Hypertension; epilepsy or another seizure disorder; diabetes; hyperthyroidism; or liver disease
Contra-Ind:	Tachycardia, another beta-adrenergic bronchodilator

D/I:	Catechol-o-methyltransferase (COMT) inhibitors (eg, entacapone), long-acting beta-agonists (e.g., salmeterol), MAOIs (eg, phenelzine), or tricyclic antidepressants, MAO inhibitors, Beta-blockers (eg, propranolol) Risk of Hypokalaemia from: (Theophylline, Diuretics, and Corticosteroids)
Side effects:	Difficulty sleeping; dizziness; headache; hyperactivity; nausea; nervousness; stomach upset
Dosage:	Usual Adult Dose: 20 mg 3 to 4 times a day. Usual Pediatric Dose: Children less than 2 years of age: 0.4 mg/kg/dose in 3 to 4 divided doses a day. In infants, the dose can be given every 8 to 12 hours. Children 2 to 6 years of age: 1.3 to 2.6 mg/kg/day divided every 6 to 8 hours. Children 6 to 9 years of age: 10 mg 3 to 4 times a day. Children more than 9 years of age: 20 mg 3 to 4 times a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

PIZOTIFEN (Mosegor®)

P/P:	Mosegor 0.5mg tab, 30's Mosegor syrup, 100ml
Adm:	May be taken with or without food
Category:	Sedating antihistamine with strong serotonin antagonist and weak antimuscarinic properties.
Indications:	Prophylactic treatment of recurrent vascular headaches, such as typical & atypical migraine, vasomotor headaches, headache; Appetite loss of somatic or psychogenic origin.
Caution:	Narrow-angle glaucoma; urinary retention; epilepsy. Pregnancy, lactation (avoid). May affect ability to drive or operate machinery.
Contra-Ind:	Childn <2 yr. Postural giddiness.
D/I:	May enhance CNS effects of sedatives, hypnotics, antihistamines, & Alcohol.
Side effects:	Increased appetite, wt gain, sedation, dizziness, dry mouth, nausea, constipation, fatigue.
Dosage:	Adults and elderly: Usually 1.5mg daily. This may be taken as a single dose (30ml Syrup or 3 Tablets at night o r(10ml Syrup or 1 Tablet) in three divided doses. Dosage should be adjusted to individual patients' requirements up to a maximum of 4.5mg daily. Up to 3mg may be given as a single daily dose. Children: 0.025 mg/kg. 2 – 6 years: 5 – 10ml daily, 2 – 3 divided doses. 6 – 12 years: 10 – 20ml daily, 2 – 3 divided doses.

PROMETHAZINE HYDROCHLORIDE (Promethazine, Promantine®)

P/P:	5mg/ml, 125ml syrup (Promantine) 5mg/ml, 125ml syrup (Prometin)
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Inj 2.5 %, (Promethazine)

Adm: Oral prep may be taken with or without food.

Category: Antiemetics & Antivertigo Drugs / Antihistamines & Antiallergics

Indications: Motion sickness, nausea,&vomiting associated w/ morning sickness, drug intolerance, & post-anaesth. Allergic disorder, hay fever& skin disorder, night sedation; Insomnia

Caution: CV, hepatic disease, Children, acutely ill or dehydrated patients, Narrow-angle glaucoma, Prostatic hypertrophy, Epilepsy

Contra-Ind: Coma, CNS depression, neonates, prematures MAOI therapy w/in 14 days.

D/I: CNS depressants e.g. alcohol, barbiturates, hypnotics, narcotic analgesics, sedatives & tranquillisers, aminoglycosides, MAOIs

Side effects: Sedation, inability to concentrate, lassitude, dizziness, hypotension, muscular weakness, incoordination, GI disturbances, headache, blurred vision

Dosage: Usual Adult Dose: Parenteral: 25 mg IV or IM, Oral: 12.5 mg to 25 mg as single or dose three divided dose.
Usual Pediatric Dose: Greater than or equal to 2 years:0.25-1mg /kg/dose. 4 to 6 times a day as needed.
Renal Dose Adjustments: It is generally recommended that dosage selection for the elderly be started at the low end of the dosage range because of the greater frequency of decreased renal function reported in this population.
Liver Dose Adjustments: It is generally recommended that dosage selection for the elderly be started at the low end of the dosage range because of the greater frequency of decreased hepatic function reported in this population.

PSEUDOEPHEDRINE HYDROCHLORIDE (Otrinol®)

P/P: Otrinol 120mg caps, 10's

Adm: May be taken with or without food

Category: Decongestant

Indications: Nasal congestion due to colds, hay fever and other allergic conditions as well as associated swelling of Eustachian tube.

Caution: Hyperthyroidism; CV disease eg, ischemic heart disease, arrhythmia or tachycardia; occlusive vascular disorders eg, arteriosclerosis, hypertension or aneurysms; diabetes mellitus and closed-angle glaucoma; renal impairment, prostatic enlargement. Pregnancy, lactation.

Contra-Ind: Cardiovascular disease, including ischemic heart disease, coronary artery disease, severe Hypertension, MAO inhibitor, either concomitantly or during the previous two weeks.

Food/I: Delays onset of effect, increased absorption with aluminium hydroxide, Decreased absorption with kaolin.

D/I: MAO inhibitors, digitalis, tricyclic antidepressants

Side effects: Dry mouth, loss of appetite, restlessness, insomnia, accelerated pulse, palpitation.

Dosage: Usual Adult and children over 12 years Dose: 30 to 60 mg orally every 4 to 6 hours as needed.
Usual Pediatric Dose: 2 years to 5 years: 1 mg/kg/dose every 6 hours; maximum dose: 15 mg. 6 years to 12 years: 30 mg every 6 hours
Renal Dose AdjustmentsPatients with renal dysfunction should be monitored for signs and symptoms of toxicity when using pseudoephedrine.
Liver Dose Adjustments: Data not available

ROFLUMILAST (Roflast®)

P/P: **Roflast 500MCG F-C TAB 30'S.**

Adm: Administer without regard to meals.

Category: Phosphodiesterase-4 Enzyme Inhibitor.

Indications: Roflumilast is indicated as a treatment to reduce the risk of COPD Exacerbations in patients with severe COPD associated with chronic Bronchitis and a history of exacerbation.

Caution: Use with caution in patients with mild impairment (systemic exposure may be increased); use in moderate to severe impairment is contraindicated.

Contra-Ind: Not indicated for relieving acute bronchospasm. , Moderate to severe hepatic impairment, Hypersensitivity to roflumilast or any component of the formulation.

D/I: Cimetidine, Ciprofloxacin, CYP3A4 Inducers, Dabrafenib, Enoxacin, Erdafitinib

Side effects: Headache, dizziness, insomnia, nausea, diarrhea, weight loss.

Dosage: Usual Adult Dose: Oral: 250 mcg once daily for 4 weeks, followed by 500 Mcg once daily.
Note: An initial dose of 250 mcg once daily is recommended for the first 4 weeks of treatment in an attempt to improve tolerability. However, this is not considered a therapeutic dose and the effect of this approach on Long-term tolerability is uncertain.

Dosage adjustment for concomitant therapy: Significant drug interactions exist, requiring dose/frequency adjustment or avoidance. Consult drug interactions database for more information

Usual Pediatric Dose: Not used for pediatric patient.

Renal Dose Adjustments: No dosage adjustment.

Liver Dose Adjustments:
Mild impairment (Child-Pugh class A): There are no Dosage adjustments provided in the manufacturer's labeling (has not been studied); use with caution.

Moderate to severe impairment (Child-Pugh class B or C): Use is contraindicated.

SALBUTAMOL (Ventoiln, Butalin, Asthalin®)

P/P:	2mg tab, 100's (Ventolin) 2mg tab, 20's (Butalin) 4mg tab, 100's (Ventolin) 2mg tab, 20's (Butalin) 4mg CR tab, 20's (Ventolin) 8mg CR tab, 20's (Ventolin) 2mg/5ml syr, 100ml (Ventoiln, Butalin, Asthalin) Evohaler (Ventolin, Butalin, Salamol) Rotahaler 200mcg (Ventolin) Rotahaler 400mcg (Ventolin) Ventolin Diskus 200mcg Respiratory sol 5mg/ml, 6's (Ventolin, Butalin) 500mcg/ml, 1ml Inj (Ventolin)
Category:	Selective Beta 2 agonist, Bronchodilator
Indications:	Relief of bronchospasm in bronchial asthma of all types, chronic bronchitis, and emphysema, premature labor
Caution:	Diabetes, Heart disease, Hypertension, Hyperthyroidism, Arrhythmias
D/I:	Non-selective β-blocking agents, such as propranolol, Monoamine oxidase inhibitors (MAOIs). Risk of Hypokalemia from: (Theophylline, Diuretics, And Corticosteroids)
Side effects:	Tremor, Headache, Tachycardia, Muscle cramps
Dosage:	Usual Adult Dose: Metered-dose inhaler: 2 puffs every 4 to 6 hours as needed. Inhalation capsules: 200 mcg inhaled every 4 to 6 hours. May increase to 400 mcg inhaled every 4 to 6 hours, if necessary. Nebulizer: 2.5 mg every 6 to 8 hours as needed. (2.5 to 5 mg once followed by 2.5 mg every 20 minutes for acute bronchospasm). Tablets: 2 to 4 mg orally 3 to 4 times a day. May increase stepwise to a maximum of 8 mg orally 4 times a day. Extended-release tablets: 4 to 8 mg orally every 8 hours. May increase to a maximum of 16 mg orally twice a day. Syrup: 2 to 4 mg orally 3 to 4 times a day. Doses > 4 mg should be given 4 times a day. May increase up to 8 mg orally 4 times a day.
	Usual Pediatric Dose: Less than 1 year: Nebulizer: 0.05 to 0.15 mg/kg/dose every 4 to 6 hours with subsequent doses titrated based on clinical response. 1 year to 4 years: Nebulizer: 1.25 to 2.5 mg every 4 to 6 hours with subsequent doses titrated based on clinical response. 5 years or older: Metered-dose inhaler :2 puffs (216 mcg) every 4 to 6 hours as needed Inhalation capsules: 200 mcg inhaled every 4 to 6 hours. May increase to 400 mcg inhaled every 4 to 6 hours, if necessary 5 years to 11 years: Nebulizer: 2.5 mg every 4 to 6 hours with subsequent doses titrated based on clinical response. 12 years or older: Nebulizer: 2.5 to 5 mg every 6 hours as needed. Metered dose inhaler: 2 puffs every (180 mcg) every 4 to 6 hours.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SALBUTAMOL+IPRATROPIUM BROMIDE (Combivent®)

- P/P:** **Combivent inhaler** (Salbutamol sulphate 100mcg + Ipratropium Bromide 20mcg)
Combivent Nebules (Salbutamol sulphate 2.5mg/2.5ml + Ipratropium bromide 500mcg)
- Category:** Respiratory inhalant combination, Bronchodilator
- Indications:** Management of reversible bronchospasm associated w/ obstructive airway diseases in patients who require more than a single bronchodilator.
- Caution:** Paradoxical Bronchospasm, insufficiently controlled diabetes mellitus, recent MI, severe organic heart or vascular disorders, hyperthyroidism, pheochromocytoma, risk of narrow-angle glaucoma, prostatic hypertrophy, or bladder-neck obstruction; cystic fibrosis. Pregnancy, lactation.
- Contra-Ind:** Hypertrophic obstructive cardiomyopathy or tachyarrhythmia. History of hypersensitivity to soya lecithin, peanut or related food products.
- D/I:** Other β-adrenergics, anticholinergics, xanthine derivatives, glucocorticosteroids, diuretics; digoxin, β-blockers; MAOIs, tricyclic antidepressants, halogenated hydrocarbon anesthetics.
- Side effects:** Fine tremor of skeletal muscle; palpitations; headache, dizziness, nervousness; dryness of mouth, throat irritation; urinary retention.
- Dosage:** Usual Adult Dose of Inhalation Aerosol: is two inhalations four times a day.
inhalation solution: One 3 mL vial by nebulization 4 times a day with up to 2 additional 3 mL doses allowed per day. The maximum recommended dose is 6 vials (18 mL)/day.
Renal Dose Adjustments: recommends caution when administering this drug to patients with renal insufficiency.
Liver Dose Adjustments: recommends caution when administering this drug to patients with hepatic insufficiency.

SALMETEROL (Serevent®)

- P/P:** **Serevent Inhaler 25mcg, 60 doses**
- Category:** Bronchodilator, long-acting beta 2 agonist
- Indications:** To prevent bronchospasm in people with reversible obstructive airways disease, including symptoms of night-time and exercise induced asthma. It is also used in people with chronic obstructive pulmonary disease (COPD) such as emphysema and chronic bronchitis.

Caution: Contra-Ind: D/I: Side effects: See Formoterol

Dosage: Usual Adult Dose: 50 mcg every 12 hours.

Usual Pediatric Dose: Children at least 4 years of age: 50 mcg every 12 hours.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

SALMETEROL XINAFOATE+FLUTICASONE PROPIONATE (Seretide®)

P/P:	Seretide Evohaler, 120 Doses (25/50, 25/125, 25/250) Seretide Diskus, 60 Doses (50/100, 50/250, 50/500)
Category:	Respiratory inhalant combination, Bronchodilator
Indications:	Long-term maintenance treatment of asthma in patients 4 yr of age and older; COPD associated with chronic bronchitis.
Caution:	Not for relief of acute asthma symptoms. Active or quiescent pulmonary TB. Thyrotoxicosis, Patients transferring from oral steroids may be at risk of impaired adrenal reserve. Pregnancy, lactation
Contra-Ind:	Primary treatment of status asthmaticus or other acute episodes of asthma in which intensive measures are required.
D/I:	Nonselective & selective β-blockers, ketoconazole, ritonavir, other long-acting inhaled beta 2 –agonists, MAOIs
Side effects:	Tremor, subjective palpitations & headache, cardiac arrhythmias, arthralgia, hypersensitivity reactions, muscle cramps (rarely). Hoarseness, candidiasis of mouth & throat, paradoxical bronchospasm.
Dosage:	Adults and adolescents 12 years and older: Two inhalations twice daily of (25/125, 25/250) or (50/100, 50/250, 50/500). Children 4 years and older: Two inhalations of 25 micrograms salmeterol and 50 micrograms fluticasone propionate twice daily. or one inhalation of 50 micrograms salmeterol and 100 micrograms fluticasone propionate twice daily. There is no need to adjust the dose in elderly patients or in those with renal impairment. There are no data available for use of Seretide in patients with hepatic impairment.

TERBUTALINE SULPHATE (Bricanyl, Talin, Dilanyl®)

P/P:	Bricanyl 2.5mg tab, 100's Bricanyl syr 100ml (1.5mg/5ml) Talin syr 100ml (1.5mg/5ml) Dilanyl syr 100ml (1.5mg/5ml)
Category:	Bronchodilator
Indications:	Relief of bronchospasm in bronchial asthma of all types, chronic bronchitis, and emphysema, premature labour
Caution: Contra-Ind: D/I: Side effects:	See Salbutamol
Dosage:	Usual Adult Dose: Tablets: 5 mg orally 3 times a day at 6-hour intervals during waking hours. Do not exceed 15 mg in 24 hours.

Usual Pediatric Dose: 0.05 mg/kg/day divided into three doses, >=12 <15 years
2.5 mg orally every 6 to 8 hours. >=15 years: 2.5 mg to 5 mg orally every 6 to 8 hours. Do not exceed 15 mg in 24 hours.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

THEOPHYLLINE (Theodur, Euphylline, Theoped, Quibron, Etaphylin®)

P/P:	Theodur 200mg tab, 20's, Theodur 300mg tab, 20's Euphylline Retard 250mg tab, 20's Theoped 300mg S.R tab, 30's Quibron T/SR 300mg tab, 100's Theoped syr 60mg/5ml, 100ml, Bronquium syr 60mg/5ml, 120ml Etaphylin amp 500mg/5ml, 6's (Aminophylline)
Adm:	Oral prep should be taken on an empty stomach (May be taken w/ meals to reduce GI discomfort.).
Category:	Bronchodilator
Indications:	Relief and prevention of asthma symptoms & reversible bronchospasm associated w/ chronic bronchitis or emphysema.
Caution:	Cardiac disease, hypertension, hyper-thyroidism, peptic ulcer, hepatic impairment, epilepsy, pregnancy, breast feeding, elderly, fever, porphyria, Neonates, elderly, lactation, pregnancy, cardiac/hepatic diseases, peptic ulceration, hyperthyroidism, hypertension, epilepsy, heart failure, chronic alcoholism, acute febrile illness.
Contra-Ind:	History of peptic ulcer, Hyperthyroidism, HTN, & coronary disease. Use w/in 2 wk of MAOI therapy.
D/I:	Potentially Hazardous Interactions: Increased risk of cardiac arrhythmias with sympathomimetics and halothane. Tachycardia with pancuronium. Beta-blockers inhibit metabolism. Increased risk of convulsion with quinolones, ketamine. Other Interactions: Other xanthines. Clearance reduced by allopurinol, some antiarrhythmics, cimetidine, disulfiram, fluvoxamine, interferon-alpha, macrolide antibiotics, quinolones, oral contraceptives, thiabendazole, and viloxazine. Clearance increased by phenytoin, anticonvulsants, ritonavir, rifampicin, sulfipyrazone, cigarette smoking, Corticosteroids, diuretics, beta 2-agonists.
Side effects:	Potentially Life-threatening Adverse Drug Reactions: Convulsions, cardiac arrhythmias, hypotension and sudden death after too rapid IV injection. Other common side effects: Nausea, vomiting, abdominal pain, diarrhea, headache, insomnia, dizziness, anxiety, restlessness; tremor, palpitations
Dosage:	Usual Adult Dose: 10 mg /kg/day. Usual Pediatric Dose: less than 42 days: 4 mg/kg/day orally. 42 days to 181 days: 10 mg/kg/day orally. Alternate dosing: [(0.2 x age in weeks) + 5] x kg = 24-hour oral dose in milligrams. 6 months less than 12 months: 12 to 18 mg/kg/day. Alternate dosing: [(0.2 x age in weeks) + 5] x kg = 24-hour oral dose in milligrams. 1 year to 8 years: 20 to 24 mg/kg/day. 9 years to 11 years: 16 mg/kg/day

12 years to 15 years: 13 mg/kg/day.
16 years or older: 10 mg/kg/day. Do not exceed 900 mg/day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: 5 mg/kg/day. Do not exceed 400 mg/day.

TIOTROPIUM (Spiriva®)

P/P:	Spiriva 18mcg inhalational powder
Category:	Long acting Antimuscarinic bronchodilators
Indications:	Long-term Treating and preventing bronchospasm (wheezing or difficulty breathing) associated with chronic obstructive pulmonary disease (COPD), including chronic bronchitis and emphysema.
Caution:	Narrow-angle glaucoma, BPH, or urinary blockage or retention, pregnant, or are breast-feeding, renal impairment
Contra-Ind:	Hypersensitivity to atropine or its derivatives, including ipratropium, or any component of this product.
D/I:	Anticholinergic medicines (eg, benztropine, diphenhydramine)
Side effects:	Blurred vision; constipation; dry mouth; indigestion; muscle aches; nosebleed; runny nose; sore throat; stomach pain; vomiting
Dosage:	Usual Adult Dose: 18 mcg (2 inhalations) orally once a day. Usual Pediatric Dose: Less than 12 years: The safety and efficacy have not been established. 12 years or older: 2.5 mcg (2 inhalations of 1.25 mcg) orally once a day Renal Dose Adjustments Mild renal dysfunction (CrCl 60 mL/min or more): No adjustment recommended: Moderate to Severe renal dysfunction (CrCl less than 60 mL/min): Use with caution. Liver Dose Adjustments: No adjustment recommended.

TRIPROLIDINE HYDROCHLORIDE (Actifed, Rinofed®)

P/P:	Cough&cold prep like Actifed, Rinofed syr etc
Adm:	May be taken with or without food.
Category:	Antihistamines & Antiallergics
Indications:	Preventing or treating symptoms of hay fever and other upper respiratory allergies
Caution:	Narrow-angle glaucoma; urinary retention; epilepsy. Pregnancy, lactation (avoid). May affect ability to drive or operate machinery.
Contra-Ind:	Coma, CNS depression, neonates, prematures MAOI therapy w/in 14 days.
D/I:	MAO inhibitors, Alcohol, CNS depressants (e.g., narcotics, sedatives)

Side effects:	Dizziness; drowsiness; dry mouth, throat, and nose; excitability; thickening of mucus in nose or throat.
Dosage:	Infants and Children 4 months to <2 years: 0.33 mL [0.31 mg] every 4 to 6 hours (maximum 1.33 mL [1.25 mg]/24 hours) Children 2 to <4 years: 0.67 mL [0.63 mg] every 4 to 6 hours (maximum 2.67 mL [2.5 mg]/24 hours) Children 4 to <6 years: 1 mL [0.938 mg] every 4 to 6 hours (maximum 4 mL [3.75 mg]/24 hours) Children 6 to <12 years: 1.25 mg every 4 to 6 hours (maximum 5 mg/24 hours) Children ≥12 years, Adolescents, and Adults: 2.5 mg every 4 to 6 hours (maximum 10 mg/24 hours) Dosage adjustment in renal impairment: There are no dosage adjustments Dosage adjustment in hepatic impairment: There are no dosage adjustments

SKIN (Dermatological Preparations)

Abrocitinib (Cibinqo®)

P/P:	(Cibinqo, Oral tablet, 50mg) (Cibinqo, Oral tablet, 100mg) (Cibinqo, Oral tablet, 200mg)
Adm:	Oral: Administer with or without food. Swallow tablet whole; do not crush, split, or chew. Category: Antineoplastic Agent, Proteasome Inhibitor
Indications:	Atopic dermatitis, refractory, moderate to severe
Caution	Hematologic toxicity: Hematologic toxicity, including thrombocytopenia and lymphopenia, has been observed in patients treated with Abrocitinib. Lipid abnormalities: Dose-dependent increases in lipid parameters (eg, total cholesterol, low-density lipoprotein cholesterol, triglycerides) have been observed in patients treated with Abrocitinib.
Contra-Ind	Concomitant antiplatelet therapies, except for low-dose aspirin (equal or less than 81 mg Q 1 daily), during initial 3 months of treatment Hypersensitivity to Abrocitinib or any component in formulary

Side effects:	Gastrointestinal: Nausea (6% to 15%) Infection: Infection (35%; serious infection: ≤1% [including pneumonia]) Respiratory: Nasopharyngitis (9% to 12%)
Dosage:	Adult:

Oral: US labeling: Initial: 100 mg once daily. For insufficient response, may increase dose to 200 mg once daily. Discontinue treatment if inadequate response is seen after dose increase.

Canadian labeling: Initial: Adults <65 years of age: 100 to 200 mg once daily; in patients taking 200 mg once daily, consider decreasing dose to 100 mg once daily if symptom control is achieved by week 12; may increase back to 200 mg once daily if symptom control cannot be maintained. Maximum dose: 200 mg/day.

Pediatric:

Children ≥12 years and Adolescents: Oral: 100 mg once daily; for insufficient response, may increase dose to 200 mg once daily; use the lowest effective dose to maintain response. Maximum daily dose: 200 mg/day. If response remains inadequate after dose increase to 200 mg, discontinue therapy. Note: May be used in combination with topical steroids.

Dosage recommendations for CYP2C19 poor metabolizers: Children ≥12 years and Adolescents: Oral: Initial: 50 mg once daily; for insufficient response, may increase dose to 100 mg once daily; use the lowest effective dose to maintain response. If response remains inadequate after dose increase to 100 mg, discontinue therapy.

ACYCLOVIR (Zovirax, Acivir, Deforax®)

P/P: **Zovirax cream 5%, 10gm**
Acivir cream 5%, 10gm
Deforax cream 5%, 10gm

Category: Topical Antivirals

Indications: Herpes simplex virus infections of skin including initial & recurrent genital herpes& herpes labialis.

