DEDER GENERAL HOSPITAL

Standard Operating Procedure (SOP) for Sustaining Improvement in Preventing Surgical Site Infections (SSI)

BY: HSQU

June 2025

Deder, Eastern Ethiopia

SMT SOP APPROVAL

TITLE

SOP for Preventing Surgical Site Infections (SSI)

Version: *DGH-SOP-SW-008*

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Approved Date: June 2025

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REVIEW

Review date: June 2026

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1.0 PURPOSE

To establish a standardized, multidisciplinary process for the prevention of Surgical Site Infections (SSI) to sustain a rate of <2%, ensure patient safety, reduce postoperative complications, and minimize hospital length of stay through continuous PDSA-based improvement cycles.

2.0 SCOPE

This SOP applies to all healthcare providers involved in the surgical care pathway at Deder General Hospital, including but not limited to: surgeons, surgical ward nurses, operating room (OR) staff, anesthetists, IPC focal persons, and cleaning staff.

3.0 DEFINITIONS

- **Surgical Site Infection (SSI):** An infection that occurs after surgery in the part of the body where the surgery took place, as defined by CDC criteria.
- **Patient Preparation Room:** A dedicated room for pre-operative patient bathing, skin antisepsis, and changing into sterile gowns.
- **IPC (Infection Prevention and Control):** Evidence-based practices and procedures to prevent infections associated with healthcare delivery.
- **PDSA Cycle (Plan-Do-Study-Act):** A systematic method for testing changes on a small scale before full implementation to ensure effectiveness and sustainability.

4.0 RESPONSIBILITIES

- **Surgical Ward Head:** Ultimately responsible for overall compliance with this SOP. Chairs monthly performance review meetings and oversees PDSA cycle implementation.
- **Surgeon:** Ensures appropriate antibiotic prophylaxis is administered, follows aseptic technique, and manages patient comorbidities pre-operatively.
- **OR Head Nurse:** Ensures the OR environment is sterile, surgical sets and drapes are new and sterile, and all staff adhere to protocols. Leads weekly stock audits.
- **Ward Nurses:** Responsible for pre-operative patient preparation and post-operative wound care. Document compliance with preparation protocols.
- **IPC Focal Person:** Provides training, monitors IPC practices, conducts environmental swabs, and leads PDSA cycles for process improvement.
- **Facility & Maintenance Team:** Ensures 24/7 running water availability and logs functionality checks.
- **Quality Directorate (QI Team):** Monitors SSI rates, conducts audits, compiles data for monthly review, and maintains PDSA cycle documentation.

5.0 PROCEDURE

5.1 Pre-Operative Phase (Day Before / Day of Surgery)

1. **Patient Preparation:** The patient is taken to the designated Patient Preparation Room.
    - A nurse assists with full-body wash using chlorhexidine soap.
    - Hair removal with clippers only (no razors).
    - Patient changes into clean hospital gown.
2. **Antibiotic Prophylaxis:** Surgeon prescribes prophylactic antibiotics to be administered IV within 60 minutes before incision.
3. **Comorbidity Management:** Medical team optimizes patient comorbidities before surgery.

5.2 Intra-Operative Phase

1. **Hand Hygiene & Attire:** All OR staff perform surgical hand scrubbing and don sterile gowns/gloves.
2. **Skin Preparation:** Use chlorhexidine-alcohol antiseptic; allow to dry completely.
3. **Sterile Drapes:** Use new, sterile drapes for each procedure.
4. **Aseptic Technique:** Maintain throughout procedure.
5. **Water Availability:** Facility Team ensures 24/7 running water.

5.3 Post-Operative Phase

1. **Wound Dressing:** Leave initial dressing for 24-48 hours unless leakage/infection signs.
2. **Aseptic Dressing Change:** Use aseptic technique with clean gloves.
3. **Patient Education:** Teach signs of SSI and hand hygiene using standardized materials.

5.4 Weekly Environmental and Process Checks

1. IPC Focal Person conducts weekly audit using SSI Prevention Process Audit Tool (Annex 2).
2. OR Head Nurse verifies stock of sterile supplies using Weekly Check Log (Annex 3).
3. Facility Team checks water supply functionality and logs results.

