DEDER GENERAL HOSPITAL

SURGERY DEPARTMENT

Standard Treatment Guidelines (STG) Protocol

"Adapted from National STG 2021 4th Edition"

October 2024

Deder, Eastern Ethiopia

SMT APPROVAL SHEET

TITLE	**Title**: SURGERY DEPARTMENT STANDARD TREATMENT GUIDELINE PROTOCOL **Version**: 1.0			
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REVIEW	**Reviewed and updated** **Review date: July 2018E.C**			

TABLE OF CONTENTS

SECTION 1:

INTRODUCTION

1.1 Background

Deder General Hospital is a secondary-level health facility located in the East Hararghe Zone of the Oromia Region, Ethiopia. The hospital serves a catchment population of over 1.5 million people, encompassing both urban and rural communities. With an inpatient capacity of approximately 120 beds, the hospital delivers a comprehensive range of services, including outpatient care, inpatient management, surgical interventions, maternal health, and diagnostic support.

The Surgical Outpatient Department (Surgical OPD) functions as a primary point of access for patients requiring surgical evaluation and management. It plays a pivotal role in diagnosing, triaging, and initiating treatment for a wide spectrum of surgical conditions, ranging from minor soft tissue procedures to complex pathologies such as malignancies and trauma.

Aligned with the Ethiopian Ministry of Health's Health Sector Transformation Plan II (HSTP-II) and the Essential Health Service Package (EHSP), the Surgical OPD is integral to:

- Providing timely diagnosis and initial management of common surgical conditions
- Identifying and referring complex or high-risk cases to appropriate surgical or specialty services
- Delivering pre- and post-operative care, including patient education and follow-up
- Supporting continuity of care for chronic surgical conditions and post-surgical recovery

The quality, consistency, and efficiency of care in the Surgical OPD directly influence patient outcomes, surgical complication rates, and overall hospital performance. Standardizing clinical practice through this protocol ensures equitable, safe, and evidence-based care delivery.

1.2 Burden of Disease in Surgical OPD

1.2.1 Overview

An analysis of internal hospital data and clinical records from the Surgical OPD highlights a high volume of patients presenting with the following common surgical conditions:

S		
1	Hernias (Inguinal, Femoral, Umbilical)	32.0
2	Appendicitis	18.5
3	Breast Lumps (Benign & Malignant)	12.0
4	Trauma and Fractures	10.5
5	Cholecystitis	8.0
6	Piles (Hemorrhoids)	6.5
7	Hydrocele	4.0
8	Goiter (Thyroid Enlargement)	3.5
9	Urolithiasis (Kidney Stones)	3.0
10	Cleft Lip and Palate	2.0

Source: Deder General Hospital Surgical OPD Records, 2023–2024

1.2.2 Epidemiological Significance

- Hernias are the most prevalent condition, often linked to heavy physical labor, chronic cough, and poor access to early surgical care in rural areas.
- Appendicitis remains a leading cause of acute abdominal emergencies, with delayed presentation contributing to higher rates of perforation.
- Breast lumps reflect a growing burden of both benign and malignant conditions, underscoring the need for early detection and oncology integration.
- Trauma and fractures are frequently associated with road traffic accidents and occupational injuries.
- Cholecystitis and urolithiasis are increasingly common, potentially related to dietary changes and metabolic risk factors.
- Cleft lip and palate cases are often referred late, impacting feeding, speech development, and psychosocial well-being.

1.2.3 Trends Over Time

- Increasing incidence of non-communicable surgical conditions (e.g., gallstones, colorectal cancer, breast

cancer) suggests a shifting disease burden.

- Trauma cases have risen slightly, likely due to increased motorization and road infrastructure development.
- Hernia presentations remain consistently high, with many patients seeking care only after complications arise.
- Early surgical intervention for conditions like appendicitis and hydrocele has improved, reducing complication rates.

1.2.4 Public Health Implications

The disease burden in the Surgical OPD has significant implications for:

- Service Planning: Prioritizing surgical capacity, staffing, and operating theater scheduling.
- Training: Ensuring surgical staff are proficient in managing high-volume conditions using standardized protocols.
- Supplies & Equipment: Maintaining adequate stocks of surgical instruments, sutures, antibiotics, and essential medications.
- Community Interventions: Promoting health education on early symptom recognition, injury prevention, and nutrition.
- Referral Systems: Strengthening linkages with tertiary centers for complex oncology, reconstructive, and pediatric surgical cases.

1.3 Health System Context

1.3.1 Ethiopian Health System Overview

Ethiopia's healthcare system is structured into three tiers:

1. **Primary Level:** Health posts, health centers, and primary hospitals.
2. **Secondary Level**: General hospitals like Deder General Hospital, serving as referral centers.
3. **Tertiary Level:** Specialized and teaching hospitals offering advanced care.

Deder General Hospital operates at the secondary level, receiving referrals from primary facilities while also providing direct care to walk-in patients. It acts as a bridge between primary healthcare and specialized surgical services.

1.3.2 Role of the Surgical OPD in the Health System

The Surgical OPD serves as a critical entry point for surgical care, fulfilling the following roles:

- Gatekeeper to inpatient surgical services and operating theaters
- Initial diagnosis and triage of surgical emergencies
- Pre-operative assessment and optimization
- Post-operative follow-up and complication monitoring
- Referral coordination for complex or oncologic cases

1.3.3 Service Integration

The Surgical OPD collaborates closely with:

- Emergency Department: For acute surgical emergencies (e.g., trauma, appendicitis)
- Laboratory & Imaging Departments: For diagnostic confirmation (ultrasound, CT, X-ray)
- Pharmacy Department: For antibiotic and analgesic dispensing
- Operating Theater: For scheduling and surgical planning
- Oncology & Chronic Care Clinics: For multidisciplinary management of cancer patients
- Rehabilitation Services: For post-fracture and post-surgical functional recovery

This integration ensures seamless patient flow and continuity of care but requires standardized protocols to prevent delays and inconsistencies.

1.4 Need for Hospital-Specific STG

While the National STG 2021, 4th Edition provides a national framework for surgical care, local adaptation is essential due to:

1. **Epidemiological Profile**: The pattern of surgical disease at Deder General Hospital differs from national averages, with higher rates of hernias and trauma.
2. **Resource Availability:** Access to imaging (ultrasound, CT), laboratory services, and surgical equipment may be limited, influencing diagnostic and treatment pathways.
3. **Antimicrobial Resistance (AMR) Patterns:** Local antibiogram data guides rational antibiotic use in surgical prophylaxis and infection management.
4. **Staff Capacity:** The presence of general practitioners, mid-level surgeons, and rotating interns necessitates clear, standardized protocols.
5. **Referral Realities**: Geographic and logistical barriers affect the timing and feasibility of referrals to tertiary centers.

This hospital-specific protocol ensures that surgical care is not only evidence-based but also feasible, safe, and sustainable within the local context.

1.5 Guiding Principles

The **Surgical OPD Clinical Practice Protocol is founded on six core principles:**

1. **Evidence-Based Practice**: Recommendations are derived from the National STG 2021, WHO guidelines, and current clinical evidence, adapted to local conditions.
2. **Equity and Access**: All patients receive standardized care regardless of socioeconomic status, gender, or geographic origin.
3. **Quality and Safety**: Emphasis on accurate diagnosis, sterile technique, rational antibiotic use, and complication prevention.
4. **Patient-Centered Care**: Management considers patient preferences, cultural beliefs, and social circumstances (e.g., ability to return for follow-up).
5. **Cost-Effectiveness**: Interventions balance clinical benefit with efficient use of limited resources.
6. **Sustainability**: Protocols are designed for long-term implementation with existing staff, infrastructure, and supply chains.

1.6 Scope of the Document

1.6.1 Target Users

This protocol is intended for:

- Surgeons and general practitioners providing surgical care
- Nurses in triage, pre-op, and post-op units
- Pharmacists dispensing surgical medications
- Laboratory and imaging staff supporting diagnostics
- Interns and medical students on surgical rotation
- Hospital management and quality assurance teams

1.6.2 Patient Population

- **Age Group:** Patients aged 14 years and above (per national OPD definition)
- **Setting:** Ambulatory patients in the Surgical OPD, including referrals from other departments
- **Clinical Scope**: Diagnosis, management, and follow-up of common surgical conditions
- **Exclusions:** Pediatric-specific conditions (managed under pediatric protocols), obstetric surgeries, and immediate life-threatening emergencies (managed in the Emergency Department)

1.6.3 Conditions Covered

This document includes detailed protocols for:

1. Biliary and Bowel Hernia (BBH)

2. Appendicitis
3. Cholecystitis
4. Hernia (Inguinal, Femoral, Umbilical)
5. Breast Lump (Benign and Malignant)
6. Colorectal Cancer
7. Trauma and Fractures
8. Gallbladder Cancer
9. Pancreatitis
10. Laparotomy (Exploratory Surgery)
11. Goiter (Thyroid Enlargement)
12. Piles (Hemorrhoids)
13. Hydrocele
14. Urolithiasis (Kidney Stones)
15. Varicose Veins
16. Peptic Ulcer Disease
17. Gastric Cancer
18. Esophageal Cancer
19. Rectal Cancer
20. Cleft Lip and Palate
21. Prostate Cancer

For conditions not listed, the National STG 2021 remains the primary reference.