Caution: Avoid mucous membranes & eyes.

Side effects: Transient burning or stinging. Mild drying & flaking. Erythema & itching.

Dosage: Apply to the affected area 5 times a day for 4 days
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: No adjustment recommended.

ACNE SOAP (Acne aid, Acnos soap®)

P/P: **Acne aid soap 100gm (Sulphated sulphur blend)**
Acnos soap 100gm (Sulphur 1.75%, Borax 0.45%)

Dosage: 2 or 3 times daily
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: No adjustment recommended.

ADAPALENE (Differin®)

P/P: Differin 0.1% gel, 30gm; Differin 0.1% cream, 30gm
Sure cure 0.1% gel 30 gm.

Category: Acne Treatment Preparations

Indications: Acne vulgaris

Caution: Avoid contact w/ eyes, lips, angles of the nose & mucous membranes. Do not apply to cuts, abrasions, eczematous skin or sunburned skin.

Side effects: Erythema, scaling, dryness, pruritus & burning.

Dosage: Usual Adult Dose: Apply to the affected area once a day at bedtime after washing.
Usual Pediatric Dose: 11 years or less: Safety and efficacy have not been established.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

ALCLOMETASONE DIPROPIONATE (Perderm®)

P/P: Perderm 0.05% cream, 30gm
Perderm 0.05% ointment, 30gm

Category: Topical Corticosteroids

Dosage: Apply a thin film to the affected area two or three times a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

AMORALFINE HYDROCHLORIDE (Loceryl®)

P/P: Loceryl nail lacquer 5%, 5ml

Category: Topical Fungicides & Antiparasites

Indications: Onychomycoses caused by dermatophytes, yeasts & moulds.

Side effects: Slight transient burning sensation. (Rare)

Dosage: applied to the affected finger or toe nails once to twice weekly.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

AZELAIC ACID (Skinoren®)

P/P: Skinoren cream 20%, 30gm

Category: Acne Treatment Preparations

Indications: Acne vulgaris

Caution: Avoid contact w/ eyes.

Contra-Ind: Hypersensitivity to propylene glycol.

Side effects: Occasionally, local skin irritation.

Dosage: Apply 20% cream to affected area twice a day.
Renal Dose Adjustments: No adjustment recommended.
Liver Dose Adjustments: No adjustment recommended.

BACITRACIN+NEOMYCIN (Baneocin®)

P/P: Baneocin ointment 20gm (Per g Bacitracin Zn 250 IU, neomycin sulfate 5,000 IU.)
Baneocin powder 10gm (Per g Bacitracin Zn 250 IU, neomycin sulfate 5,000 IU.)

Category: Topical Anti-infectives

Indications: Infections caused by neomycin &/or bacitracin-susceptible organisms.

Side effects: Allergic reactions e.g., reddening & dryness of skin, skin rashes & pruritus.

Dosage: Ointment is applied thinly to the affected areas 2-3 times per day.
Powder: applied thinly to the affected areas 2-4 times per day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

BENZOYL PEROXIDE (Benzac AC®)

P/P: Benzac AC 2.5%, 60gm; Benzac AC 5%, 60gm; Benzac AC 10%, 60gm

Category: Acne Treatment Preparations

Indications: Acne vulgaris.

Caution: Avoid contact w/ eyes or mucous membranes.

Side effects: Allergic contact dermatitis, dryness.

Dosage: 1 to 3 applications per day,
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

Benzyl Benzoate (Benzal®)

P/P: Benzal lotion (100 mL)

Adm: For topical use only. Do not swallow. Avoid contact with eyes, face, mucous membranes, or broken skin. Shake well prior to application.

Category: Antiseptic

Indications: Pediculosis and Scabies

Caution: Appropriate use: For topical use only; do not ingest solution. Do not apply to face, eyes, lips, or mucous membranes. Application is contraindicated on skin areas that may have greater absorption (eg, wounds, burns).

Contra-Ind: Hypersensitivity to benzyl benzoate or any component of the formulation; application to skin areas that may have greater absorption (eg, wounds, burns)

Side effects: Burning sensation, Contact dermatitis, erythematous rash, skin rash, site irritation, Hypersensitivity reaction, Eye irritation, Nasal mucosa irritation

Dosage: Pediculosis (lice): Topical: After washing hair, apply sufficient amount to moisten hair. After 3 to 5 minutes, rinse hair thoroughly and comb with a fine tooth comb to remove nits. May repeat application if necessary.

BETAMETHASONE DIPROPIONATE (Diprolene®)

P/P: Diprolene 0.05% ointment, 30gm
Diprolene 0.05% cream 30gm
Diprosone 0.05% ointment, 30gm
Diprosone 0.05% cream 30gm

Category: Topical Corticosteroids (Potent)

Dosage: Cream, gel, ointment: Apply a thin film to the affected area once or twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

BETAMETHASONE AND SALICYLIC ACID (Defosalic; Salibet®)

P/P: Defosalic; Salibet

Adm: Apply thin film of lotion to affected area of scalp or thin film of ointment to affected area once in the morning and night.

Category: Corticosteroid, Topical; Keratolytic Agent

Indications: Dermatoses

Caution: Cautions

Contra-Ind:	Hypersensitivity to betamethasone, salicylic acid or any component of the formulation; viral diseases including vaccinia, varicella, herpes simplex; fungal infections; tuberculosis of the skin.
Side effects:	Dermatologic: Acne vulgaris, alopecia, pruritus ($\leq 2\%$), xeroderma (4%), Desquamation, exfoliation of skin Nervous system: Paresthesia Ophthalmic: Conjunctivitis
Dosage:	Dermatoses: Topical: Usual dose: Lotion: Apply thin film to affected area of scalp twice daily (with maintenance therapy, some patients may respond adequately to less frequent application). If symptoms do not improve within a week, discontinue use and reassess patient.

BETAMETHASONE VALERATE (Betnovate, Betaderm®)

P/P:	Betnovate 0.1% cream, 30gm Betnovate 0.1% ointment, 30gm Betnovate 0.1% scalp lotion, 30ml Betaderm 0.1% cream, 20gm Betaderm 0.1% ointment, 20gm Betasone 0.1% cream, 15gm Betasone 0.1% ointment, 15gm Betamet 0.1% ointment, 15gm
Category:	Topical Corticosteroids (Potent)
Dosage:	Cream, gel, ointment: Apply a thin film to the affected area once or twice a day Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

CALAMINE (Calamine®)

P/P:	Calamine lotion 200ml; Calamyl lotion 100ml
Adm:	Apply freely to the affected area two or three times daily
Category:	Topical Antipruritics
Indications:	Relief of itch due to insect bites, skin allergy& minor skin irritations.
Caution:	Avoid application to blistered, raw or oozing areas of the skin
Dosage:	A sufficient amount of calamine ointment should be applied to cover the affected area(s) of skin as necessary. Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CHLORPHENOXAMINE (Systral®)

P/P: **Systral cream 20gm**

Category: Topical Antihistamines

Indications: Allergic skin conditions, insect bites, sunburn.

Caution: Systral should not be applied to large areas (eg, severe burns or scalds) on infants or children

Contra-Ind: Known hypersensitivity to parabens and cetylstearyl alcohol.

CLINDAMYCIN PHOSPHATE (Dalacin T, Derma T, Clinimycin T®)

P/P: **Dalacin T lotion 1%, 30ml; Dalacin T solution 1%, 30ml
Derma T lotion 1%, 30ml; Derma T solution 1%, 30ml
Clinimycin T gel 1%, 45gm**

Category: Acne Treatment Preparations

Indications: Acne vulgaris.

Caution: Soln Alcohol base may cause burning & irritation of the eyes, atopic individuals.

Side effects: Irritation, dryness, stinging & erythema.

Dosage: Apply to affected areas twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CLOBETASOL PROPIONATE (Dermovate, Gamavit®)

P/P: **Dermovate 0.05% cream 25gm
Dermovate 0.05% ointment 25gm
Gamavit 0.05% cream 25gm
Gamavit 0.05% ointment 25gm
Dermovate 0.05% scalp application 25gm**

Category: Topical Corticosteroids (Very potent)

Dosage: Apply a thin layer to affected areas twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CLOBETASONE BUTYRATE (Eumavate®)

P/P: **Eumavate 0.05% cream, 25gm**

Eumavate 0.05% ointment, 25gm

Category: Topical Corticosteroids
Dosage: Apply a thin layer to affected areas twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CLOTRIMAZOLE (Canesten, Dermatin®)

P/P: **Canesten 1%, 20gm cream; Canesten 1%, 20ml solution**
Dermatin 1%, 12gm cream; Dermatin 1%, 20ml solution
Dermatin 1%, 20gm powder

Category: Topical Fungicides & Antiparasites
Indications: Topical treatment of the tinea pedis, tinea cruris, tinea corporis, tinea versicolor, erythrasma candidiasis due to Candida albicans.
Dosage: Apply a quantity sufficient to cover the affected area and immediately surrounding skin twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

CORTICOSTEROID+ ANTIBIOTIC +ANTIFUNGAL PREPARATIONS

Category: Topical Anti-bacterial, Anti-fungal with Corticosteroids
Indications: Inflammatory dermatoses complicated by candidal &/or bacterial infections
Kenacomb cream 30gm (Per g oint Triamcinolone acetonide 1 mg, neomycin sulfate 2.5 mg, gramicidin 250 mcg, nystatin 100,000 u)
Kenacomb ointment 30gm (Per g oint Triamcinolone acetonide 1 mg, neomycin sulfate 2.5 mg, gramicidin 250 mcg, nystatin 100,000 u)
Panderm Cream 15gm (Per g oint Triamcinolone acetonide 1 mg, neomycin sulfate 2.5 mg, gramicidin 250 mcg, nystatin 100,000 u)
Panderm ointment 15gm(Per g oint Triamcinolone acetonide 1 mg, neomycin sulfate 2.5 mg, gramicidin 250 mcg, nystatin 100,000 u)
Dosage: Apply a thin layer to affected areas twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CORTICOSTEROID+ ANTIBIOTIC PREPARATIONS

Category: Topical Anti-infectives with Corticosteroids
Indications: Inflammatory dermatoses where bacterial infection is present or likely to occur.
Pimafucort cream 30gm (Hydrocortisone%, 1% Natamycin and 0.35% Neomycin)
Pimafucort ointment 30gm (Hydrocortisone%, 1% Natamycin and 0.35% Neomycin)

Betnovate N cream 30gm (Per g Betamethasone valerate 1 mg, neomycin sulfate 5 mg.)
Betnovate N ointment 30gm (Per g Betamethasone valerate 1 mg, neomycin sulfate 5 mg.)
Betamed-N cream, 30gm (Per g Betamethasone valerate 1 mg, neomycin sulfate 5 mg.)
Fucicort cream 15gm (2%, betamethasone valerate 0.1%)
Fusibact-B cream 15gm (Fusidic acid 2%, betamethasone valerate 0.1%)
Zetacort cream 15gm (Fusidic acid 2%, betamethasone valerate 0.1%)
Fucidin H cream 15gm (Per g Fusidic acid 20 mg, hydrocortisone acetate 10 mg)
Synalar N cream 15gm (Fluocinolone acetonide 0.025%, neomycin sulfate 0.5 %.)
Synalar N ointment 15gm (Fluocinolone acetonide 0.025%, neomycin sulfate 0.5 %.)

Dosage: Apply a thin layer to affected areas twice a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CORTICOSTEROID+ ANTIFUNGAL PREPARATIONS

Category: Topical Anti-fungal with Corticosteroids

Indications: Infection of the skin by dermatophytes or Candida where inflammatory symptoms are prominent.

Daktacort cream 15gm (Miconazole nitrate 2%, hydrocortisone 1%)
Mycoheal HC, 15gm cream (Miconazole nitrate 2%, hydrocortisone 1%)
Betnovate-C cream 30gm (Per g Betamethasone valerate 1 mg, clioquinol 30 mg.)
Betnovate-C ointment 30gm (Per g Betamethasone valerate 1 mg, clioquinol 30 mg.)
Locacorten vioform cream 15gm (flumethasone pivalate 0.02%, clioquinol 3%)
Locacorten vioform ointment 15gm (flumethasone pivalate 0.02%, clioquinol 3%)
Cliocort ointment 10gm (Hydrocortisone acetate 1%, clioquinol 3%)
Travocort cream 20gm (Per g Diflucortolone valerate 1 mg, isoconazole nitrate 10 mg)
Betazol cream 30gm (Betametasone 0.05%, Miconazole 2%)
Lotriiderm cream 30gm (Per g Clotrimazole 10 mg, betamethasone 0.5 mg)
Elica-M cream 30gm (Mometasone 0.1%+Miconazole 2%)

Dosage: Apply a thin layer to affected areas twice a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

CRISABOROLE (Staquis®)

P/P: Staquis 2%, Ointment)

Adm: For topical use only; not for ophthalmic, oral, or intravaginal use.

Category: Phosphodiesterase-4 Enzyme Inhibitor

Indications: Atopic dermatitis

Caution: Some dosage forms may contain propylene glycol; in neonates, large amounts of propylene glycol delivered orally, intravenously (eg, >3,000 mg/day), or topically have been associated with potentially fatal toxicities which can include metabolic acidosis, seizures, renal failure, and CNS depression; toxicities have also been reported in children and adults including hyperosmolality, lactic acidosis, seizures, and respiratory depression

Contra-Ind: Hypersensitivity to crisaborole or any component of the formulation

Side effects: Application-site pain; including application-site burning and stinging of the skin

Dosage: Apply a thin film to affected area(s) 2 times daily; consider reducing to once daily when clinical response is achieved.

CROTAMITON (Eurax®)

P/P: Eurax cream 30gm; Eurax lotion 60ml

Adm: Rub into the affected parts bd-tds

Category: Topical Antipruritic

Indications: Pruritus of varying origin eg essential pruritus, senile pruritus, anogenital pruritus, pruritus associated w/ allergies, jaundice or cardiac disease & pruritus due to insect bites & stings; scabies.

Caution: Do not bring in contact w/ the conjunctiva. Treatment w/ the cream is not indicated in acutely inflamed, weeping skin conditions. Pregnancy.

Contra-Ind: Do not apply in the area of the nipples.

Side effects: In exceptional cases, skin irritation or contact allergy

Dosage: Apply topically to affected area(s) massaging gently until completely absorbed. Repeat application as necessary.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

CYPROTERONE ACETATE+ETHINYLOESTRADIOL (Diane-35®) **(Restricted)**

P/P: Diane-35 tab, 21's (Cyproterone acetate 2mg+Ethinyloestradiol 35mcg)

Adm: May be taken with or without food.

Category: Oral Contraceptives / Acne Treatment Preparations

Indications: Androgen-dependent diseases in women eg acne, alopecia, mild hirsutism& as OC in women w/ these diseases.

Caution: Smoking, diabetes, overwt, HTN, heart rhythm/valve disorder, phlebitis, varicose veins, migraine, epilepsy, hypertriglyceridemia, liver or gallbladder disease, Crohn's disease or ulcerative colitis, SLE, hemolytic uremic syndrome, sickle cell disease, porphyria

Contra-Ind: Pregnancy, lactation; deep vein thrombosis; stroke; migraine; diabetes mellitus w/ blood vessel damage; pancreatitis; jaundice or severe liver disease; existing or treated breast, endometrial or genital cancer; benign or malignant liver tumor; unexplained vag bleeding

D/I:	Antiepileptic drugs (primidone, phenytoin, barbiturates), anti-TB drugs (rifampicin, rifabutin), ritonavir, antibiotics (penicillins, tetracyclines, griseofulvin), St John's wort
Side effects:	Headache, migraine; gastric upsets; nausea; breast tenderness, pain, enlargement & secretion; changes in body wt & libido; depressive moods; contact lens intolerance, changes in vag secretion, various skin reactions, fluid retention.

DIFLUCORTOLONE VALERATE (Nerisone®)

P/P:	Nerisone cream 30gm (Diflucortolone valerate 0.1%) Nerisone ointment 30gm (Diflucortolone valerate 0.1%)
Category:	Topical Corticosteroids (Potent)
Dosage:	Apply a thin film to the affected areas 1 to 2 times daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DIMETHINDINE MALEATE (Fenistil®)

P/P:	Fenistil gel 0.1%, 30gm
Category:	Topical Antihistamines
Indications:	Pruritus associated w/ dermatoses, urticaria, insect bites, sunburn, superficial burns.
Caution:	Pregnancy & lactation. Avoid prolonged exposure of extensively treated areas to sunlight. Avoid use on extensive skin areas in infant & small childn.
Side effects:	Isolated cases of allergic reactions. Rare cases of mild transient skin reactions eg dryness or burning sensations.
Dosage:	Apply a thin film to the affected areas 3 times daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

DISINFECTANTS AND CLEANSERS

Disinfectants and cleansers are important in the treatment of skin conditions. Sodium chloride 0.9% is suitable for general cleansing of skin and wounds. Povidone iodine is preferred to chlorinated solutions which are too irritant and no longer recommended. Astringents such as potassium permanganate solution are useful for eczematous reactions.

POVIDONE IODINE

P/P:	Betadine 10% antiseptic solution 120ml Claradone antiseptic solution 100ml Betadine 7.5% surgical scrub 120ml Betadine 10% ointment 20gm Avalon 7.5% surgical scrub 120ml
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Category: Antiseptics & Disinfectants

Indications: For degerming skin pre- & post-op in major & minor surgical procedures. Broad-spectrum antisepsis.
Scrub; Also for pre-op scrubbing & washing by surgeons & theatre staff.
Oint; Prevention of infection in cuts & abrasions, minor surgical procedures & burns.
Lubricant in catheterization.

Hay-oxide 100ml (Hydrogen peroxide 3%)

Hay-oxide 100ml (Hydrogen peroxide 6%)

Isopropyl 70% alcohol spray 100ml

Mercurochrome 2%, 60ml

Gentian violet 0.5%, 60ml

Iodine tincture 2.5%, 60ml

Potassium permanganate 0.1% sol

For 1 in 10000 sol, dilute 1 part in 10 part of 0.1% solution

For 1 in 8000 sol, dilute 1 part in 8 part of 0.1% solution

Dosage: as nessesary.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

ECONAZOLE NITRATE (Derma-coryl®)

P/P: **Derma-coryl 1% cream, 30gm**

Category: Topical Fungicides & Antiparasites

Indications: Dermatomycosis caused by dermatophytes, yeasts, molds, skin infections caused by gm+ve bacteria.

Dosage: Apply sufficient amount to cover affected areas once a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

EMOLLIENT AND BARRIER PREPARATIONS

Emollients soothe, smooth and hydrate the skin and are indicated for all dry scaling disorders such as ichthyosis. Their effects are brief so they should be applied frequently, even after improvement.

Use of emollients

Emollients are best applied to moist skin, but they can and should be applied at other times.

Emollients should be applied liberally and as frequently as possible. Combinations of cream, ointment, bath oil and emollient soap will help to provide a maximum effect.

Emollients should be prescribed in large quantities. In generalised eczema, an adult will require 500g per week and a child may require 250g per week.

Intensive use of emollients will reduce the need for topical steroids.

Education on how to use emollients is essential to maximise re-hydration of the skin.

The choice of emollient depends on patient acceptability; thus a few emollients may need to be tried before the most appropriate one is identified for the individual patient.

E-45 cream 125gm

E-45 cream 250gm

E-45 emollient wash

E-45 emollient lotion

SBR repair cream 30gm

Kamillosan oint 20gm (chamazulene, alpha-bisabolol, cammomile extract)

Kamillosan cream 20gm (chamazulene, alpha-bisabolol, cammomile extract)

Lipobase 100gm cream

Lipotec 100 gm cream

Elobase 50 gm cream, ointment

Sudo cream 125gm

Sudo cream 250gm

Medo cream 125gm

Medo cream 250gm

Nutraderm cream 60gm

Nutraderm lotion 200ml

Sarnol lotion 150ml

Dosage Apply sufficient amount twice daily or as necessary

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FLUMETHASONE PIVALATE (Locacorten®)

P/P: **Locacorten cream 15gm (flumethasone pivalate 0.02%)**
 Locacorten ointment 15gm (flumethasone pivalate 0.02%)

Category: Topical Corticosteroids (Moderately potent)

Dosage: applied to the affected areas in a thin layer 2 to 3 times daily.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FLUOCINOLONE ACETONIDE (Synalar®)

P/P: **Synalar 0.025% cream 15gm**
 Synalar 0.025% ointment 15gm
 Synalar 0.025% lotion, 20ml

Category: Topical Corticosteroids (Potent)

Dosage: Cream: Apply a thin film to the affected area two to four times a day

lotion: applied to the scalp area once a day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

FLUOCINOLONE, HYDROQUINONE, TRETINOIN (Triolite®)

P/P: **Triolite Cream 30gm 1"S**

Adm: topical Cream should be applied once daily at night. It should be applied at least 30 minutes before bedtime.

Category: Corticosteroid, Topical; Depigmenting Agent; Retinoic Acid Derivative.

Indications: Short-term treatment of moderate to severe melasma of the face.

Caution: Adrenal suppression, Hydroquinone may produce exogenous ochronosis, Prolonged treatment with corticosteroids has been associated with the development of Kaposi's sarcoma (case reports).

Contra-Ind: Hypersensitivity to fluocinolone, hydroquinone, tretinoin, or any component of the formulation.

Side effects: Erythema, desquamation, burning sensation of skin, xeroderma, pruritus.

Dosage: Apply a thin film once daily to affected areas until control is achieved; not indicated for use beyond 8 weeks.

Dosing: Altered Kidney Function: Adult
There are no dosage adjustments.

Dosing: Hepatic Impairment: Adult
There are no dosage adjustments

FLUTICASONE PROPIONATE (Cutivate, Potencort®)

P/P: **Cutivate 0.05% cream, 50gm**
Cutivate 0.05%ointment, 50gm
0.05% ointment, 15gm
Potencort 0.05% cream, 15gm

Category: Topical Corticosteroids (Potent)

Dosage: Apply a thin film to the affected skin areas once or twice daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

FLUTRIMAZOLE (Micetal®)

P/P: **Micetal 1% cream, 30gm**
Micetal 1% solution, 30ml

Category: Topical Fungicides & Antiparasites

Indications: Treatment of various dermatomycoses like cutaneous candidasis, treatment of Pityriasis versicolor caused by Malassezia furfur also known by Pityrosporum ovale.

Side effects: Burning, irritation, pruritus and erythema

Dosage: applied once daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

FUSIDIC ACID (Fucidin, Fusibact, Zeta, Balad, Fusiderm, Fusibact®)

P/P: **Cream 2%, 15gm (Fucidin, Fusibact, Zeta, Balad, Fusiderm, Fusibact)**
Ointment 2%, 15gm (Fucidin, Fusibact, Zeta, Balad, Fusiderm, Fusibact)
Gel 2%, 15gm (Fucidin, Balad)

Category: Topical Anti-infectives

Indications: Primary & secondary bacterial skin infections including methicillin-resistant strains.

Dosage: apply gently three or four times daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available.

HYDROCORTISONE (Cortiderm, Alfacort, Riacort®)

P/P: **Cortiderm 1% cream, 30gm**
Alfacort 1% cream 15gm
Alfacort 1% ointment 15gm
Riacort 1% cream 15gm
Riacort 1% ointment 15gm

Category: Topical Corticosteroids (Mild)

Dosage: Apply to affected area two to four times a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HYDROCORTISONE 17-BUTYRATE (Locoid®)

P/P: **Locoid cream 0.1%, 30gm**
Locoid lipocream 0.1%, 30gm
Locoid ointment 0.1%, 30gm

Locoid Scalp lotion 0.1% 30ml

Category: Topical Corticosteroids (moderately potent)
Dosage: applied to the affected area as a thin film two or three times daily
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HYDROCORTISONE ACEPONATE (Efficort®)

P/P: Efficort 0.1% cream, 30gm
Efficort 0.1%lipocream, 30gm

Category: Topical Corticosteroids (Mild)

Apply to affected area two to four times a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

HYDROQUINONE (Eldoquine, Avoquin®)

P/P: Eldoquine 2% cream 14gm
Eldoquine 4% forte cream 14gm
Eldoquine 4% forte cream 28gm
Eldopaque 4% cream, 28gm
Avoquin 4% cream, 50 gm
Hi-quin 2% cream, Hi – quin 4% cream.

