

Invasive Procedures Normally Done in the Operating Room
But Done in Critical Care Unit for Various Reasons

Purpose: To identify practices used when performing invasive procedures outside of the operating room.

I) Personnel

- A. Creating a sterile field is the responsibility of the physician. Maintaining that field is critical and is the joint responsibility of the nurse and the physician.
- B. If the surgical incision is a puncture or small incision (that does not go below the fascia), a surgical hand scrub, mask, and use of sterile gloves is sufficient.* (*Excluding arterial lines and central lines, but including biopsies and chest tube insertions.)
- C. If the surgical incision involves a large incision (greater than 2 ½ cm,) that is below the fascia or a sterile area of the bone is exposed, a large sterile field is required, surgical hand scrub, sterile gloves, sterile barrier gown, and mask is necessary.
 - 1. Neurological procedures such as halos and procedures involving intracranial pressure monitoring require the above attire.
- D. When a procedure requiring a large sterile field (i.e. Swan-Ganz procedure) is necessary, a surgical hand scrub, gown, sterile gloves, and mask are necessary.

II.) Environment

- A. The area which will contain the sterile field (tables, bedside stand, etc.) should be thoroughly cleaned with the hospital disinfectant within 30 minutes of the procedure.
- B. The patient's sheets should be changed if soiled.
- C. Curtains should be drawn and doors should be closed to assure privacy.
- D. To reduce airborne transmission
 - 1. Keep doors closed during the procedure.
 - 2. Assure only essential personnel are present during the procedure.

III.) Wearing Apparel

- A. Assure scrub suit is clean.
- B. Head covering and eye protection are worn. Hair should be completely covered to prevent bacterial shedding.
- C. A mask is worn over both nose and mouth and should be tied completely to avoid gapping at the sides.
***Cap and Mask should be placed prior to beginning of surgical scrub

- D. Sterile gown is put on immediately after the surgical scrub is completed. Gowns are considered sterile only in front from chest to level of sterile field (usually not below waist level), and the sleeves from above elbows to cuffs. The ties for the sterile gown back should be secured promptly with assistance.
- E. Sterile gloves are put on immediately after gowning.

IV.) Surgical Hand Scrub- (Refer to IC 2.0 Hand Hygiene)

- 1. The timed method or counted brush scrub method (anatomical hand scrub) is used. The timed method is preferred.
 - a. 4% chlorhexidine for six minutes.
 - b. Iodophor for five minutes.
- 2. Avagard Hand Scrub may be used in approved areas. Refer to Hand Hygiene IC 2.0 for procedure

V.) Skin Prep

- A. Refer to the hospital guidelines for antiseptics and operating room guidelines.
- B. Refer to IC 22.0 Skin Preparation for Invasive Procedures

VI.) Drapes and Barriers

Create a large sterile field prior to placing the instruments and devices. The patient is draped as deemed appropriate by the surgeon.
Maximum Barrier Precautions including sterile gown, gloves, mask, cap and use of a large sterile drape are required when inserting a central line.

VII.) Aseptic Principles for Invasive Procedures that govern activities of the Operative Team.

- A. Traffic in and out of the room/area should be kept to a minimum. Doors/curtains should be kept closed during the procedure.
- B. Only sterile items are used within sterile field.
 - 1. Articles of doubtful or unknown sterility are considered unsterile (i.e. integrity of the packaging material is not intact).
 - 2. When moisture soaks through a drape, gown or package, strike-through occurs and contamination results. Remedy by removing or covering the item with a sterile drape.
- C. Tables are sterile only at table level.
 - 1. Anything falling or extending over the table edge is considered unsterile. Secure cords, tubing, etc. to prevent them from sliding over the table edge.
 - 2. In unfolding a sterile drape, the part that drops below the table surface is not brought back up to table level. Once placed, the drape is not moved.
- D. Sterile persons touch only sterile items or areas; unsterile persons touch only unsterile items or areas.
- E. Sterile field is created as close as possible to time of use continuously kept in view.
 - 1. movement within or around the sterile field is kept to a minimum.
 - 2. sterile linens should not be flipped or shaken
- F. Sterile persons keep well within sterile area.
 - 1. sterile persons pass each other back to back

2. sterile person turns their back to an unsterile person or area when passing
 3. sterile person faces a sterile area to pass it
 4. sterile persons do not lean on sterile tables or on the draped patient
 5. sterile persons do not sit or lean against an unsterile surface
 6. sterile persons should sit only when the entire procedure will be performed at this level
 7. sterile persons should avoid leaning over unsterile area
 8. sterile persons should not allow their hands or any sterile item to fall below waist level
- G. Unsterile persons avoid reaching over sterile field
1. unsterile persons maintain a distance of at least 2 feet from any area of the sterile field
 2. unsterile persons face and observe a sterile area when passing it to be sure they do not touch it
 3. unsterile persons never walk between two sterile areas
- H. If a solution must be poured into a receptacle on a sterile table, the sterile person moves the sterile receptacle to the edge of the sterile field and the unsterile person holds only the lip of the bottle over the basin when pouring solution into the sterile basin. The lip of the bottle should not come in contact with the receptacle at any time.
- I. Opening sterile packages
1. The unsterile person
 - a. opens the top flap away from self
 - b. turns the sides under, ends of the flap are secured in the hand so they do not dangle loosely
 - c. the last flap is pulled toward the person opening the package thereby exposing the package contents away from the unsterile hand
 2. The sterile person lifts contents from package by reaching down and lifting them straight up, holding their elbows high
 3. Flaps on peel packs should be pulled back and contents should be flipped onto the sterile field.

References:

LSUHSC Infection Control Operating Room Guidelines

Phillips, Nancy Marie, Berry & Kohn's Operating Room Technique, 11th Edition, 2007, Mosby-Yearbook, Inc. 11830 Westline, Industrial Drive, St. Louis Missouri 63146.

Written: 1983

Revised: 85, 86, 87, 88, 93, 95, 97, 99, 01, 8/03, 8/05, 10/2007, 10/2009