5.5 Data Monitoring & Performance Review (Monthly)

1. QI Team tracks surgical patients for 30 days post-op using standardized monitoring tool.
2. Surgical Ward Head leads Monthly Performance Review Meeting to:
    - Review SSI rates and trends
    - Review audit results and PDSA cycle progress
    - Discuss challenges and plan evidence-based corrective actions

6.0 IMPLEMENTATION & SUSTAINABILITY PLAN

6.1 PDSA Cycles for Implementation

Key Area	Change Objective	Lead	PDSA Cycle	Timeline	Success Metrics
Policy Standardization	Update IPC policies with PDSA integration	IPC Focal	Cycle 1	Month 1-2	100% staff awareness
Training Competency	Develop blended training approach	QI Team	Cycle 2	Month 2-3	95% competency score
Resource Management	Optimize sterile supply chain	OR Nurse	Cycle 3	Month 3-4	Zero stock outages
Process Adherence	Integrate audits into workflow	Ward Head	Cycle 4	Month 4-5	95% compliance rate
Patient Engagement	Enhance education materials	Nurses	Cycle 5	Month 5-6	90% patient understanding

6.2 Sustainability Framework

- **Implementation Period:** 6 months with quarterly sustainability audits
- **Success Indicators:** SSI rate <2% maintained for 6 consecutive months
- **Maintenance Phase:** Monthly PDSA cycles for continuous improvement
- **Escalation Protocol:** Immediate PDSA activation if SSI rate exceeds 3%

7.0 DOCUMENTATION

- Sustainability Checklist for SSI QI Project (Annex 1)
- SSI Prevention Process Audit Tool (Annex 2)
- Weekly Check Log (Annex 3)
- QI Team Monitoring Tool (Annex 4)
- PDSA Cycle Log (Annex 5)
- Monthly Performance Meeting Minutes
- Training Competency Records

8.0 REVIEW OF SOP

This SOP shall be reviewed **annually** by the Surgical Ward Head, OR Head Nurse, IPC Focal Person, and Quality Directorate. Additionally, any SSI rate exceeding 3% will trigger an immediate review and PDSA cycle implementation.

ANNEXES

ANNEX 1: SUSTAINABILITY CHECKLIST FOR SSI QI PROJECT

Domain	Checklist Item	Target	Current Status	PDSA Cycle	Action Required
Leadership	SSI prevention standing agenda item	100%	___%	Cycle 1	
Process	Patient Prep Room utilization	100%	___%	Cycle 4	
Process	Antibiotic timing compliance	100%	___%	Cycle 4	
Resources	Sterile drape supply reliability	100%	___%	Cycle 3	
Resources	24/7 water availability	100%	___%	Cycle 3	
Training	IPC training completion	100%	___%	Cycle 2	
Monitoring	Weekly audit completion	100%	___%	Cycle 4	
Monitoring	Monthly SSI rate review	100%	___%	Cycle 4	
Outcomes	SSI rate <2%	<2%	___%	All Cycles	

Overall Sustainability Score: ___/9

Status: □ Fully Sustained □ Partially Sustained □ Not Sustained

Next PDSA Cycle Focus: _____

ANNEX 2: SSI PREVENTION PROCESS AUDIT TOOL

Week of: _____

Auditor: _____

Sample Size: 5 patients + direct observation

PDSA Cycle Reference: _____

Process Area	Audit Criteria	Compliance (Y/N/NA)	Notes	PDSA Action
Pre-Operative	Dedicated prep room used			
	Chlorhexidine bathing performed			
	Clippers used for hair removal			
	Antibiotics within 60 minutes			
Intra-Operative	Surgical hand scrub performed			
	New sterile drapes used			
	Aseptic technique maintained			
Post-Operative	Dressing left intact 24-48h			
	Aseptic dressing change technique			
	Patient education provided			
Environment	Running water available			
Overall Compliance	_____%			

Critical Non-Compliance Identified: □ Yes □ No

Immediate PDSA Cycle Required: □ Yes □ No

ANNEX 3: WEEKLY CHECK LOG

Date: _____

Checked by: _____

PDSA Cycle Reference: _____

STOCK VERIFICATION (OR Store)

