



DEDER GENERAL HOSPITAL

SOP for Aseptic Technique in Invasive Procedures

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1. Purpose

This Standard Operating Procedure (SOP) outlines the detailed guidelines for **aseptic techniques during invasive procedures**, including **surgeries**, to prevent contamination and reduce the risk of healthcare-associated infections (**HAsIs**). It aims to safeguard patients, healthcare providers, and the integrity of sterile environments in operating rooms and other procedural areas.

2. Scope

This SOP applies to all healthcare professionals performing or assisting in **invasive procedures, including surgeries, catheter placements, biopsies**, and other interventional techniques that involve direct access to sterile areas of the body. It applies to all healthcare settings, including hospitals, outpatient surgical centers, and clinics.

3. Definitions

- ❖ **Aseptic Technique:** A series of practices used to prevent the introduction of harmful microorganisms during procedures that involve sterile body sites.
- ❖ **Sterile Field:** A controlled, microorganism-free environment used during surgical or invasive procedures, typically created using sterile drapes and tools.
- ❖ **Sterilization:** The process of eliminating all forms of microbial life, including spores, from instruments and surfaces using chemical or physical methods.
- ❖ **Invasive Procedure:** A medical intervention involving the introduction of instruments or devices into the body, either through the skin or into a body cavity.

4. Responsibilities

➤ Surgeons and Procedural Staff:

Must strictly adhere to aseptic protocols during invasive procedures and maintain the sterility of all instruments, equipment, and the surgical environment.

➤ Nursing Staff and Surgical Assistants: Ensure that sterile fields are maintained and that all necessary sterile supplies and equipment are available. Assist with gowning and gloving and monitor sterile techniques throughout the procedure.

➤ Anesthesia Personnel: Adhere to aseptic techniques during anesthesia administration and assist in maintaining the sterile field.

➤ Infection Control Team: Responsible for providing regular training, auditing practices, and investigating breaches of aseptic techniques.

5. Procedure:

5.1 Pre-Procedure Preparations:

5.1.1 Surgical Hand Scrub:

➤ When to Perform:

Perform a surgical hand scrub before entering the sterile field for any invasive procedure.

➤ Procedure:

- ☒ Use an approved antimicrobial scrub solution (e.g., chlorhexidine or povidone-iodine).
- ☒ Scrub hands, forearms, and up to the elbows using a systematic method for at least 5 minutes.
- ☒ Ensure that hands and arms are thoroughly rinsed, keeping them elevated to prevent water from running back from unwashed areas.
- ☒ Dry using a sterile towel, starting from the hands and moving to the forearms.

5.1.2 Donning Personal Protective Equipment (PPE):

☒ Sterile Gown and Gloves:

- ☒ After the surgical hand scrub, don a sterile surgical gown.
- ☒ Use the closed-glove technique: keep hands inside the cuffs of the gown while an assistant helps with gloving. Gloves should be sterile and worn at all times during the procedure.

☒ Masks and Eye Protection:

- ☒ Wear a surgical mask that covers both the nose and mouth.
- ☒ Use protective eyewear or a face shield to protect against splashes of blood or bodily fluids.

☒ Head and Shoe Covers:

- Ensure that a surgical cap or hood covers all hair, and sterile shoe covers are worn to maintain the sterility of the environment.

5.2 Preparation of the Patient and Sterile Field:

5.2.1 Skin Antisepsis:

☒ Antiseptic Application:

- ☒ Clean the patient's skin at the procedure site using a broad-spectrum antiseptic solution (e.g., chlorhexidine or povidone-iodine) applied in a circular motion, starting from the incision site and moving outward.
- ☒ Allow the antiseptic to air dry completely before proceeding. This ensures maximum antimicrobial effectiveness and reduces the risk of chemical burns.

5.2.2 Sterile Draping:

• Draping Process:

- ☒ Once the antiseptic has dried, cover the patient with sterile drapes to isolate the surgical site and create a sterile field.
- ☒ Drapes must cover all areas except the surgical site, and care should be taken to avoid contamination of the drapes by non-sterile personnel or equipment.

