9.1 History of pharmacy

action	فعل	Combines	يجمع	Decided	مقرر
greece	اليونان	Greeks	اليونانيين	hygiene	صحة
Injury	إصابة	Pharmacist	صيدلي	pharmacy	صيدلية
Sick	مريض	treat	علاج	Wound	جرح

في الماضي، كانت الصيدلة جزءًا من الطب. قد أصبح علماً منفصلاً ومستقلاً خلال العصر الذهبي الإسلامي (القرن الثامن حتى القرن الرابع عشر)، ومنذ ذلك الحين تطور كثيراً، وفي أيامنا هذه أصبح للصيدلة أنواع وتخصصات مختلفة.

لقد ساعد تطور الصيدلة في علاج الأمراض، وتحسين نوعية الحياة، وأنقذ أرواح. في الماضي كانت العديد من الأمراض تسبب الوفاة للإنسان، أما اليوم فيمكن التحكم في هذه الأمراض وعلاجها بفضل علم الصيدلة.

What is pharmacy?

Pharmacy is the science of collecting, preparing and dispensing drugs.

It's clinical health science that combines medical science, chemistry and biology.

Pharmacy is the study of drug action and the effects that those drugs have on our body.

dispensing : صرف/توزيع giving drugs or medicines following what a doctor has written or recommended (prescription)

Pharmacy started in ancient (old) Greece, Rome, Middle East, Egypt, India and China.

In history, **the first time it was discovered that a person was treated using a drug, was in** ancient (old) Greece by Asclepius and Hygeia. It is said that they used a plant to treat a wound (injury). They were considered the Master of Medicine, health and hygiene.

Pharmacies use a symbol of a bowl and a snake; it came from Greeks Asclepius and Hygeia.

In ancient (old) Egypt, India and China, physicians (doctors) started treating sick people using natural plants and herbs. Some of those plants and herbs are still being used nowadays to make medicines.

However, in ancient Egypt a small separation between pharmacy and medicine happened. some physicians would visit sick people and other physicians would prepare treatments and wait for sick people to visit them.

herbs : أعشاب a plant or a part of a plant that is used to make medicines

خلال العصر الذهبي الإسلامي القرن 8 إلى القرن 14 ،
حدث الفصل بين الصيدلة والطب. كان لدى العلماء والأطباء المسلمين الكثير من المعرفة في الكيمياء وعلم النبات.
ساعدهم ذلك على اكتشاف طرق مختلفة لإعداد الأدوية ، كما كتبوا الكثير من الكتب ، والتي استخدمها العلماء في أوروبا لاحقًا.

كان الرازي طبيبا وعالما وفيلسوفا مسلما. خلال العصر الذهبي الإسلامي ، كان أول من كتب كتبا تعتمد على العلاجات المنزلية. ساعدت معرفته في تطوير الصيدلة وفصلها عن الطب

تم إنشاء الصيدليات الأولى التي كانت موجودة في العالم خلال العصر الذهبي الإسلامي في مدينة بغداد.

بدأت معرفة الصيدلة تنتشر في جميع أنحاء العالم بسرعة كبيرة من خلال ترجمة الكتب التي كتبت باللغة العربية خلال العصر الذهبي الإسلامي.

في القرن 16، تم إنشاء قانون لا يسمح للأطباء بإعداد الأدوية لمرضاهم. كان الصيادلة هم المهنيون الوحيدون المسموح لهم بإعداد الأدوية.

botany : علم النبات the part of biology that studies everything about plants, such as their structure, classification, properties, diseases and interaction with the environment

pharmacist : صيدلي a healthcare professional specialised in preparing, using, storing, and providing medicine

Types of pharmacists

Nowadays, the responsibility of a pharmacists depends on which type of pharmacy they practice, and if they are specialised in an area of treatment.

- There are different types of pharmacy where a pharmacist can work, some of these include:

Community pharmacist

work in a pharmacy where you would go to buy medicines.

Clinical pharmacist

work in hospitals with doctors and nurses. They decide and advise which treatment each patient needs to improve.

Home care pharmacist

responsible for preparing and sending medication to people who are home as they are very sick or old.

Research pharmacist

develop new drugs.