1.7 Expected Benefits

1.7.1 For Patients

- Timely and accurate diagnosis
- Reduced complications and hospital stays
- Improved satisfaction through clear communication and follow-up
- Access to safe, effective, and affordable surgical care

1.7.2 For Healthcare Providers

- Standardized, locally relevant clinical guidance
- Reduced diagnostic and therapeutic uncertainty
- Enhanced skills in surgical decision-making and patient counseling

- Better coordination across departments

1.7.3 For Hospital Management

- Optimized use of operating theaters and surgical supplies
- Reduced medicine wastage and treatment variability
- Improved surgical outcomes and quality indicators
- Alignment with MOH standards and HSTP-II goals

1.8 Development Process

1.8.1 Source of Recommendations

This protocol is adapted from:

- National Standard Treatment Guidelines (STG), 4th Edition, 2021
- WHO guidelines on surgical care and infection prevention
- Ethiopian Essential Medicines List (EML), 6th Edition
- Hospital-specific morbidity data and surgical outcome reports

1.8.2 Stakeholder Involvement

Development included input from:

- Surgical and medical staff
- Quality improvement and patient safety teams
- Pharmacy and laboratory departments
- Hospital administration and medical directorate
- Regional Health Bureau representatives

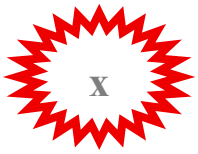
1.8.3 Methodology

1. Needs Assessment: Review of Surgical OPD case load and common conditions
2. Document Review: Analysis of National STG and international guidelines
3. Local Adaptation: Adjustment for available diagnostics, medicines, and staffing
4. Validation: Feedback sessions with clinical teams
5. Approval: Endorsement by hospital leadership and SM T committee
6. Implementation Planning: Training, distribution, and integration into workflows

1.9 Relationship to National & Regional Policies

This protocol aligns with:

- National STG 2021: Ensures consistency with MOH standards
- Essential Medicines List (EML): All recommended drugs are on the national formulary
- HSTP-II (2020/21–2024/25): Supports goals of quality improvement and equity



- National AMR Strategy (2017–2027): Promotes rational antibiotic use in surgical prophylaxis and treatment
- Oromia Regional Health Bureau Guidelines: Tailored to regional resource availability and priorities

1.10 Limitations

1. Resource Constraints: Stockouts of medicines, imaging delays, or equipment downtime may affect care.
2. Infrastructure Challenges: Unreliable power and internet access may impact record-keeping and diagnostics.
3. Staffing Gaps: Periodic shortages of surgical personnel may delay procedures.
4. Scope Limitation: Focuses on high-burden conditions; less common cases require reference to national guidelines.
5. Evolving Evidence: Recommendations may become outdated without regular review.

1.11 Sustainability & Updating Plan

- Review Frequency: Every six months or sooner if new evidence or policy changes emerge.
- Responsible Body: Surgical OPD Protocol Review Committee (including surgeons, nurses, pharmacists, and quality officers).
- Feedback Mechanism: Suggestion box and digital feedback form in the OPD.
- Capacity Building: Regular in-service training and orientation for new staff.
- Access: Available in printed manuals and digital format on hospital intranet.

1.12 Ethical Considerations

All providers must uphold:

1. Informed Consent: Clear explanation of procedures, risks, and alternatives.
2. Confidentiality: Protection of patient information.
3. Non-Discrimination: Equal care for all patients.
4. Cultural Sensitivity: Respect for patient beliefs and practices.
5. Professional Integrity: Treatment decisions based on evidence, not personal gain.
6. Palliative and End-of-Life Care: Compassionate management for advanced cancer and incurable conditions.

1.13 How to Use This Protocol

1.13.1 General Use

- Use as the primary reference for surgical OPD conditions.
- Refer to National STG for conditions not covered.
- Adapt treatment to patient-specific factors (comorbidities, preferences, resources).

- Keep copies in consultation rooms, pre-op, and nursing stations.

1.13.2 Format & Navigation

Each condition includes:

1. Diagnosis (clinical and imaging)
2. Management (conservative and surgical)
3. Follow-Up
4. Lifestyle Modification
5. Referral Criteria
6. Performance Indicators

1.13.3 Symbols & Notations

- [E]: Medicine on Ethiopian Essential Medicines List
- [PO]: Oral
- [IM]: Intramuscular
- [IV]: Intravenous
- [UR]: Use with caution in renal impairment
- [P]: Use with caution in pregnancy

1.13.4 Clinical Decision Support

- Use triage algorithms for surgical emergencies
- Follow pre-op checklists and antibiotic prophylaxis guidelines
- Consult local antibiogram for infection management

1.13.5 Documentation Requirements

For every patient:

- Document diagnosis, investigations, treatment, and follow-up plan
- Record surgical complications and adverse events
- Complete pre- and post-operative assessment forms

1.14 Definitions & Acronyms

1.14.1 Definitions

- Adult: Patient aged 14 years or older
- Ambulatory Care: Outpatient surgical services without admission
- Essential Medicines: Medicines listed in the national EML
- First-Line Treatment: Recommended initial therapy based on efficacy and safety

- Surgical OPD: Outpatient unit for evaluation and management of surgical conditions

1.14.2 Acronyms

ACRONYM	MEANING
BBH	Biliary and Bowel Hernia
OPD	Outpatient Department
IPD	Inpatient Department
STG	Standard Treatment Guideline
MOH	Ministry of Health
HSTP-II	Health Sector Transformation Plan II
EML	Essential Medicines List
AMR	Antimicrobial Resistance
CT	Computed Tomography
US	Ultrasound
FNA	Fine Needle Aspiration
ORIF	Open Reduction and Internal Fixation
SSI	Surgical Site Infection
RAI	Radioactive Iodine
PSA	Prostate-Specific Antigen

SECTION 2:

PURPOSE, RATIONALE, AND PRINCIPLES OF GOOD PRESCRIBING & DISPENSING PRACTICE

2.1 Purpose

The Clinical Practice Protocol for the Surgical Outpatient Department (Surgical OPD) at Deder General Hospital serves as a standardized, evidence-based, and contextually adapted clinical guide designed to:

1. **Standardize Clinical Practice**

   Ensure consistency in the diagnosis, management, and follow-up of common surgical conditions across all healthcare providers in the Surgical OPD, reducing unwarranted variation in care.
2. **Improve Quality of Patient Care**

   Enhance diagnostic accuracy, reduce complications, minimize delays in treatment, and improve surgical outcomes through structured, protocol-driven care.
3. **Promote Rational Medicine Use**

   Guide the appropriate selection, dosing, duration, and route of administration of medications—particularly antibiotics—aligned with the Ethiopian Essential Medicines List (EML) and hospital formulary.
4. **Support Antimicrobial Stewardship**

   Combat antimicrobial resistance (AMR) by promoting evidence-based antibiotic prescribing, including prophylaxis and treatment of surgical infections, based on local resistance patterns.
5. **Optimize Resource Utilization**

   Prioritize cost-effective, feasible, and sustainable interventions that match the hospital's diagnostic, therapeutic, and staffing capacity.
6. **Serve as a Training and Reference Tool**

   Provide a reliable resource for surgeons, general practitioners, nurses, pharmacists, interns, and students to enhance clinical decision-making and build capacity in surgical care.
7. **Facilitate Monitoring and Evaluation**

   Establish clear benchmarks and performance indicators to assess adherence, identify gaps, and drive continuous quality improvement in surgical services.
8. **Ensure Patient Safety**

   Minimize medical errors, prevent surgical site infections (SSI), and promote safe perioperative practices through standardized checklists and protocols.

2.2 Rationale

The development of this hospital-specific Surgical OPD protocol is grounded in the following key rationales:

- **High Burden of Surgical Disease:** The Surgical OPD manages a significant volume of patients with conditions such as hernias, appendicitis, breast lumps, trauma, and gallbladder disease. A focused, condition-specific approach ensures timely and effective care.
- **Variation in Clinical Practice**: Without standardized guidelines, management of the same condition may differ between providers, leading to inconsistent outcomes, unnecessary procedures, or delayed interventions.
- **Antimicrobial Resistance (AMR) Concerns: Inappropriate use of antibiotics in surgical settings**—especially in prophylaxis and post-operative care—contributes to rising AMR. This protocol enforces rational antibiotic use based on local antibiograms.
- **Resource-Limited Setting:** Deder General Hospital operates with constraints in staffing, diagnostics, and supply chains. The protocol prioritizes interventions that are effective, available, and sustainable within these limitations.
- **Alignment with National Standards**: While adapted locally, the protocol remains fully aligned with the National Standard Treatment Guidelines (STG) 2021, 4th Edition, ensuring national policy coherence.
- **Staff Turnover and Training Needs:** Frequent rotation of medical officers, interns, and mid-level surgeons necessitates a clear, accessible reference to maintain continuity and quality of care.
- **Need for Integrated Care:** The Surgical OPD interacts with Emergency, Laboratory, Pharmacy, Operating Theater, and Oncology services. Standardized protocols improve coordination and reduce system bottlenecks.

2.3 Principles of Good Prescribing

Good prescribing in the Surgical OPD is essential for patient safety, treatment efficacy, and resource stewardship. It follows a systematic, patient-centered approach grounded in the following principles:

2.3.1 General Principles

- Prescribe only when clinically indicated – Avoid unnecessary medications, especially antibiotics and opioids.

- Use generic names – Promote clarity, reduce errors, and support cost-effective procurement.
- Choose medicines from the Ethiopian EML and hospital formulary – Ensure availability and affordability.
- Consider patient factors – Adjust for age, pregnancy, renal/hepatic function, allergies, and comorbidities.
- Avoid polypharmacy – Limit the number of medications to those essential for the condition.
- Prescribe clear instructions – Include drug name, dose, route, frequency, duration, and purpose.
- Document thoroughly – Record all prescriptions in the patient's chart and update medication lists.

