



DEDER GENERAL HOSPITAL

SURGICAL SERVICE PROTOCOL

PREPARED BY: HSQU

July 2016E.C

Deder, Eastern Ethiopia

SMT APPROVAL SHEET



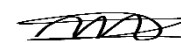
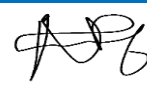



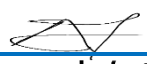









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1. Introduction

Surgical services are an essential component of comprehensive hospital care, providing both elective and emergency procedures that directly impact patient outcomes and community health. At Deder General Hospital, surgical care is guided by **evidence-based clinical standards**, the **Ethiopian Hospital Alliance for Quality (EHAQ)** 4th cycle audit requirements, and internationally recognized guidelines (WHO, AORN, CDC, Joint Commission).

This protocol establishes a **standardized, auditable, and patient-centered** approach to surgical care across all phases—preoperative, intraoperative, and postoperative. It aligns hospital operations with national quality improvement initiatives, ensuring compliance with the Ethiopian Hospitals Service Improvement Guideline (EHSIG), Infection Prevention and Control (IPC) protocols, and regulatory requirements.

2. Purpose

The purpose of this protocol is to:

- ✎ Standardize surgical service delivery to **ensure patient safety, efficiency, and quality**.
- ✎ Minimize surgical complications, including surgical site infections (SSI), wrong-site surgeries, and perioperative morbidity.
- ✎ Ensure compliance with **EHAQ surgical service efficiency and safety standards** and **international best practices**.
- ✎ Define clear **roles, responsibilities, and verification mechanisms** for all surgical team members.
- ✎ Integrate surgical service performance monitoring into the hospital's Continuous Quality Improvement (CQI) program.

3. Scope

This protocol applies to **all surgical procedures** performed within **Deder General Hospital**, including:

- ✍ Main Operating Theaters (Elective & Emergency)
- ✍ Day Care Surgery Units
- ✍ Ambulatory Surgery Centers
- ✍ Bedside surgical procedures requiring sterile technique (e.g., chest tube insertion, tracheostomy)

It covers **both surgical specialties** General Surgery and Obstetrics & Gynecology.

Personnel covered under this protocol include:

- ✍ Surgeons & Surgical Assistants
- ✍ Anesthesiologists & Anesthesia Providers
- ✍ Scrub Nurses & Circulating Nurses
- ✍ PACU Nurses
- ✍ Surgical Technologists
- ✍ Pathology, Radiology, and Biomedical staff

4. Objectives

General Objective:

- ✂ To ensure safe, effective, efficient, and patient-centered surgical care that meets national and international quality standards.

Specific Objectives:


1. **Standardize** surgical workflows in alignment with **EHAQ Change Package 7: Surgical Service Efficiency and Safety**.
2. **Implement evidence-based protocols** for all perioperative phases—preoperative, intraoperative, and postoperative.
3. **Improve OR efficiency** by meeting the EHAQ benchmark of **≥3 elective cases per functional table per day** and first incision before 8:00 a.m.
4. **Minimize cancellations** through multidisciplinary pre-admission evaluation clinics.
5. **Enhance patient safety** through strict adherence to the WHO Surgical Safety Checklist (SSC).
6. **Reduce surgical site infections (SSI)** through robust surveillance, antibiotic prophylaxis, and sterile technique.
7. **Promote continuous improvement** via regular surgical audits, QI projects, and performance monitoring.
8. **Strengthen governance** by ensuring active leadership from the OR Director, surgical heads of departments, and multidisciplinary teams.

5. Governance & Management Structure


To ensure accountability, efficiency, and adherence to national and international surgical standards, Deder General Hospital's surgical service governance shall be organized as follows:

5.1 Leadership Structure










OR Director:

-  Appointed senior surgeon responsible for overall OR operations, quality, and compliance with EHAQ standards.

Heads of Surgical Departments (General Surgery, OB/GYN, etc.):

-  Oversee specialty-specific performance, ensure compliance with protocols, and participate in governance meetings.