All types of pharmacy

- Community pharmacy
- Hospital pharmacy
- Clinical pharmacy
- Compounding pharmacy
- Consulting pharmacy
- Ambulatory pharmacy
- Regulatory pharmacy
- Home care pharmacy
- Research pharmacy
- Online pharmacy

- Hospital pharmacists can also specialise in different areas, such as oncology (cancer), geriatric (old age), paediatric (infants and children) and psychiatry (mental health disorders).

9.2 Pharmacology

absorption	استيعاب	Activated	مفعل	Cell	خلية
differs	يختلف	Disease	مرض	distribution	توزيع
Excretion	إفراز	Formulating	صياغة	handling	معالجة
Interacts	يتفاعل	intracellular	داخل الخلايا	Knowledge	معرفة
Metabolism	الاستقلاب	microorganisms	الكائنات الدقيقة	Purposes	المقاصد
related to	متعلق ب	Rid	يتخلص	Safer	أكثر أمانًا
selling	يبيع	Supporting	دعم	surface	سطح

Pharmacology علم العقاقير Prefix: pharma – drugs Suffx: logy – study of

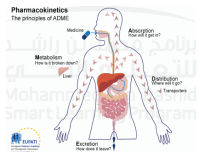
you can understand the meaning of "pharmacology" using its prefix and suffix.

Pharmacology is the science that studies everything related to drugs. What drugs are made of, how those work in the body, their effects and interactions.

The practice of pharmacy requires a very good knowledge of drugs.

Pharmacology focuses on studying drugs & focuses more on selling, distributing or handling drugs.

Pharmacology divided in 2 areas of study :		ينقسم علم الصيدلة إلى مجالين للدراسة
Pharmacokinetics الدوائية		pharmacodynamics الديناميكا الدوائية



Pharmacokinetics Break it down: Phar-ma-co-ki-net-ics

the study of what the **body** does to the drug.

4 stages of pharmacokinetics :-						
absorption		**distribution**		**metabolism**		**excretion**
How the medicine gets into the body		Where the medicine goes in the body		What the body does to the medicine		How the body gets rid of (removes) the medicine

Pharmacodynamics Break it down: Phar-ma-co-dy-nam-ics

the study of what the **drug** does to the **body**.

The most important points to consider in pharmacodynamics are:		
What does the drug do to the body?	What receptors are activated?	What other effects does the drug have?

factors influence pharmacodynamics :			
Patient age	Disease type	Pregnancy الحمل	Other drugs in the body

Receptors المستقبلات

Receptors are the parts of a cell that connect to a substance and cause a chemical reaction in that cell. المستقبلات هي أجزاء من الخلية تتصل بمادة ما وتسبب تفاعل كيميائي في تلك الخلية

There are many types of receptors for different purposes.

receptors can be outside (cell surface receptors**) or inside (**intracellular receptors**)** the cell.

When a drug enters the body, it interacts with receptors, the level of the response differs.

There are 3 levels of response:

Full agonist : When a drug connects to a receptor and produces a maximum effect

Partial agonist : When a drug connects to a receptor and produces less than a maximum effect

Antagonist : When a drug connects to a receptor, but there is no effect

Drug, medicine and excipient

"drug" and "medicine" in pharmacy have different meanings from each other.

Drugs : chemical substances that are taken from plants, animals, microorganisms, or minerals. **considered ingredients** تعتبر مكونات. not used directly as a treatment.

Medicines are used directly as a treatment, for example: medicines can treat pain or cure an infection. **the result of a drug, or drugs being mixed**, sometimes with an excipient or without it.

Excipients are used when making medicines. An excipient helps formulating, protecting, or supporting a medicine. Excipients make medicines safer for us to use. Most medicines have excipients added to them.