2.3.2 Surgical Antibiotic Prescribing Principles

Given the high risk of surgical site infections (SSI), antibiotic use must be precise and evidence-based:

- **Prophylaxis:** Administer appropriate antibiotics within 60 minutes before incision, typically a single dose of Cefazolin [E] or Amoxicillin-Clavulanate [E] for clean-contaminated procedures.
- **Therapeutic Use**: Reserve antibiotics for confirmed or suspected infections (e.g., appendicitis, cholecystitis), not for uncomplicated post-operative pain.
- **Narrow-Spectrum First:** Use narrow-spectrum agents when possible (e.g., Amoxicillin [E] for mild infections) to reduce AMR risk.
- **Duration:** Limit prophylactic antibiotics to 24 hours or less unless indicated otherwise.
- **Review and De-escalate**: Reassess antibiotic need post-operatively based on culture results and clinical response.
- **Avoid routine post-op antibiotics for clean surgeries** (e.g., hernia repair) unless signs of infection develop.

2.3.3 Steps in Rational Prescribing (Adapted from WHO)

1. **Assess the Patient** – Take history, perform physical exam, and review investigations.
2. **Define the Problem** – Establish a clear diagnosis (e.g., acute appendicitis, reducible inguinal hernia).
3. **Set Therapeutic Goals** – e.g., "Relieve obstruction," "Prevent strangulation," "Achieve wound healing."
4. **Select First-Line Treatment** – Choose interventions based on STG recommendations and local protocols.
5. **Verify Patient Suitability** – Check for contraindications (e.g., allergy to penicillin, renal impairment).
6. **Start Treatment** – Prescribe with clear, written instructions.
7. **Educate the Patient** – Explain purpose, side effects, and warning signs (e.g., fever, redness at surgical site).
8. **Monitor and Review** – Schedule follow-up to assess response, complications, and need for adjustment.

2.4 Principles of Good Dispensing Practice

The Pharmacy Department plays a critical role in ensuring that prescribed medications are dispensed accurately and safely. The following principles guide dispensing in the Surgical OPD:

2.4.1 Key Principles

- Prescription Verification

    - Confirm legibility, completeness (patient name, diagnosis, drug, dose, duration), and prescriber signature.
    - Reject incomplete or unclear prescriptions and seek clarification.
- Accuracy in Dispensing
    - Dispense the correct drug, dose, formulation, and quantity as prescribed.
    - Double-check high-risk medications (e.g., insulin, anticoagulants, opioids).
- Labeling
    - Labels must include:
        - Patient's name
        - Generic name of the drug [E]
        - Dose and strength
        - Route of administration [PO], [IM], [IV]
        - Frequency and duration
        - Special instructions (e.g., "Take with food," "Avoid alcohol")
        - Expiry date and storage conditions
- Patient Counseling
    - Explain:
        - Purpose of the medication
        - How and when to take it
        - Expected benefits and possible side effects
        - What to do if a dose is missed
        - Warning signs requiring medical attention (e.g., rash, difficulty breathing)
    - Use simple, culturally appropriate language.
- Documentation
    - Record dispensed medications in the pharmacy logbook or electronic system.
    - Maintain inventory records to prevent stockouts.
- Pharmacovigilance
    - Monitor for Adverse Drug Reactions (ADRs).
    - Report serious ADRs (e.g., anaphylaxis, severe rash) using the national ADR reporting form.
    - Encourage patients and clinicians to report suspected reactions.
- Storage and Handling
    - Store medications according to guidelines (e.g., refrigeration for insulin, protection from light).
    - Ensure surgical antibiotics and analgesics are readily available in OPD and pre-op areas.

2.4.2 Role of the Pharmacist in Surgical Care

- Collaborate with surgeons to review antibiotic selection and duration.
- Educate patients on post-operative medication regimens (e.g., pain control, wound care).
- Participate in pre-operative checklists to ensure availability of prophylactic antibiotics.

- Support the hospital's Antimicrobial Stewardship Program (ASP) through prescription audits and feedback.

2.5 Integration with Pre- and Post-Operative Care

This protocol supports seamless integration of prescribing and dispensing practices across the surgical care continuum:

- **Pre-Operative**
  - Ensure timely administration of prophylactic antibiotics.
  - Discontinue non-essential medications (e.g., NSAIDs, anticoagulants) as per protocol.
  - Provide patient education on fasting, medication adjustments, and expectations.
- **Intra-Operative**
  - Anesthesia and surgical teams follow standardized medication checklists.
  - Antibiotics re-dosed if surgery exceeds two half-lives of the initial dose.
- **Post-Operative**
  - Pain management with stepwise approach (WHO Analgesic Ladder):
    - Step 1: Paracetamol [E] or NSAIDs (e.g., Diclofenac [E])
    - Step 2: Weak opioids (e.g., Tramadol [E])
    - Step 3: Strong opioids (e.g., Morphine [E]) for severe pain
  - Avoid prolonged opioid use; transition to oral analgesics early.
  - Discharge prescriptions should be clear, limited in duration, and accompanied by counseling.

2.6 Monitoring and Feedback

To ensure adherence to good prescribing and dispensing practices:

- Monthly Prescription Audits will be conducted by the Quality Unit.
- Feedback sessions will be held with prescribers and pharmacists to address common errors.
- Key indicators include:
  - % of surgeries with appropriate antibiotic prophylaxis
  - % of prescriptions using generic names
  - % of patients counseled at dispensing
  - Number of ADRs reported monthly

SECTION 3:

ANTIMICROBIAL RESISTANCE, PATIENT CARE, AND PALLIATIVE CARE

3.1 Antimicrobial Resistance (AMR)

3.1.1 Background

Antimicrobial Resistance (AMR) is a critical global public health threat, recognized by the World Health Organization (WHO) as one of the top ten health challenges worldwide. AMR occurs when microorganisms—such as bacteria, viruses, fungi, and parasites—evolve mechanisms to resist the effects of antimicrobial drugs, rendering standard treatments ineffective and increasing the risk of disease spread, severe illness, and death.

In Ethiopia, the burden of AMR is growing due to a combination of factors:

- Overuse and misuse of antibiotics in both human and animal health
- Self-medication and over-the-counter sale of antibiotics without prescription
- Incomplete courses of antibiotic therapy due to poor adherence or stockouts
- Inadequate infection prevention and control (IPC) practices in healthcare facilities
- Limited diagnostic capacity, leading to empirical prescribing
- Weak surveillance systems for monitoring resistance patterns

At Deder General Hospital, recent local antibiogram data indicates emerging resistance to commonly used antibiotics, including:

- Ampicillin and Co-trimoxazole – high resistance in *E. coli* and *Klebsiella* spp.
- Ciprofloxacin – increasing resistance in urinary and gastrointestinal pathogens
- Penicillins and cephalosporins – variable sensitivity, necessitating cautious use

This underscores the urgent need for rational antibiotic use and strengthened antimicrobial stewardship within the Surgical OPD to preserve the effectiveness of available antimicrobials.

3.1.2 Principles for Combating AMR in the Surgical OPD

To mitigate the development and spread of AMR, the following principles must be integrated into daily practice:

1. Prescribe Antimicrobials Only When Indicated
    - Avoid antibiotics for viral infections, non-infectious inflammation, or uncomplicated post-operative pain.
    - Use antibiotics only for confirmed or strongly suspected bacterial infections (e.g., appendicitis, cholecystitis, surgical site infection).
2. Base Antibiotic Choice on Local Evidence
    - Refer to the hospital's annual antibiogram when selecting empiric therapy.
    - Prioritize agents with proven local efficacy (e.g., Cefazolin [E] for surgical prophylaxis).
3. Use Narrow-Spectrum Antibiotics When Possible
    - Start with narrow-spectrum agents (e.g., Amoxicillin [E], Cefazolin [E]) rather than broad-spectrum alternatives unless clinically necessary.
    - Reserve broad-spectrum antibiotics (e.g., Ceftriaxone [E], Metronidazole [E]) for complicated or hospital-acquired infections.
4. Follow Recommended Dose, Route, and Duration
    - Adhere strictly to STG-recommended regimens (e.g., single-dose prophylaxis before incision).

- Avoid unnecessarily prolonged courses (e.g., do not extend post-hernia repair antibiotics beyond 24 hours).

5. De-escalate When Culture Results Are Available
    - Switch from broad-spectrum to targeted therapy based on culture and sensitivity reports.
    - Discontinue antibiotics if infection is ruled out.
6. Educate Patients on Responsible Use
    - Counsel patients on:
        - Completing the full prescribed course
        - Not sharing or saving antibiotics
        - Recognizing and reporting adverse effects
    - Emphasize that antibiotics do not treat pain or swelling alone.
7. Report Treatment Failures and Resistance Patterns
    - Document and report cases of suspected AMR to the Hospital AMR Focal Person.
    - Contribute to national surveillance through the Ethiopian Public Health Institute (EPHI) reporting system.

3.1.3 Role of the Hospital Antimicrobial Stewardship Program (ASP)

Deder General Hospital's Antimicrobial Stewardship Program (ASP) plays a central role in promoting rational antibiotic use in the Surgical OPD. Key activities include:

- Monthly Prescription Audits: Review surgical antibiotic use against STG standards.
- Feedback and Mentoring: Provide individualized feedback to prescribers on deviations.
- Antibiogram Dissemination: Distribute updated local resistance data annually to all clinical units.
- In-Service Training: Conduct regular sessions on AMR, rational prescribing, and surgical prophylaxis.
- Integration with Pharmacy: Ensure formulary alignment with EML and ASP recommendations.
- Surgical Site Infection (SSI) Monitoring: Track SSI rates and correlate with antibiotic practices.

The Surgical OPD will actively participate in ASP initiatives to ensure alignment with national and institutional goals for AMR containment.