Surgical Service Committee (SaLTS or equivalent):

-  Multidisciplinary team including:
 -  OR Director (Chair)
 -  Anesthesia Head
 -  Nurse-in-Charge (Scrub/Circulating)
 -  PACU Lead Nurse
 -  Infection Prevention Focal
 -  Quality Improvement Officer
 -  Biomedical Engineering Representative
 -  Pharmacy Representative

Surgical and Anesthesia Service Organogram

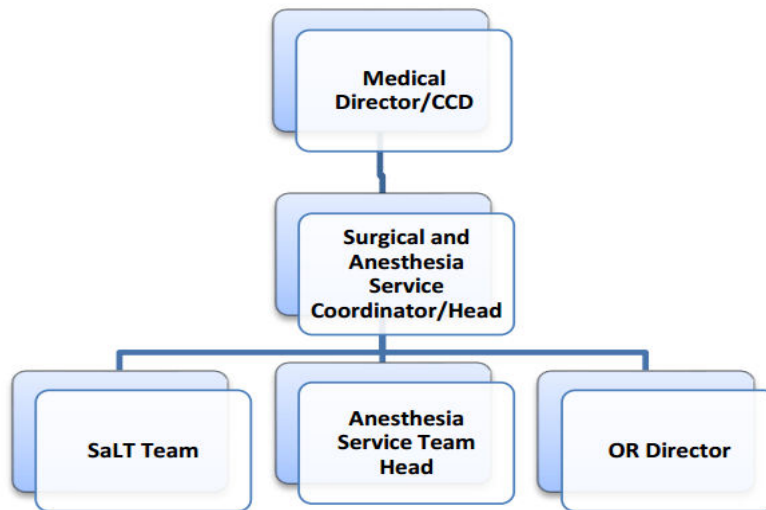








Figure 2: suggested general and comprehensive specialized hospitals' surgical and anesthesia services organogram

5.2 Roles & Responsibilities



OR Director:

-  Ensure the surgical schedule is met and monitored.
-  Lead daily OR team **briefings and debriefings**.
-  Approve surgical case lists and coordinate emergency slots.
-  Review performance and link identified gaps to QI projects.

Surgical Heads of Department:

-  Oversee clinical decision-making, case allocation, and resident supervision.
-  Ensure preoperative patient optimization and readiness.


Nurse-in-Charge:

-  Maintain OR readiness, supply management, and adherence to sterile protocols.
-  Coordinate scrub and circulating staff schedules.

Anesthesia Head:

-  Ensure anesthesia safety, pre-op evaluation, and PACU standards.

Quality Officer:

-  Monitor EHAQ indicators, surgical safety checklist compliance, and SSI rates.

5.3 Governance Meetings

Daily OR Briefing & Debriefing:

-  Review cases, anticipated challenges, equipment needs, and postoperative outcomes.

Weekly Surgical Governance Meeting:

- ✚ Review OR productivity, cancellations, complications, SSI surveillance, and QI updates.

✚ **Quarterly Surgical Performance Review:**

- ✚ Evaluate trends, benchmark against EHAQ indicators, and adjust protocols.

5.4. Elective Surgery Policy

Purpose:

- ✚ To ensure safe, high-quality surgical outcomes for patients undergoing elective procedures by requiring direct supervision and participation of a senior physician in all such surgeries. This policy reduces intraoperative risks, supports clinical decision-making, and enhances training for junior staff.

Policy Statement:

- ✚ **All elective surgeries** performed at Deder General Hospital must be conducted in the physical presence of a senior physicians (who is responsible for overseeing the procedure from start to finish.

Scope:



- ✚ Applies to both departments Obstetrics and Gynecology and General Surgery performing planned (non-emergency) operative procedures.

Responsibilities:



✚ **Senior Physician:**

- ✚ Lead and supervise the procedure, ensuring adherence to hospital protocols and evidence-based surgical practices.
- ✚ Provide intraoperative guidance and immediate clinical decision-making support.
- ✚ Ensure proper documentation of their presence in the operative notes and OR register.

Operating Team:


-  Notify and confirm the availability of the senior physician before commencing surgery.
-  Document the senior physician's name and role in the operative record.

Quality Officer / OR Director:





-  Monitor compliance through regular audits of surgical charts and OR logs.
-  Investigate and document any deviations from this policy, with corrective actions taken


6. Preoperative Preparations

6.1 Preoperative Evaluation & Risk Assessment






 Conducted at least a day before surgery by surgeon/anesthesiologist.