9.3 Routes of administration

absorption	امتصاص	Asthma	ربو	Factors	عوامل
forms	أشكال	Formula	صيغة	infection	عدوى
Infusion	نقيع	Inhaler	المستنشق	injections	الحقن
Liquids	سوائل	method	أسلوب	Relief	تخفيف
Routes	طرق	vein	وريد	Wafers	رقائق

Routes of administration tells us how the drug has entered the body

administration : to provide or give something

(Some drugs are taken by mouth, such as tablets like Panadol)

(People who have asthma use an inhaler)

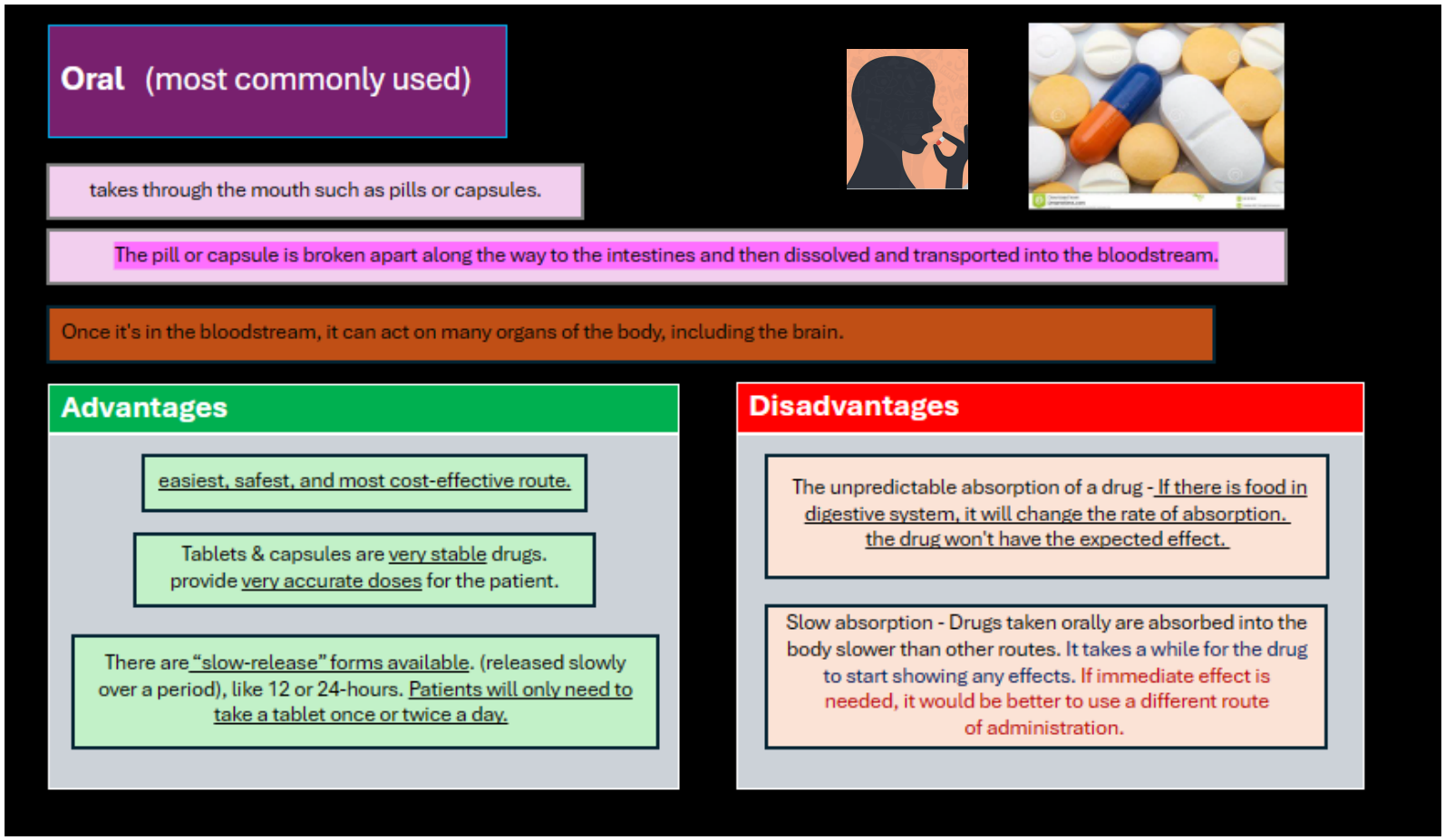
(Some people have used gels or creams as pain relief or to stop an infection)

(Medication can be given intravenously (injected into a vein) in a hospital or clinic.)