Category: Other Dermatologicals

Indications: Lightening of hyperpigmented areas.
Caution: Avoid contact w/ eyes & exposure to sun.

Dosage: Apply to affected area twice daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

IMIQUIMOD (Kozamod®)

P/P: Kozamod 5% W/W Cream 12.5mg 12"S, Aldara 5% Cream 12"S

Adm: For topical use only

Category: Skin and Mucous Membrane Agent

Indications: Clinically typical, nonhyperkeratotic, nonhypertrophic actinic keratoses (AK) on the face or scalp in immunocompetent adults

Biopsy-confirmed, primary superficial basal cell carcinoma (sBCC) in immunocompetent adults; maximum tumor diameter of 2.0 cm on trunk, neck, or extremities (excluding hands and feet), only when surgical methods are medically less appropriate and patient follow-up can be reasonably assured
External genital and perianal warts/condyloma acuminata in patients 12 years old or older.

- Caution:** Intense local inflammatory reactions can occur (e.g., skin weeping, erosion). Dosing interruption may be required
Severe local inflammatory reactions of the female external genitalia can lead to severe vulvar swelling. Severe vulvar swelling can lead to urinary retention; dosing should be interrupted or discontinued
Flu-like systemic signs and symptoms including malaise, fever, nausea, myalgias and rigors may occur. Dosing interruption may be required
Avoid exposure to sunlight and sunlamps. Wear sunscreen daily
Safety and efficacy have not been established for repeat courses of treatment to the same area for AK
Aldara Cream is not recommended for treatment of BCC subtypes other than the superficial variant, i.e., sBCC
Treatment of urethral, intra-vaginal, cervical, rectal or intra-anal viral disease is not recommended
Safety and efficacy in immunosuppressed patients have not been established
- Contra-Ind:** Hypersensitivity to imiquimod
- Side effects:** Most common adverse reactions (incidence >28%) are application site reactions or local skin reactions: itching, burning, erythema, flaking/scaling/dryness, scabbing/crusting, edema, induration, excoriation, erosion, ulceration. Other reported reactions ($\geq 1\%$) include fatigue, fever, and headache
- Dosage:**
Actinic keratosis: 2 times per week for a full 16 weeks
Superficial basal cell carcinoma: 5 times per week for a full 6 weeks
External genital warts (EGW): 3 times per week until total clearance or a maximum of 16 weeks

ISOTRETINOIN (Isotrex) (Restricted)

- P/P:** Isotrex 0.05%gel 30gm
- Category:** Acne Treatment Preparations
- Indications:** Topical treatment of mild to moderate acne, both inflammatory & non-inflammatory lesions.
- Caution:** Do not apply to lips, mouth, eyes, mucous membranes or angles of the nose; broken, eczematous or sunburned skin. Avoid exposure to sunlight & sunlamps, concomitant keratolytic drying topical medication.
- Contra-Ind:** Patients w/ a personal or family history of cutaneous epithelioma. Pregnancy, lactation.
- Side effects:** Stinging, burning, slight irritation, reddening, peeling.

Dosage: Adult: Apply a small amount lightly to the entire affected area once a day at bedtime.
Pediatric: Less than 12 years: Safety and efficacy have not been established.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

ISOTRETINOIN ORAL (Roaccutane®) (Restricted)

P/P: Roaccutane 10mg caps, 28's; Roaccutane 10mg caps, 28's

Adm: Should be taken with food.

Category: Acne Treatment Preparations

Indications: Severe forms of nodulo-cystic acne resistant to therapy, esp acne conglobata.

Caution: Diabetes, obesity, alcoholism, disorders of lipid metabolism.

Contra-Ind: Pregnancy & lactation. Hepatic & renal insufficiency. Hypervitaminosis A. Patients w/ excessively elevated blood lipid values.

D/I: Concurrent use w/ vit A intensifies symptoms of hypervitaminosis A. Tetracycline.

Side effects: Dry mucosa, dermatitis facialis, pruritus, sweating. Occasionally, reversible alopecia, muscle & joint pain.

Dosage: Usual Adult Dose: 0.5 to 1 mg/kg/day orally in 2 divided doses
Usual Pediatric Dose: 12 years or older: 0.5 to 1 mg/kg/day orally in 2 divided doses
Renal Dose Adjustments: No adjustment recommended.

Liver Dose Adjustments: Dosage reduction is recommended

ISOTRETINOIN+ERYTHROMYCIN (Isotrexin®) (Restricted)

P/P: Isotrexin gel 30gm (Isotretinooin 0.05%, Erythromycin 2%)

Category: Acne Treatment Preparations

Indications: Topical treatment of mild to moderate acne vulgaris.

Caution: Avoid contact w/ mouth, eyes & mucous membranes & w/ abraded or eczematous skin.
Avoid exposure to sunlight or sunlamps.

Contra-Ind: Hypersensitivity. Pregnancy & lactation.

Side effects: Stinging, burning or irritation, erythema or peeling at application site.

Dosage: Apply a thin film over the entire affected area once or twice daily

Renal impairment: No dosage adjustment is necessary

Hepatic impairment: No dosage adjustment is necessary

IVERMECTIN (TOPICAL) (Soolantra®)

P/P: **Soolantra Cream 30gm 1"S.**

Adm: For topical use only. Not for oral, ophthalmic or intravaginal use.

Category: Antiparasitic Agent, pediculocide

Indications: SOOLANTRA cream is indicated for the treatment of inflammatory lesions of rosacea

Caution: None

Contra-Ind: None

Side effects:

In controlled clinical trials with SOOLANTRA the most common adverse reactions (incidence ≤ 1 %) included skin burning sensation and skin irritation

Dosage: Apply to the affected areas once daily

KETOCONAZOLE (Nizoral®)

P/P: **Nizoral cream 2%, 30gm**

Category: Topical Fungicides & Antiparasites

Indications: Cutaneous candidiasis, Tinea corporis, Tinea cruris&Tinea (pityriasis) versicolor, seborrheic dermatitis

Side effects: Irritation & burning sensation.

Dosage: Apply to the affected and surrounding area once to twice a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

LIDOCAINE (Rialocaine, Xylophil, Xylocaine, Lignosol, Avocaine®)

P/P: **Rialocaine 2% gel, 20gm**

Xylophil 2% gel, 30gm

Xylocaine 10%, 50ml spray

Lignosol 10%, 50gm spray

Avocaine 10%, 50ml spray

Category: Local Anaesthetics

Indications: As a surface anaesth & lubricant for the male & female urethra during cystoscopy, catheterisation, exploration by sound & other endourethral procedures, nasal & pharyngeal cavities in endoscopic procedures eg gastroscopy & bronchoscopy, during proctoscopy & rectoscopy & tracheal intubation.

Contra-Ind: Hypersensitivity to amide type local anaesth.

Side effects: Local irritation, allergic reactions, rarely, systemic side effects

Dosage: Apply a thin film to affected area up to 3 to 4 times daily as needed
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Use with caution.

LIDOCAINE AND PRILOCAINE (Ennla, Prila®)

P/P: Ennla 5% Cream 5gm 1"S, Prila 5% Cream 5gm 1"S (Avalon)

Adm: For external use only. Avoid application to open wounds or near the eyes

Category: Local anesthetic.

Indications: Local anesthetic.

Caution: Hypersensitivity, Methemoglobinemia, Atopic dermatitis, Hepatic impairment

Contra-Ind: Known history of sensitivity to local anesthetics of the amide type.

Side effects: Application-site reaction including burning, edema, erythema, local purpuric or petechial reaction, pruritus, rash, local alterations in temperature sensations, local skin hyperpigmentation, localized blanching and blistering of foreskin

Dosage: Minor dermal procedures: apply it for at least 1 hour. Major dermal procedures: apply it for at least 2 hours

LULICONAZOLE (Lican®)

P/P: Lican 1% Cream 30gm 1"S

Adm: For topical use only. Not for ophthalmic, oral or intravaginal use

Category: Azole antifungal

Indications: Interdigital tinea pedis, tinea cruris, and tinea corporis

Caution: Pregnancy Category C

Contra-Ind: None.

Side effects: Application site reactions, which occurred in less than 1% of subjects

Dosage:

Interdigital Tinea Pedis: should be applied once a day for two weeks

Tinea Cruris and Tinea Corporis: should be applied once a day for one week.

METHOXSALEN (Oxsoralen®)

P/P: **Oxsoralen 1% lotion**
Oxsoralen 10mg caps, 100's

Adm: Oral preparation should be taken with food.

Category: Psoriasis, Seborrhea & Ichthyosis Preparations

Indications: Used in conjunction w/ long wave UVA radiation for the symptomatic control of severe, disabling psoriasis& for the repigmentation of idiopathic vitiligo.

Caution: Protect eyes & lips from UV exposure for 24 hr after ingestion of cap.

Contra-Ind: Hepatic insufficiency & diseases associated w/ photosensitivity. Idiosyncratic reactions to psoralens; specific history of light sensitive disease, melanoma or history of melanoma, childrn <12 yr.

Dosage: Lotion: is applied usually no more than once weekly

Capsules: Usual Adult Dose: Initial dose: Based on patient weight.

<30 kg = 10 mg
30 to 50 kg = 20 mg
51 to 65 kg = 30 mg
66 to 80 kg = 40 mg
81 to 90 kg = 50 mg
91 to 115 kg = 60 mg
>115 kg = 70 mg

Maintenance dose: Dose, schedule, and UVA exposure are based on the patients skin type.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

METHYL PREDNISOLONE ACEPONATE (Advantan®)

P/P: **Advantan 0.1% cream, 20gm**
Advantan 0.1% ointment, 20gm

Category: Topical Corticosteroids

Indications: Endogenous eczema, contact eczema, degenerative, dyshidrotic, vulgar eczema.

Dosage: applied thinly once per day to the diseased areas of skin.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

METRONIDAZOLE (Rozex, Dumozol®)

P/P: **Rozex 0.75% gel**
Dumozol 1% cream, 25gm

Category: Topical Anti-infectives, Acne Treatment Preparations

Indications: Inflammatory papules, pustules & erythema of rosacea & perioral dermatitis.

Side effects: Watery (tearing) eyes if applied too near eyes, transient redness, mild dryness, burning, skin irritation.

Dosage: 1% gel or cream: Apply a thin film to the affected area once a day.
0.75% gel, cream, or lotion: Apply a thin film to the affected area twice a day.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MICONAZOLE (Daktarin, Miconaze, Mycoless®)

P/P: **Daktarin cream 2%, 20gm; Daktarin powder 2% 20gm**
Miconaze cream 2%, 20gm; Miconaze powder 2% 20gm
Mycoless cream 2%, 20 gm

Category: Topical Fungicides & Antiparasites

Indications: Dermatophytoses, yeast mycoses, pityriasis versicolor, gm+ve infections.

Contra-Ind: Discontinue use if itching or redness worsens. Not indicated for gm-ve bacteria infections

Side effects: Irritation & mild burning sensation, itching & redness.

Dosage: Topical cream, powder: Apply a thin layer to affected areas twice a day
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

MINOXIDIL (Regain, Neoxidil®)

P/P: **Regain 2% solution spray, 60ml; Hair grow 2% solution, 50ml**
Regain 5% solution spray, 60ml; Hair grow 5% solution, 50ml
Regain 2% gel, 60ml
Neoxidil 2% solution spray, 60ml

Category: Other Dermatologicals

Indications: Alopecia androgenetica.

Caution: Cardiac problems. Avoid contact w/ eyes & irritated skin.

Contra-Ind: Sudden or unexplained hair loss; red, inflamed, irritated, infected or painful scalp; children <18 yr; elderly >65 yr. Pregnancy & lactation.

D/I: Corticosteroids, retinoids, or occlusive ointment bases.

Side effects: Contact dermatitis, pruritus, local burning & flushing.

Dosage: Apply 1 mL topically to the affected area(s) of the scalp twice a day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

MOMETASONE FUROATE (Elocom, Elica®)

P/P: **Elocom 0.1% cream, 30gm**
Elocom 0.1% ointment, 30gm
Elocom lotion 0.1% 30ml
Elica 0.1% cream, 30gm
Elica 0.1% ointment, 30gm

Category: Topical Corticosteroids (potent)

Dosage: Apply a thin layer to the affected area once a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

MUPIROCIN (Bactroban®)

P/P: **Bactroban 2% ointment 15gm**

Category: Topical Anti-infectives

Indications: Primary & secondary bacterial skin infections including methicillin-resistant strains.

Caution: Not for ophthalmic or intranasal use.

Dosage: Apply a small amount to the affected area 3 times a day

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available.

NAFTIFINE (Exoderil®)

P/P: **Exoderil 2% cream, 30gm**

Category: Topical Fungicides & Antiparasites

Indications: Tinea pedis, tinea cruris, other dermatophytic fungi skin infections

Caution: Avoid contact w/ eyes, nose, mouth and other mucous membranes. Avoid use of occlusive dressings or wrappings.

Side effects: Burning, stinging, dryness, redness, pruritus, local irritation, rash, skin tenderness.

Dosage: A thin layer applied to the affected areas plus a 1/2 inch margin of healthy surrounding skin once a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

NYSTATIN (Mikosat®)

P/P: **Mikosat cream 15gm (100,000 IU/gm)**

Category: Topical Fungicides & Antiparasites

Indications: Cutaneous mycotic infections caused by *Candida albicans*.

Dosage: A quantity sufficient to cover the affected area 2 to 4 times a day.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available.

PIMECROLIMUS (Elidel®)

P/P: **Elidel 1%, cream, 15gm**

Category: Other Dermatologicals

Indications: Short-term treatment of signs & symptoms & intermittent long-term treatment of emerging & resolving lesions in atopic dermatitis in patients ≥ 3 mth where the use of topical corticosteroid is not yet warranted, no longer needed or is inadvisable.

Caution: Avoid application to areas affected by acute cutaneous viral infections. Eczema herpeticum. Avoid exposure to the sun. Pregnancy & lactation.

Side effects: Burning sensation at application site.

Dosage: Apply a thin layer to the affected skin twice daily.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

PREPARATION FOR ECZEMA AND PSORIASIS

Category: Psoriasis, Seborrhea & Ichthyosis Preparations

Indications: Relief of the inflammatory manifestations of hyperkeratotic & dry corticosteroid-responsive dermatoses

Elicasal ointment 30gm (Mometasone 0.1%, Acetylsalicylic acid 5%)

Diprosalic oint, 30gm, Defosalic oint .30gm (Betamethasone dipropionate 0.05%, salicylic acid 3%)

Salibet ointment 30gm (Betamethasone dipropionate 0.05%, salicylic acid 3%)

Locasalen ointment 15gm (Flumetasone pivalate 0.02%, salicylic acid 3%)

Daivonex 0.05% cream 30gm (Calcipotriol), Daivonex 0.05% Ointment 30gm (Calcipotriol)

Calmurid cream15%, 100gm (Urea 10%, lactic acid 5%)

Lacticare lotion 75gm (Lactic acid 5% in moisturising base)

Daivobet oint 30gm (Per g Calcipotriol 50 mcg, betamethasone (as dipropionate) 0.5 mg)

Caution: Avoid use on the face as it may cause facial skin irritation. Careful hand washing after use is recommended. Pregnancy, children.

SALICYLIC ACID + LACTIC ACID (Duofilm, Avomack, Sactal®)

P/P:	Duofilm paint 15ml (Salicylic acid 16.7%, lactic acid 16.7 %.) Avomack paint 10ml (Salicylic acid 16.7%, lactic acid 16.7 %.) Sactal paint 15ml (Salicylic acid 16.7%, lactic acid 16.7 %.)
Category:	Keratolytics
Indications:	Warts, corns & calluses
Caution:	Avoid contact w/ eyes, or mucosal membranes & application to normal skin.
Contra-Ind:	Diabetes, impaired blood circulation, moles, birthmarks, unusual skin growths, face or anogenital regions.
Side effects:	Avoid contact w/ eyes, or mucosal membranes & application to normal skin.
Dosage:	Apply daily to the affected areas only. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

Secukinumab (Cosentyx®)

P/P:	Cosentyx, Pre-filled pen: 75 mg/ 0.5 ml, 150 mg/ml, 300 mg/2 ml
Adm:	Administration: IV Dilute prior to use. Infuse over 30 minutes (~3.3 mL/minute for 100 mL bag or 1.7 mL/minute for a 50 mL bag), using an infusion set with an in-line, sterile, nonpyrogenic, low protein-binding 0.2-micron filter. After infusion is complete, flush line with ≥50 mL of NS. Do not infuse in the same line with other medications.
	Administration: Subcutaneous Allow to reach room temperature 15 to 30 minutes (Sensoready pen, 75 mg/0.5 mL prefilled syringe, 150 mg/mL prefilled syringe) or 30 to 45 minutes (UnoReady pen) prior to injection. Inject into the front of thighs, lower abdomen (\geq 2 inches away from the navel) or outer upper arms; administer each injection at a different anatomic location than a previous injection and avoid areas where the skin is tender, bruised, erythematous, indurated, or affected by psoriasis, or where there are scars or stretch marks. The pens and prefilled syringes may be self-injected by the patient or caregiver following proper training in SUBQ injection technique.
Category:	Anti-interleukin 17A Monoclonal Antibody; Antipsoriatic Agent; Monoclonal Antibody.
Indications:	Ankylosing spondylitis, Axial spondyloarthritis (non-radiographic), Hidradenitis suppurativa, Plaque psoriasis, Psoriatic arthritis.
Caution:	Warnings/Precautions Eczematous eruptions: Severe eczematous eruptions (sometimes requiring hospitalization), including atopic dermatitis-like eruptions, dyshidrotic eczema, and

erythroderma have been reported; the onset ranged from days to months after the first dose. Consider discontinuation of therapy until eczematous eruptions resolve.

Hypersensitivity reactions: Urticaria and anaphylaxis have been reported; discontinue immediately if signs/symptoms of a serious hypersensitivity reaction develop and initiate appropriate treatment.

Infections: Secukinumab may increase the risk of infections. Serious and sometimes fatal infections have been reported. A higher rate of infections was observed with secukinumab treatment in clinical trials, including nasopharyngitis, upper respiratory tract infection, and mucocutaneous candida infection; the incidence of some types of infection appeared to be dose-dependent. Use with caution in patients with a chronic infection or a history of recurrent infection. In patients who develop a serious infection, monitor closely and discontinue use until the infection resolves.

Tuberculosis: Patients should be evaluated for tuberculosis (TB) infection (latent TB) prior to initiating therapy; avoid therapy in patients with TB disease (active TB). Consider antituberculosis therapy if an adequate course of treatment cannot be confirmed in patients with a history of TB disease or infection. Monitor all patients for signs and symptoms of TB disease during and after treatment.

Special populations:

Patients with rheumatic musculoskeletal disease undergoing hip or knee replacement surgery: Hold biologic disease-modifying antirheumatic drugs (DMARDs) prior to surgery and plan surgery after the next dose is due. Surgery can occur after holding medication for 1 full dosing cycle (eg, for medications administered every 4 weeks, schedule surgery 5 weeks from last administered dose); therapy can be restarted once surgical wound shows evidence of healing (eg, no swelling, erythema, or drainage), sutures/staples are removed, and no ongoing nonsurgical site infections (typically ~14 days to reduce infection risk). Decisions to withhold therapy should be based on shared decision making; ensure the patient and their provider weigh risks of interrupting therapy and disease control versus risks of continuing therapy and surgical complications.

Pregnancy Considerations

Secukinumab is a humanized monoclonal antibody (IgG1). Placental transfer of human IgG is dependent upon the IgG subclass, maternal serum concentrations, birth weight, and gestational age, generally increasing as pregnancy progresses. The lowest exposure would be expected during the period of organogenesis.

Outcome information following exposure to Secukinumab during pregnancy is limited.

Until additional information is available, Secukinumab is not currently recommended for the treatment of rheumatic and musculoskeletal diseases during pregnancy. Secukinumab should be discontinued once pregnancy is confirmed. Agents other than Secukinumab are preferred for the treatment of plaque psoriasis during pregnancy.).

Breastfeeding Considerations

It is not known if Secukinumab is present in breast milk.

According to the manufacturer, the decision to breastfeed during therapy should consider the risk of infant exposure, the benefits of breastfeeding to the infant, and the benefits of treatment to the mother. Treatment with Secukinumab may be continued or initiated in breastfeeding patients with rheumatic and musculoskeletal diseases.

Contra-Ind: Serious hypersensitivity reaction to Secukinumab or any component of the formulation.

Side effects: Dermatologic reactions

Infection

Inflammatory bowel disease

Tuberculosis

Dosage: **Ankylosing spondylitis:**

IV: With a loading dose: 6 mg/kg at week 0 followed by 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

Without a loading dose: 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

SUBQ: With a loading dose: 150 mg at weeks 0, 1, 2, 3, and 4 followed by 150 mg every 4 weeks; consider an increase to 300 mg every 4 weeks in patients who continue to have active ankylosing spondylitis.

Without a loading dose: 150 mg every 4 weeks; consider an increase to 300 mg every 4 weeks in patients who continue to have active ankylosing spondylitis.

Axial spondylarthritis (non-radiographic):

IV: With a loading dose: 6 mg/kg at week 0 followed by 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

Without a loading dose: 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

SUBQ: With a loading dose: 150 mg at weeks 0, 1, 2, 3, and 4 followed by 150 mg every 4 weeks.

Without a loading dose: 150 mg every 4 weeks.

Hidradenitis suppurativa:

SUBQ: 300 mg at weeks 0, 1, 2, 3, and 4 followed by 300 mg every 4 weeks; consider an increase to 300 mg every 2 weeks in patients who have an inadequate response.

Plaque psoriasis:

SUBQ: 300 mg once weekly at weeks 0, 1, 2, 3, and 4 followed by 300 mg every 4 weeks. Some patients may only require 150 mg per dose.

Psoriatic arthritis:

IV: With a loading dose: 6 mg/kg at week 0 followed by 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

Without a loading dose: 1.75 mg/kg (do not exceed 300 mg) every 4 weeks.

SUBQ: With a loading dose: 150 mg at weeks 0, 1, 2, 3, and 4 followed by 150 mg every 4 weeks; consider an increase to 300 mg every 4 weeks in patients who continue to have active psoriatic arthritis.

Without a loading dose: 150 mg every 4 weeks; consider an increase to 300 mg every 4 weeks in patients who continue to have active psoriatic arthritis.

Coexistent moderate to severe plaque psoriasis: 300 mg once weekly at weeks 0, 1, 2, 3, and 4 followed by 300 mg every 4 weeks. Some patients may only require 150 mg per dose.

SHAMPOOS AND SCALP PREPARATIONS

Diprosalic 30ml lotion **Defosalic.30ml lotion** (Betamethasone dipropionate 0.05%, salicylic acid 2%)

Nizoral shampoo 100ml (Ketoconazole 2%)

Vavo shampoo 100ml (Ketoconazole 2%)

Polytar liquid 150ml (1% tar blend)

Ionil T shampoo, 200ml (Coal tar, Salicylic acid)

Dentinox Cradle cap shampoo 125ml

SILVER SULPHADIAZINE (Flamazine®)

P/P: Flamazine cream 1%, 50gm

Category: Topical Anti-infectives

Indications: Prevention & treatment of infections in burns& other types of wounds & infected skin lesions.

Caution: Pregnancy at term, premature infants.

Contra-Ind: Renal insufficiency, liver damage, oliguria.

Dosage: Apply the shampoo to the damp skin of the affected area and a wide margin surrounding this area. Lather, leave in place for 5 minutes, and then rinse off with water once or twice weekly.