 Includes:

-  Comprehensive history (cardiac, pulmonary, renal, diabetic status, allergies, medications, prior anesthesia reactions).
-  Physical examination focused on airway, cardiopulmonary, and surgical site.
-  ASA Physical Status Classification documented.
-  Risk calculators (e.g., NSQIP) when appropriate.

 **Verification:** Documentation in EHR and pre-op clinic records.

6.2 Pre-Admission Evaluation Clinic

-  **EHAQ Requirement:** Multidisciplinary evaluation including anesthesia assessment.
-  All pre-op labs and imaging completed **≥1 day before surgery.**
-  Consent obtained, signed, and witnessed.
-  Counseling provided on procedure, anesthesia, and recovery expectations.
-  **Checklist Items:**

- + Completed investigations
- + NPO status confirmed
- + Pre-op medications reviewed
- + DVT prophylaxis plan
- + Skin preparation plan

6.2.1. Pre-operative Conference

✍ The pre-operative conference is an important surgical team forum for pre-operative discussion and communication about surgical patients. It improves efficiency, strengthens team coordination, and optimizes patient safety. Studies show that, when conducted properly, it causes no delays and can even prevent last-minute cancellations.

✍ While the WHO and other professional bodies have developed formal guidelines for pre-operative briefings, the format can be fully or partially adopted based on local needs.

✍ **Thumb Rules for Conducting a Pre-operative Conference:**

1. **Participants:**

✍ The pre-operative conference should bring the following team members together:

- + Surgeon,
- + Anesthetist,
- + OR nurse,
- + ward nurse, and
- + Other relevant personnel.

2. **Leadership:** The surgeon leads the conference.

3. **Timing:** Held a day before the operation.

4. **Communication:** Outcomes are communicated via available channels to all stakeholders, and most importantly, to the patient.
5. **Integration with Scheduling:** The surgical list should reflect the inputs and outcomes of the pre-operative conference.
6. **Checklist Use:** A standardized pre-operative conference checklist is used to ensure all team members have accurate and explicit information regarding the patient and procedural plans.

6.3 Informed Consent

- ✎ Obtained by the Anesthesia.
- ✎ The patient informed consent form covers the following:
 - + Type of the surgery/anesthesia
 - + Site of operation/anesthesia including laterality or level
 - + The expected benefits
 - + Risks and adverse effects
 - + Alternate treatments available
 - + The consequences of not having the surgery
- ✎ **Documentation:** Signed consent placed in medical record.

6.4 Preoperative Testing

- ✎ As per patient's age, comorbidities, and surgical risk:
 - + CBC, BMP, ECG, CXR, HbA1c (if indicated)
 - + Cardiac clearance for high-risk patients

6.5 Medication & NPO Management

- ✎ NSAIDs: Hold 5 days pre-op
- ✎ Anticoagulants: Managed per bridging protocol
- ✎ NPO guidelines:
 - ✚ Clear liquids: 2 hours
 - ✚ Breast milk: 4 hours
 - ✚ Light meal: 6 hours
 - ✚ Full meal: 8 hours

6.6 Surgical Site Marking

- ✎ Marked in presence of patient with non-erasable marker.
- ✎ Exemptions per policy.

6.7 Preoperative Antibiotic Prophylaxis

- ✎ Administer within 60 minutes of incision (120 min for vancomycin/fluoroquinolones).
- ✎ Redose as per duration/blood loss.

6.8 DVT Prophylaxis

- ✎ Caprini or Padua score-based.
- ✎ Mechanical and/or pharmacological measures as indicated.

6.9 Preoperative Checklist Completion



- ✎ Verified by circulating nurse.
- ✎ Documented in EHR and on OR board.

7. Intraoperative Care


This section governs all surgical activities within the operating theater from patient entry until transfer to the Post-Anesthesia Care Unit (PACU). It ensures **safety, efficiency, and compliance with EHAQ surgical service efficiency standards.**

7.1 Operating Room (OR) Preparation




Physical Readiness:

-  OR cleaned and disinfected after previous case.
-  All equipment checked and functional (OR table, lights, ESU, suction, anesthesia machine, warming devices).