Each drug has a specific method in which it should enter the body.

The route used depends on 3 main factors:		
What part of the body is being treated	How the drug works within the body	The formula of the drug

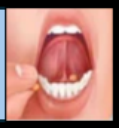
It's important to understand the different routes & how it can affect absorption of a drug.



Sublingual and buccal (not common)

These are 2 methods of giving medication via mouth. used in emergencies, for example during a heart attack.

Sublingual administration
drug placed under the tongue. It will dissolve and absorb into the blood through the tissue under the tongue.



Buccal administration
drug placed between the gum and cheek. Here it will be dissolved and absorbed into the blood.

These areas of the mouth have a lot of small blood vessels. very fast absorption because it doesn't have to go through the digestive system.

Advantages:
~ Lower doses can be given because the drug goes straight into the bloodstream.
~ If a patient is unable to swallow tablets, this route is a good alternative.
~ If oral tablets cause the patient to suffer from side effects such as nausea, using the sublingual route is an easier alternative (way).

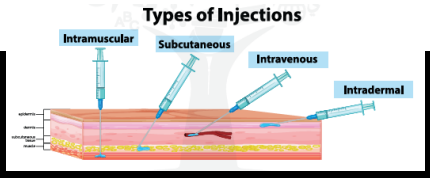
Disadvantages:
~ It can be uncomfortable to hold a small tablet in their mouth for a long time.
~ A patient can accidentally swallow the drug. This will take longer to have the wanted effects. Another dose cannot be given as this can lead to an overdose.
~ If the patient eats or drinks while the tablet is in their mouth, it can affect how the drug is absorbed and how well it works.

Topical

cream or gel applied directly to the area that needs treatment. used when the area needed to be treated is easy to reach. includes areas such as the skin, eyes, ears, and nose.

Advantages	Disadvantages
Easy to apply for any age.	Absorption can be slow.
Low risk of side effects and affecting other drugs.	Not well absorbed into deeper layers of the skin.
Good if treatment is only needed in the specific area.	Creams and ointments applied to the skin can stain clothes.

Parenteral



The most common type of parenteral administration is the use of injections.
There are 4 different types of injection, these are:

Intradermal

substance is injected into layers of skin.
for example, allergy testing

Intravenous

drug is injected into the bloodstream through a vein.
for example, saline 0.9% infusion

Subcutaneous

drug is injected into the fat layer under the skin.
for example, insulin

Intramuscular

drug is injected into the muscle.
for example, vaccines

Advantages

~ The drug action is faster (suitable use in emergency).

~ useful in unconscious patients.

~ suitable when orally administered drugs don't work.

Disadvantages

~ require aseptic (clean) conditions and preparation should be sterile.

~ equipment is expensive.

~ can be dangerous if administered incorrectly.

~ technique can be uncomfortable or painful for the patient.

~ Most injections cannot be self-administered as they require a trained medical professional.

the time taken for each route of administration to have an effect:

Route of administration	Time until effect
Oral	20 minutes - 1 hour
Sublingual and buccal	3 - 5 minutes
Topical	Variable (minutes to hours)
Subcutaneous	15 - 30 minutes
intravenous	30 - 60 seconds
intramuscular	10 - 20 minutes

Routes of administration and forms of medication:

Oral medication		Sublingual and buccal medication		Topical medication			Parenteral medication
Capsules	Liquids	Small tablets	Films	Creams	Lotions	Gels	Injections
Pastilles	Powder	Wafers	Sprays	Ointments	Sprays	Liquids	Infusion

9.4 Antibiotics

antibiotics	المضادات الحيوية	Applied	مُطبق	Available	متوفر
complication	تعقيد	Destroy	دمر	fight	قاتل
Illegal	غير شرعي	Immune system	الجهاز المناعي	overuse	الافراط
Prescription	وصفة طبية	range	نطاق	Reduces	يقلل
Resistance	المقاومة	significantly	كبيرة	Symptoms	الأعراض
Treat	عالج	Useless	عديمة الفائدة	usually	عادةً

What are antibiotics?

Break it down: An-ti-bi-ot-ics

medicines that destroy or slow the growth of bacteria.

include a range of strong drugs and treat diseases which are caused by bacteria.