- Sterile Drapes: □ Adequate □ Low □ Out of Stock
- Sterile Gowns: □ Adequate □ Low □ Out of Stock
- Chlorhexidine Soap: □ Adequate □ Low □ Out of Stock

WATER SUPPLY CHECK

- OR Sinks: □ Functional □ Not Functional (Action: _____)
- Surgical Ward Sinks: □ Functional □ Not Functional (Action: _____)

EQUIPMENT STATUS

- Clippers: □ Functional □ Needs Maintenance
- Sterile Drape Packaging: □ Intact □ Compromised

PDSA ACTIONS IDENTIFIED

1. _____
2. _____

IMMEDIATE ACTIONS TAKEN

1. _____
2. _____

Signature: _____ **Date:** _____

ANNEX 4: QI TEAM MONITORING TOOL

Department: Surgical Ward **Prepared by:** _____

Project: Sustaining SSI Reduction **Reviewed by:** _____

Reporting Month: _____ **PDSA Cycle Status Report:** _____

1. KEY PERFORMANCE INDICATORS

Indicator	Definition	Target	Current Month	Trend	PDSA Cycle
SSI Rate	(# SSIs/Total surgeries)×100	<2%	___%	□ Improving □ Stable □ Declining	All
Antibiotic Timing	% within 60 minutes pre-incision	100%	___%	Improving □ Stable □ Declining	Cycle 4
Prep Room Use	% using preparation room	100%	___%	Improving □ Stable □ Declining	Cycle 4
Sterile Drape Use	% using new drapes	100%	___%	Improving □ Stable □ Declining	Cycle 3

2. PROCESS MONITORING

Activity	Target Frequency	Actual Completed	Compliance Rate	PDSA Reference
Weekly Process Audits	4/month	___	___%	Cycle 4
Environmental Checks	4/month	___	___%	Cycle 3
Staff Training	1/month	___	___%	Cycle 2
Performance Meetings	1/month	___	___%	Cycle 1

3. CHALLENGES IDENTIFIED

1. _____
2. _____

4. CORRECTIVE ACTIONS & PDSA PLANNING

Issue	Corrective Action	Responsible	Timeline	PDSA Cycle	Status

5. EXECUTIVE SUMMARY

Overall SSI Status This Month: □ On Target □ Requires Attention □ Critical

Priority Actions for Next Month:

1. _____
2. _____

Next PDCA Cycle Focus: _____

ANNEX 5: PDSA CYCLE LOG

PDSA CYCLE #: _____
SOP SECTION: _____
LEAD PERSON: _____
START DATE: _____ **END DATE:** _____
CYCLE OBJECTIVE:

PLAN PHASE

- Change to be tested: _____
- Team members: _____
- Data collection method: _____
- Success criteria: _____
- Timeline: _____

DO PHASE

- Implementation details: _____
- Observations: _____
- Unexpected issues: _____
- Data collected**:** _____

STUDY PHASE

- Results analysis: _____
- Comparison to predictions: _____
- Lessons learned: _____
- Effectiveness **rating:** □ High □ Medium □ Low

ACT PHASE

- Decision: □ Adopt □ Adapt □ Abandon
- Modifications required: _____
- Standardization plan: _____
- Next cycle focus: _____

APPROVALS

Team Lead: _____ **Date:** _____
Quality Director: _____ **Date:** _____

ANNEX 6: TRAINING COMPETENCY RECORD

Staff Name: _____ **Department:** _____

Training Date: _____ **Trainer:** _____

SOP Version: _____

Competency Area	Demonstrated	Date	Evaluator	Comments
Patient preparation	□ Yes □ No			
Aseptic technique	□ Yes □ No			
Antibiotic timing	□ Yes □ No			
Wound care	□ Yes □ No			
Audit completion	□ Yes □ No			
PDSA participation	□ Yes □ No			

Overall Competency: □ Competent □ Requires Retraining

Next Refresher Date: _____

Signature of Staff: _____

Signature of Trainer: _____