Supplies:

-  Required sterile packs, sutures, and instruments verified using a **customized pre-op supply checklist.**

7.2 First Case On-Time Start



-  **Target:** First incision before **8:00 a.m.** for elective surgeries.
-  **Monitoring:** OR register records time of anesthesia **induction** and **incision.**
-  **QI Link:** Delays analyzed monthly, with improvement actions recorded.

7.3 Turnaround Time




-  **Goal:** ≤20 minutes between cases.
-  Team responsibilities clearly defined:
 -  **Scrub/Circulator:** Clean, prepare, and reset instruments.
 -  **Anesthesia:** Prepare next patient in holding/prep room.
-  **Verification:** Recorded in OR log; deviations addressed in OR governance meeting.

7.4 Team Briefing & Time-Out

Pre-Time-Out Huddle:

-  Conducted before patient entry or post-anesthesia induction.
-  Covers case details, special equipment, anticipated challenges.



Time-Out Procedure (WHO Surgical Safety Checklist Step 1):

-  Led by circulating nurse.
-  Confirm patient ID, procedure, site, position, consent, antibiotic prophylaxis, and allergies.
-  All team members must verbally confirm.



7.5 Surgical Conduct & Sterility

Scrub Protocol: 5–7 min surgical scrub; sterile gowning/gloving.





Sterile Field Maintenance:

-  No crossing sterile field.
-  Immediate action for breaches.

Specimen Handling:

-  Labeled at point of care (patient name, MRN, date, time, site, specimen type).
-  Double-checked by RN and surgeon before dispatch.

7.6 Anesthesia Management

-  Continuous monitoring: ECG, SpO₂, NIBP, EtCO₂, temperature.
-  **Documentation:** Vital signs every 10 min in anesthesia record.
-  Maintain normothermia with warming devices.
-  Immediate response to adverse events (MH, anaphylaxis, arrhythmias) per hospital emergency protocols.

7.7 Fire Safety

- ✍ **Risk Assessment** for all cases involving ignition sources (ESU, laser) and flammable agents.
- ✍ **Actions:**
 - ✚ Allow alcohol-based prep to dry fully.
 - ✚ Keep O₂ <30% where possible.
 - ✚ Fire extinguishers, saline, and wet towels available.

7.8 Shift Implementation

- ✍ **Two-shift schedule** (morning and afternoon) to optimize productivity.
- ✚ **Morning Shift** starts before **8:00 AM** and ends **11:30 AM**
 - ☞ *11:30AM to 1:30PM* will be a Lunch time this is to enable the morning shift to take longer hours if the last surgery takes longer hours than expected.
- ✚ Afternoon Shift of time will last **1:30PM** to **9:30 PM**

7.9 Briefing & Debriefing

- ✍ **Daily Briefing:** Conducted at start of day by OR Director or delegate.
- ✍ **Post-Case Debriefing:**
 - ✚ Review actual vs. planned outcomes.
 - ✚ Identify issues (delays, equipment failures, complications).
 - ✚ Assign follow-up actions.
- ✍ **Documentation:** Recorded in OR governance log.

7.10 Quality Monitoring

- ✍ **OR Efficiency QI Project:** Monitors case volumes, start times, turnaround, cancellations.
- ✍ **EHAQ Requirement:** Performance reviewed biweekly, linked to action plans and accountability measures.

7.11 Surgical Safety Checklist Compliance

✍ **SSC** completed in all three stages:

✚ **Before induction**

✚ **Before skin incision**

✚ **Before patient leaves OR**

✍ **Audit:** At least once monthly; compliance rate $\geq 95\%$.

8. Postoperative Surgical Care

This section governs care from the moment the patient leaves the operating room until discharge, ensuring **safe recovery, early complication detection, and compliance with EHAQ surgical service safety standards.**

8.1 Transfer from OR to PACU

✍ **Handoff:** Conducted using SBAR format (Situation, Background, Assessment, Recommendation).

✍ **Minimum Information:**

✚ Procedure performed, surgeon name.

✚ Anesthesia type and duration.

✚ Estimated blood loss (EBL), fluids, urine output.

✚ Drains, catheters, and lines in place.