Antibiotics cannot fight viral infections such as the common cold or COVID-19.

Normally when bacteria multiply (become more) in the body, the immune system can kill them and fight the infection. However, sometimes the body's immune system cannot fight all the bacterial cells by itself.

When antibiotics are used properly, they can cure infection and they can save lives.

Did you know? There are now many antibiotics available.

The first ever used antibiotic was penicillin. It was discovered in 1928 and it's still very used nowadays.

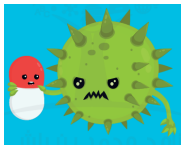
In the **UAE**, you can only get antibiotics with a prescription from the doctor. It's illegal to buy antibiotics without a prescription.

Using antibiotics

People usually take antibiotics orally. They can also be administered via an injection or directly applied to the infected part of body.

Most antibiotics begin fighting bacteria within a few hours.

It's important to complete the whole course of medication even after symptoms of the infection have improved, even if you feel well. By doing this, **it reduces the risk that bacteria will become resistant to the antibiotics.**

Antibiotic resistance 

resistance : stopping something from having an effect

Overuse of antibiotics is making more bacteria resistant to antibiotics (antibiotics becomes useless against the bacteria) because the bacteria have improved their defences therefore are not destroyed by the antibiotic.

Antibiotics should only be prescribed to treat conditions :
That are unlikely to be cured without antibiotics.
that could spread if not treated.
where antibiotics can significantly speed up recovery time.
where the risk of not prescribing antibiotics can lead to more dangerous complications.

Side effects of antibiotics

side effect آثار جانبية : a harmful and unwanted effect of a drug that happens alongside the desired effect

الآثار الجانبية لا تحصل دومًا، يختلف خطر الشعور بالآثار الجانبية من شخص لآخر.

Chances of feeling side effects from medication will depend on the drug, and if it has been taken following the advice of a doctor or pharmacist.

Some medications show side effects in more than **1 out of every 10** people.

Other medications only show side effects in **1 out of every 10,000** people.

Side effects range from **mild** to **life-threatening** conditions, although these are very rare.

Antibiotics can cause the following common side effects:				
diarrhoea إسهال	nausea غثيان	vomiting قيء	rash طفح	upset stomach معدة مضطربة

Less common side effects:			
kidney stones حصى الكلى	blood clotting تجلط الدم	blood disorders اضطرابات الدم	bowel inflammation التهاب الأمعاء

الآثار الجانبية لأي دواء تختلف عن وجود رد فعل تحسسي تجاه هذا الدواء.

allergic reaction : رد فعل تحسسي

9.5 Latin abbreviations in pharmacy

abbreviation	اختصار	Cancer	سرطان	Communicating	التواصل
diagnosis	التشخيص	Errors	أخطاء	experiments	تجارب
Instead of	بدلًا من	Interpreting	تفسير	lead to	يؤدي إلى
Manage	أدار	most commonly	أكثر شيوعًا	Toxic	سامة

Abbreviations in healthcare

abbreviation : a shortened form of a word or name that is used instead of the full word or name.

Abbreviations commonly used in healthcare.

Healthcare professionals mostly use them in written form. مثل لما الدكتور يكتب وصفة للمريض او لما متخصصين الرعاية الصحية يكتبو تقرير طبي للمريض

Abbreviations may also be used when healthcare professionals are communicating with each other regarding a patient's diagnosis or treatment.

Importance of interpreting abbreviations correctly

very important for all healthcare professionals, including pharmacists. *A correct interpretation can guarantee that patients are safe. Not interpreting abbreviations correctly can be very dangerous for patients as it can lead to medication errors*, such as underdosing or overdosing.

underdosing : جرعة أقل happens with a patient takes less of a medication than is recommended or prescribed

overdosing جرعة زائدة : when a patient takes more than the normal or recommended amount of a medication

Overdosing is very toxic for the patients, and it can even lead to death.