5.3 Conducting the Procedure:

5.3.1 Handling Sterile Equipment:

➤ Maintaining Sterility:

- Only sterile instruments and equipment should be used in the sterile field.
- If an instrument falls outside the sterile area or becomes contaminated, it must be discarded or re-sterilized.

➤ Instrument Placement:

- ☒ Place sterile instruments on a sterile tray or surface.
- ☒ Avoid placing instruments near the edges of sterile drapes or surfaces where they might be touched by non-sterile hands.

5.3.2 Maintaining the Sterile Field:

➤ Restricted Movement:

- ☒ Keep hands and instruments within the sterile field at all times. If movement outside the sterile field is required, personnel should remove and replace gloves or perform hand hygiene and re-glove.

➤ Reaching Over the Field:

- ☒ Avoid reaching across the sterile field to prevent contamination from sleeves or non-sterile areas.

➤ Managing Contamination:

- ☒ Any breach in sterility (e.g., contact between sterile and non-sterile objects) should be immediately addressed by replacing the contaminated materials and re-establishing the sterile field.

5.3.3 Conducting Surgery or Invasive Procedures:

➤ Intraoperative Protocol:

- ☒ During the procedure, only sterile personnel may come into contact with the sterile field.
- ☒ Limit conversation, movement, and entry into the operating room during surgery to reduce the risk of contamination.

 **Monitoring Sterility:**

-  Continuous vigilance is required to ensure that sterile protocols are followed. If any breaks in technique occur, corrective action must be taken immediately.

5.4 Post-Procedure Protocols:

5.4.1 Wound Closure and Dressing:

 **Sterile Dressing:**

-  After the procedure is completed, apply a sterile dressing to the wound using sterile gloves and instruments.
-  Ensure that the dressing fully covers the surgical incision to protect it from contamination.

5.4.2 Instrument Sterilization:

 **Post-Procedure Cleaning:**

-  Used instruments should be placed in biohazard containers or designated transport trays and sent for sterilization.
-  Follow hospital protocols for sterilization methods, including steam sterilization (autoclaving) or chemical sterilization (ethylene oxide, hydrogen peroxide gas).

5.4.3 Room Cleaning and Disinfection:

 **Disinfecting Surfaces:**

-  After the procedure, clean all surfaces in the operating room, including the floors, tables, and equipment, using hospital-grade disinfectants.
-  All disposable items, including PPE, should be discarded in biohazard containers.

6. Education and Training:

6.1 Initial and Continuing Education:

Healthcare providers involved in invasive procedures must receive initial training on aseptic techniques during surgery and regular refresher training to maintain competency.

6.2 Competency Assessments:

Competency in aseptic techniques should be assessed annually through direct observation and periodic audits by the Infection Control Team.

7. Compliance Monitoring and Auditing:

7.1 Regular Audits:

Infection control personnel will conduct routine audits of surgical practices to ensure adherence to aseptic protocols. This includes direct observation of hand hygiene, PPE use, and sterile field maintenance during procedures.

7.2 Feedback Mechanism:

Provide real-time feedback to staff involved in breaches of sterile protocol, with corrective training as necessary.

8. Record Keeping:

8.1 Surgical Documentation:

Maintain detailed records for each surgery or invasive procedure, including:

- ☒ The date and time of the procedure.
- ☒ Personnel involved and their roles.
- ☒ Compliance with aseptic techniques.
- ☒ Any breaches in sterile protocol and corrective actions taken.

8.2 Sterilization Logs:

Record the sterilization process for all instruments, including the sterilization method, date, and personnel responsible.

9. Incident Reporting:

9.1 Reporting Breaches in Aseptic Technique:

Any breach in aseptic technique, such as contamination of the sterile field or improper handling of instruments, must be immediately reported to the Infection Control Team for investigation and documentation.

9.2 Root Cause Analysis:

The Infection Control Team will investigate incidents to determine the root cause of the breach and implement corrective measures, including retraining or process changes if necessary.

10. Review and Updates:

This SOP will be reviewed every 2 years or when new evidence-based guidelines for aseptic practices are introduced. Updates will be approved by the Infection Control Team and communicated to all relevant personnel.

Approval:

Name: _____

Position: _____

Date: _____