✚ Intraoperative complications.

✚ Pain and nausea management plan.

✍ **Verification:** PACU nurse and anesthesia provider sign handover sheet.

8.2 PACU Monitoring

✍ **Vital Signs:** Every 15 min until stable.



✍ **Parameters Monitored:**

✚ Consciousness level (Aldrete score; ≥ 9 for discharge).



- + Pain score (0–10 scale).
- + Nausea/vomiting.
- + Surgical site integrity (bleeding, drain function).
- + Airway patency, oxygen saturation.
- + Neurological status (for regional/spinal anesthesia).

8.3 Pain Management

Multimodal Analgesia:


- + Acetaminophen and NSAIDs unless contraindicated.
- + Opioids titrated to effect.
- + Regional blocks maintained as per plan.
-  Reassess pain every 30 minutes until stable.
-  Document pain scores and medication effectiveness.

8.4 Nausea and Vomiting Control

-  **Prophylaxis:** Ondansetron, dexamethasone, or droperidol for high-risk patients.
-  **Management:** Treat promptly to avoid wound strain or aspiration risk.

8.5 Complication Recognition & Response

Common Complications:

- + **Hemorrhage:** Monitor for hypotension, tachycardia, hematoma.
- + **Respiratory depression:** Provide O₂, consider naloxone if opioid-related.
- + **Malignant hyperthermia:** Immediate dantrolene administration.
- + **Anaphylaxis:** Epinephrine IM/IV, fluids, steroids.
-  **Escalation Protocol:** Immediate notification of surgeon and anesthesia provider; activation of emergency response team if needed.

8.6 Postoperative Hospital Stay Monitoring

- + Protocolized pre- and postoperative stay for common procedures.
- + Monitor actual stay against protocol.
- + Link deviations to improvement plans.

✎ **Checklist:** Used daily by ward nurse to monitor recovery milestones.

8.7 SSI Surveillance and Prevention

- ✎ SSI registers maintained in OR, surgical wards, OPD follow-up clinic.
- ✎ WHO SSI checklist used for every patient postoperatively.
- ✎ Follow-up includes wound inspection, documentation, and patient education.
- ✎ Monthly SSI rate calculation; trends reviewed in governance meeting.
- ✎ Link high SSI rates to targeted QI projects.

8.8 Discharge Criteria

From PACU to Ward:

- ✎ Aldrete ≥ 9 .
- ✎ Stable vitals for ≥ 30 min.
- ✎ Pain controlled.
- ✎ No active bleeding.
- ✎ Airway intact.

From Hospital (Discharge Home):

- ✎ Meets ward discharge criteria.
- ✎ Oral intake tolerated.
- ✎ Ambulating or at baseline mobility.
- ✎ Responsible adult escort for day surgery patients.

8.9 Discharge Instructions

✍ Written and verbal instructions covering:

- + Wound care.
- + Activity restrictions.
- + Medications (doses, side effects).
- + Warning signs (fever, redness, swelling, drainage).
- + Follow-up appointment date.
- + 24-hour emergency contact number.

8.10 Operative Report Completion

✍ **Timeline:** Completed within 24 hours of procedure.

✍ **Contents:**

- + Pre- and post-op diagnoses (ICD-10 codes).
- + Procedure details (CPT codes).
- + Intraoperative findings, blood loss, fluids, complications.
- + Surgeons and assistants present.
- + Specimens sent (with pathology details).

9. Quality Assurance & Continuous Improvement

This section ensures that surgical service delivery at Deder General Hospital is **monitored, evaluated, and continuously improved** using structured data, audits, and QI projects in alignment with **EHAQ Change Package: Surgical Service Efficiency and Safety**.

9.1 Surgical Performance Monitoring

✍ **Key Indicators** (monitored monthly and reported quarterly):

- ✚ OR utilization rate (%).
- ✚ Number of cases per functional table/day.
- ✚ On-time first case starts.
- ✚ Turnaround time between cases.
- ✚ Cancellation rates and reasons.
- ✚ WHO Surgical Safety Checklist (SSC) compliance.
- ✚ SSI incidence rate.

✍ **Data Sources:** OR register, anesthesia log, SSI registers, PACU records.