3.2 Patient Care in Ambulatory and Hospitalized Settings

3.2.1 Ambulatory (Outpatient) Care

The Surgical OPD provides ambulatory care for patients who do not require hospital admission. This model emphasizes:

- Rapid Triage and Prioritization
    - Use a standardized triage system to identify surgical emergencies (e.g., acute abdomen, trauma, strangulated hernia) for immediate evaluation.
    - Classify patients into:
        - Emergency: Immediate intervention required
        - Urgent: Management within 24–48 hours
        - Routine: Scheduled consultation and follow-up
- Comprehensive Clinical Evaluation
    - Conduct thorough history and physical examination focused on surgical conditions.
    - Utilize STG-based algorithms to guide diagnosis and management decisions.
- Efficient Use of Diagnostics
    - Order only essential investigations (e.g., ultrasound for hernia, CT for suspected appendicitis).
    - Avoid unnecessary or redundant tests to optimize resource use.
- Timely Initiation of Treatment
    - Begin appropriate medical therapy (e.g., antibiotics for cholecystitis) before surgery.
    - Schedule elective procedures promptly to prevent progression.
- Clear Discharge Instructions
    - Provide written and verbal instructions on:
        - Medication use
        - Wound care (if applicable)
        - Warning signs requiring return (e.g., fever, redness, vomiting)
        - Follow-up date and purpose

- Coordination with Specialty Services
    - Facilitate seamless referrals to:

- Operating Theater
- Oncology Clinic
- Rehabilitation Services
- Chronic Pain Management

3.2.2 Hospitalized (Inpatient) Care

Some patients initially evaluated in the Surgical OPD require admission to the Inpatient Department (IPD) due to:

- Severe or complicated disease (e.g., perforated appendix, obstructed hernia)
- Need for surgery and post-operative monitoring
- Requirement for parenteral therapy (e.g., IV antibiotics, fluid resuscitation)
- Poor social support or inability to return for follow-up
- High risk of deterioration (e.g., elderly, comorbidities)

Principles of Inpatient Surgical Care:

1. Immediate Stabilization
    - Apply ABC (Airway, Breathing, Circulation) approach for critically ill patients.
    - Initiate fluid resuscitation, oxygen, and analgesia as needed.
2. Comprehensive Diagnostic Workup
    - Complete pre-operative investigations (CBC, LFT, RFT, ECG, blood grouping).
    - Confirm diagnosis with imaging (US, CT, X-ray) before surgery.
3. Daily Multidisciplinary Review
    - Surgical team to review patient daily, assess progress, and adjust management.
    - Involve nursing, pharmacy, nutrition, and laboratory staff in care planning.
4. Early Mobilization and Recovery
    - Encourage ambulation within 24 hours post-op to prevent DVT and pneumonia.
    - Implement Enhanced Recovery After Surgery (ERAS) principles where feasible.
5. Discharge Planning
    - Begin planning at admission.
    - Ensure patient understands:
        - Medication regimen
        - Wound care
        - Follow-up schedule
        - Emergency contact information

3.3 Palliative Care

3.3.1 Definition

Palliative care is the active, holistic management of patients with life-limiting or advanced surgical conditions (e.g., metastatic cancer, end-stage organ failure). It focuses on:

- Relief of pain and other distressing symptoms
- Psychological, social, and spiritual support
- Improving quality of life for patients and families
- Supporting informed decision-making about treatment goals

Palliative care is not synonymous with end-of-life care; it can be provided alongside curative or life-prolonging treatments.

3.3.2 Goals of Palliative Care in the Surgical OPD

1. **Alleviate Physical Symptoms**
    - Manage pain, nausea, vomiting, constipation, dyspnea, and fatigue.
2. **Support Emotional and Psychological Well-being**
    - Address anxiety, depression, and fear of death or disability.
3. **Facilitate Informed Decision-Making**
    - Discuss prognosis, treatment options, and patient preferences.
4. **Enhance Quality of Life**
    - Enable patients to live as actively and comfortably as possible.
5. **Provide Bereavement Support**
    - Offer counseling and follow-up for families after patient death.

3.3.3 Core Principles of Palliative Care

1. **s**Evaluate using the "Total Pain" concept:
    - Physical (pain, nausea)
    - Psychological (anxiety, depression)
    - Social (family stress, financial burden)
    - Spiritual (existential concerns, meaning of illness)

2. WHO Analgesic Ladder for Pain Management
   Apply stepwise approach based on pain severity:

Step	Pain Level	Recommended Medication
1	Mild	Paracetamol [E]orDiclofenac [E]
2	Moderate	Tramadol [E]± non-opioid
3	Severe	Morphine [E]± adjuvant (e.g., amitriptyline for neuropathic pain)

- **Route**: Prefer oral; use subcutaneous or IV if oral not possible.
- **Dosing:** Use regular scheduled dosing, not "as needed" for chronic pain.
- **Breakthrough Pain:** Prescribe rescue dose (1/6th of total daily dose).

3. Symptom Management Beyond Pain
    - Nausea/Vomiting: Use Ondansetron [E] or Metoclopramide [E]
    - Constipation: Prophylactic Lactulose [E] or Senna [E] with opioids
    - Dyspnea: Oxygen, Morphine [E], and anxiety management
    - Anxiety/Depression: Refer to mental health services; consider Diazepam [E] short-term
4. Family and Caregiver Involvement
    - Include families in care discussions and decision-making.
    - Provide education on symptom recognition and home care.
5. Ethical and Cultural Sensitivity
    - Respect patient autonomy, cultural beliefs, and religious practices.
    - Avoid non-beneficial or overly aggressive interventions in terminal cases.

3.3.4 Integration of Palliative Care in the Surgical OPD

Although often associated with inpatient or hospice settings, the Surgical OPD has a vital role in palliative care:

- Early Identification
    - Screen for palliative needs in patients with:
        - Advanced malignancies (e.g., gastric, colorectal, breast cancer)
        - Recurrent or inoperable conditions
        - Poor performance status or multiple comorbidities
- Initiation of Symptom Relief
    - Start pain and symptom management before referral to palliative or oncology services.
    - Prescribe appropriate analgesics and antiemetics.

- Coordination with Palliative Services

- **Refer to:**
    - Hospital Palliative Care Team (if available)
    - Community-Based Palliative Care Programs
    - Home-Based Care Initiatives
- Outpatient Follow-Up
    - Provide regular OPD consultations for stable palliative patients.
    - Monitor medication efficacy, side effects, and psychosocial needs.
- Advance Care Planning
    - Discuss goals of care, resuscitation preferences, and preferred place of care.
    - Document patient wishes in the medical record.

3.3.5 Referral Criteria for Palliative Care

Refer patients to palliative services if they have:

- Life-limiting illness with poor prognosis (e.g., stage IV cancer)
- Uncontrolled symptoms (pain, nausea, dyspnea) despite standard treatment
- Psychosocial distress affecting quality of life
- Need for complex decision-making regarding treatment options
- Family requesting support in managing a terminally ill patient

Palliative care is a shared responsibility between surgeons, physicians, nurses, and community health workers. Integrating it into surgical practice ensures compassionate, patient-centered care for all, especially those with advanced disease.

SECTION 4:

DISEASE SPECIF TOPICS

Clinical Guidelines for Common Surgical Conditions

1. BBH (Biliary and Bowel Hernia)

Diagnosis:

- **Clinical Evaluation**: Biliary and bowel hernias typically present with localized pain, swelling, and tenderness. The pain is often exacerbated by abdominal movements or pressure.
    - **Symptoms**: Nausea, vomiting, and signs of bowel obstruction such as constipation or inability to pass gas.
    - **Physical Examination**: Palpation may reveal a bulge or mass in the abdomen, with tenderness or irreducibility suggestive of a strangulated hernia.
- **Imaging**:
    - **Ultrasound**: To identify hernia contents (biliary structures or bowel loops).
    - **CT Scan**: If the diagnosis is uncertain, a CT scan may be used to assess the hernia size, location, and bowel involvement.

Management:

- **Conservative**: Small, reducible hernias may be managed conservatively with monitoring for any changes in size or symptoms.
- **Surgical**:
    - **Herniorrhaphy** (hernia repair) is indicated for irreducible or symptomatic hernias, with the goal of reducing and closing the defect.
    - If there is a risk of bowel strangulation, **emergency surgery** is required to relieve obstruction and repair the hernia.

Follow-Up:

- **Post-Operative Care**: Regular follow-ups to ensure proper healing and to monitor for recurrence of the hernia. Pain management and gradual return to normal activities are advised.
- **Long-Term**: Education on avoiding heavy lifting and straining to prevent recurrence.

Lifestyle Modification:

- **Dietary Changes**: Recommend a high-fiber diet to prevent constipation, which can strain the abdominal wall and exacerbate hernia symptoms.
- **Weight Management**: Encourage weight loss in overweight or obese individuals to reduce intra-abdominal pressure.
- **Avoiding Heavy Lifting**: Advise patients to avoid heavy lifting or any activity that increases intra-abdominal pressure to prevent hernia progression.

Surgical Intervention:

- **Hernia Repair Surgery**: Surgical repair is the primary treatment for biliary and bowel hernias. This may include:
    - **Open Hernia Repair**: Surgical procedure to return the hernia contents to their proper place and strengthen the abdominal wall with sutures or mesh.
    - **Laparoscopic Hernia Repair**: A minimally invasive option with smaller incisions and quicker recovery.