Renal Dose Adjustments: Data not available

Liver Dose Adjustments: Data not available

TACROLIMUS (Protopic®)

P/P: Protopic 0.03% ointment 30gm; Protopic 0.1% ointment 30gm

Indication: As 2nd-line therapy for short-term & non-continuous chronic treatment of moderate to severe atopic dermatitis in non-immunocompromised adults & children who have failed to respond adequately to other topical treatments, or when those treatments are not advisable.

Dosage: Apply a thin layer to the affected areas twice daily.

<2 years: Safety and efficacy have not been established.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TERBINAFINE (Lamisil, Lamifen®)

P/P:	Lamisil 1% cream, 15gm; Lamifen 1% cream, 15gm Lamisil 1% spray, 30ml
Category:	Topical Fungicides & Antiparasites
Indications:	Fungal infections of the skin including dermatophytosis & yeast infections. Pityriasis versicolor
Caution:	Avoid contact w/ eyes. Not for use in chldn <12 yr. Pregnancy & lactation.
Side effects:	Occasionally, redness, itching or stinging at the site of application.
Dosage:	Cream, gel, spray: Apply to the affected area once a day. Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

TRALOKInumab (Adtralza®) [LASA]

P/P	Adtralza 150 mg solution for injection in pre-filled syringe.
Adm:	For subcutaneous use.
Category:	Interleukin 13 Antagonist; Monoclonal Antibody
Indications:	Atopic dermatitis, moderate to severe
Caution:	Treat any preexisting helminth infections prior to initiating tralokinumab. Complete all age-appropriate immunizations before initiating therapy; avoid administering live vaccines during therapy.
Contra-Ind:	Hypersensitivity to tralokinumab or any component of the formulation.
Side effects:	Upper respiratory tract infection, Eosinophilia and Injection-site reaction Ocular disorders, including allergic conjunctivitis, conjunctivitis, keratoconjunctivitis, atopic keratoconjunctivitis, keratitis, and ulcerative keratitis.
Dosage:	Adult: Atopic dermatitis, moderate to severe (alternative agent): SUBQ: 600 mg (given as four 150 mg injections [prefilled syringe]) once, followed by 300 mg (given as two 150 mg injections [prefilled syringe]) once every other week . In patients with body weight <100 kg who achieve clear or almost clear skin after 16 weeks of therapy, may reduce dosage to 300 mg every 4 weeks. Missed doses: Administer missed dose as soon as possible. Thereafter, resume dosing at

the regular scheduled time.

Pediatric:

Atopic dermatitis, moderate to severe:

Children \geq 12 years and Adolescents $<$ 18 years: SUBQ: Initial: 300 mg once, followed by a maintenance dose of 150 mg every other week.

Adolescents \geq 18 years: SUBQ: Initial: 600 mg once, followed by a maintenance dose of 300 mg every other week. Note: In patients \geq 18 years with body weight $<$ 100 kg who achieve clear or almost clear skin after 16 weeks of therapy, reducing dose to 300 mg every 4 weeks may be considered.

TRETINOIN (Retin A, Retacnyl, Acretin®)

P/P:	Retin A 0.05% cream, 30gm; Retin A 0.025% gel, 30gm Retacnyl 0.05% cream, 30 gm; Retacnyl a 0.025% gel, 30gm Acretin 0.05% cream, 30gm; Acretin 0.025% cream, 30gm
Category:	Acne Treatment Preparations
Indications:	Acne vulgaris, photodamaged skin eg hyperpigmentation, wrinkles.
Caution:	Exposure to sunlight including sunlamp should be minimized. Avoid contact w/ eyes, mouth, angle of the nose & mucous membrane. Eczema; sunburn; pregnancy & lactation.
Contra-Ind:	Acute dermatitis & eczema, rosacea. Hypersensitivity.
Side effects:	Erythema, edema, blistering; hypo- or hyperpigmentation, photosensitivity.
Dosage:	Apply a small amount lightly to the entire affected area once a day at bedtime Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available.

TRIFAROTENE (Aklief®)

P/P:	Aklief 50 mcg/gm Cream
Adm:	Apply to clean, dry skin. For topical external use only; not for oral, ophthalmic, or intravaginal use. Avoid contact with abraded, broken, eczematous, or sunburned skin, mucous membranes, eyes, lips, and angles of the nose. Moisturizers may be used as necessary.
Category:	Acne Products; Retinoic Acid Derivative
Indications:	Acne vulgaris
Caution:	-Some dosage forms may contain propylene glycol; in neonates, large amounts of propylene glycol delivered orally, intravenously (eg, $>$ 3,000 mg/day), or topically have been associated with potentially fatal toxicities which can include metabolic acidosis, seizures, renal failure, and CNS depression; toxicities have also been reported in children and adults including hyperosmolality, lactic acidosis, seizures, and respiratory depression -Photosensitivity

-Erythema, scaling, dryness, and stinging or burning of skin may occur. Onset and worsening is most common within the first 4 weeks of treatment and often decreases with continued use

Contra-Ind: Hypersensitivity to Trifarotene or any component of the formulation or container; patients with eczema or seborrheic dermatitis; women who are pregnant or planning to become pregnant.

Side effects: Sunburn
Application site irritation
Application-site pruritus

Dosage: Apply a thin layer to affected areas once daily in the evening

TROMANTADINE (Viru-Merz®)

P/P: Viru-Merz 1%gel 10gm

Category: Topical Antivirals

Indications: Treatment of initial symptoms of herpes simplex infections of the skin & semi-mucous membranes (dermal manifestations of herpes zoster).

Caution: Not to be used when vesicle formation is pronounced or if vesicles have broken because of danger of contact dermatitis. Do not use >5 days.

Dosage: apply enough gel to the effected skin regions to cover the entire herpes focus and rub in gently. Repeat 3-5 times a day and if necessary, more often.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

WOUND HEALING AND MISCELLANEOUS PREPARATIONS

Flamigel 50ml (Acid polymer)

Panthenol 5% cream 20gm (Per gm/Dexpanthenol 50mg)

Panthenol 5% solution, 50ml (Per ml/Dexpanthenol 50mg)

Lignopanthen cream, 20gm (Per gm/ Dexpanthenol 50mg+Lidocaine hcl 10mg)

Bepanthene 5%cream 30gm (Per gm/Dexpanthenol 50mg)

Bepanthene 5%ointment 30gm (Per gm/Dexpanthenol 50mg)

Bepanthene plus cream 30gm(Per gm/Dexpanthenol 50mg, Chlorohexidine hcl 5mg)

Echinacin oint 50gm (Echinaceae purpureae)

Mebo 15gm ointment (β -sitosterol 0.25%, sesame oil 92%, beeswax 7.75%)

Mebo 30gm ointment (β -sitosterol 0.25%, sesame oil 92%, beeswax 7.75%)

Avomeb 30 gm ointment (β -sitosterol 0.25%, sesame oil 92%, beeswax 7.75%)

Avomeb 50 gm ointment (β -sitosterol 0.25%, sesame oil 92%, beeswax 7.75%)

Contractubex gel (Cepae extr, allantoin, heparin Na.)

P/P: Contractubex gel, 20gm, 50gm (Cepae extr, allantoin, heparin Na.)

Category: Other Dermatologicals

Indications: Hypertrophic, keloidal & mobility restricting scars, contractures &acne scars.

Dosage: Apply a thin layer to the affected areas 2 to 3 times daily.
Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

WOUND MANAGEMENT PRODUCTS

Duoderm® extra thin 6inch×6inch
Duoderm® CGF 6inch×6inch (Controlled gel formula dressing)
Duoderm® hydractive gel 15gm
Opsite® spray 100ml
Opsite® post-op dressing 6.5cm×5cm
Opsite® post-op dressing 9.5cm×8.5cm
Opsite® post-op dressing 15cm×8.5cm
Opsite® post-op dressing 20cm×10cm

ZINC OXIDE LOCAL PREPARATION (Zinc®)

P/P: Zinc ointment 30gm (Zinc oxide 15% in ointment base 15%)
Zinc olive lotion 60ml (Zinc oxide 20% in olive oil))

Adm: Apply to the affected area two or three times daily

Category: Skin Protectives

Indications: Protects chafed skin due to diaper rash. Helps seal out wetness. First aid for skin problems eg minor burns, cuts, scrapes, sunburn.

Caution: Avoid contact w/ eyes & infected areas

Dosage: A quantity sufficient to cover the affected area 2 to 4 times a day.

Renal Dose Adjustments: Data not available
Liver Dose Adjustments: Data not available

TOPICAL STEROIDS

Topical steroids are used for non-infected inflammatory skin disorders, particularly eczema. They should not be used alone when bacterial or fungal infections are present or suspected and they should be avoided on the face if possible. Topical steroids are divided into 4 groups according to potency; Group IV (mild); Group III (moderately potent); Group II (potent); Group I (very potent)

The least potent should be used at the lowest effective strength. Topical steroids should only be used twice daily although they may be used 3 times daily for the first 3 days. Potent steroids used excessively can suppress the adrenals.

Water-miscible creams are most suitable for moist or weeping lesions whereas ointments are generally chosen for dry, lichenified or scaly lesions or when a more occlusive effect is required. Lotions may be useful for minimal applications to large areas. Patients and nurses should wear protective gloves when applying topical steroids.

Indications: Relief of the inflammatory & pruritic manifestations of corticosteroid responsive dermatoses.

Caution:	Avoid long-term therapy esp. in infant & children; adrenal suppression. Avoid prolonged application to face, avoid contact w/ eyes. Pregnancy. Withdraw if there is spread of infection.
Contra-Ind:	Rosacea, acne vulgaris, perioral dermatitis; primary cutaneous viral, bacterial/fungal infections; perianal & genital pruritus, dermatoses in infant <3 mth.
Side effects:	Local burning & pruritus. Prolonged treatment, local atrophic changes in the skin. Hypertrichosis & hypopigmentation.
Dosage:	Apply a thin layer 2 to 3 times daily Renal Dose Adjustments: Data not available Liver Dose Adjustments: Data not available

VEHICLES

Although active ingredients are very important in the treatment of skin conditions the vehicle may also give benefit. Creams should be used on wet and ointments on dry lesions. Many ingredients cause or aggravate hypersensitivity so preparations containing them should be used with care. Wool fat (lanolin), chlorocresol, ethylene-diamine, and fragrances are most likely to cause hypersensitivity reactions. Less commonly implicated are benzyl alcohol, hydroxybenzoates (parabens), polysorbates, propylene glycol and sorbic acid.

X-RAY DYES

Iohexol (Iomeron®)

P/P:	Iomeron 300mg I/ml 100ml Vial 1"S
Adm:	Hydrate well prior to and following administration.
Category:	Iodinated Contrast agent.
Indications:	Imaging
Caution:	Cardiovascular reactions, Severe cutaneous adverse reactions, extravasation, hypersensitivity, renal failure, thromboembolic events
Contra-Ind:	Concerns related to adverse effects: Hysterosalpingography, clinically significant impairment of both hepatic and renal function, Disease-related concerns: hyperthyroidism, myasthenia gravis, pheochromocytoma, seizures, sickle cell disease, Special populations: older adults, pediatrics
Side effects:	Intrathecal: Headaches, Pain including backache, neckache, stiffness and neuralgia, nausea, vomiting and dizziness

Intravascular: pain, vision abnormalities (including blurred vision and photomas), headache, taste perversion, arrhythmias including premature ventricular contractions (PVCs) and premature atrial contractions (PACs), angina/chest pain, nausea
Oral: Diarrhea, nausea, vomiting, abdominal pain, flatulence, headache
Body Cavity: Pain, swelling and heat sensation

Dosage:

140 mg of iodine per mL (302 mg of lohexol/mL) in +PlusPak™ polymer bottles
180 mg of iodine per mL (388 mg of lohexol/mL) in glass vials
240 mg of iodine per mL (518 mg of lohexol/mL), 300 mg of iodine per mL (647 mg of lohexol/mL) and 350 mg of iodine per mL (755 mg of lohexol/mL) in glass vials and bottles and +PlusPak™ polymer bottles OMNIPAQUE Oral Solution
9 mg of iodine per mL (19 mg of lohexol/mL) and 12 mg of iodine per mL (26 mg of lohexol/mL) in +PlusPak™ polymer bottles

Lopamidol (GastroMiro®)

P/P: GastroMiro 61.2% W/V 100MI 1"S

Adm: Precautions should be taken to ensure products intended for IV administration are not administered intrathecally.

Category: Radiological/Contrast Media

Indications: Angiography, computed tomography, myelography and urography

Caution: hypersensitivity reactions, acute kidney injury, extravasation, avoid in patients with history of epilepsy unless medically justified, and thromboembolic events

Contra-Ind: Intrathecal: local or systemic infection where bacteremia is likely, hypersensitivity to Lopamidol significant renal and/or hepatic impairment

Side effects: Headache, angina pectoris, hot flash, nausea and vomiting

Dosage:

Adult dosing:

Intravascular imaging:

Angiography:

Cerebral arteriography: Isovue-300: 8 to 12 mL

Coronary arteriography and ventriculography: Isovue-370: 2 to 10 mL for selective coronary artery injection; 25 to 50 mL for ventriculography or nonselective opacification of multiple coronary arteries

Peripheral arteriography: Isovue-300:

Femoral artery or subclavian artery: 5 to 40 mL up to a total of 250 mL

Aorta for a distal runoff: 25 to 50 mL up to a total of 250 mL

Peripheral venography (phlebography):

Isovue-200: 25 to 150 mL per lower extremity.
Isovue-300: 15 to 100 mL per lower extremity
Selective visceral arteriography and aortography: Isovue-370: Up to 50 mL

Computed tomography:
CECT of the head: IV:
Isovue-250: 130 to 240 mL; maximum: 240 mL
Isovue-300: 100 to 200 mL; maximum: 200 mL

CECT of the body:
Isovue-250: 130 to 240 mL; maximum: 240 mL
Isovue-300: 100 to 200 mL; maximum: 200 mL

Urography, excretory: Administer by rapid IV injection
Isovue-250: 50 to 100 mL
Isovue-300: 50 mL
Isovue-370: 40 mL

Intrathecal imaging:
Computed tomographic cisternography: Isovue-M 200: 4 to 6 mL via lumbar injection
Myelography:
Lumbar or thoracic myelogram: Isovue-M 200: 10 to 15 mL
Cervical myelogram:
Isovue-M 200: 10 to 15 mL
Isovue-M 300: 10 mL
Cervical myelogram Isovue-M 200: 10 mL
Total columnar myelography: Isovue-M 300: 10 mL

Pediatric dosing:
Intravascular imaging:
Angiocardiography: Isovue-370:
<2 years: Single injection: 10 to 15 mL; cumulative injection: 40 mL
2 to 4 years: Single injection: 15 to 30 mL; cumulative injection: 50 mL
5 to 9 years: Single injection: 15 to 30 mL; cumulative injection: 100 mL
10 to 18 years: Single injection: 20 to 50 mL; cumulative injection: 125 mL

Computed tomography: IV:
CECT of the head and body:
Isovue-250: 1.2 to 3.6 mL/kg; maximum: 120 mL
Isovue-300: 1 to 3 mL/kg; maximum: 100 mL

Urography, excretory: IV:
Isovue-250: 1.2 to 3.6 mL/kg; should not be necessary to exceed a total dose of 120 mL
Isovue-300: 1 to 3 mL/kg; should not be necessary to exceed a total dose of 100 mL

Intrathecal imaging:
Myelography: Lumbar or thoracic myelogram: Isovue-M 200:
2 to 7 years: 7 to 9 mL
8 to 12 years: 8 to 11 mL
13 to 18 years: 10 to 12 mL

MISCELLANEOUS

TAFAMIDIS (Vyndamax®)

P/P	Vyndamax 61mg cap
Adm	Swallow capsules whole; do not crush or cut.
Category	Transthyretin Stabilizer.
Indications	Amyloid cardiomyopathy
Caution	<p>Other warnings/precautions: Appropriate use: Equivalency: Tafamidis (Vyndamax) and tafamidis meglumine (Vyndaqel) are not substitutable on a per mg basis.</p> <p>Pregnancy Considerations Adverse events were observed in animal reproduction studies. Outcome data related to tafamidis use in pregnancy are limited and based on doses of 20 mg/day. Data collection to monitor pregnancy and infant outcomes following exposure to tafamidis is ongoing. Health care providers are encouraged to report pregnancies exposed to tafamidis to the manufacturer.</p> <p>Breastfeeding Considerations It is not known if tafamidis is present in breast milk. Due to the potential for serious adverse reactions in the breastfed infant, breastfeeding is not recommended by the manufacturer.</p>
Contra-Ind	<p>There are no contraindications listed in the US manufacturer's labeling. Canadian labeling: Additional contraindications not in the US labeling: Hypersensitivity to tafamidis or any component of the formulation.</p>
Side effects	<p>There are no adverse reactions listed in the manufacturer's labeling.</p> <p>Dosage Amyloid cardiomyopathy: Oral: Tafamidis (Vyndamax): 61 mg once daily.</p> <p>Dosing: Altered Kidney Function: Adult: There are no dosage adjustments provided in the manufacturer's labeling.</p> <p>Dosing: Hepatic Impairment: Adult: There are no dosage adjustments provided in the manufacturer's labeling.</p>

APPENDIX

SYSTEMIC CORTICOSTEROIDS COMPARISON

		Relative Potency	Half-Life
Version 2024-2025 Jan.2025			

Agent	Equivalent Glucocorticoid Dose (mg)	Anti-inflammatory	Mineralocorticoid	Plasma (min)	Biologic (hrs.)
SHORT-ACTING AGENTS					
Cortisone	25	0	++	30	8–12
Hydrocortisone	20	0	++	90	8–12
INTERMEDIATE-ACTING AGENTS					
Prednisone	5	+	+	60	12–36
Prednisolone	5	+	+	200	12–36
Triamcinolone	4	+	0	300	12–36
Methylprednisolone	4	+	0	180	12–36
LONG-ACTING AGENTS					
Dexamethasone	0.75	++	0	200	36–54
Betamethasone	0.6	++	0	300	36–54

SYSTEMIC CORTICOSTEROIDS: EQUIVALENT DOSES & RELATIVE POTENCIES

Drug	Equiv. Dose (mg)	Relative Gluco-Corticoid Potency	Relative Mineral-Corticoid Potency
SHORT ACTING			
Cortisone	25	0.8	0.8
Hydrocortisone	20	1	1
INTERMEDIATE ACTING			
Prednisone	5	4	0.8
Prednisolone	5	4	0.8
Methylprednisolone	4	5	0.5
Triamcinolone	4	5	0
LONG ACTING			
Betamethasone	0.6	25	0
Dexamethasone	0.75	25	0

DRUGS CONTRAINDICATED FOR BREASTFEEDING MOTHERS

DRUG CLASS	EXAMPLES	GENERAL CONCERN AND SPECIFIC EFFECTS
Anticoagulants	Dicumarol Warfarin	May be given cautiously, but very large doses may cause hemorrhage. (Heparin is not excreted in milk.)
Cytotoxic	Cyclophosphamide Cyclosporine Doxorubicin Methotrexate	Drugs may interfere with cellular metabolism of the nursing infant, causing possible immune suppression and neutropenia (cyclophosphamide and methotrexate); unknown effect on growth, unknown association with carcinogenesis
Psychoactive drugs	Anxiolytics (benzodiazepines [alprazolam diazepam, lorazepam, midazolam, prazepam, quazepam, temazepam], perphenazine) Antidepressants (tricyclic agents, SSRIs, bupropion) Antipsychotics (chlorpromazine, chlorprothixene, clozapine, haloperidol, mesoridazine, trifluoperazine)	Effect of most psychoactive drugs on infants is unknown, but drugs and metabolites appear in breast milk and in infant plasma and tissues and could conceivably alter short-term and long-term CNS function Fluoxetine is linked to colic, irritability, feeding and sleep disorders, slow weight gain Chlorpromazine may cause drowsiness and lethargy in infant and decline in developmental scores Haloperidol: Decline in developmental scores
Individual drugs detectable in breast milk that pose theoretical risk	Amiodarone Chloramphenicol Clofazimine Corticosteroids Lamotrigine Metoclopramide Metronidazole, tinidazole Sulphapyridine, sulfisoxazole	Possible hypothyroidism Possible idiosyncratic bone marrow suppression Potential for transfer of high percentage of maternal dose; possible increase in skin pigmentation When given to mother in large doses for weeks or months can achieve high concentrations in milk and risk suppressing growth and interfering with endogenous corticosteroid production in the infant Potential therapeutic serum concentrations in infant None described In vitro mutagen; may discontinue breastfeeding for 12–24 h to allow excretion of dose when 2 g single-dose therapy given to mother; safe after 6 months Caution in infant with jaundice or G6PD deficiency and ill, stressed, or premature infant
Individual drugs detectable in breast milk that has documented risk	Acebutolol Amino salicylic acid Atenolol Bromocriptine	Suppresses lactation; may be hazardous to the mother Diarrhea Cyanosis, bradycardia Suppresses lactation; may be hazardous to mother

Individual drugs detectable in breast milk that has documented risk	Aspirin (salicylates)	Metabolic acidosis; with large maternal doses and sustained use, breastfed infants ≥ 1 month may achieve plasma concentrations that increase the risk of hyperbilirubinemia (salicylates compete for albumin-binding sites) and hemolysis in G6PD-deficient infants only
	Clemastine	Drowsiness, irritability, refusal to feed, high-pitched cry, neck stiffness
	Ergotamine	Vomiting, diarrhea, seizures (doses used in migraine medications)
	Estradiol	Withdrawal vaginal bleeding
	Iodides, iodine	Goiter
	Lithium	$\frac{1}{3}$ to $\frac{1}{2}$ therapeutic blood concentration in infants
	Phenobarbital	Sedation; infantile spasms after weaning, methemoglobinemia
	Phenytoin	Methemoglobinemia
	Primidone	Sedation, feeding problems
	Sulfasalazine (salicylazosulfapyridine)	Bloody diarrhea
Drugs of abuse*	Nitrofurantoin, sulphapyridine, Sulfisoxazole	Hemolysis in infants with G6PD deficiency; safe in others
	Amphetamine	Irritability, poor sleeping pattern
	Alcohol	>1 g/kg daily decreases milk ejection reflex; consumption of large amounts causes infant drowsiness, diaphoresis, deep sleep, weakness, decrease in linear growth, abnormal weight gain
	Cocaine	Cocaine intoxication: irritability, vomiting, diarrhea, tremulousness, seizures
	Heroin	Tremors, restlessness, vomiting, poor feeding
	Marijuana	Components can be measured in breast milk but effects uncertain
	Phencyclidine	Hallucinogen

*Effects of smoking are unclear; nicotine is detectable in breast milk, and smoking decreases breast milk production and infant weight gain, but also may decrease incidence of respiratory illness.

Data from Committee on Drugs of the American Pediatric Association: The transfer of drugs and other chemicals into human milk. *Pediatrics* 108(3):776–789, 2001.

DRUGS WHICH MAY DISCOLOR URINE

BLACK/BROWN/DARK

Cascara
Chloroquine
Ferrous Sulfate
Metronidazole
Nitrofurantoin
Quinine
Senna

BLUE

Methylene Blue
Triamterene

BLUE/GREEN

Amitriptyline
Methylene blue

RED

Doxorubicin
Ibuprofen
Phenytoin (pink)
Rifampin
Senna

ORANGE/YELLOW

Heparin
Phenazopyridine
Rifampin
Sulfasalazine
Warfarin

DRUGS WHICH MAY DISCOLOR FECES

BLACK

Acetazolamide
Aluminum Hydroxide
Aminophylline
Amphetamine
Amphotericin B
Bismuth salts
Clindamycin
Corticosteroids
Cyclophosphamide
Cytarabine
Digitalis
Ethacrynic acid
Ferrous salts
Fluorouracil
Hydralazine
Hydrocortisone
Iodide containing drugs

Melphalan
Methotrexate
Methylprednisolone
Phenylephrine
Potassium salts
Prednisolone
Procarbazine
Sulfonamides
Tetracycline
Theophylline
Thiotepa
Triamcinolone
Warfarin

BLUE

Chloramphenicol
Methylene Blue

GREEN

Indomethacin
Medroxyprogesterone

YELLOW

Senna

PINK/RED

Anticoagulants
Aspirin
Barium
Heparin
Tetracycline syrup

ORANGE/RED

Phenazopyridine
Rifampin

BLACK/WHITE SPECKING

Aluminum Hydroxide
Antibiotics (oral).