Common abbreviations used in healthcare:

Measurements	
Abbreviation	Meaning
kg	kilogram
g	gram
mg	milligram
mcg	microgram
ml	milliliter
tsp	Teaspoon (5ml) ملعقة صغيرة

Routes of administration	
Abbreviation	Meaning
IM	intramuscular بالعضل
IV	intravenous وريديًا
PO	by mouth
SC	subcutaneous تحت الجلد
SL	sublingual تحت اللسان
TOP	topical موضعي

Other abbraviations	
Abbreviation	Meaning
Dr.	doctor
XR	X-ray
Dx	diagnosis
Sx	symptom
Tx	treatment
FBC	full blood count تعداد الدم الكامل
BP	blood pressure ضغط الدم

Latin abbreviations in pharmacy mostly used in prescriptions.

abbreviations are usually shortenings of words or sentences originally written in Latin.

Latin abbreviations are common in drug prescriptions as **Latin language was the first language used in** research, experiments and academic writing by healthcare professionals.

Common Latin abbreviations used in prescriptions:

Prescriptions		
Abbreviation	Latin	Meaning
Rx	praescriptus	prescription
ac	ante cibum	before meals
pc	post cibum	after meals
hs	hora somni	at bedtime
prn	pro re nata	as needed
stat	statim	give now
ad	ad libitum	as desired/wanted
bid	bus in die	twice a day
tid	ter in die	three times a day
qid	quarter die sumendus	four times a day

Some prescriptions might have Roman numbers instead of English or Arabic numbers. For example number 1 written as “i or I”, number 2 written as “ii or II”.

Examples of prescriptions written using Latin abbreviations:

Prescription: “Rx Captopril 25mg, i, SL, STAT, high BP”

Interpretation:

“Prescription: Captopril 25 milligrams, one tablet, sublingual, give now. This medication is being administered because the patient has high blood pressure”

Prescription: “Rx Ondansetron 4mg, IV, qid, PRN, nausea”

Interpretation:

“Prescription: Ondansetron 4 milligrams, intravenous, four times a day, if needed by patient. This medication should be administered if the patient experiences nausea.”

Prescription: “Rx Dexamethasone 4mg, ii, PO, bid, cancer Sx”

Interpretation:

“Prescription: Dexamethasone 4 milligrams, 2 tablets, by mouth, twice a day. This medication is being prescribed to manage cancer related symptoms”

9.6 Measurements and formulas

amount	كمية	Conversions	التحويلات	Convert	يتحول
desired	مرغوب	Dose	جرعة	equals	يساوي
equation	معادلة	fill	يملأ	fractions	الكسور
liquid / fluid	سائل	measurements	قياسات	mixtures	مخاليط
patient	مريض	prescribed	المنصوص عليها	stock	مخزون

Mathematics in pharmacy

In pharmacy mathematics is used all the time.

used to calculate measurements, fractions, conversions, decimals and ratios.

how to convert units of measurement & how to calculate the correct dose of a medication.

very important in pharmacy because any errors can put a patient's life in danger.

Remember

An error in the calculations can result in medication errors, such as underdosing or overdosing. Both errors can put the patient's life in danger.

Common unit conversions

It's important to be able to convert commonly used units of measurement.

Correct unit conversion makes sure the wrong dose of a medication isn't given to a patient.

للتحويل من الوحدة الأكبر للأصغر نضرب ب1,000 أما من الوحدة الأصغر للأكبر فنقسم على 1,000

Solids		
1 kg = 1,000 g	1 g = 1,000 mg	1 mg = 1,000 mcg
3 kg = 3000g	4 g = 4000mg	2 mg = 2000mcg

Volume (حجم للسوائل)	
1,000 ml = 1L	5,000 ml = 5L

Time	
60 sec = 1 min	60 min = 1 hour
180 sec = 3 min	120 min = 2 hours

Examples

Convert 0.001 kg to mg	
0.001 kg × 1000 = 1g	نضرب عدد الكيلوجرامات ب1,000 هكذا سيعطينا الوزن بوحدة الجرام
1 g × 1000 = 1000mg	نضرب عدد الجرامات ب1,000 فيعطينا الوزن بوحدة المليجرام
Answer = 1,000mg	

Convert 1,000 ml to litres	
1000 ÷ 1000 = 1L	نقسم عدد الملي ب1,000 وهذا يعطينا عدد الليترات
Answer = 1L	

Drug formulas in pharmacy - Calculating drug dosages

Tablet dosage

used to **calculate how many tablets will be needed to fill a prescription** from a doctor.