2. Appendicitis

Diagnosis:

- **Clinical Evaluation**: Appendicitis typically presents with right lower abdominal pain, nausea, and vomiting. The pain often starts in the periumbilical region and migrates to the right lower quadrant.
    - **Symptoms**: Anorexia, fever, and rebound tenderness are common.
    - **Physical Examination**: Positive **McBurney's point tenderness**, guarding, and rebound tenderness are signs suggestive of appendicitis.
- **Imaging**:
    - **Ultrasound**: Preferred in children and pregnant women for diagnosing appendicitis.
    - **CT Scan**: Used for adults or when the diagnosis is uncertain.

Management:

- **Antibiotics**: Broad-spectrum intravenous antibiotics should be started before surgery, covering both gram-negative and anaerobic organisms.

- **Surgical**:
    - **Appendectomy** (removal of the appendix) is the definitive treatment. Laparoscopic surgery is the preferred approach in uncomplicated cases.
    - If perforated, more aggressive fluid resuscitation and antibiotic therapy are needed.

Follow-Up:

- **Post-Operative Care**: Pain management, wound care, and monitoring for infection.
- **Follow-Up Visits**: Regular check-ups for any signs of infection or complications such as wound dehiscence or abscess formation.

Lifestyle Modification:

- **Dietary Advice Post-Surgery**: After appendectomy, a gradual return to a regular diet is recommended, starting with soft foods and progressing to solid foods as tolerated.
- **Hydration**: Encourage adequate fluid intake, especially after surgery to avoid constipation.
- **Post-Op Physical Activity**: Limit heavy exercise or strenuous activities for at least 6 weeks to allow proper healing.

Surgical Intervention:

- **Appendectomy**: The standard treatment for appendicitis, typically done as a:
    - **Laparoscopic Appendectomy**: Minimally invasive surgery involving small incisions.
    - **Open Appendectomy**: A traditional approach for complicated cases (e.g., perforated appendicitis).

3. Cholecystitis

Diagnosis:

- **Clinical Evaluation**: Characterized by right upper quadrant pain, fever, and nausea. The pain often worsens after eating fatty foods.

    - **Symptoms**: Jaundice may also be present in complicated cases.
    - **Physical Examination**: Positive **Murphy's sign** (inability to take a deep breath when pressure is applied to the right upper quadrant).
- **Imaging**:
    - **Ultrasound**: The primary diagnostic tool for cholecystitis, showing gallbladder wall thickening, stones, and pericholecystic fluid.
    - **CT Scan**: Can be used if ultrasound results are inconclusive.

Management:

- **Conservative**: Intravenous fluids, antibiotics, and pain control may be started if the patient is stable.
- **Surgical**:
    - **Cholecystectomy** (gallbladder removal) is the definitive treatment, usually done laparoscopically unless there are complications (e.g., gangrene or perforation).

Follow-Up:

- **Post-Operative Care**: Pain management and monitoring for complications such as bile leak or wound infection.
- **Long-Term**: Follow-up visits are important to monitor for any recurrent symptoms or complications, including liver function tests.

Lifestyle Modification:

- **Low-Fat Diet**: After treatment, patients should avoid high-fat foods that can trigger gallbladder symptoms or stones.
- **Weight Management**: Obesity is a risk factor for cholecystitis, so maintaining a healthy weight can prevent recurrence.
- **Regular Exercise**: Encourage moderate physical activity to maintain overall health and reduce gallstone formation.

Surgical Intervention:

- **Cholecystectomy**: The definitive surgical treatment for cholecystitis.
    - **Laparoscopic Cholecystectomy**: A minimally invasive procedure to remove the gallbladder.
    - **Open Cholecystectomy**: For complicated cases or when laparoscopic surgery is not feasible.

4. Hernia (Inguinal, Femoral, Umbilical)

Diagnosis:

- **Clinical Evaluation**: These hernias are often diagnosed based on physical examination, with a bulge in the groin or abdomen that may be reducible.
    - **Symptoms**: Pain or discomfort, especially with heavy lifting, straining, or prolonged standing.
- **Imaging**:
    - **Ultrasound**: Can confirm the presence of a hernia and assess the contents.
    - **CT Scan**: Used if the hernia is large or complicated.

Management:

- **Conservative**: Observation for small, asymptomatic hernias.
- **Surgical**:
    - **Herniorrhaphy**: Repair of the hernia, with the option for open or laparoscopic surgery depending on the size and type of hernia.

Follow-Up:

- **Post-Operative Care**: Pain control and activity modification (avoiding heavy lifting).
- **Follow-Up Visits**: Check for complications such as recurrence or infection.

Lifestyle Modification:

- **Avoid Heavy Lifting**: Patients should avoid heavy lifting and straining to prevent worsening of the hernia.

- **Dietary Recommendations**: A high-fiber diet to prevent constipation, which can exacerbate symptoms by increasing intra-abdominal pressure.
- **Weight Loss**: If applicable, weight reduction can help reduce stress on the abdominal wall.

Surgical Intervention:

- **Hernia Repair Surgery**:
    - **Open Surgery**: Involves making an incision over the hernia and repairing it with sutures or mesh.
    - **Laparoscopic Surgery**: A minimally invasive technique for hernia repair using smaller incisions

5. Breast Lump (Benign and Malignant)

Diagnosis:

- **Clinical Evaluation**: A thorough physical examination, including palpation to assess the lump's size, consistency, and mobility.
    - **Symptoms**: Unilateral lump, often with pain or tenderness.
- **Imaging**:
    - **Mammography**: For women over 40, or younger women with high risk.
    - **Ultrasound**: Useful in younger women or those with dense breast tissue.
    - **Biopsy**: Fine needle aspiration (FNA) or core needle biopsy for histological evaluation.

Management:

- **Benign Lumps**: These may be managed conservatively with monitoring or surgical excision if symptomatic.
- **Malignant Lumps**: Surgical excision (mastectomy or lumpectomy) followed by chemotherapy, radiotherapy, or hormone therapy based on staging and pathology.

Follow-Up:

- **Post-Surgery**: Regular follow-up to check for recurrence or metastasis.

- **Oncology Care**: For malignant cases, ongoing oncology care with further imaging and adjuvant therapy.

Lifestyle Modification:

- **Diet and Exercise**: Healthy lifestyle practices, including a balanced diet and regular exercise, are important for overall breast health.
- **Regular Self-Examinations**: Educating patients on breast self-examinations to detect changes early.
- **Limiting Alcohol Consumption**: Excessive alcohol intake is a risk factor for breast cancer.

Surgical Intervention:

- **Benign Lump**: Often requires **lumpectomy** or **excision** if symptomatic or to prevent complications.
- **Malignant Lump**:
    - **Mastectomy**: Removal of the breast tissue, either partial (segmental) or total (simple mastectomy), depending on the extent of malignancy.
    - **Breast Reconstruction**: Following mastectomy, patients may undergo breast reconstruction surgery.

6. Colorectal Cancer

Diagnosis:

- **Clinical Evaluation**: Symptoms may include changes in bowel habits, blood in stools, weight loss, and fatigue.
    - **Symptoms**: Rectal bleeding, abdominal pain, or unexplained weight loss.
- **Imaging**:
    - **Colonoscopy**: The gold standard for diagnosing colorectal cancer, allowing visualization and biopsy.
    - **CT Scan**: For staging and assessing for metastasis.

Management:

- **Surgical**:
    - **Resection**: Surgical removal of the tumor with adjacent bowel and possibly lymph nodes.
    - **Stoma Creation**: In some cases, a colostomy may be needed if bowel continuity cannot be restored.
- **Chemotherapy**: Adjuvant chemotherapy is often recommended after surgery, depending on the stage of cancer.

Follow-Up:

- **Post-Surgery**: Regular surveillance with colonoscopy and imaging every 3-6 months.
- **Oncology Care**: Ongoing management for metastatic disease or recurrence, including chemotherapy or radiation.

Lifestyle Modification:

- **Healthy Diet**: High in fiber and low in red meats and processed foods.
- **Regular Physical Activity**: Encouraging exercise to reduce cancer risk.
- **Weight Management**: Maintaining a healthy weight to reduce colorectal cancer risk.
- **Smoking Cessation**: Smoking is a significant risk factor for colorectal cancer, so cessation should be encouraged.

Surgical Intervention:

- **Surgical Resection**: Removal of the tumor with a margin of healthy tissue, often followed by anastomosis (reconnection of the intestines).
- **Colostomy**: In cases where bowel anastomosis is not possible, a colostomy may be created for waste elimination.
- **Laparoscopic Resection**: Minimally invasive approach for tumor resection.

7. Trauma and Fractures

Diagnosis:

- **Clinical Evaluation**: History of trauma or injury, with symptoms including pain, swelling, bruising, and difficulty moving the affected area.
    - **Physical Examination**: Deformity, instability, or abnormal positioning of bones.
- **Imaging**:
    - **X-rays**: To diagnose fractures or dislocations.
    - **CT Scan**: For complex fractures or to assess for soft tissue damage.

Management:

- **Conservative**: Rest, ice, compression, and elevation (RICE) for simple fractures or sprains.
- **Surgical**:
    - **Open Reduction and Internal Fixation (ORIF)** for displaced fractures.
    - **External Fixation** for complex fractures.

Follow-Up:

- **Post-Surgery**: Monitoring for complications such as infection, non-union, or malunion.
- **Rehabilitation**: Physical therapy for functional recovery and strengthening.

Lifestyle Modification:

- **Calcium and Vitamin D**: For bone health, especially post-surgery, patients should be advised to maintain adequate calcium and vitamin D intake.
- **Physical Therapy**: Following bone fractures, regular physical therapy helps improve mobility and strength.
- **Weight Management**: Maintaining a healthy weight to reduce strain on the joints and bones.

Surgical Intervention:

- **Fracture Fixation**: Includes the use of screws, plates, or rods to stabilize fractures.
- **Open Reduction and Internal Fixation (ORIF)**: Surgical procedure used to fix severe fractures.
- **External Fixation**: In certain cases, a frame is used externally to stabilize broken bones.