LIST OF PROHIBITED ABBREVIATIONS

No.	Prohibited Abbreviation	Potential Problem	Approved Abbreviation
1.	U (for unit)	Mistaken as zero, four or cc.	Write "unit"
2.	IU (for international unit)	Mistaken as IV (intravenous) or 10 (ten)	Write "international unit"
3. 4.	Q.D. Q.O.D. (Latin abbreviation for once daily and every other day)	Mistaken for each other. The period after the Q can be mistaken for an "I" and the "O" can be mistaken for "I"	Write "daily" and "every other day"
5. 6.	Trailing zero (X.0 mg), Lack of leading zero (.X mg)	Decimal point is missed.	Never write a zero by itself after a decimal point (X mg), and always use a zero before a decimal point (0.X mg)
7. 8. 9.	MS MSO ₄ MgSO ₄	Confused for one another Can mean morphine sulfate or magnesium sulfate	Write "morphine sulfate" or "magnesium sulfate"
10.	µg (For microgram)	Mistaken for mg (milligrams) resulting in one-thousand-fold dosing overdose.	Write "mcg"
11.	H.S. (For half-strength or Latin abbreviation for bedtime)	Mistaken for either half-strength or hour of sleep (at bedtime) q.H.S. mistaken for every hour. All can result in a dosing error.	Write out "half-strength" or "at bedtime"
12.	T.I.W. (For three times a week)	Mistaken for three times a day or twice weekly resulting in an overdose.	Write "3 times weekly" or three times weekly"
13.	S.C. or S.Q. (For subcutaneous)	Mistaken as SL for sublingual, or "5 every"	Write "Sub-Q", "subQ" or "subcutaneously"
	D/C (For discharge)	Interpreted as discontinue whatever medications follow (typically discharge meds).	Write "discharge"
	c.c. (For cubic centimeter)	Mistaken for U (units) when poorly written.	Write "ml" for milliliters

LIST OF HAZARDOUS MATERIALS

LEGEND:

H	Health Hazard	HEALTH HAZARD	FIRE HAZARD	REACTIVITY	SPECIFIC HAZARD
F	Fire Hazard	4	Deadly	4 Below 73-degree F	May Detonate Oxidizer OX
R	Reactivity	3	Extreme Danger	3 Below 100-degree F	Shock and Heat Acid ACID
SH	Specific Hazard	2	Hazardous	2 Above 100 degrees	May Detonate Alkali
ALK					
OX	Oxidizing Agent	1	Slightly Hazardous	Not exceeding 200 N	2 Violent Chemical Corrosive
COR					
0	Normal Material		degree F	Change	Use NO WATER- W
			1 Above 200-degree F	1 Unstable if Heated	Radioactive
			0 Will not burn	0 Stab	

Product/Trade Name/Chemical Name/Chemical Abstract Service (CAS) Number	HEALTH HAZARD (0-4)	FIRE HAZARD (0-4)	REACTIVITY HAZARD (0-4)	SPECIFIC HAZARD
POTASSIUM PERMENGANATE	1	0	0	OX
ISOPROPYL ALCOHOL	1	3	0	-
CHARCOAL	1	3	0	-
HYDROGEN PEROXIDE	3	0	1	OX
SULPHUR	2	1	0	-
MAGNESIUM SULPHATE	1	0	0	-
SODIUM BICARBONATE	1	0	0	-
GLYCERIN	1	1	0	-

DRUGS & CHEMICALS WITH DEFINITE RISK OF HAEMOLYSIS IN MOST G6PD-DEFICIENT INDIVIDUALS:

Acetanilid ²	Primaquine ^{d,1}
Dapsone & sulphones ^{a,1}	Quinolones ^{e,1}
Furazolidone ²	Sulphonamides ^{f,1}
Isobutyl nitrate ²	Sulfacetamide ²
Methylthioninium chloride ¹ (Methylene blue)	Sulfamethoxazole ² (e.g. <i>Seprin</i>)
Naphthalene ^{b, c,2}	Sulfanilamide ²
Nitrofurantoin ¹	Sulfapyridine ²
Niridazole ¹	Toluidine blue ^{c,2}
Pamaquin ¹	Trinitrotoluene ^{c,2} (TNT)
Phenazopyridine ² (<i>Pyridium</i>)	

DRUGS & CHEMICALS WITH POSSIBLE RISK OF HAEMOLYSIS IN MOST G6PD-DEFICIENT INDIVIDUALS

Aspirin ^{h,1}	Menadione ¹
Ascorbic acid ^{i,2,3} (Vitamin C)	Probenecid ¹
Chloramphenicol ^{j,3}	Quinidine ^{j,1}
Chloroquine ^{j,1}	Quinine ^{j,1}

Footnotes:

- a. Higher doses for dermatitis herpetiformis more likely to cause problems¹;
- b. In mothball;
- c. Chemicals;
- d. 30mg weekly for 8 weeks has been found to be without undue harmful effects in African and Asian people¹;
- e. Quinolones include: ciprofloxacin¹, levofloxacin³, moxifloxacin³, nalidixic acid¹, norfloxacin¹& ofloxacin¹;
- f. Including co-trimoxazole; some sulphonamides, e.g. sulfadiazine, have been tested and found not to be hemolytic in many G6PD-deficient individuals¹;
- g. Drugs in this table can probably be given in *normal therapeutic doses* to G6PD deficiency without non-spherocytic hemolytic anaemia²
- h. Acceptable up to a dose at least 1g daily in most G6PD-deficiency individuals¹
- i. Very high therapeutic doses (~80g administered intravenously) have precipitated severe, even fatal, haemolysis²
- j. Acceptable in acute malaria¹.

Reference

1. Lexicomp
2. British National Formulary 46;

GLUCOCORTICOID DRUG INTERACTIONS

Aminoglutethimide	Possible loss of dexamethasone-induced adrenal suppression
Amphotericin B	Monitor patients for hypokalemia
Antacids	Decrease absorption of corticosteroids
Anticholinesterases	Anticholinesterase effects may be antagonized in myasthenia gravis
Anticoagulants (oral)	Anticoagulant dose requirements may be reduced. Conversely, corticosteroids may oppose anticoagulant action
Barbiturates	Decrease effects of corticosteroid
Carbamazepine	Decrease effects of corticosteroid
Cholestyramine	Decrease hydrocortisone AUC*
Contraceptives (oral)	Decrease corticosteroid clearance, Increase t1/2
Cyclosporine	Increase risk of toxicity
Digitalis glycosides	Increase risk of digitalis toxicity associated with hypokalemia
Diuretics	Monitor patients for hypokalemia
Ephedrine	Increase clearance of dexamethasone
Estrogens	Increase corticosteroid clearance
Hydantoins	Increase corticosteroid clearance, possible decrease therapeutic effects
Isoniazid	Decrease isoniazid serum concentrations
Ketoconazole	Decrease corticosteroid clearance, Increase AUC
Macrolides	Decrease methylprednisolone clearance
Phenobarbital	Increase corticosteroid clearance, possible decrease therapeutic effect
Phenytoin	Increase corticosteroid clearance, possible decrease therapeutic effect
Rifampin	Increase corticosteroid clearance, possible decrease therapeutic effect
Salicylates	Decrease serum salicylate levels, decrease salicylate effectiveness
Theophylline's	Alteration in activity of corticosteroid or theophylline may occur, monitor theophylline levels
Vitamin A	High corticosteroid doses may impair conversion of carotene to vitamin A, risk of carotenemia

LATIN ABBREVIATIONS IN PHARMACY PRACTICE

Abbreviation	Meaning	Latin
a.c.	before food	<i>ante cibum</i>
a.d. or AD	right ear	<i>auris dexter</i>
ad. lib.	freely as wanted	<i>ad libitum</i>
a.l.	left ear	<i>aurix laevus</i>
alt. die	every other day	<i>alternus die</i>
alt. h.	every other hour	<i>alternus horis</i>
a.m.	Morning	<i>ante meridiem</i>
aq.	water	<i>aqua</i>
a.s. or AS	left ear	<i>auris sinister</i>
a.u. or AU	each ear	<i>auris utro</i>
b.d.	twice a day	<i>bis die</i>
b.i.d.	twice a day	<i>bis in die</i>
cap.	capsule	<i>capsula</i>
div.	divide	<i>divide</i>
eq.pts.	equal parts	<i>equalis partis</i>
gtt.	drop	<i>gutta</i>
h.	hour	<i>hora</i>
h.s.	at bedtime	<i>hora somni</i>
mane	in the morning	<i>mane</i>
mixt.	Mixture	<i>mixtura</i>
no.	number	<i>numero</i>
nocte	at night	<i>nocte</i>
oc.	eye ointment	<i>oculentum</i>
o.d.	Daily	<i>omni die</i>
o.d. or OD	right eye	<i>oculus dexter</i>
o.l.	left eye	<i>oculus laevus</i>
o.m.	in the morning	<i>omni mane</i>
o.n.	at night	<i>omni nocte</i>
o.s. or OS	left eye	<i>oculus sinister</i>
o.u. or OU	each eye	<i>oculus utro</i>
p.c.	after food	<i>post cibum</i>
p.m.	Afternoon	<i>post meridiem</i>
p.o.	Orally	<i>per os</i>
p.r.	Rectally	<i>per rectum</i>
p.r.n.	as occasion requires	<i>pro re nata</i>
p.v.	Vaginally	<i>per vaginum</i>
q.4.h.	every 4 hours	<i>quaque 4 hora</i>
q.6.h.	every 6 hours	<i>quaque 6 hora</i>
q.d. or QD	every day	<i>quaque die</i>
q.d.s.	four times a day	<i>quater die sumendus</i>
q.i.d.	four times a day	<i>quater in die</i>
q.o.d or QOD	Every other day	<i>quaque altera die</i>
q.q.h.	every four hours	<i>quarta quaque hora</i>
q.s.	a sufficient quantity	<i>quantum sufficiat</i>
s.i.d.	once a day	<i>semel in die</i>
stat.	immediately	<i>statim</i>
supp.	Suppository	<i>suppositorum</i>
syr.	Syrup	<i>syrupus</i>
tab.	a tablet	<i>tabella</i>
t.d.s.	three times a day	<i>ter die sumendus</i>
t.i.d.	three times a day	<i>ter in die</i>
ut dict. or u.d.	as directed	<i>ut dictum</i>
ung.	Ointment	<i>unguentum</i>

LIST OF APPROVED ABBREVIATIONS

ABBREVIATION	MEANING
(h)	By hypodermic
3TC	Lamivudine
AROM	Active range of motion
A.S	Ankylosing spondylitis
A/C	assist/ control
A/G	Albumin-Globulin Ratio
A/O Synthes	Brand name of plates system
A/W	All wards-excludes pediatric ward
Aa	of each
AA	Amino Acid
AAA	Abdominal Aortic Aneurysm
AAROME	Active assistive range of motion exercises
AB	Abortion
Abd.	Abdomen
<u>ABE</u>	<u>Acid Base Excess</u>
ABG	Arterial Blood Gas
ABG(s)	arterial blood gas (es) ⁱ
ABI	Acquired brain Injury
ABO Rh	Blood Group Rhesus Typing
ABP	Arterial Blood Pressure
ABP	Intra-aortic balloon pump
ABR	Absolute Bedrest
Abx	Antibiotic
ACA	Anterior Cerebral Artery
AC-CMV	Assist control - continuous mandatory ventilation
ACE	Angiotensin converting enzyme
ACL	Anterior Cruciate Ligament
ACLS	Advance Cardiac Life Support
ACS	Acute Coronary Syndrome
<u>ACT</u>	<u>Activated clotting time</u>
ACTH	Adrenocorticotrophic Hormone

ACV	Assisted Controlled Ventilation
AD	Alzheimer's Disease
ad lib	As Desired
ADA	American Diabetes Association
ADC	Apparent Diffusion Co-efficient
ADD	anti-diarrhea diet
ADE	Adverse Drug Event
ADHD	Attention Deficit Hyperactivity Disorder
ADL	Activities of Daily Living
adm.	Admission
ADR	Adverse Drug reaction
AE	Above elbow
AES	Anti Embolic Stockings
AF	Atrial Fibrillation
AFB	Acid Fast Bacillus
AFI	Amniotic fluid index
AFO	Ankle foot orthosis
AFP	Alfa feto protein
AFR	Amalgam filling restoration
AFT	Acute follicular tonsillitis
AG	Abdominal girth
Ag	Silver
AGA	Appropriate for gestational age
AGE	Acute Gastro-Enteritis
AgNO ₃	Silver Nitrate
AHHC	Al Hasa Health Center
AHQR	Agency for Healthcare Quality and Research
AI	Articular Index
AIDS	Autoimmune deficiency syndrome
AIIS	Anterior inferior iliac spine
AITP	Autoimmune thrombocytopenia purpura
AJ	Ankle jerk
AK	Above knee
AKA	Above knee amputee, above knee amputation
Alb.	Albumin
ALI	acute lung injury
ALS	Amyotrophic Lateral Sclerosis

ALT	Alanine Aminotransferase
ALV	adaptive lung injury
AM	Morning
AMA	Against Medical Advice
amb	Ambulate, ambulates, ambulated, ambulatory, Ambulation
amp.	Ampule
AN	Anorexia nervosa
ANA	Anti-nuclear antibody
ANC	Antenatal Care
anesth.	Anesthesia
ANF	Antinuclear factor
ANS	Autonomic nervous system
Ant.	Anterior
Anti-DNA	Anti-DNA antibody Test
Ao root diam.	Aortic root diameter
AOM	Acute otitis media
AP	Appendicitis
APaS	Antiphospholipid Antibody syndrome
APH	Antepartum hemorrhage
approx.	Approximate
appy	Appendectomy
Apr.	April
APRV	Airway Pressure Release Ventilation
APTT	Activated partial thromboplastin time
AR	Allergic rhinitis
ARDS	Adult respiratory distress syndrome
ARF	Acute renal failure
AROM	Artificial rupture of membrane
AROME	Active range of motion exercises
ART	Assisted Reproductive technique
<u>ARTP</u>	<u>Arterial Pressure</u>
Art line	Arterial line
AS	Apgar score
ASA	American Society of Anesthesiology
ASAP	As Soon as Possible
A-scan	A-scan ultrasound

ASCVD	Arteriosclerotic Cardiovascular Disease
ASD	Atrial septal defect
ASH	Al Moosa Specialist Hospital
ASHCVD	Arteriosclerotic Hypertensive Cardiovascular Disease
ASHD	Arteriosclerotic Heart Disease
ASO	Antistreptolysin
ASOM	Acute Suppurative otitis media
ASOT	Anti streptolysin titer
ASPD	Antisocial personality disorder
asst.	Assistant
AST	Aspartate Aminotransferase
ASV	adaptive support ventilation
ASVD	Arteriosclerotic Vascular Disease
AT	Acute Tonsillitis
ATA	Anterior Tibial Artery
ATC	automatic tube compensation
Aug.	August
auto-PEEP	Unintended positive end expiratory pressure
AutoSV	Automatic servo ventilation
AV	Atrioventricular
AV max PG	Aortic valve maximum pressure gradient
AV node	Atrioventricular node
AV Vmax	Aortic valve maximum velocity
AVF	Arteriovenous Fistula
AVG	Arteriovenous Graft
AVM	Arteriovenous malformation
AXR	Abdominal X-ray
AZT	Zidovudine
B	Buccal
B/B	Baby boy
B/G	Baby Girl
B/S	Bedside
b/w	Bite wing radiograph
BA	Bronchial Asthma
BAD	Bipolar Affective Disorder
BAL	Bronchoalveolar lavage
bal.	Balance
BBB	Bundle Branch Block

BCG	Bacille-Calmette-Guérin
BCVA	Best Corrected Visual Acuity
BD	Bipolar Disorder
BDI	Beck Depression Inventory
BE	Below Elbow
bed mob.	bed mobility
BF	Breastfeeding
BFR	Blood Flow Rate
BHCG	Beta Human Chorionic Gonadotrophin
BID	Twice daily
Bil.	Bilirubin
BiPAP	Bilevel positive airway pressure
BIRADS	Breast imaging reporting and data system
BIS	Bispectral Index monitoring
BKA	Below Knee Amputation
Bld.	Blood
BG	Blood Glucose
BM	Bowel Movement
BMD	Bone Mineral Density
BMI	Body mass index
BMR	Basal Metabolic Rate
<u>BNP</u>	<u>B-type Nitrouretic Peptide</u>
BP	Blood Pressure
BPD	Bi Parietal Diameter
BPH	Benign Prostatic Hypertrophy
bpm	Beats per minute
BPM	Blood Pressure Monitoring
BPPV	Benign paroxysmal positional vertigo
BPS	Blood Pump Speed
BRAT DIET	Anti diarrheal diet
BRP	Bathroom Privilege
BS	Bowel sound
<u>BSA</u>	<u>Body Surface Area</u>
BSC	Bedside Commode
BSO	Bilateral salpingoophorectomy
BT	Behavioral Therapy
BT/CT	Bleeding time / clotting time

BTL	Bilateral Tubal Ligation
BTS	Blood transfusion service
BUD	Beyond Use Date
BUN	Blood Urea Nitrogen
Bx	Biopsy
C	Centigrade
C.C.C	Chronic calculary cholecystitis
C.F	Composite filling
C.S	Caesarean Section
c/o	Complaint of
C/S	Culture and Sensitivity
c ³	Cubic Centimeter
Ca	Calcium
CA	Cystic artery
Ca(OH)2	Calcium Hydroxide
CABG	Coronary artery bypass graft
CAD	Coronary artery disease
CAP	Community Acquired Pneumonia
Cap.	Capsule
CAR	Cardiology
CAT	Computerized axial tomography
Cath.	Catheter
CBC	Complete Blood Count
CBD	Common Bile Duct
CBR	Complete Bed Rest
CBT	Cognitive-Behavioral Therapy
CCA	Common Carotid Artery
CCB	Calcium channel blocker
CCC	Circular curvilinear capsularehxis
CCL	Cardiac cath lab
CCU	Coronary Care Unit
CD	Cystic duct
CDH	Congenital Dislocation Hip
CDP	Cervical Disc Prolapse
CEA	Carcinoembryonic Antigen
CEj	Cemento-enamel junction
CF	extended care facility
CFA (V)	Common Femoral Artery (Vein)

CHB	Congenital heart block
CHD	Congenital Heart Disease
CHF	Congestive Heart Failure
CHI	Closed head injury
CHL	Conductive hearing loss
CHM	Complete hydatidiform mole
CHO	Carbohydrate
Chol	Cholesterol
CHON	Protein
CHTN	Chronic Hypertension
CI	Cardiac Index
CIN	Cervical intraepithelial neoplasia
CKD	Chronic Kidney Disease
CKMB	Creatine Kinase MB
CL	Chloride
CLE	Clear Lens Extraction
CLP	Cleft Lip and Palate
cm H2O	Centimeters of water
cm.	Centimeter
CMV	Cytomegalovirus
C _n	Cervical Spine
CNS	Central Nervous System
Co	Cardiac output
CO2	carbon dioxide
COC	Combined oral contraceptive
COLD	Chronic Obstructive Lung Disease
Comp.	Compound
con	Concentration
COPD	Chronic Obstructive Pulmonary Disease
CP	Cerebral Palsy
CPAP	Continuous positive airway pressure
<u>CPB</u>	<u>Cardiopulmonary bypass</u>
CPD	Cephalo-pelvic disproportion
CPL	Cardiopulmonary
CPR	Cardiopulmonary Resuscitation
CPT	Chest physiotherapy
CR	Cyclo Refraction

Creat	Creatinine
CRF	Chronic Rena Failure
CRL	Crown round length
CRP	C-reactive protein
CRRT	Continuous Renal Replacement Therapy
CRS	Chronic rhino sinusitis
CRUGA	Closed Reduction under General Anesthesia
CRVO	Central retinal vein occlusion
Cs	static compliance
CSA	Central sleep apnea
CSE	Combined Spinal epidural
CSF	Cerebral Spinal Fluid
CSME	Clinically significant Macular Edema
CSOM	Chronic Suppurative otitis media
CSP	Compounded Sterile Preparation
CT	Computed Tomography
CTA	Computed tomography angiography
CTG	Cardiotocograph
CTS	Carpal Tunnel Syndrome
CTU	CT Urography
CVA	Cerebrovascular accident
CVC	Central Venous Catheter
<u>CVICU</u>	<u>Cardiovascular Intensive Care Unit</u>
CVL	Central venous line
CVP	Central Venous Pressure
CVS	Cardio Vascular System
<u>CVT</u>	<u>Cardiovascular Thoracic</u>
CWI	crutch walking instruction
CX.	Cervix
CXL	Corneal Cross Linking
CxR	Chest x-ray
Cysto.	Cystoscopy
D	Distal
D&C	Dilatation and Curettage
D5	Dextrose 5%
D5W	5% dextrose and water
DBP	Diastolic Blood Pressure
DBW	Dry Body Weight

DCC	Direct Current Cardioversion
DCP	Dynamic Compression Plate
DCR	Dacriocystites
DDH	Developmental Delay Hip
DDX	Differential Diagnosis
dec or ↓	Decrease
Dec.	December
Def	Deficiency
Dept.	Department
DEXA	Dual Energy X-ray Densitometry
DF	Dorsiflexion
DHAS	Dehydro-epiandrosterone sulphate
DHEAS	Dehydroepiandrosterone
DHN	Dehydration
DHS	Ortho – Dynamic Hip Screw
DIC	Disseminated Intravascular Coagulation
diff.	Differential
DIH	Direct inguinal hernia
DIP	Distal Interphalangeal
DJD	Degenerative joint disease
DKA	Diabetic Ketoacidosis
DL	Direct Laryngoscopy
DLC	Differential Leukocyte Count
DLD	Delayed Language Development
DM	Diabetes mellitus
DM I	Diabetes Mellitus Type I
DM2	Diabetes Mellitus 2
D _n	Dorsal Spine
DNS	Deviated Nasal Septum
DOA	Dead on arrival
DOB	Date of Birth
DOQI	Disease Outcomes Quality Initiative
DOT	Domiciliary Oxygen Therapy
doz.	Dozen (12)
DPA	Dorsalis Pedis Artery
DPD	Dependent personality disorder
DPT	Diphtheria Pertussis, Tetanus

DR	Delivery Room
Dr.	Doctor
DRE	Distal Rectal Examination
DRI	Dietary reference intake
DT	Deceleration time
DT's	Delirium tremens
DTR	Deep tendon reflex
DUB	Dysfunctional Uterine Bleeding
DVT	Deep vein thrombosis
DWI	Diffusion Weighted Imaging
Dx	Diagnosis
E & C	Evacuation & Curettage
e.g.	For example
E.T.	Expiratory Time
EA	Epidural analgesia
EB	Epidural Block (e.g. for performing surgery)
EBM	Express Breast Milk
EBV IgM	Epstein-Barr Virus Immunoglobulin M
EC	Eye close
ECA	External Carotid Artery
<u>ECC</u>	<u>Extracorporeal circuit</u>
ECCE	Extra- capsular cataract extraction
ECG	Electrocardiogram
Echo	Echocardiogram
ECMO	Extracorporeal membrane oxygenation
ECV	External cephalic version
EDC	Estimated date of confinement
EDD	Estimated date of delivery
EDH	Extradural Hemorrhage
EDTA	Ethylene Diamine Tetra acetic acid
EDVI	End diastolic volume index
EEG	Electroencephalogram
EENT	Ear, eyes, nose, throat
EEP	End-expiratory pressure
EF	Ejection fraction
EF	Ejection fraction
EFW	Estimated Fetal Weight
EGD	Esophageal Gastro Duodenoscopy