"basic formula".

$$\text{Pr}\,e\,scribed\ dose\ \div\ stock\ strength\ =\ number\ of\ tablets\ needed$$

Examples

The doctor prescribed 120mg of a drug. The drug is only available in 30mg tablets. How many tablets should be given to the patient?

Answer

Prescribed dose	Equation	Stock strength	Equals	Tablets to take
120 mg	÷	30 mg	=	4

The doctor has prescribed 400mg of Ibuprofen three times a day for a patient. The tablets come in 200mg tablets. How many tablets need to be dispensed per day?

Answer

Prescribed dose	Equation	Stock strength	Equals	Tablets to take
400×3 = 1200 mg	÷	200 mg	=	6

There is 250mg of penicillin in one tablet. The doctor wants the patient to take 500mg twice daily. How many tablets should the patient take in the morning?

Answer

Prescribed dose	Equation	Stock strength	Equals	Tablets to take
500mg	÷	250 mg	=	2

مكتوب بالمسألة 500 مليجرام مرتين باليوم فالسؤال طالب صباحًا فبناخد 500 وبنطبق عنفس القانون لنوجد كم حبة تؤخذ صباحًا

Mixtures and solution المخاليط والمحلول

To **calculate the amount of a solution** that should be given to the patient.

$$Desired\ dose \div stock\ strength \times stock\ volume = amount\ of\ solution$$

Examples

The doctor prescribed 120mg paracetamol liquid four times a day. The drug is available in 250mg/5ml. How much liquid is needed per dose?

Answer:

Prescribed dose	Equation	Stock strength	Equation	Stock volume (ml)	Equals	Amount of solution required (ml)
120 mg	÷	250 mg	×	5ml	=	2.4ml per dose

هون طلب الجرعة الوحدة فما بنضرب البريسكرايبد دوز بعدد المرات الموصوف شربها باليوم

A child has a temperature of 39.0°C. The doctor has ordered a 500mg paracetamol suspension, four times a day. Paracetamol suspension comes in 250mg/5ml. How much paracetamol suspension needs to be dispensed per day?

Answer:

Prescribed dose	Equation	Stock strength	Equation	Stock volume (ml)	Equals	Amount of solution required (ml)
500x4=2,000 mg	÷	250 mg	×	5ml	=	40ml per day

Calculate IV rate

used mainly in a hospital setting. It **calculates the rate of administration of IV fluids**. can be calculated over either minutes or hours.

$$Total\ IV\ volume\ \div\ time\ (hours\ or\ \min u\ tes)$$
$$=\ ml\ ad\ \min i\ strated\ per\ hour\ or\ \min u\ te$$

Example

The doctor wants to administer a drug intravenously. 120ml of liquid X must be administered by IV over 6 hours. How much liquid is administered per hour?

Answer:

Total IV volume (ml)	Equation	Time (Hours)	Equals	mis administered
120 ml	÷	6	=	20ml per hour

A patient needs to be given 50ml of saline over 90 minutes. What is the rate in ml per hour.

Answer:

Total IV volume (ml)	Equation	Time (Hours)	Equals	mis administered
50 ml	÷	1.5	=	33.3 ml per hour

9.7 Safety measures in pharmacy

advice	نصيحة	Avoid	يتجنب	Aware	واعي
build	يبني	Clear	واضح	cohesive	متماسك
Concise	مختصرًا	Concrete/specific	محدد	deliver	يسلم
Effectively	على نحو فعال	empty stomach	معدة فارغة	Ensure/guarantee	يضمن
Harm	ضرر	headache	صداع	Hospital	مستشفى
minor	غير خطير	Regarding	متعلق	Relationships	علاقات
responsible	مسؤول	Sight	رؤية	skills	مهارات

Safety measures

procedures taken to make sure that drugs are administered or taken in a safe way to prevent any harm to the patient.

procedures : الاجراءات a set of actions that are a good way of doing something

Drugs can be given to a patient in a clinical setting by different healthcare professionals. Many drugs are kept at home, so people can take medicines if they need to.