8. Gallbladder Cancer

Diagnosis:

- **Clinical Evaluation**: Symptoms are often nonspecific, including jaundice, abdominal pain, and weight loss.
    - **Symptoms**: Right upper quadrant pain, nausea, vomiting, and fatigue.
- **Imaging**:
    - **Ultrasound**: Used to detect gallbladder wall thickening and masses.
    - **CT Scan/MRI**: Used to assess the extent of the disease and metastasis.

Management:

- **Surgical**:
    - **Cholecystectomy**: The primary treatment if diagnosed early.
    - **Liver Resection**: If cancer has spread locally.
- **Chemotherapy**: Adjuvant chemotherapy may be used for advanced stages.

Follow-Up:

- **Post-Surgery**: Regular follow-up for signs of recurrence or metastasis.
- **Oncology Care**: Ongoing surveillance and possible chemotherapy.

Lifestyle Modification:

- **Dietary Changes**: Low-fat diet to prevent strain on the gallbladder and liver.
- **Regular Health Checkups**: Particularly for those with gallstones or a history of cholecystitis.

Surgical Intervention:

- **Cholecystectomy**: Removal of the gallbladder, typically done in the early stages.
- **Partial Hepatectomy**: Removal of part of the liver if the cancer has spread there.
- **Chemotherapy and Radiotherapy**: Often used in conjunction with surgery for advanced cancer.

9. Pancreatitis

Diagnosis:

- **Clinical Evaluation**: Acute pancreatitis presents with severe epigastric pain, often radiating to the back, along with nausea, vomiting, and fever.
    - **Physical Examination**: Tenderness in the upper abdomen, guarding, and rigidity.
- **Laboratory Tests**:
    - **Amylase and Lipase**: Elevated in acute pancreatitis.
- **Imaging**:
    - **Abdominal Ultrasound**: To assess for gallstones, pancreatic pseudocysts, or other complications.
    - **CT Scan**: To assess the severity of inflammation and any complications like abscess or necrosis.

Management:

- **Conservative**: Fluid resuscitation, pain management, and fasting (NPO) for bowel rest.
- **Surgical**:
    - **Drainage** of pseudocysts or abscesses.
    - **Cholecystectomy** in cases of gallstone-induced pancreatitis.

Follow-Up:

- **Post-Discharge**: Ongoing monitoring for complications such as chronic pancreatitis, diabetes, or pancreatic cancer.
- **Dietary Modifications**: Low-fat diet and alcohol cessation.

Lifestyle Modification:

- **Alcohol Cessation**: Since alcohol is a major cause of pancreatitis, cessation is crucial.
- **Low-Fat Diet**: Reducing the intake of fats to minimize pancreatic stimulation.
- **Smaller, Frequent Meals**: Eating smaller, more frequent meals to reduce the workload on the pancreas.

Surgical Intervention:

- **Pancreatic Resection**: Removal of damaged portions of the pancreas.
- **Drainage of Pseudocysts**: If complications such as pseudocysts develop, drainage may be necessary.

10. Laparotomy (Exploratory Surgery)

Diagnosis:

- **Indications**: Laparotomy is indicated for undiagnosed abdominal conditions, such as suspected perforation, obstruction, or intra-abdominal bleeding.
    - **Clinical Evaluation**: Acute, unexplained abdominal pain or signs of sepsis.
- **Imaging**:
    - **CT Scan**: To assess for suspected conditions requiring surgery, such as perforated viscus or massive intra-abdominal hemorrhage.

Management:

- **Surgical Exploration**: The abdomen is opened to identify the underlying pathology, which may include bowel perforation, abscess, or malignancy.
- **Interventions**:

- **Repair or removal** of affected organs (e.g., bowel resection, abscess drainage).

Follow-Up:

- **Post-Operative Care**: Monitoring for infection, bowel function recovery, and pain management.
- **Long-Term**: Depending on findings, follow-up may involve further surgeries or treatment for underlying diseases (e.g., cancer, inflammatory bowel disease).

Lifestyle Modification:

- **Gradual Return to Normal Activity**: Following laparotomy, patients should avoid heavy lifting and strenuous activities until fully healed.
- **Healthy Diet**: A balanced diet to ensure proper healing after surgery.

Surgical Intervention:

- **Laparotomy**: This exploratory surgery is performed to investigate abdominal issues, such as bleeding or obstruction, and may lead to the identification and treatment of underlying conditions (e.g., tumors, infections).

18. Goiter (Thyroid Enlargement)

Diagnosis:

- **Clinical Evaluation**: The primary sign of goiter is a visible or palpable enlargement of the thyroid gland in the neck. It may present as a single nodule or diffuse enlargement.
    - **Symptoms**: Patients may present with symptoms related to either hypothyroidism (fatigue, weight gain, cold intolerance) or hyperthyroidism (weight loss, heat intolerance, irritability).
    - **Examine for signs of thyroid dysfunction**: Symptoms such as palpitations, heat intolerance, or tremors suggest hyperthyroidism, while fatigue, weight gain, and constipation suggest hypothyroidism.
- **Physical Examination**:

- **Palpation**: The thyroid gland is palpated to determine the size, consistency (smooth, firm, or rubbery), and presence of tenderness or nodules.
- **Auscultation**: Bruit over the thyroid gland can suggest an increased blood flow, seen in hyperthyroid conditions like Graves' disease.

- **Laboratory Tests**:
  - **Thyroid function tests**:
    - **TSH** (Thyroid Stimulating Hormone), **Free T4**, and **Free T3** to assess thyroid function (elevated TSH and low Free T4/T3 suggest hypothyroidism; suppressed TSH and elevated Free T4/T3 suggest hyperthyroidism).
    - **Anti-thyroid antibodies** (e.g., anti-TPO) if autoimmune thyroid disease (such as Hashimoto's thyroiditis or Graves' disease) is suspected.
- **Imaging**:
  - **Ultrasound**: Neck ultrasound can be used to determine the size, texture, and presence of nodules within the thyroid gland.
  - **Fine Needle Aspiration (FNA)**: If a nodule is present, an FNA biopsy may be performed to rule out malignancy.
- **Other Tests**:
  - **Radioactive iodine uptake** (RAIU) scan may be used in cases of suspected hyperthyroidism to assess the activity of the thyroid gland.
  - **CT or MRI of the neck** may be used in large goiters, especially if there are concerns about compression of surrounding structures (e.g., trachea, esophagus).

Management:

- **Initial Management**:
  - **Iodine supplementation**: In iodine-deficient areas, oral iodine supplements may be prescribed to reduce goiter size, especially in endemic regions.

- **Thyroid hormone replacement**: For hypothyroid patients, **Levothyroxine** is the treatment of choice. Dosage is individualized based on TSH levels and patient response.
- **Antithyroid medications**: For hyperthyroid patients (e.g., Graves' disease or toxic multinodular goiter), medications like **Methimazole** or **Propylthiouracil (PTU)** may be prescribed to reduce thyroid hormone production.

- **Surgical Intervention**:
  - **Thyroidectomy** may be required for:
    - Large goiters causing compressive symptoms (e.g., difficulty breathing or swallowing).
    - Suspicion or confirmation of malignancy (e.g., papillary or follicular thyroid cancer).
    - Patients who do not respond to medical treatment or those with hyperthyroidism unresponsive to medication.
  - **Total or partial thyroidectomy** may be performed, with careful monitoring of calcium levels post-surgery to prevent hypocalcemia.

- **Radioactive Iodine (RAI)**:
  - **RAI therapy** may be considered for patients with hyperthyroidism who fail medical therapy or for those with recurrent goiter after surgery. RAI helps to destroy thyroid tissue, reducing the size of the goiter.

Follow-Up:

- **Post-Discharge**:
  - **Thyroid function tests**: Regular monitoring of TSH, Free T4, and Free T3 levels is essential to assess the effectiveness of treatment (either thyroid hormone replacement or antithyroid medications).

- **Wound care**: If thyroid surgery was performed, regular checkups for wound healing and any complications such as bleeding or infection should be conducted.
- **Postoperative monitoring**: Monitoring for signs of hypocalcemia (e.g., tingling around the mouth, muscle cramps) if thyroidectomy was performed, as the parathyroid glands can be affected during surgery.
- **Follow-up visits**: For patients who underwent thyroidectomy, lifelong monitoring with thyroid function tests is required to adjust thyroid hormone replacement therapy. Additionally, patients who have undergone thyroid surgery should have regular follow-up to monitor for recurrence of goiter or cancer.

- **Lifestyle Recommendations**:
  - **Dietary changes**: In iodine-deficient areas, patients should be educated on the importance of using iodized salt.
  - **Symptom management**: For patients on thyroid hormone replacement therapy, they should be educated on the signs and symptoms of both hypo- and hyperthyroidism, as well as the importance of medication adherence.
- **Referral**:
  - **Endocrinology referral** may be necessary for patients with complex cases of goiter, especially those with autoimmune thyroid disease or those requiring further surgical management.
  - **Surgical referral** for patients with large or symptomatic goiters or suspected malignancy.

12. Piles (Hemorrhoids)

Diagnosis:

- **Physical Examination**: Visual inspection and digital rectal examination to identify external hemorrhoids.
- **Anoscopy/Proctoscopy**: To examine internal hemorrhoids and assess their grade.

- **Sigmoidoscopy/Colonoscopy**: If there are concerns about other gastrointestinal conditions, especially in patients with rectal bleeding.