EKG	Electrocardiogram
elb.	Elbow
ELISA	Enzyme linked immunosorbent assay
EM	Emergency
EMD	Electromechanical dissociation
EMG	Electromyogram
ENT	Ears, nose and throat
EOE	Eczematous otitis externa
eos.	Eosinophils
EPAP	end expiratory positive airway pressure
epis.	Episiotomy
EPS	Extrapyramidal symptoms
ER	Emergency Room
ERCP	Endoscopic Retrograde Cholangiopancreatography
ERPOC	Evacuation of retained products of conception
ESR	Erythrocyte sedimentation rate
ESRD	End stage renal disease
ESWL	Extracorporeal Shock Wave Lithotripsy
ET	endotracheal tube
et. al.	And others
etc.	And so on, and so forth and others
ETCO2	End tidal carbon dioxide
ETD	Eustachian tube dysfunction
ETF	Enteral Tube Feeding
ETT	Endotracheal Tube
EUA	examination under anesthesia
EVD	External Ventricular Drainage
exam.	Examination
Ext	Extraction
F	respiratory frequency, respiratory rate
F & C	Firm and contracted
F.	Fahrenheit
F.T	Full term
F/S	Fissure Sealant
FA	Fetal anomaly
FB	Foreign Body
FBS	Fasting Blood Sugar

Fe	Iron
Feb.	February
Fem cath	Femoral catheter
FESS	Functional endoscopic sinus surgery
FF	Fat free diet
FFA	Fundus flourecine angiography
FFP	Fresh Frozen Plasma
FFTS	Feto-fetal transfusion sequence
FHR	Fetal Heart Rate
FHS	Fetal Heart Sound
FHT's	Fetal Heart Tones
FIGO	International Federation of Gynecologists and Obstetricians
FIO2	Fraction of inspired oxygen
FL	Femur length
FLAIR	Fluid Attenuation Inversion Recovery
fld.	Fluid
fld. dr.	Fluid dram
fld. oz.	Fluid ounce
FM	Face Mask
FMF	Familial Mediterranean Fever
FMW	Female medical ward
FNA	Fine-needle aspiration
FRAAC	Face, Respiration, Activity, Audible, Consolability
freq.	Frequency
FSH	Follicle stimulating hormone
FSW	Female surgical ward
ft.	Foot
FT3	Free T3 (Triiodothyronine)
FT4	Free T4 (Thyroxine)
FTA	Fluorescent Treponemal antibody
FU	Follow-up
FUO	Fever of Undetermined Origin
FWB	Free weight bearing
FWS	Free way space
Fx.	Fracture
G	Gram
G&S	Group & save serum

G.A	General Anesthesia
G/C	General Condition
G/E	General Examination
G_P_ (example G6P5, G3P3)	Gravida (number of pregnancy) Para (number of living baby)
G_P_ + _ (example G6P5, G3P3)	Gravida (number of pregnancy) Para (number of living baby) Abortion (number of abortion)
G6PD	Glucose-6-Phosphate Dehydrogenase
GAD	Generalized Anxiety Disorder
gal.	Gallon
GAP	Generalized Aggressive Periodontitis
GB	Gall Bladder
GBAE	Good bilateral air entry
GBR	Guided Bone Regeneration
GBS	Group B streptococci
GCS	Glasgow Coma Scale
GDM	Gestational Diabetes Mellitus
GE	Gastroenteritis
GERD	Gastro-esophageal reflux disease
GFR	Glomerular filtration rate
GGT	Gamma Glutamyl Transferase
GH	Growth hormone
GI	Gastrointestinal
GIC	Glass-ionomer cement
GIF	Glass-ionomer Filling
GIR	Glucose infusion rate
GnRH	Gonadotrophin releasing hormone
GOSI	General Organization of Social Insurance
GP	General Practitioner
GS	Gall Bladder Stone
GSI	Genuine Stress Incontinence
GSW	Gunshot Wound
GTI	Grommet tube insertion
GTN	Gestational trophoblastic neoplasia
GTR	Guided Tissue Regeneration
Gtt	Glucose Tolerance Test
Gtt. (s)	Drop (s)

GU	Genitourinary
GUM	Genitourinary medicine
GYN	Gynecology
H	Hour
H&H	Hematocrit and hemoglobin
H&P	History and physical examination
H/O	History of
H ₂ C ₀₃	carbonic acid
H ₂ O	Water
HA	Headache
HAART	Highly active antiretroviral therapy
HAV 1 g M	Hepatitis A virus Immunoglobulin M
HAWD	Hyperactive airway disease
Hb	Hemoglobin
HbA1C	Glycosylated hemoglobin
HBC IgM	Hepatitis B core Immunoglobulin M
HBC total	Hepatitis B core total
HBeAb	Hepatitis B (envelope) Antibody
HBeAg	Hepatitis B (envelope) Antigen
HBP	High Blood Pressure
HBsAb	Hepatitis B surface Anitbody
HBsAg	Hepatitis B surface Antigen
HBV	Hepatitis B virus
HC	Head Circumference
hCG	Human chorionic gonadotrophin
HCL	Hydrochloric acid
HCO ₃	Bicarbonate
Hct.	Hematocrit
HCV	Hepatitis C virus
HCVD	Hypertensive Cardiovascular Disease
HD	Hemodialysis
HDL	High Density Lipoprotein
HDL-C	high-density lipoprotein-cholesterol
HDN	Haemolytic disease of the newborn
HDU	Hemodialysis unit
HDVAb total	Hepatitis D Virus Antibody total
HEENT	Head, eye, ear, nose, throat
HELLP	Hemolysis, elevated liver enzymes, low platelets

HEP	Home exercise program
HEPA	High Efficiency Particular Air
Hep-lock	Heparin lock
HF	Heart failure
HFOV	high- frequency oscillatory ventilation
HFV	high frequency ventilation
Hgt	Hemoglucotest
HIV	Human Immunodeficiency Virus
HKFAO	Hip knee ankle foot orthosis
HME	heat and moisture exchanger
HMEF	heat and moisture exchanger filter
Hmg	Human menopausal gonadotrophin
HMP	Hot Moist Pack
HNPCC	Hereditary non-polyposis colorectal cancer
HOB	Head on bed
HOCM	Hypertrophic obstructive cardiomyopathy
HPC	History of Present Complaint
HPD	Histrionic Personality disorder
HPO	Hypothalamopituitary ovarian
HPV	Human papilloma virus
HR	Heart rate
hr.	Hour
HRADS	Hyperactive Airway Dysfunction Syndrome
HRT	Hormone replacement therapy
Hs	At bed time
HSG	Hysterosalpingography
HSM	Hepatosplenomegally
HSV	Herpes simplex virus
Ht.	Height
HTN	Hypertension
HUS	Haemolytic uraemic syndrome
HVB	Harsh Vesicular Breathing
HVS	High vaginal swab
Hx	History
Hyst.	Hysterectomy
Hz	Hertz
I&D	Incision and drainage
I&O	Intake & output

I.D.	Initial Dose
I.O.L	Induction of Labor
I.T.	Inspiratory Time
I:E , I/E	inspiratory-to- expiratory ratio
<u>IABP</u>	<i>Intra-aortic balloon pump</i>
IADL	Instrumental activities of daily living
IBD	Inflammatory bowel disease
IBP	Invasive Blood Pressure
IBS	Irritable bowel syndrome
IBWT	Ideal body weight
IC	Inspiratory capacity
ICA	Internal Carotid Artery
ICH	Intracerebral Hemorrhage
ICL	Implatable Contact Lens
ICR	Intra Corneal Ring
ICSI	Intracytoplasmic sperm injection
ICU	Intensive Care Unit
ID	inner diameter
ID no.	Identification number
IDDM	Insulin Dependent Diabetes Mellitus
IDM	Infant of Diabetic Mother
IFC	Interferential Current
Ig	Immunoglobulin
IgE	Immunoglobulin E
IHB RD	Intra-hepatic biliary radical dilatation
IHD	Ischemic Heart Disease
IJ	Internal Jugular
IM	Intramuscular
IMCU	Intermediate Care unit
IMF	Inter Maxillary Fixation
imp	Impression
IMPRV	intermittent mandatory pressure release ventilation
IMPV	intermittent mandatory ventilation
inc or ↑	Increase
Inf.	Inferior
inj.	Injection
INR	International Normalized Ratio
IOL	Intraocular Lens

IOP	Intra ocular pressure
IPAP	Inspiratory positive airway pressure
IPCS	Intermittent pneumatic compression Stocking
IPF	Interstitial Pulmonary Fibrosis
IPPB	Intermittent Positive Pressure Breathing
IPPV	intermittent positive pressure ventilation
IQ	Intelligence Quotient
IR or int. rot.	Internal rotation
IRDS	infant respiratory distress syndrome
IRV	inverse ratio ventilation
ISSHP	International Society for the Study of Hypertension in Pregnancy
ISSVD	International Society for the Study of Vulval Disease
ITH	Inferior turbinate hypertrophy
ITU	Intensive Treatment Unit
IUCD	Intrauterine contraceptive device
IUD	Intrauterine device
IUFD	Intrauterine Fetal Death
IUGR	Intrauterine growth restriction
IUI	Intra Uterine insemination
IV	Intravenous
IVAB	Intravenous Antibiotics
IVB	Intravenous block (Bier block)
IVC	Intravenous Canula
IVF	Intravenous Fluids
IVF Pregnancy	In vitro fertilization pregnancy
IVH	Intraventricular Hemorrhage
IVP	Intravenous pyelogram
IVSd	Interventricular septum in diastole
IVU	Intravenous Urogram
J	Jaeger
Jan.	January
JCIA	Joint Commission International Accreditation
JM	Jaundice meter
JP	Juvenile Periodontitis
Jul.	July
Jun.	June
K	Potassium

K1	Potassium Level 1
K2	Potassium Level 2
K3	Potassium Level 3
KCAL	Kilo calories
KCL	Potassium chloride
KCT	Kaolin Clotting Time
kg.	Kilogram
KMNO4	Potassium permanganate
KP04	Potassium phosphate
Kt/V	Urea clearance X time normalized by Total Body Water, the volume of distribution of Urea
KUB	Kidneys, ureters, bladder
L	Litre
L.A	Local Anesthesia
L/A	Local application
L/E	Local Examination
LA diam.	Left atrium diameter
Lab.	Laboratory
Lac.	Laceration
LAD	Left Anterior Descending Artery
LADC	Left anterior descending coronary
LAE	Left Atrial enlargement
LAFH	Laminar Air Flow Hood
LAL	Left atrial line
LAMA	Leaving Against Medical Advice
Lap	Laparoscopy / Laparoscopic
Lap. appy	Laparoscopic appendectomy
Lap. Chole	Laparoscopic Cholecystectomy
Ib.	Pound
LBM	Loose Bowel Motion
LBP	Low Back Pain
LBV	Low biological protein value
LBwt	Low birth weight
LDH	Lactate Dehydrogenase
LDL	Low Density Lipoprotein
LDP	Lumbar Disc Prolapse
LE	Lupus Erythematosus
LFTs	Liver Function Tests

LGA	Large for Gestational Age
LGM	Linogirth measurement
LH	Lutenizing hormone
LHC	Left HypoChondrium
LHRH	Luteinizing hormone releasing hormone
LIF	Left Iliac Fossa
LIH	Left Inguinal hernia
liq.	Liquid
LL	Lower Limb
LLETZ	Large loop electrodiathermy excision of the transformation zone
LLL	Left lower lobe
LLQ	Left Lower Quadrant
LMA	Laryngeal Mask Airway
LMP	Last Menstrual Period
LMW	Low molecular weight
LMWH	Low molecular weight heparin
LN	Lymph nodes
LOA	Left Occipitoanterior
LOC	Loss of consciousness
LOL	Left Occipitolateral
LOP	Left Occipitoposterior
LP	Lumbar Puncture
LPM	Liter per minute
LPN	Licensed Practical Nurse
LPR	Laryngopharyngeal reflux
LR	Lactated ringer
LSCS	Lower Segment Caesarean Section
LSG	Laparoscopic sleeve gastrectomy
Lt	Left
LTC	Long term care
LTG	Long Term Goal
LTOT	Long Term Oxygen Therapy
LUQ	Left Upper Quadrant
LV. mass	Left ventricular mass
LV. Mass	Left ventricular mass
LVIDd	Left ventricular internal diameter in diastole
LVIDs	Left ventricular internal diameter in systole

LVOT diam.	Left ventricular outflow tract diameter
LVOT max PG	Left ventricular outflow tract maximum pressure Gradient
LVOT Vmax	Left ventricular outflow tract maximum velocity
LVOT VTI	Left ventricular outflow tract velocity time integral
LVPWd	Left ventricular posterior wall in diastole
Lytes	Electrolytes
M	Male
M.S	Morning Stiffness
M/N	Midnight
MAC	Monitored Anesthesia Care
mammo	Mammogram
MAOIs	Monoamine oxidase inhibitors
MAP	Mean arterial pressure
MAPSE Lat.	Mitral annular plane systolic excursion lateral
MAPSE Med.	Mitral annular plane systolic excursion medial
MAR	Medication Administration Record
MAS	Meconium Aspiration Syndrome
Max	Maximum
MBM	Muscle Back Measurement
MCA	Middle Cerebral Artery
MCH	Mean corpuscular hemoglobin
MCHC	Mean corpuscular hemoglobin concentration
MCL	Mid-clavicular line
MCP	Metacarpophalangeal joint
MCV	Mean cell volume
MD.	Doctor of Medicine
MDD	Major Depressive Disorder
MDI	metered dose inhaler
ME	Middle ear
med.	Medicine
MEq	Milliequivalent
MF	Milk Formula
mg	Milligram
Mg	Magnesium
MH	Malignant Hyperthermia
MI	Myocardial Infarction
micro.	Microscopic

ml	Milliliter
min.	Minute
mins.	Minutes
MIP	Maximum inspiratory pressure
MLO	Medio-lateral oblique
MLS	Microlaryngosurgery
MLT	minimal leak technique
mm.	Millimeter
MMPI	Minnesota Multiphasic Personality Inventory
MMR	Mumps, measles and rubella
MMR	Cardiac murmur
MMT	Manual Muscle Testing
MMV	mandatory minute ventilation
MODS	Multiple organ dysfunctional syndrome
MOM	Mild of Magnesia
MOV	minimal occluding volume
MPD	Mucopurulent discharge
MR	Mental Retardation
MRA	Magnetic Resonance Angiography
MRCP	Magnetic Retrograde Cholangiopancreatography
MRD	Medical Records Department
MRI	Magnetic Resonance Imaging
MRM	Modified radical mastectomy
MRS	MR Spectroscopy
MS	Multiple Sclerosis
MSAF	Meconium stained amniotic fluid
MSL	Midsternal line
MSU	Midstream urine
MT	Middle turbinate
MTP	Metatarsophalangeal joint
MUGA	Manipulation Under General Anesthesia
<u>MUF</u>	<u>Modified Ultrafiltration</u>
MV	Mechanical Ventilation
MVA	Motor Vehicle Accident
<u>MVG</u>	<u>Mixed Venous Blood gas</u>
MVV	Maximum voluntary ventilation
MW	Male Ward
N&V	Nausea & vomiting

N.	Nitrogen
N/A	Not applicable
N/G	Nasogastric
N/V	Nausea and vomiting
N2O	Nitrous oxide
Na	Sodium
NaCl	Sodium Chloride
NAD	No Abnormalities Detected
NaHCO3	Sodium Bicarbonate
NAS	No added salt
NASH	Nonalcoholic steatohepatitis
NAVA	neurally adjusted ventilatory assist
NB	Newborn
NC	Nasal Cannula
NCP	Nursing Care Plan
NEB.	Nebulization
neg.	Negative
NGT	Nasogastric tube
NGU	Non-gonococcal urethritis
NIBP	Non Invasive Blood Pressure
NICU	Neonatal Intensive Care Unit
NIDDM	Non-insulin-dependent diabetes mellitus
NIF	negative inspiratory force
NIL	Non-significant / nothing
NIV	Non-invasive ventilation
NK	Not known
NKA	Not known allergy
NKF	National Kidney Foundation
NLD	Naso lacrimal duct
NLP	Neuro-Linguistic Programming
NMT	Neuromuscular transmission monitoring
NN	Neonatal
NND	Neonatal Death
NNJ	Neonatal jaundice
no.	Number
norm.	Normal
Nov.	November
NP	Nasopharynx
NPDR	Non-proliferative Diabetic Retinopathy

NPO	Nothing per orem
NPPV	noninvasive positive pressure ventilation
NR	Not reactive
NRBM	Non rebreathing mask
NRFM	Non rebreathing face mask
NS	Normal saline
NSAI	Non Steroidal Anti inflammatory
NSAIDs	Non-steroidal anti-inflammatory drugs
NSR	Normal Sinus Rhythm
NSTEMI	Non ST elevation myocardial infarction
NSVD	Normal Spontaneous Vaginal Delivery
NSY	Nursery
NT	Nuchal translucency
NTD	Neural tube defect
NTI	Nasotracheal intubation
NUG	Necrotizing Ulcerative Gingivitis
NVD	Normal Vaginal Delivery
NWB	Non-weight bearing
O	Occlusal
o/b	Over bite
O/E	On examination
o/j	Over jet
O/T	Operating Theatre
O2	Oxygen
OA	Osteoarthritis
OB	Obstetric
obt	Obturbation
OCD	Obsessive Compulsive Disorder
OCP	Oral Contraceptive pills
OCPD	Obsessive-Compulsive personality disorder
Oct.	October
OD45	Optical density at 450 µm
OGT	Orogastric tube
OGTT	Oral Glucose Tolerance Test
OHI	Oral Hygiene Instruction
OI	Ovulation induction
OME	Otitis media with effusion
OMFS	Oral Maxillo Facial Surgery

OOB	Out of bed
OP	Occipitoposterior
OPD	Outpatient department
OPG	Dental Panoramic Tomogram
OR	Operating Room
OR/RIF	Open reduction/Rigid Internal Fixation
ORIF	Open Reduction and Internal Fixation
ORS	Oral Rehydration Solution
Ortho.	Orthopedic
OSA	Obstructive sleep apnea
OSAS	Obstructive Sleep Apnea Syndrome
OT	Occupational therapy
OTC	Over the counter
OTI	Orotracheal intubation
oz.	Ounce
P	Pulse
P/A	Per abdomen
PA	Pernicious anemia
PA acc time	Pulmonary valve acceleration time
PA max PG	Pulmonary valve maximum pressure gradient
PA Vmax	Pulmonary valve maximum velocity
PACU	Post anesthesia care unit
PaO2	Partial pressure of oxygen in the artery
PaO2/ PAO2	ratio of arterial PO2 to alveolar P02
PaO2/FiO2	ratio of arterial to P02 to FiO2
PAP Smear	Papanicolaou Smear
PAT	Paroxysmal Atrial Tachycardia
Path	Pathology
Paug	pressure augmentation
PAV	proportional assist ventilation
Paw	Peak Air way pressure
Paw	mean airway pressure
PAWP	Pulmonary artery wedge pressure
PB	Piggy Bag
PC	Post Concussion
PC- CMV	pressure- controlled continuous mandatory ventilation
PC- SIMV	pressure controlled – synchronized intermittent mandatory ventilation

PCO2	Partial pressure of carbon dioxide
PCA	Patient Controlled Analgesia
PCB	Postcoital bleed
PCC	Postcoital contraception
PC-CMV	Pressure Controlled Continuous Mandatory Ventilation
PCL	Posterior Cruciate Ligament
PCOS	Polycystic ovarian syndrome
PCR	Polymerase Chain Reaction
PCT	Personal Construct Theory
PD	Peritoneal dialysis
PDA	Patent Ductus Arteriosus
PDH	Past Dental History
PDL	Periodontal Ligament
PDR	Proliferative Diabetic retinopathy
PE	Physical Examination
PEARL	Pupils Equal and React to light
PEARLA	Pupils Equal and React to light and accommodation
Ped	Pediatrics
PEEP	Positive end expiratory pressure
PEF	Peak Expiratory Flow meter
PEFR	Peak Expiratory Flow rate
PEG	Peg tube feeding
per	By, through
Perm cath	Permanent catheter
PET	Pre-eclampsia
PetCO2	partial pressure of end – tidal carbon dioxide
PF	Preservative Free
PFM	Porcelain Fused Metal Crown
PFT	pulmonary function test
PG	Primigravida
pH	relative acidity or alkalinity of a solution
Phaco	Phacoemulsification
PHLM	Posterior Horn Lateral Meniscus
PHM	Partial hydatidiform
PHMM	Posterior Horn Medical Meniscus
PHN	Pulmonary Hypertension
Phos.	Phosphorus

PICC	Peripherally inserted central catheter
PICU	Pediatric Intensive Care Unit
PID	Pelvic Inflammatory Disease
PIH	Pregnancy Induced Hypertension
PIP	Peak Inspiratory Pressure
PIPJ	Proximal Interphalangeal joint
pit.	Pitocin
PJC	Porcelain Jacket Crown
Plt	Platelet
PMB	Postmenopausal bleeding
PMS	Premenstrual syndrome
PN	Peripheral Neuropathy
PNB	Peripheral Nerve Block
PND	Postnasal discharge
PNS	Pilo nidal sinus
PNSVD	Post Normal Spontaneous Vaginal Delivery
PNVD	Post Normal Vaginal Delivery
PO	By mouth (per oral)
POD	Post-operative day
POG	Progress in Obstetrics and Gynecology
PONV	Post-operative nausea and vomiting
POP	Progestogen-only pill
Post.	Posterior
Post-op	Postoperative
POX	Pulse oximetry
PPBS	Post Prandial Blood Sugar
PPD	Purified Protein Derivative (tuberculin)
PPH	Postpartum hemorrhage
PPHN	Persistent pulmonary hypertension
PPI	Proton Pump Inhibitor
PPROM	Preterm prelabor rupture of the membranes
PPV	Positive predictive value
PR	Per Rectal
PRBC	Packed Red Blood Cells
Prep.	Prepare
PRK	Photorefractokeratotectomy
Prl	Prolactin
PRN	As indicated

PROC	Procedural Areas
PROM	Premature Rupture of Membrane
PRP	Pan Retinal Photocoagulation
PRR	Preventive Resin Restoration
PRVC	Pressure regulated volume control
PS	Pressure support
PSA	Prostatic specific antigen
PSS	Progressive Systemic Sclerosis
PSV	Pressure support ventilation
PSVT	Paroxysmal supraventricular tachycardia
PT	Physical Therapy
pt.	Patient
PTA	Posterior Tibial Artery
PTCA	Percutaneous transluminal coronary angioplasty
PTE	Pulmonary thromboembolus
PTH	Parathormone
PTL	Preterm Labor
PTR	Prothrombin ratio
PTSD	Posttraumatic stress disorder
PTT	Partial Thromboplastin Time
PUD	Peptic ulcer diseases
PUH	Para umbilical hernia
pulm.	Pulmonary
PUVA	Ultraviolet A with psoralen
PV or P/V	Per vagina
PVC	Premature Ventricular Contraction
PVD	Peripheral vascular disease
PVOD	Peripheral vascular occlusive disease
PW	Pediatric ward
PWB	Partial Weight bearing
q.2h.	Every 2 hours
q.3h.	Every 3 hours
q.4h.	Every 4 hours
q.h.	Every hour
q.i.d.	Four time daily
q.s.	Sufficient quantity
qt.	Quart
R	Reactive