مثال : ممكن يحتفظو أهلك بباراسيتمول بالبيت عشان لو حصل لهم صداع

إذا مقاييس السلامة ما تم اتباعها ممكن تحصل أخطاء دوائية مثل إذا أخذ المريض الدواء بوقت غلط أو بجرعة خاطئة

effects of these errors can range from minor to fatal (very bad).

Medication errors can have very negative effects on patients. It can even cause death.

Effective communication as a safety measure

Written & verbal communication are the 2 most used methods of communication in healthcare.

Communicating effectively can prevent a lot of medical errors, such as drug errors.

Pharmacists usually communicate with other healthcare professionals through written & verbal communication. includes doctors, nurses, pharmacists and pharmacy technicians.

Communication also happens with patients and sometimes their families, mostly regarding prescriptions.

Good communication skills help to:	
ensure patient's safety	avoid drug errors
deliver better treatment for the patient	build good relationships with patients.

التكنلوجيا تساعد على تعزيز التواصل وسلامة المريض

How can pharmacists ensure patient safety through good communication?

There are many ways to make communication more effective, for example using and remembering the 5 C's of effective communication. The 5 C's involve remembering to be:

1. Clear * What exactly do I want to communicate? ماذا أريد بالتحديد للتواصل
2. Cohesive * Does all the information make sense? هل كل المعلومات منطقية
3. Complete * Have I communicated all the information? هل قمت بتوصيل جميع المعلومات
4. Concise * Am I being direct and brief? am I using words that are not needed?
5. Concrete * Am I being as specific as possible?

Safety measures administering medication

Nurses are mostly involved in the administration of drugs in a hospital. At home, the administration of drugs can be given by a responsible person.

"The 6 rights of drug administration" if you are asked to give drugs to a family member:

1. Right drug اعطاء الدواء الصحيح للمريض

Errors can happen when the pharmacy dispenses the wrong drug. A caregiver can administer the wrong drug to a patient, sometimes happens if the drugs have similar names. Always make sure you are using the correct drug every time you administer them.

2. Right patient اعطاء الدواء للمريض الصحيح

Errors can happen at the pharmacy when 2 people have very similar names. At home, there may be many medications for different people kept in the same place.

To avoid this, the caregiver should double-check the patient's name and date of birth when collecting and administering the drug.

3. Right dosage اعطاء الدواء بالجرعة الصحيحة الموصوفة من قبل الطبيب

If you are not sure about the dosage, you should always check with the patient's doctor or the pharmacy where the drugs were collected from.

4. Right route of administration

Medication should only be given by the route it was prescribed for by the doctor. Healthcare professionals should be aware of normal routes of administration as patients can sometimes get confused.

5. Right time

يجب أن يعطى في الوقت الصحيح الموصوف من قبل الطبيب بس عادي لو تأخرت 30 دقيقة أو أقل عن أخذه

Be aware that some medication must be taken on an empty stomach and some medication should be taken with food. Healthcare professionals should know this when giving you advice.

6. Right documentation

If a nurse administers medication, they should make a record as soon as possible. This is so another nurse will not double the dose. useful at home.

You should record		
When (day & time)	What (medication, dose, route)	Any side effects

Safety measures when storing medication

1. Store all medication out of reach and sight of children.

put medication high up and avoid leaving medicines on a desk or table at home.

2. Think about products that you might not think of as medicines.

Vitamins, creams, eye drops, and hand sanitisers can all be harmful (bad) to children.

3. Make sure that you close your medicine caps tightly after each use.

Many medicines have child-resistant caps. It's harder for children to get into medicine bottles.

4. Put medicine away after every use.

don’t keep the medication where a child can reach it. Put them away after each use.

5. Make sure to check the best before dates on medicines.

Dispose of them in a proper manner. Don't put them down the drain. Drugs that are out of date should be taken to a pharmacy. تخلص من الأدوية بطريقة سليمة، لا تضعها في البالوعة، خذ الأدوية التي انتهت صلاحيتها للصيدلية

6. Be careful in places you visit with a child.

You know where medicines are kept in your own home. Be aware when visiting a family member's house.