Management:

- **Conservative Treatment**:
    - **Fiber Supplements** and **Stool Softeners** to ease bowel movements.
    - **Topical Treatments**: Creams containing hydrocortisone or witch hazel to reduce pain and swelling.
    - **Warm Sitz Baths**: To relieve pain and itching.
    - **Pain Relief**: Nonsteroidal anti-inflammatory drugs (NSAIDs) for pain management.

lifestyle Modification:

- **Increase Fiber Intake**: A high-fiber diet helps prevent constipation and reduces the need for straining during bowel movements.
- **Hydration**: Adequate fluid intake to prevent dehydration and soften stool.
- **Regular Exercise**: Encouraging physical activity to promote healthy digestion and reduce constipation.

Surgical Intervention:

- **Hemorrhoidectomy**: Surgical removal of large or prolapsed hemorrhoids.
- **Stapled Hemorrhoidopexy**: A less invasive surgical option that involves stapling to reposition hemorrhoidal tissue.
- **Rubber Band Ligation**: A non-invasive procedure where a rubber band is placed around the hemorrhoid to cut off its blood supply.

Follow-Up:

- **Post-Surgical Care**: Monitor for complications like infection, bleeding, or recurrence.
- **Dietary Recommendations**: Continued high fiber diet to prevent recurrence.

- **Symptom Management**: Patients should be educated on how to manage symptoms like pain or discomfort post-procedure.

13. Hydrocele

Diagnosis:

- **Physical Examination**: Palpation of the scrotum to check for swelling or fluid-filled masses.
- **Transillumination**: Passing light through the scrotum to confirm fluid presence.
- **Ultrasound**: To assess the size of the hydrocele and rule out other causes of swelling.

Management:

- **Conservative Approach**: Observation for small, asymptomatic hydroceles, as they may resolve on their own.
- **Surgical Intervention**:
    - **Hydrocelectomy**: Surgical removal of the hydrocele sac, particularly for large or symptomatic hydroceles.

lifestyle Modification:

- **Observation for Small Hydroceles**: In the case of asymptomatic, small hydroceles, observation may be sufficient.
- **Proper Hygiene**: Prevent infections, particularly in cases of complicated or communicating hydroceles.

Surgical Intervention:

- **Hydrocelectomy**: Surgical removal of the hydrocele sac. This is often the preferred treatment for large or symptomatic hydroceles.

Follow-Up:

- **Postoperative Care**: Monitor for signs of infection or fluid accumulation after surgery.

- **Patient Education**: Inform the patient about potential recurrence and when to seek medical attention if symptoms return.

14. Urolithiasis (Kidney Stones)

Diagnosis:

- **Physical Examination**: Flank tenderness on palpation or percussion may indicate a kidney stone.
- **Urinalysis**: To detect blood or crystals in the urine.
- **Imaging**:
    - **CT Scan** (Non-contrast) for precise visualization of stones.
    - **Ultrasound**: Preferred for pregnant women or young children.

Management:

- **Conservative Management**:
    - **Hydration**: Increased fluid intake to help flush out smaller stones.
    - **Pain Management**: NSAIDs or opioids for severe pain.
    - **Alpha-blockers**: To help pass stones in the ureter.

Lifestyle Modification:

- **Increased Fluid Intake**: Drinking plenty of fluids to prevent stone formation, particularly water.
- **Low-Sodium, Low-Oxalate Diet**: Avoid foods high in sodium and oxalates, which can contribute to stone formation.
- **Regular Exercise**: Maintaining physical activity to support kidney function.

Surgical Intervention:

- **Lithotripsy**: Non-invasive treatment using shock waves to break down kidney stones.

- **Ureteroscopy**: A procedure to remove stones from the ureter or kidney using a small camera and instruments.
- **Percutaneous Nephrolithotomy**: A minimally invasive surgery to remove large kidney stones through a small incision in the back.
- **Open Surgery**: For very large stones or when other methods fail.

Follow-Up:

- **Monitoring Urinary Symptoms**: Follow-up after stone passage or surgery to monitor for any new stones or complications.
- **Stone Analysis**: To understand the composition of the stones and guide prevention strategies.

15. Varicose Veins

Diagnosis:

- **Physical Examination**: Inspection for visible, bulging veins.
- **Duplex Ultrasound**: To evaluate the severity and location of varicose veins and assess venous reflux.

Management:

- **Conservative Management**:
    - **Compression Stockings**: To reduce swelling and discomfort.
    - **Elevating Legs**: To improve circulation and reduce swelling.
    - **Weight Management**: Reduces pressure on the veins.

Lifestyle Modification:

- **Elevate Legs**: Encourage patients to elevate their legs to improve circulation, especially during periods of prolonged standing.
- **Compression Stockings**: Use of compression stockings to improve blood flow in the veins and reduce swelling.

- **Weight Loss**: Maintaining a healthy weight to reduce pressure on the veins.

Surgical Intervention:

- **Sclerotherapy**: Injection of a solution into the varicose vein to cause it to collapse and fade.
- **Endovenous Laser Therapy (EVLT)**: A minimally invasive procedure where a laser is used to close off varicose veins.
- **Vein Stripping**: Surgical removal of varicose veins.

Follow-Up:

- **Monitoring for Recurrence**: Patients should be monitored for recurrence of varicose veins, particularly in the first few months after treatment.
- **Post-Treatment Care**: Compression stockings may be required for several weeks after certain treatments.

16. Peptic Ulcer Disease

Diagnosis:

- **Endoscopy (EGD)**: Gold standard for diagnosing peptic ulcers, allowing for direct visualization.
- **Urease Breath Test**: To detect **Helicobacter pylori** infection.
- **Biopsy**: To rule out malignancy, particularly in gastric ulcers.

Management:

- **Medical Management**:
    - **Proton Pump Inhibitors (PPIs)**: To reduce stomach acid.
    - **Antibiotics**: For **H. pylori** eradication (e.g., clarithromycin, amoxicillin).
    - **H2-Receptor Antagonists**: For symptom control and healing.
    - **Antacids and Cytoprotective Agents**: To protect the stomach lining.

Lifestyle Modification:

- **Avoid Smoking and Alcohol**: Smoking and alcohol can exacerbate ulcer symptoms and delay healing.
- **Dietary Adjustments**: Avoid spicy, acidic, or greasy foods, which can irritate the stomach lining.
- **Stress Management**: Since stress can contribute to ulcers, stress reduction techniques should be encouraged.

Surgical Intervention:

- **Vagotomy**: A surgical procedure that involves cutting the vagus nerve to reduce acid production in the stomach.
- **Gastric Resection**: Removing part of the stomach or duodenum in severe, chronic cases.
- **Endoscopic Procedures**: For non-surgical options, endoscopic treatments to cauterize bleeding ulcers or place clips.

Follow-Up:

- **Symptom Monitoring**: Follow-up endoscopy or imaging for patients with persistent symptoms or complications.
- **Lifestyle Advice**: Adherence to lifestyle changes (avoiding alcohol, smoking, spicy foods) to prevent recurrence.

17. Gastric Cancer

Diagnosis:

- **Endoscopy (EGD)**: For direct visualization of tumors or ulcers.
- **Biopsy**: To confirm malignancy and obtain histological information.
- **Imaging**: CT or PET scan for staging and spread.

Management:

- **Surgical Intervention**:
    - **Gastrectomy**: Partial or total removal of the stomach depending on the cancer's extent.
    - **Lymph Node Dissection**: Removal of affected lymph nodes to prevent metastasis.

- **Chemotherapy and Radiotherapy**: Often post-surgery to target remaining cancer cells.

Follow-Up:

- **Postoperative Monitoring**: Regular check-ups to assess recovery and catch any recurrence.
- **Nutritional Support**: After gastrectomy, patients may require long-term nutritional support, including vitamin B12 supplements.
- **Cancer Surveillance**: Long-term monitoring with imaging and endoscopy as needed.

Lifestyle Modification:

- **Dietary Adjustments**: Reducing salt intake and increasing consumption of fruits, vegetables, and fiber.
- **Avoid Smoking and Alcohol**: Both are risk factors for gastric cancer and should be avoided.
- **Weight Management**: Obesity is a contributing factor to certain types of cancers, including gastric cancer.

Surgical Intervention:

- **Gastrectomy**: Removal of part or all of the stomach, depending on the extent of the cancer.
- **Lymph Node Dissection**: Removal of nearby lymph nodes that may be affected by cancer.
- **Chemotherapy and Radiotherapy**: Often combined with surgery in advanced stages.

18. Esophageal Cancer

Diagnosis:

- **Endoscopy (EGD)**: Visualization of the esophageal tumor.
- **Biopsy**: To confirm the type of cancer.
- **Imaging**: CT, PET, or MRI to assess tumor size and metastasis.

Management:

Lifestyle Modification:

- **Quit Smoking**: Smoking cessation is critical as smoking is a significant risk factor.
- **Limit Alcohol Consumption**: Excessive alcohol intake is a risk factor for esophageal cancer.
- **Dietary Modifications**: Encouraging soft, easy-to-digest foods during cancer treatment.

Surgical Intervention:

- **Esophagectomy**: Surgical removal of part or all of the esophagus.
- **Chemoradiation**: Combined chemotherapy and radiotherapy, often used before or after surgery to improve outcomes.
- **Palliative Surgery**: In advanced stages, surgery may be used to create a bypass or to relieve symptoms.

Follow-Up:

- **Post-Treatment Surveillance**: Regular imaging and endoscopy to monitor for recurrence.
- **Nutritional Support**: Patients may require feeding tubes or dietary adjustments post-surgery.
- **Speech Therapy**: For patients who undergo esophagectomy to assist with swallowing difficulties.