R	mean total resistance
R.O	Reverse Osmosis
R/O	Rule out
R/R	Remaining Root
RA	Room Air
Rad. Tech.	Radiology Technician
Radicular S/S	Radicular signs and symptoms
RAE – N	Right Angle tube Nasal
RAE – O	Right Angle tube Oral
RAI	Radioactive Iodine
RAO	Right Anterior Oblique (X-Ray View)
Raw	airway resistance
RBBB	Right Bundle Branch Block
RBC	Red Blood Count
RBS	Random Blood Sugar
RCA	Right coronary artery
RCC	Red Cell Concentrate
RCOG	Royal College of Obstetricians and Gynecologists
RCP	respiratory care practitioner
RCT	Root Canal Treatment
RD	Respiratory Distress
RDA	Recommended daily allowance
RDS	Respiratory Distress Syndrome
REBT	Rational-Emotive Behavior Therapy
REF	Under Refrigeration
reg.	Regular
REQT	Requirement
resp.	Respiration
RF	Rheumatoid factor
Rh	Rh factor in blood
RHC	Right Hypochondrium
RHD	Rheumatic heart disease
RIF	Right Iliac Fossa
RIH	Right inguinal hernia
RLQ	Right Lower Quadrant
RMGIC	Resin-modified glass ionomer composite
RMI	Risk of Malignancy Index
RML	Right Middle Lobe (Lung)

RN	Registered Nurse
ROA	Right Occipitoanterior
ROL	Right Occipitolateral
ROM	Range of motion
ROP	Right occipitoposterior
ROS	Review of Systems
RPOC	Retained Product of Conception
RPR	Rapid Plasma Reagin
RPT	Respiratory Physiotherapy
RR	Respiratory Rate
RRR	Regular rate and rhythm
RS	Respiratory System
RSB	rapid shallow breathing
RSR	Regular sinus rhythm
RT	Respiratory therapist
rt.	Right
RTA	Road Traffic Accident
RUQ	Right Upper Quadrant
RVH	Right Ventricle hypertrophy
RVSWI	Right ventricular stroke work index
Rx.	Prescription
S & P	Scaling and polishing
S. Mg	Serum Magnesium
S.I.	Sacroiliitis
S/E	Seen and examined
s/p or S/P	Status post
S/T	Spontaneous/timed
S1S2	Heart sound
S2	Second heart sound
SA	Stool Analysis
SAA	Spinal anesthesia (sub arachnoid anesthesia)
SAB	Subarachnoid block
SAD or SAnd	Social Anxiety Disorder
SALAD	Sound Alike Look Alike Drugs
SaO ₂	Arterial Oxygen Saturation
SAS	Sedation Agitation Scale
SB	Stillbirth
SBP	Systolic Blood Pressure

SCA	Sickle cell anemia
SCBU	Special care baby unit
SCCs	Semicircular canals
SCD	Sickle Cell Disease
SCD ð VOC	Sickle cell disease with vaso occlusive crisis
SCT	Sickle Cell Test
SCVA	Spectacle Corrected Visual Aquity
ScvO2	Central Venous oxygen saturation
SDFA	Soft diet for age
SDH	Subdural Hemorrhage
SDS	Significant Data Sheet
Sec	Seconds
Sed. Rate	Sedimentation rate
segs.	Segmented cells
Sept.	September
SF	Salt free diet
SFA (V)	Superficial femoral artery (vein)
SFJ	Sapheno-femoral junction
SGA	Small for Gestational Age
SGOT	Serum glutamic oxaloacetic transaminase
SGPT	Serum glutamic pyruvic transaminase
SHBG	Sex hormone binding globulin
SIDS	Sudden infant death syndrome
Sign.	Signature
SIMV	synchronized intermittent mandatory ventilation
SIRS	Systemic inflammatory response syndrome
SL	Sluggish
SLE	Systemic Lupus Erythematosus
SLR	Straight Leg Raising test
SM	Selective mutism
SMD	Submucus diathermy
SMR	Submucus resection
SNHL	Sensory neural hearing loss
SOB	Shortness of Breath
sol.	Solution
SOM	Secretory otitis media
sp.fl.	Spinal fluid
sp.gr.	Specific gravity

SPD	Schizoid Personality Disorder
SPJ	Sapheno-popliteal junction
SPO2	Oxygen saturation
SPT	Serum Pregnancy Test
SR	Submandibular region
SROM	Spontaneous Rupture of Membranes
Ss	Soap suds
SSKI	Saturated Solution of Potassium Iodine
SSRI	Selective serotonin reuptake inhibitor
ST	Sickling test
staph.	Staphylococcus
stat.	Immediately
STD	Sexually transmitted disease
STG	Short Term Goal
STIR	Short T1 Inversion Recovery
strep.	Streptococcus
Subcut	Subcutaneous
Sup.	Superior
Supp.	Suppository
surg.	Surgery
SV	Stroke volume
SVD	Spontaneous vertex delivery
SVN	Small Volume Nebulizer
Svo2	Mixed venous oxygen saturation
SVT	Supraventricular tachycardia
SWFI	Sterile Water For Injection
sx or SX	Surgery
T&A	Tonsillectomy and Adenoidectomy
T.fillig	Temporary filling
T.O.	Telephone order
T13	Trisomy 13
T18	Trisomy 18
T1WI	T1 weighted image
T2*	Susceptibility sequence
T21	Trisomy 21
T2WI	T2 weighted image
T4	Thyroxine

TA	Transabdominal
Tachy	Tachycardia
TAH	Total Abdominal Hysterectomy
TAPSE	Tricuspid annular plane systolic excursion
TAT	Turn Around time
TB.	Tuberculosis
TBA	Traditional birth attendant
TBI	Traumatic Brain Injury
TBLB	Transbronchial lung biopsy
TBP	Total Blood Processed
tbsp.	Tablespoon
TCRE	Transcervical resection of endometrium
TDD	Total dose per day
Tech.	Technician
TED	Thromboembolic deterrent
temp.	Temperature
TER	Total energy requirement
Tet. Tox.	Tetanus toxoid
TF	To follow
TFI	Total Fluid Intake
TFR	Total fluid requirement
TFT	Thyroid function test
TIA	Transient Ischemic Attack
TIBC	Total Iron Binding Capacity
TID	Three time a day
tinct.	Tincture
TIVA	Total intravenous anesthesia
TLC	Total Leukocyte Count
TM	Tympanic membrane
TMJ	Temporo mandibular joint
TMJA	Tempromandibular joint arthritis
TMP	Transmembrane pressure
TOP	Termination of pregnancy
TORCH	Toxoplasmosis, rubella, CMV, HSV
TOT	Trans obturator Tape
Tp	Total protein
TPA	Tissue plasminogen activator (alteplase)

t-PA	Tissue Type Plasminogen Activator
TPHA	Treponema Pallidum Hemagglutination
TPN	Total Parenteral Nutrition
TR PG	Tricuspid regurgitation pressure gradient
TR velocity	Tricuspid regurgitation velocity
Trig.	Triglycerides
TSB	Total Serum Bilirubin
TSH	Thyroid stimulating hormone
tsp.	Teaspoon
TT	Tracheostomy Tube
TT3	Total T3 (Triiodothyronine)
TT4	Total T4 (Thyroxine)
TTN	Transient Tachypnea of Newborn
TTP	Tender to Percussion
TUR	Transurethral resection
TURP	Transurethral resection of prostate
TV	Transvaginal
TVT	Tension-free vaginal tape
TVUS	Trans-vaginal US
Tx	Treatment
Tympa.	Tympanometry
TZ	Transitional zone
U&E	Urea and electrolytes
U/S	Ultrasound
U3Ps	Uvulo-palato-pharyngo-plasty
UA	Urine analysis
UAC	Umbilical Arterial Catheter
UBT	Urea breath test
UC	Ulcerative Colitis
UCVA	Uncorrected Visual Aquity
uE3	Unconjugated oestriol
UFR	Ultrafiltration Rate
UH	Umbilical hernia
UL	Upper Limb
umb.	Umbilical
UOP	Urine output
URR	Urea Reduction Ratio
URTI	Upper respiratory tract infection

USN	ultrasonic nebulizer
USP	United States Pharmacopia
USS	Ultrasound scan
UTI	Urinary Tract Infection
UVC	Umbilical Nervous Catheter
V	Trigeminal Nerve
V/E	Vaginal examination
V ₁	Ophthalmic Nerve
V ₂	Maxillary Nerve
V ₃	Mandibular Nerve
VA	Visual Acuity
VACTERL	Vertebral, anal, cardiac, tracheal, oesophageal, renal and limb
VAIN	Vaginal intraepithelial neoplasia
VAP	Ventilator Acquired Pneumonia
VATER	Vertebral, anal, tracheal, esophageal and renal
VBAC	Vaginal Birth After C-Section
VBG	Venous blood gases
VC	Vocal Cords
VC- CMV	Volume controlled continuous mandatory ventilation
VC-AC	Volume control – assist control
VC-SIMV	Volume control – synchronized intermittent mandatory Ventilation
VDRL	Vertebral diseases reference laboratories
V _E	Minute ventilation
VF	Ventricular fibrillation
VIN	Vulval intraepithelial neoplasia
VLBW	Very low birth weight
VMA	Vanillyl mandelic acid
VO	Verbal orders
VOC	Vaso Occlusive Crisis
VOD	Veno-occlusive disease
VPAP	Variable positive airway pressure
VQ	Ventilation perfusion
VR	Ventilator Rate
VS	Vital signs
VSD	Ventricular Septal Defect
VT	Ventricular tachycardia
V _T	Tidal wave
Vt	Tidal Volume
VTE	Venous thromboembolism

VTI	Ventilation tube insertion
VUR	Vesicoureteric reflux
VV	Varicose veins
VZIG	Varicella zoster immunoglobulin
w/c	Wheel chair
WBAT	Weight bearing as tolerated
WBC	White Blood Count
WCC	White Cell Count
WHO	World Health Organization
Wk	Weeks
WNL	Within normal limits
Wo	Without
wt.	Weight
X	Times
x bite	Cross bite
XL	X-Linked
XR	X-ray
y/o	Year old
yr.	Year
ZIG	Zoster immunoglobulin
ZOE	Zinc oxide eugenol
αFP	α-fetoprotein
DSU	Day Surgery Unit
MRDO	Multidrug Resistant Organism
MID	Management Informatics Department
RTC	Return to Clinic
RSV	Respiratory syncytial virus
MRSA	Methicillin resistant staphylococcus aureus
SSU	Special surgical unit
MU	Medical Unit
SICU	Surgical Intensive Care Unit

SYMBOLS

&	And	↑	increase
P	after	<	less than
↓	decreased	♂	male
°	degree	+	positive
/	Separates two doses or indicates per	-	minus
=	equal	#	number
'	feet	?	question
♀	female	e	with
>	greater than	e out	without
%	percent	-ve	negative
"	inches	+ve	positive
>and<	Greater than and less than		

SYMBOLS NOT TO BE USED

°	hour	♏	Minim
@	at	ȝ	Dram
+	Plus or and		

Pharmaceutical calculations

Ratio and Percent Solutions		
1:100	= 1g/100ml [10mg/ml]	= 1%
1:200	= 500mg/100ml [5mg/ml]	= 0.5%
1:1,000	= 100mg/100ml [1mg/ml]	= 0.1%
1:5,000	= 20mg/100ml [200mcg/ml]	= 0.02%
1:10,000	= 10mg/100ml [100mcg/ml]	= 0.01%

Calculation of (mEq) milliequivalent

$$\text{mEq} = \text{Weight (grams)} / \text{mEq Weight (grams)}$$

Ion or compound	mEq W(g)	Ion or compound	mEq W(g)
Na+	0.023	HC03-	0.061
K+	0.039	NaCl	0.0585
Ca++	0.020	KCl	0.0745
Mg++	0.012	CaCl ₂ .H ₂ O	0.0735
NH4+	0.018	NH4Cl	0.0535
Cl	0.0355	MgSO ₄ .7H ₂ O	0.123
Lactate	0.089	NaHCO ₃	0.084
Acetate	0.059	Ca Gluconate	0.224

For milliequivalent weights not shown, use the formula:

Milliequivalent weight (mEq W.) = Atomic Weight (g) / (Valence) x 1,000
A mole equals one gram atomic weight or gram molecular weight of a substance.

A millimole equals 1/1000 of a mole.

EXAMPLE

Potassium (K) has a gram-atomic weight of 39.10. Calculate its weight in millimoles (mmol).

The weight of one mole is 39.10g and the weight in millimoles is 39.10g/1000=0.0391g or 39.1mg.

PERCENTAGE CONCENTRATIONS

Percentage concentrations of solutions are usually expressed in one of three common forms:

$$\text{Volume percent (v/v)} = \frac{\text{Volume of solute}}{\text{Volume of solution}} \times 100\%$$

$$\text{Weight percent (w/w)} = \frac{\text{Weight of solute} \times 100\%}{\text{Weight of solution}}$$

$$\text{Weight in volume percent (w/v)} = \frac{\text{Weight of solute (in g)}}{\text{Weight of solution (in mL)}} \times 100\%$$

DILUTION AND CONCENTRATION

The quantity of *Solution 1*(Q_1) \times concentration of *Solution 1*(C_1) =the quantity of *Solution 2*(Q_2)

\times concentration of *Solution 2*(C_2), or

$$(Q_1)(C_1) = (Q_2)(C_2).$$

TEMPERATURE

The relationship between Celsius degrees ($^{\circ}\text{C}$) and Fahrenheit degrees ($^{\circ}\text{F}$) is expressed by the following equation:

$$9(^{\circ}\text{C}) = 5(^{\circ}\text{F}) - 160,$$

in which $^{\circ}\text{C}$ and $^{\circ}\text{F}$ are the numbers of Celsius degrees and Fahrenheit degrees, respectively.

The relationship between the Kelvin and the Celsius scales is expressed by the equation:

$$K = ^{\circ}\text{C} + 273.1,$$

Calculating a dose for children

(Mg of drug per kg of body weight) \times (kg of body weight) =dose for an individual for a 24-hour period

PRESCRIBING IN CHILDREN

	IDEAL BODY WEIGHT		HEIGHT		BODY SURFACE
AGE	KG	LB	CM	INCH	M²
Newborn	3.5	7.7	50	20	0.23
1 month	4.2	9	55	22	0.26
3 months	5.6	12	59	23	0.32
6 months	7.7	17	67	26	0.40
1 year	10	22	76	30	0.47
3 years	15	33	94	37	0.62
5 years	18	40	108	42	0.73
7 years	23	51	120	47	0.88
12 years	39	86	148	58	1.25
Adult					
Male	68	150	173	68	1.80
Female	56	123	163	64	1.60

The figures relate to full term and not preterm infants

Reference: BNF-54

TIME UNTIL EFFECT FOR DIFFERENT ROUTES OF DRUG ADMINISTRATION

Route for administration	Time until effect
Intravenous	30-60 seconds
Intraosseous	30-60 seconds
Endotracheal	2-3 minutes
Inhalation	2-3 minutes
Sublingual	3-5 minutes
Intramuscular	10-20 minutes
Subcutaneous	15-30 minutes
Rectal	5-30 minutes
Ingestion	30-90 minutes
transdermal (topical)	variable (minutes to hours)

UNITS OF MEASUREMENT

Units of Length

10 millimeters (mm)	= 1 centimeter (cm)	
10 centimeters	= 1 decimeter (dm)	= 100 millimeters
10 decimeters	= 1 meter (m)	= 1000 millimeters
1 inch (in)	= 25.4 millimeters (mm)	

Units of Liquid Volume

10 milliliters (mL)	= 1 centiliter (cL)	
10 centiliters	= 1 deciliter (dL)	= 100 milliliters
10 deciliters	= 1 liter	= 1000 milliliters
1 cc	= 1ml	=15 to 16 drops (gtts)
1 teaspoon	= 5 ml (approx)	
1 tablespoon	= 15 ml (approx)	

Units of Mass

10 milligrams (mg)	= 1 centigram (cg)	
10 centigrams	= 1 decigram (dg)	= 100 milligrams
10 decigrams	= 1 gram (g)	= 1000 milligrams
10 grains	= 600 mg	
15 grains	= 1 g	
1 ounce	= 28.35 g	
1 pound	= 453.592 g	

Apothecaries Units of Liquid Volume

60 minims (min)	= 1 fluid dram (fl dr)	= 3.69 ml
8 fluid drams	= 1 fluid ounce (fl oz)	= 29.57 ml
16 fluid ounces	= 1 pint (pt)	= 473.18 ml
2 pints	= 1 quart (qt) = 32 fl oz	= 946.36 ml
4 quarts	= 1 gallon (gal) = 128 fl oz	= 3785 ml

Note on International Units (i.u.)

An old measurement of vitamin activity determined by biological methods as opposed to new measures that are determined by direct chemical analysis.

Many health foods and supplements still use i.u. (IU).

For Vitamin A, 1 i.u. = 0.3µg retinol, 3.6µg b-carotene, or 7.2µg other vitamin A carotenoids

For Vitamin D, 1 i.u. = 0.025µg cholecalciferol

For Vitamin E, 1 i.u. = 0.67 μ g natural α -tocopherol (different conversion factors are used for different forms of vitamin E)

Reference: Dorland Medical Dictionary, BNF, Merck medical information home edition

REFERENCES

British National Formulary (BNF-54)
Professional Monographs (FDA)
A-Z Drug Facts (Facts & Comparisons)
Consumer Information (PDR)
Advanced Consumer Information (Micromedex)
Medsafe.govt.nz (Medicine data sheet)
Manufacturer's product literature

PREScribers PRIVILEGES DRUGS LIST

As per Approval by Pharmacy and Therapeutics Committee

Privileged clinician is physician and dentist who have been granted privileges agreed by the ASH credentials and privileging committee. Based on the clinicians especially training and clinical experience.

Antimicrobial agents

No.	DRUG	PRIVILEGES
.1	Vancomycin (Vancolon)IV,PO Teicoplanin (Targocid) IV,PO Amikacin Tigecycline Ertapenem Meropenem Imipenem\Cilastatin Piperacillin\tazobactam Cefepime (4 TH generation) Ceftazidime (3 rd generation) Fluconazole IV Acyclovir IV Ciprofloxacin IV Moxifloxacin IV Levofloxacin IV Trimethoprim-Sulfamethoxazole -IV (Controlled category)	Restricted use for the initial 72 hrs :if the culture is +ve continue ,if not, ID approval required thereafter
.2	Linezolid Colistin Rifampacin Voriconazole IV,PO Anidulafungin Micafungin Ganciclovir Valganciclovir Artesunate PO Primaquine Mefloquine Choloroquine Fidaxomicin Cloxacillin Caspofungin (Restricted category)	<ul style="list-style-type: none"> ❖ Restricted use for the initial 24hrs only: ID approval required thereafter. ❖ Pulmonary consultant can prescribe Rifampin with no restriction.
.3	Amphotericin B Amphotericin liposomal Ceftobioprole Ceftolozane/Tazobactam	<ul style="list-style-type: none"> ❖ Require ID approval to initiate

<p>Ceftazidime/Avibactam Isavuconazole Isoniazide# Ethambutol# Pyrazinamide# Artemether IM Artesunate IV Quinine IV Pyrimethamine Adefovir*, Entecavir*, Lamivudine* Sofosbuvir*, Daclatasvir*, Ribavirin* Ledipasvir/Sofosbuvir(Harvoni)* Elbasvir/Grazoprevir(Zepatier)* Tenofovir and all ART Daptomycin Remdesivir (Limited use category)</p>	<ul style="list-style-type: none"> ❖ Pulmonary consultant can prescribe Ethambutol and Pyrazinamide with no restriction. ❖ Pulmonary consultant can prescribe also Isoniazid without restriction. ❖ GI consultants can prescribe the following medication with no restriction : Adefovir*, Entecavir*, Lamivudine* Sofosbuvir*, Daclatasvir*, Ribavirin* Ledipasvir/Sofosbuvir(Harvoni)* Elbasvir/Grazoprevir(Zepatier)*
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Narcotics and controlled

<p>.1</p>	<p>Sedation, analgesia and epidural -Fentanyl citrate (fentanyl)0.1mg/amp -Fentanyl citrate (fentanyl)0.5mg/amp -Midazolam (Dormicum)15mg/amp Midazolam 100mg/vial -Ketamine HCL(Tekam)500mg/vial -Morphine sulphate 10mg/amp -Pethidine hydrochloride(Pethidine) 50mg/amp and 100mg/amp. Tramadol hydrochloride(Tramal)100mg/amp Note:1- for sedation medication can be use as follow: Midazolam (Dormicum) 15mg/amp. Propofol % injection. Dexmedetomidine (Precedex) 200mcg/2ml. Chloral hydrate syrup as sedation hypnotics 2-For anesthesia as follow: -Propofol 1%injection. -Midazolam (Dormicum) 15mg/amp.</p>	<p>Restricted to anesthesiologist & those physicians certified to give sedation, analgesia and epidural after approval of anesthesiologist in such area:</p> <ul style="list-style-type: none"> - ER - ICU - Endoscopy - EEG - ESWL - Radiology - Cath Lab - PW - CCU - PICU - Dental <p>(Refer to policy MP-GC#18)</p> <p>-conscious sedation in the Medical Oncology and Infusion Center units and Physicians conducting conscious sedation procedures in Medical Oncology Unit must attend the conscious sedation workshop this process approved by Dr Hesham for Bone marrow biopsy for medication to be used Midazolam</p>
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	<p>-Ketamine hydrochloride (Tekam) 500mg/vial for induction of anesthesia.</p> <p>-Bupivacaine hydrochloride (Marcaine) 0.5% used for induction for local or regional anesthesia.</p> <p>-Fentanyl citrate (Fentanyl) 0.1mg/amp and 0.5mg/amp.</p> <p>Ropivacaine</p>	
.2	Epidural Fentanyl citrate (Fentanyl) 0.1mg in combination with Bupivacaine HCL(Bucaine)0.5% or 0.25%	Restricted to anesthesia physician, Refer to policy Anes-006
.3	Inhaled anesthesia -sevoflurane	Restricted to anesthesia physician
.4	Ephedrine (sympathomimetics)injection IV	Restricted to anesthesia physician and critical care physician
.5	SODIUM DANTRELONE	Restricted to anesthesia physician,
.6	Mitomycin injection	Ophthalmologist, Oncology & hematology
.7	<p>Pain management</p> <p>NARCOTIC MEDICATION :</p> <p>-Morphine sulphate 10mg/amp.</p> <p>-Pethidine hydrochloride (Pethidine) 50mg/amp and 100mg/amp.</p> <p>-Tramadol hydrochloride (Tramal) 100mg/amp.</p> <p>-Fentanyl citrate (Fentanyl) 0.1mg/amp and 0.5mg/amp</p> <p>-Tramal 50mg/cap</p> <p>-Oxycodone cap(5mg-10mg-20mg)</p>	<p>Restricted to:</p> <ul style="list-style-type: none"> - Oncology & hematology physician - Orthopedic physician (as per patient case and condition and after proper assessment of pain) - After operation (to manage pain this will be with cooperation with pain management team) - Pain management physician (to control patient pain after proper assessment pain of patient) - Critical care physician (Narcotic as infusion) - Dentist ➤ All forms can be prescribed for inpatient ➤ For outpatient, except injections cannot prescribe and for prescription will be according to SFDA regulation and patient case and per approval of pharmacy administration. - In certain procedure after approval of pharmacy administration and pain management team. - For patient on discharge could be prescribe oral form as per physician

		scope of service and specialty (surgery-orthopedic-pain management -internal medicine as per recommendation from treating physician)
Others		
.1	Chemotherapeutic agents	Restricted to Oncologist
	Psychotropic agents SSRI antidepressant for mild to moderate depression or anxiety: Citalopram Escitalopram <ul style="list-style-type: none">• Fluoxetine• Fluvoxamine• Paroxetine• Sertraline	Restricted to Psychologist & Neurologist and privilege open as below for primary care physician: Primary care
	Refill SNRI antidepressants if needed for one month: Desvenlafaxine Duloxetine Venlafaxine	Primary care
.2	Refill antipsychotics if needed for one month: <ul style="list-style-type: none">• Amisulpride• Aripiprazole• Brexpiprazole• Cariprazine• Lurasidone• Olanzapine• Paliperidone• Quetiapine• Risperidone• Chlorpromazine• Haloperidol• Refill mood stabilizers if needed for one month:	Primary care