✍ **Verification:** Reviewed in **Surgical Governance Meetings**.

9.2 Surgical Audits

✍ **Regularity:** At least biweekly performance review meetings with the **SaLTS** committee and OR leadership.

✍ **Audit Focus Areas:**

- ✚ SSC completeness and adherence.
- ✚ OR efficiency metrics
- ✚ SSI surveillance and follow-up
- ✚ Cancellations and delays.
- ✚ Compliance with pre- and postoperative stay protocols.

9.3 Surgical Site Infection (SSI) Surveillance

✍ Integrated SSI registers in:

- ✚ Major OR
- ✚ Cesarean section room
- ✚ Surgical wards
- ✚ Surgical OPD follow-up clinic

- ✍ SSI data analyzed monthly; trends discussed in governance meetings.
- ✍ **Action:** If SSI rates exceed target, root cause analysis (RCA) conducted, and a corrective action plan developed.

9.4 Quality Improvement (QI) Projects

- ✍ **Selection:** Based on audit findings, data trends, and SSI surveillance.
- ✍ **Implementation:**
 - ✚ Assign responsible QI team (Surgeon, Nurse, QI Officer).
 - ✚ Set SMART aim statements.
 - ✚ Test changes using PDSA (Plan–Do–Study–Act) cycles.
- ✍ **Documentation:**
 - ✚ QI project log maintained by Quality Officer.
 - ✚ Results presented in quarterly review and annual hospital report.

9.5. Governance & Accountability

- ✍ **Surgical Governance Committee** oversees QA/QI implementation.
- ✍ **Quarterly Surgical Service Report** submitted to Hospital CEO and Quality Directorate.
- ✍ **Accountability Mechanism:**
 - Delays, cancellations, and protocol breaches investigated.
 - Corrective measures documented and assigned to responsible persons.

10. REFERENCES

1. **World Health Organization (WHO).** (2009). *WHO Guidelines for Safe Surgery: Safe Surgery Saves Lives.* Geneva: World Health Organization. [Supports Sections 7.4, 7.11, 8.7, 9.3 on Surgical Safety Checklist, SSI prevention, and safety protocols]
2. **Association of periOperative Registered Nurses (AORN).** (2023). *Guidelines for Perioperative Practice.* Denver, CO: AORN. [Relevant to Sections 7.5, 7.6, 8.1–8.3 on sterility, anesthesia, and postoperative care]
3. **Centers for Disease Control and Prevention (CDC).** (2017). *Guideline for Prevention of Surgical Site Infection.* Morbidity and Mortality Weekly Report (MMWR), 66(1). [Cites Sections 6.7, 8.7, 9.3 on antibiotic prophylaxis, SSI surveillance, and infection control]
4. **The Joint Commission.** (2023). *National Patient Safety Goals.* Oakbrook Terrace, IL. *[Aligns with Sections 6.6, 7.4, 7.11 on site marking, time-outs, and checklist compliance]*
5. **Ethiopian Federal Ministry of Health (FMOH).** (2015). *Ethiopian Hospital Service Improvement Guidelines (EHSIG).* Addis Ababa: FMOH. [Foundational for Sections 1–5, 9.1–9.5 on governance, objectives, and quality assurance]
6. **Ethiopian Hospital Alliance for Quality (EHAQ).** (2016). *Change Package 7: Surgical Service Efficiency and Safety.* Addis Ababa: EHAQ. [Core reference for Sections 4, 5.4, 7.2, 7.3, 9.1 on OR efficiency, elective surgery policy, and EHAQ benchmarks]
7. **National Surgical Quality Improvement Program (NSQIP).** (2015). *Surgical Risk Calculator.* American College of Surgeons. [Supports Section 6.1 on preoperative risk assessment tools]
8. **Caprini, J. A.** (2010). *Risk Assessment as a Guide for Thromboprophylaxis.* Current Opinion in Pulmonary Medicine, 16(5), 448–452. [Cites Section 6.8 on DVT prophylaxis scoring]
9. **Aldrete, J. A.** (1995). *The Post-Anesthesia Recovery Score Revisited.* Journal of Clinical Anesthesia, 7(1), 89–91. [Basis for Section 8.2 and 8.8 on PACU discharge criteria]