19. Rectal Cancer

Diagnosis:

- **Rectal Examination**: Physical exam to feel for abnormal masses.
- **Colonoscopy**: Visual inspection of the rectum and colon.
- **Biopsy**: For confirmation of malignancy.
- **Imaging**: CT or MRI for staging and spread assessment.

Management:

Lifestyle Modification:

- **High-Fiber Diet**: Encouraging a diet high in fiber to promote regular bowel movements and reduce the risk of colorectal cancer.
- **Physical Activity**: Regular physical exercise is associated with a reduced risk of colorectal cancer.
- **Quit Smoking and Alcohol Reduction**: Both smoking and excessive alcohol consumption are linked to an increased risk of colorectal cancer.

Surgical Intervention:

- **Low Anterior Resection**: Removal of the tumor with anastomosis of the remaining bowel.
- **Abdominoperineal Resection (APR)**: In cases of low rectal cancer, removal of the anus, rectum, and surrounding tissue.
- **Colostomy**: Often required in cases where bowel anastomosis is not possible.

Follow-Up:

- **Cancer Surveillance**: Regular colonoscopies and imaging to monitor for recurrence.
- **Postoperative Care**: Stoma management and psychological support for patients with permanent colostomies.

20. Cleft Lip and Palate

Diagnosis:

- **Clinical Examination**: Visible diagnosis of cleft lip and palate at birth.
- **Imaging**: In some cases, craniofacial imaging may be done to assess the severity.

Management:

lifestyle Modification:

- **Feeding Techniques**: Parents should be educated on the proper feeding techniques for infants with cleft lip and palate to prevent aspiration and ensure adequate nutrition.

- **Speech Therapy**: Early speech therapy can assist children in learning proper speech patterns after surgery.

Surgical Intervention:

- **Cleft Lip Repair**: Surgical repair of the cleft lip, typically performed within the first few months of life.
- **Cleft Palate Repair**: Repair of the cleft palate usually performed between 9 and 18 months.
- **Orthodontic Treatment**: Follow-up orthodontic treatments may be necessary as the child grows.

Follow-Up:

- **Speech Therapy**: Early intervention to assist with speech development.
- **Regular Follow-ups**: For dental, speech, and hearing assessments.
- **Psychosocial Support**: For parents and the child to address self-esteem and social challenges.

21. Prostate Cancer

Diagnosis:

- **Prostate-Specific Antigen (PSA) Test**: Elevated levels of PSA are indicative of potential prostate cancer.
- **Digital Rectal Examination (DRE)**: Palpation for irregularities in the prostate.
- **Biopsy**: The definitive test to confirm cancer diagnosis.
- **Imaging**: MRI or CT for staging and spread.

Management:

Lifestyle Modification:

- **Healthy Diet**: Rich in fruits, vegetables, and low in red meat.
- **Regular Exercise**: Physical activity is encouraged to reduce the risk of prostate cancer and improve general health.

- **Weight Management**: Obesity is a known risk factor, so maintaining a healthy weight is advised.

Surgical Intervention:

- **Prostatectomy**: Removal of the prostate gland either partially or completely (radical prostatectomy) depending on the cancer stage.
- **Lymph Node Dissection**: Removal of lymph nodes that may be affected by cancer.
- **Radiotherapy**: Often used in conjunction with surgery to treat prostate cancer.

Follow-Up:

- **Monitoring PSA Levels**: To detect recurrence after surgery or radiation therapy.
- **Regular Imaging**: MRI or CT scans to assess the spread of cancer.
- **Psychosocial Support**: Addressing the emotional and physical challenges post-treatment, including sexual function and incontinence.

Pre-operative Management

- History and Physical Exam: Thorough assessment of the patient's medical history, allergies, and surgical risks.
- Laboratory Tests: CBC, blood type and cross-match, renal and liver function tests, and ECG for elderly patients or those with comorbidities.
- Imaging: As indicated by the diagnosis (e.g., X-rays, ultrasound, CT scans).
- Medications: Administer prophylactic antibiotics, pain management (e.g., NSAIDs or opioids), and pre-operative sedation if needed.

Post-operative Care

- Pain Management: Provide adequate analgesia (e.g., paracetamol, NSAIDs, opioids).
- Wound Care: Regular dressing changes, monitoring for signs of infection (redness, swelling, discharge).
- Monitoring: Vital signs (temperature, blood pressure, heart rate) and output (urine, drainage).

- Early Mobilization: Encourage ambulation to prevent deep vein thrombosis and improve circulation.

Referral and Follow-up

- Referral:
    - For complex or high-risk surgeries (e.g., malignancies, severe trauma), refer to a specialized surgical center.
    - For post-operative complications (e.g., infections, non-healing wounds), refer to the appropriate specialist.
- Follow-up:
    - For all surgical procedures, schedule follow-up appointments at 1 week and 1 month post-surgery.
    - Assess wound healing, pain levels, and functionality.
    - Educate patients on signs of infection or complications and the importance of follow-up care.

Documentation and Reporting

- Patient Records: Maintain accurate and up-to-date records, including pre-operative assessments, operative notes, post-operative care, and follow-up evaluations.
- Reporting: Regularly review surgical outcomes, complications, and mortality data to ensure compliance with STG and identify areas for improvement.

Performance Indicators for Surgical OPD Protocol

To ensure the proper utilization and effectiveness of the Surgical OPD STG Protocol at Deder General Hospital, key performance indicators (KPIs) are essential for continuous monitoring and quality improvement. These indicators help assess the implementation and outcomes of the protocol and identify areas needing improvement. Below are suggested indicators for monitoring the Surgical OPD protocol:

Area	Indicator	Description	**Compliance Check (Y/N)**	**Findings**	**Comments/Action Required**

1. Pre-Operative Care	1. Timeliness of pre-operative assessments	Percentage of patients who undergo pre-operative assessments on the same day.			
	2. Laboratory tests completion rate	Percentage of patients receiving all required lab tests prior to surgery.			
	3. Patient risk stratification documented	Percentage of patients with a complete risk assessment documented.			
	4. Antibiotic prophylaxis compliance	Percentage of surgeries with appropriate prophylactic antibiotics administered.			
	5. Patient education completion	Percentage of patients who receive pre-operative education on procedure and care.			
	6. Pre-operative fasting adherence	Percentage of patients who comply with fasting instructions before surgery.			
2. Intra-Operative Care	7. Surgical team adherence to sterile technique	Percentage of surgeries with documented adherence to sterile procedures.			
	8. Documentation of surgical procedure	Percentage of surgeries with complete and			

		accurate procedure documentation.			
	9. Use of intraoperative imaging (if applicable)	Percentage of surgeries where appropriate imaging (e.g., X-ray, ultrasound) is used.			
	10. Surgical complications documented	Percentage of surgeries with documented intraoperative complications.			
3. Post-Operative Care	11. Timeliness of post-operative pain management	Percentage of patients who receive pain management within 30 minutes post-surgery.			
	12. Post-operative infection rates	Percentage of patients with post-operative infections.			
	13. Wound healing rate	Percentage of wounds with no complications (e.g., infection, dehiscence).			
	14. Follow-up appointment adherence	Percentage of patients who attend their scheduled post-operative follow-up appointment.			
	15. Early mobilization rate	Percentage of patients who begin mobilization within 24 hours post-surgery.			

4. Surgical Outcome	16. Surgical site infection (SSI) rate	Percentage of patients with surgical site infections within 30 days post-surgery.			
	17. Readmission rate within 30 days post-surgery	Percentage of patients readmitted for complications within 30 days post-surgery.			
	18. Patient satisfaction with surgical care	Percentage of patients reporting high satisfaction (based on a survey or feedback).			
	19. Length of hospital stay	Average length of hospital stay for surgical patients.			
	20. Mortality rate within 30 days post-surgery	Percentage of surgical patients who die within 30 days of surgery.			
5. Surgical Quality Improvement	21. Rate of complications by type	Percentage breakdown of complications (e.g., infection, bleeding, organ injury).			
	22. Number of unplanned re-operations	Number of patients who undergo re-operation due to initial surgery failure.			
	23. Peer review participation	Percentage of surgical cases reviewed during the departmental peer review process.			

	24. Surgical protocol compliance rate	Percentage of surgeries conducted according to the STG protocol.			
6. Documentation and Reporting	25. Accuracy of surgical documentation	Percentage of patient records with complete and accurate surgical documentation.			
	26. Reporting of complications and adverse events	Percentage of complications/adverse events documented and reported promptly.			

Implementation and Review Process

1. Implementation:
    - The protocol will be communicated to all surgical OPD staff, including surgeons, nurses, and administrative staff.
    - Training will be provided on the use of the protocol, including pre-operative assessments, surgical procedures, and post-operative care.
    - Surgical staff will be informed about the importance of documenting all aspects of patient care, especially critical information related to the STG.
2. Monitoring:

FREQUENCY OF MONITORING

1. Department level Monitoring:

- **Monthly audits** will be performed on randomly selected cases to evaluate adherence to key performance indicators.
  - ✓ For areas with recurring non-compliance, specific action plans with timelines and responsible personnel will be developed.
  - ✓ The implementation of these plans will be monitored during subsequent audits to ensure progress.

2. Quality Unit Monitoring:

- The hospital's quality unit should perform **quarterly monitoring** of protocol adherence across all departments, utilizing standardized monitoring tools.
  - ✓ Findings from these reviews will be summarized in quarterly reports that highlight trends, successes, and areas requiring improvement.
  - ✓ Any deviations identified during monitoring will be addressed through corrective action plans with timelines and responsible personnel developed collaboratively by the Quality Unit and Department teams.

DEDER GENERAL HOSPITAL

SURGERY DEPARTMENT

Standard Treatment Guidelines (STG) Protocol

"Adapted from National STG 2021 4th Edition"