	<ul style="list-style-type: none"> • Aripiprazole • Carbamazepine • Cariprazine • Chlorpromazine • Lithium • Olanzapine • Quetiapine • Risperidone • Valproic Acid 	
	<p>A psychiatrist must describe:</p> <p>Amphetamines •</p> <p>Clozapine •</p>	Psychiatric physician
.3	<p>Psychotropic agents /benzodiazepine for psychiatric cases that under narcotic and medication category:</p> <p>Bromazepam</p> <p>Clonazepam</p> <p>Diazepam</p> <p>Esketamine</p> <p>Zolpidem</p> <p>Alprazolam</p> <p>Clobazam</p> <p>Methylphenidate</p>	Only prescribe and refilling under psychiatric physician as per SFDA regulation
.4	Acalabrutinib	Oncology & hematology physician -
.5	<u>Abemaciclib</u> <u>Alpelisib</u> <u>Bendamustine</u> <u>Exemestane</u> <u>Eribulin</u> <u>Ipilimumab</u> <u>Ixazomib</u> <u>Megestrol</u> <u>Obinutuzumab</u> <u>Osimertinib</u> <u>Pomalidomide</u> <u>Imatinib</u> <u>Ponatinib</u>	<u>Oncology & hematology physician</u> -

	Ramucirumab Sacituzumab Govitecan	
.6	Atezolizumab(tecentriq)	Oncology & hematology physician -
.7	Apalutamide(Erleada)	Oncology & hematology physician -
.8	Baricitinib (Oluminat)	Restricted to dermatology and - rheumatology
.9	Crisaborole (Staquis)	Restricted to dermatology -
.10	Daratumumab	Restricted to hematology &oncology physician
.11	Erenumab (Aimovig)	Restricted to consultant -neurologist
.12	Prostaglandin E2 (Prostin) Mesoprostol (Cytotec) Anti-D (Rhopylac)	Restricted to Obstetric gynecologist
.13	Isotretinoin (Xeractan)	Restricted to Dermatologist
.14	Botulinum toxin (Botox)	Neurologist & Dermatologist
.15	Lurasidone(Debilur)	Restricted to Psychologist
.16	Letrozole (Femara)	Restricted to Oncologist & Obstetric gynecologist
.17	Adalimumab (Humira)	Restricted to consultants: Gastroenterology, Dermatology, Rheumatology
.18	ALIROCumab	restricted for Cardiology and Endocrinology
.19	Pregabalin (Lyrica)	consultants, Neurologist, Endocrinology-pain clinic - primary care consultant
.20	Prasugrel (Pevas)	Restricted to cardiologist &neurologist
.21	Inotropes	Restricted to Critical care (ICU, PICU, NICU, CCU, ER & OR)
.22	Ibrutinib	Oncology & hematology physician -
.23	Tirofiban (Aggrastat)	Restricted to Cardiologist
.24	Alprostadil (Arostine-VR)	Restricted to Urologist & Pediatrics
.25	Clopidogril (Plavix)	Restricted to Cardiologist and Internist -primary care
.26	Ranolazine	Restricted to Cardiologist and Internist -primary care
.27	Rivaroxaban (Varoxa)	Restricted to Cardiologist and Internist-primary care
.28	Alteplase Injection (rTPA) (Actylase)	to cardiologists & Neurologist
.29	Aripiprazole (Abilify)	Restricted Adult Psychiatry

.30	Atorvastatin (Lipomax)	Restricted to FM Consultants, Cardiologists, Endocrinologists, Internal Medicine Consultants-primary care
.31	Azathioprine 50mg tablet (Imuran)	Restricted to Adult and Pediatric Nephrologist, Ophthalmologist, Dermatologist and Rheumatologist.
.32	Bendamustine vial	Oncology & hematology
.33	Belimumab(benlysta)	Restricted to rheumatology
.34	Benztropine (Cogenta) tablet	Restricted to Psychologist & Neurologist
.35	Brimonidine eye drops (Alphagan)	Restricted to ophthalmologists
.36	Budesonide+formoterol turbohaler (Symbicort)	Restricted to Pulmonologist for the Management of Asthma
.37	Cabergoline 0.5mg tablet (Dostinex)	Restricted to Endocrinology, Consultant Ob /Gyn
.38	Chorionic gonadotrophin 5000 I.U injection (Pregnyl)	Restricted to obe/gyne consultant.
.39	Cinacalcet 30 mg (Mimpara)®	Restriction to Nephrologist
.40	Cisatracurium (Nimbex)	Restriction to Anesthesia, ICU
.41	Clonazepam tablets ((rivotril))	Restricted to consultant Psychiatrists and Neurologists.
.42	Clostridium botulinum type a neurotoxin complex (900 kd)	Physiatrist Neurology Dermatology (for Hyperhydrosis) Plastic surgeons Ophthalmology
.43	Cyclophosphamide (Endoxan)	Restricted to Rheumatologist & Hematologist.
.44	Cyclosporine (Neoral)	Restricted to Adult and Pediatric Nephrologist, Ophthalmologist, Dermatologist and Rheumatologist.
.45	Daunorubicin vials	Oncology & hematology physician -
.46	Doxorubicin	Oncology & hematology physician -
.47	Dabigatran 75 mg (paradox)	Restriction to Hematology Consultant and Cardiologist
.48	Darbepoetin injection (Aranesp)	Restriction to Hemodialysis and Hematology Consultant
.49	Desmopressin (Minirin)	Restriction to Pediatric Consultants, Endocrinologists, Urologists
.50	Dorzolamide and timolol eye drops (Cosopt)	Restricted to Ophthalmologists.

.51	Dutasteride (Avodart)(Dusta)	Restricted to urology specialist & consultant- Andrology-Endocrinologists
.52	Eszopiclone(Zonam)	Restricted to Psychologist & Neurologist
.53	Effexor / Venlafaxine	Restricted to Psychiatry
.54	Entecavir (Baraclude)	Restricted to Gastroenterologist and Hepatologist.
.55	Escitalopram (Cipram)(Cipralex)	Restricted to psychiatrists& Neurologist. Note: could be prescribe by Gastroenterologist for treatment for irritable bowel syndrome after fill citalopram off label form each time of prescribing as consider (formulary medication for non-approved indication). Privilege open for Endocrinology , cardiology and primary care .
.56	FINASTERIDE 5MG TABLET (Proscar)	Restricted to Urologist
.57	Fluoxetine (Prozac)	Restricted to Psychiatrists, Neurologists, urologists and internal medicine-primary care .
.58	Fluvoxamine (Faverin)	Restricted to Psychiatry Consultants, primary care Consultants, Neurology Consultants
.59	Gabapentin (Gapentin)	Restricted to Neurology, Endocrinology, Internal Medicine, Anesthesia consultants working in Pain Clinic (For treatment of neuropathic pain) Primary care consultant .
.60	Indomethacin 1 mg Injection (Ductaclose)	Restricted to neonatologists.
.61	Lamotrigine Tablets (Lamictal)	Restricted to neurologists. Psychiatrists may prescribe lamotrigine for continuation of seizure control provided therapy is initiated by Neurologists.
.62	Latanoprost eye drops (Xalatan)	Restricted to ophthalmologists
.63	Levetiracetam Tablets (Keppra)	Restricted to Consultant
.64	Levodopa-Carbidopa Controlled Release Tablets (Sinnemet)	Restricted to neurologists and internal medicine-primary care .
.65	Intralipid (lipofundin)20%	Anesthesia department requested as approved medication for unapproved indication form for local toxicity
.66	Luspatercept	Restricted to hematology physician
.67	Linaclotide(Linzess)	Restricted to gastrologist ,IM and oncology
.68	Memantine 10mg tablet (Ebixa)	Restricted to Neurologists in treating patients with Alzheimer's, Psychiatrist.

.69	Mesalazine tablet (400mg, 500mg) (Pentasa)	Restriction to Gastro only
.70	Metoprolol 50 mg (Lopresor)	Restriction to cardiologist, internal medicine.- primary care
.71	Montelukast sodium 10mg tablet (Airfast)	Restriction to Pulmonologists
.72	Mycophenolate 500mg tablet (Cellcept)	Restricted to Transplant services, Nephrology, Pulmonary& Hepatobiliary
.73	Octreotide (Immediate release IV Injection) (Sandostatin)	Restricted to gastroenterologists, General Surgery internal medicine Consultants & Endocrinologist-primary care
.74	Olanzapine 10mg tablet (Olazine)	Restricted to Psychiatrist and Neurologist
.75	Oral contraceptive	Restricted to Ob/GYN
.76	Oral Hypoglycemic agents (e.g. Sitagliptine (Januvia) Gliclazide (Diamicron) Metformin (Metfor))	Restricted to Endocrinologist and Internist. Metformin is also can be prescribed by consultant Gynecologist-primary care
.77	Oxytocin Injection (Syntocinon)	Restricted to Gynecologist and Obstetrician.
.78	Paroxetine Tablets (Seroxat)	restricted to psychiatrists, urologists, internal medicine and neurologists-primary care
.79	Phenoparbiton syrups	Restricted to pediatric and neurologist consultants.
.80	Polatuzumab Vedotin(Polivy)	Oncology & hematology physician -
.81	Propofol Injection	Restricted to anesthesiologists and ICU-physician
.82	Quetiapine tablets (Atapina)	Restricted to psychiatrists & internal medicine - primary care
.83	Ubrogepant (Ubrelvy)	Restricted to neurologist
.84	Rifaximin 200mg/TAB	Restricted to Gastrologist
.85	Risperidone (Ridon)	Restricted to psychiatrists and neurologists
.86	Romosozumab(Evenity) prefilled syringe	Restricted to Endocrinology
.87	Seretide (Fluticasone + Salmeterol)	Restricted to Pulmonologist
.88	Sevelamer hydrochloride 800mg tablet (Renvela)	Restricted to Nephrologist Consultant
.89	Somapacitan (Sogroya)	Restricted to endocrinology physician
.90	Streptokinase (Sedonase)	Restricted to cardiologists
.91	Sulfasalazine	Restricted gastro, ortho and internal medicine specialist and consultant.-primary care
.92	Fam-trastuzumab derextecan(Enhertu)vial	Restricted to hematology oncology physician

.93	Pertuzumab/Trastuzumab(Phesgo)	Restricted to hematology oncology physician
.94	Tacrolimus 0.5mg capsule (PROGRAF)	Restricted to hepatologists and liver transplant surgeons, nephrologists and kidney transplant surgeons for prophylaxis
.95	Tadalafil	Restricted to Urologists and cardiology High-altitude pulmonary edema (adjunctive therapy) (alternative agent) pulmonologist)/cardiololabelgist off label use
.96	Tamsulosin (Omic Ocas)	Restricted to Urologists
.97	Tenecteplase 10,000 IU injection	Restricted to cardiologists for the treatment, of acute MI & clotted valves.
.98	Tucatinib (Tukysa)	Oncology & hematology physician -
.99	Trifarotene (Aklierf)	Restricted to dermatology -
100	Upadacitinib (rinvog)	Restricted to rheumatology and GI doctors
101	Voxelotor(oxbryta)	Restricted to hematology physician
102	Zoledronic acid 5mg injection 100ml/vial (Zometa)	Restricted to Endocrinologist, and Ortho and Rheumatologist
103	Zoledronic acid 5mg /100ml vial (Aclasta)	Restricted to Endocrinologist, and Ortho and Rheumatologist
104	Teriparatide 20mcg/80 microliter 2.4ml prefilled pen (Forteo)	Restricted to Endocrinologist, and Ortho and Rheumatologist
105	Denosumab 60mg/ml prefilled syringe (Prolia)	Restricted to Endocrinologist, and Ortho and Rheumatologist
106	Alendronate sodium (Alendro)-(osteve)	Restricted to Endocrinologist, and Ortho and Rheumatologist
107	Tralokinumab	Restricted to dermatology and immunology
108	Psychotropic medication that under narcotic and controlled medication for non psychiatric cases Diazepam -clonazepam -Bromazepam	Restricted to psychiatrists and Neurology .-primary care consultant For Diazepam (Valium) tab also for orthopedic for muscle spasms – before radiation procedure if required and for ER physician injection form -
109	Total Parenteral Nutrition (TPN)	Specialist and Consultants
110	Venetoclax (venclexta)	Oncology & hematology physician -
111	Radioactive medication for treatment	Nuclear medicine physician -
MUSCLE RELAXANT GROUP		
	Cisatracurium (Nimbex) injection	Restriction to Anesthesia, ICU physician

Suxamethonium chloride injection Rocuronium bromide injection(Esmeron) Atracurium besylate injection(Atacure) Succinylcholine chloride injection	
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Updated By:

Dr. Hanan Shaban
Narcotic and control medication supervisor

Review:

Dr. Howida abdullah
Manager inpatient pharmacy service

Approved:

Dr. Batool Mohammed
Group director inpatient pharmacy service –
P&T Committee Chairman

FORMULARY ADDITION REQUEST FORM

(Please read the instructions on the reverse side before filling the form)

I. REQUESTED DRUG DETAILS:

Generic (Scientific) Name	
Trade (Brand) Name	
Therapeutic Class	
Dosage Form	
Strength	

II. DESCRIPTION OF USE:

Uses	Labeled Indications: <hr/> <hr/> <hr/> Off label: <input type="checkbox"/> Yes <input type="checkbox"/> No Specific population: _____ Age: <input type="checkbox"/> Adult <input type="checkbox"/> Geriatrics <input type="checkbox"/> Pediatrics <input type="checkbox"/> infants <input type="checkbox"/> Premature Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> both genders Setting: <input type="checkbox"/> Inpatient <input type="checkbox"/> Outpatient <input type="checkbox"/> Daycare
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III. JUSTIFICATION FOR FORMULARY ADDITION:

IV. OTHER INFORMATION:

Should the usage of this drug be restricted to certain members of the medical staff, or specialty, or location?

No

Yes

If yes, who? _____

Have you received research support or other incentives from the manufacturer of this drug?

No

Yes

If yes, please explain

Are you involved in a research study or an evaluation of drug samples of this drug?

No

Yes

If yes, please explain

What is the estimated usage per patient? [may indicate by treatment course, monthly or annually].

Do you suggest the deletion of any formulary drug if this drug addition request is approved?

No

Please state the reason(s) for maintaining the current formulary product.

Yes

Please specify name of the drug and the reason for the proposed deletion.

V. Reference of the drug (evidence based): Upload data with the request.

Provide a copy of the supportive literature in the form of published studies in peer –reviewed journals and clinical practice guidelines if available. (Abstract presentations, and promotional literature by pharmaceutical companies are not acceptable).

Requested By		Signature		Date	
Approval by Head of Department		Signature		Date	

Pharmacy Supervisor		Signature		Date	

For Pharmacy and Therapeutic Committee Use

VI. Need Approval (RCM)

No

Yes

VII. Suggested Approval:

Planned

Semi-Specific

Specific

VIII. Manufacture Company (name): _____

IX. Supplier (name): _____

Reviewed By		Signature
Clinical Pharmacist		
Pharmacy Manager		
P&T Committee Chairman		

FORMULARY DELETION REQUEST FORM

This form is to be completed in detail, legibly, and forward to the Pharmacy Services Department.

Trade name: _____	
Generic Name : _____	
Therapeutic Classification:	Strength:
Reason for Deletion: _____	
Deletion Requested by : _____	
Level of specialty: _____	
Signature: _____ Date: _____	
Pharmacy supervisor Comments: _____ _____	
Pharmacy supervisor name: _____	
Signature: _____ Date: _____	
Approval and Comments (Medical Director): □ Approved □ Disapproved Comments: _____ _____	
Medical Director Name: _____	
Signature: _____ Date: _____	
Name-Chief of Pharmacy Services: _____	
Signature: _____ Date: _____	

Pharmacy Important Policies & Procedures

CODE	TITLE OF POLICY	DATE ISSUED	DATE EFFECTIVE	REVIEW DATE
DP-PHA-015	Storage Of Medications/Nutrition Products In The Pharmacy	21-5-2024	26-5-2024	26-5-2027
DP-PHA-056	Auditing Narcotic & Controlled Medications In The Narcotic Pharmacy (Inpatient-Outpatient)	8-1-2023	22-1-2023	22-1-2026
DP-PHA-059	Narcotic And Controlled Medication Destruction Of Narcotic And Controlled Substance	4-2-2024	18-2-2024	18-2-2027
IP-PHA-004	Drug Formulary - Development And Maintenance	7-1-2024	21-1-2024	21-1-2027
IP-PHA-005	Formulary Addition And Monitoring Of Drugs Newly Added To The Formulary Policy	7-1-2024	21-1-2024	21-1-2027
IP-PHA-006	Formulary Deletion Policy	7-1-2024	21-1-2024	21-1-2027
IP-PHA-007	Using Formulary Drugs For Unapproved Indication (Off Label Medication)	10-3-2024	24-3-2024	24-3-2027
IP-PHA-008	Procurement Of Non-Formulary Medication	10-3-2024	24-3-2024	24-3-2027
IP-PHA-009	Out-Of-Stock Medication Management	28-1-2024	11-2-2024	11-2-2027
IP-PHA-010	Medications Brought From Home (Patient Own Medication)	4-2-2024	18-2-2024	18-2-2027
IP-PHA-011	Investigational Drugs (Clinical Trials)	7-1-2024	21-1-2024	21-1-2027
IP-PHA-012	Radioactive Drugs	6-1-2024	21-1-2024	21-1-2027
IP-PHA-013	Sample Medications	10-3-2024	24-3-2024	27-3-2027
IP-PHA-014	Drug Recall	14-1-2024	28-1-2024	28-1-2027
IP-PHA-016	Storage Of Medications In Patient Care Areas	9-6-2024	23-6-2024	23-6-2027
IP-PHA-017	Floor Stock Medication	7-1-2024	21-1-2024	21-1-2027
IP-PHA-018	Use Of Multi-Dose Containers Guidelines	7-1-2024	21-1-2024	21-1-2027
IP-PHA-019	Handling Expired Medicines In Pharmacy Dispensing Areas	12-5-2024	26-5-2024	26-5-2027
IP-PHA-020	Handling Expired Drugs In Patient Care Areas Policy	9-6-2024	23-6-2024	23-6-2027
IP-PHA-022	Authorized Prescriber & Prescribing Privileges	12-5-2024	26-5-2024	26-5-2027
IP-PHA-023	Prescribing And Ordering Of Medication	15-9-2024	29-9-2024	29-9-2027

IP-PHA-024	Medication Reconciliation	10-3-2024	24-3-2024	24-3-2027
IP-PHA-025	Appropriateness Review Of Medication Order	10-3-2024	24-3-2024	24-3-2027
IP-PHA-026	Medication Order Clarification & Intervention	7-1-2024	21-1-2024	21-1-2027
IP-PHA-027	Medication Error And Its Reporting	10-3-2024	24-3-2024	24-3-2027
IP-PHA-028	Total Parenteral Nutrition (Tpn)	7-1-2024	21-1-2024	21-1-2027
IP-PHA-029	Automatic Stop Orders	10-3-2024	24-3-2024	24-3-2027
IP-PHA-032	Chemotherapy: Ordering, Storage, Preparation And Handling	7-1-2024	21-1-2024	21-1-2027
IP-PHA-033	Storage, Handling, Preparation And Management Of Hazardous Material (Medications & Chemicals)	19-5-2024	2-6-2024	2-6-2027
IP-PHA-034	Medication Labelling	7-1-2024	21-1-2024	21-1-2027
IP-PHA-035	Dispensing Policy (Inpatient, Outpatient, And Discharge Patients)	12-5-2024	26-5-2024	26-5-2027
IP-PHA-038	Patient Education And Counselling	8-1-2023	22-1-2023	22-1-2026
IP-PHA-039	Disposal Of Medication	7-1-2024	21-1-2024	21-1-2027
IP-PHA-040	High Alert Medication	5-5-2024	19-5-2024	19-5-2027
IP-PHA-041	Look Alike Sound Alike Drugs (Lasa)	4-8-2024	18-5-2024	18-8-2027
IP-PHA-042	Antimicrobial Policy	21-5-2023	4-6-2023	4-6-2026
IP-PHA-043	Non-Preventable Adverse Drug Events	7-1-2024	21-1-2024	21-1-2027
IP-PHA-044	List Of Standard Emergency Medications	7-1-2024	21-1-2024	21-1-2027
IP-PHA-045	Storage, Maintenance, Security And Accountability Of Emergency Medications	7-1-2024	21-1-2024	21-1-2027
IP-PHA-046	Emergency Medications System. Preparation, Replacement And Monitoring Of Emergency Medications	23-11-2023	6-12-2023	6-12-2026
IP-PHA-047	Emergency Medications System. Emergency Medication Bag	7-1-2024	21-1-2024	21-1-2027
IP-PHA-048	Emergency Medications System (Medication Kits).	22-9-2024	6-10-2024	6-10-2027
IP-PHA-049	Narcotic And Controlled Medication Management Of Narcotic & Controlled In Patient Areas	5-1-2023	19-1-2023	19-1-2026
IP-PHA-051	Narcotic And Controlled Medication In-Patient And Outpatient Distribution Sys	12-1-2023	26-1-2023	26-1-2026

IP-PHA-052	Narcotic And Controlled Medication Storage Of Narcotic And Controlled Medications.	12-1-2023	26-1-2023	26-1-2026
IP-PHA-053	Prescribing Of Narcotics And Controlled Medications	7-1-2024	21-1-2024	21-1-2027
IP-PHA-054	Narcotic And Controlled Medication Dispensing Narcotic And Controlled To Inpatient Areas-Outpatient Narcotic	15-5-2024	30-5-2024	30-5-2027
IP-PHA-055	Documentation Of Administration Of Narcotic And Controlled Medication	15-5-2024	30-5-2024	30-5-2027
IP-PHA-057	Auditing, Shift Inventory, And Suspected Discrepancies Of Narcotic & Controlled Substances In Inpatient Areas.	7-1-2024	21-1-2024	21-1-2027
IP-PHA-058	Return Of Narcotic And Controlled Medications To Pharmacy From Inpatient Areas	27-5-2024	10-6-2024	10-6-2027
IP-PHA-062	Antibiotics Prophylaxis Policy	10-9-2023	24-9-2023	24-9-2026
IP-PHA-065	Medication Use Evaluation Policy	3-12-2023	17-12-2023	17-12-2026
IP-PHA-066	Handling Of Concentrated Electrolytes Medications	11-6-2023	25-6-2023	25-6-2026
IP-PHA-067	Return Of Medication In Outpatient Setting	24-1-2022	7-2-2022	7-2-2025
IP-PHA-069	Drug Information Center Policy	29-5-2024	12-6-2024	12-6-2027
IP-PHA-072	Collaborative Practice Agreement Medication Therapy Management Services	21-7-2024	4-8-2024	4-8-2027

Pharmacy Therapeutic Guidelines & Protocols

1. **GL-PHA-001** Warfarin Therapeutic Drug Monitoring
2. **GL-PHA-002** Adult Therapeutic Drug Monitoring (TDM) (Vancomycin & Aminoglycosides)
3. **GP-PHA-003** Pediatrics Therapeutic Drug Monitoring Guideline
4. **GL-PHA-004** Antimicrobial Stewardship Guidelines
5. **GL-PHA-005** Neonatal Critical Care Drugs Dosing
6. **GL-PHA-006** Anticoagulation (Unfractionated Heparin and LMWH) dosing and monitoring
7. **GL-PHA-007** Pediatric Critical Care Drugs Dosing
8. **GL-PHA-008** Management of Pain, Sedation, Agitation, Neuromuscular Blockade, and Delirium in Critically Ill Pediatric Patients
9. **PRO-001** Administration protocol of 5% Intravenous Immune Globulin (IVIG)
10. **PRO-002** Administration protocols of 10% Intravenous Immune Globulin (IVIG)
11. **PRO-003** Iron Administration Protocol
12. **PRO-004** Administration Protocol of 5% and 10% Human Immunoglobulin in Pediatrics
13. **PRO-005** Antibiotics and Antiepileptics Administration in Adult on Regular Hemodialysis
14. **PRO-006** Digoxin Dosing and Monitoring Protocol for Adult
15. **PRO-007** Infliximab Pediatrics Protocol
16. **PRO-008** Amoxicillin/Clavulanate Dosing Protocol in Pediatrics

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