



SNS COLLEGE OF ALLIED HEALTH SCIENCES
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DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE
TECHNOLOGY

COURSE NAME: Introduction to Surgery

TOPIC : Pre-Operative Skin Preparation for Surgery



SKIN PREPARATION DURING SURGERY



What?

Surgical site skin preparation is the preoperative treatment (cleaning and disinfection) of the patient's intact skin done prior to surgery within the operating room.

Why?

Skin is not sterile





PURPOSE



- Reduce the number of “transient” microbes to the least possible number on the intended operative site
- Rids site of dirt
- Rids site of oils
- **The goal of the preoperative skin preparation is to reduce the risk of postoperative wound infection**





WHEN TO PREPARE?



- **Invasive Surgical Procedures**

Before starting an invasive procedure, or making any puncture to the skin, its important to sterilize the patient.

- **Traumatic Wound Care** – traumatized wound pf the patient should be cleaned with solutions to remove debris before dressing

Prep the skin as follows:

Avoid eyes, ears, mouth, and genitals.

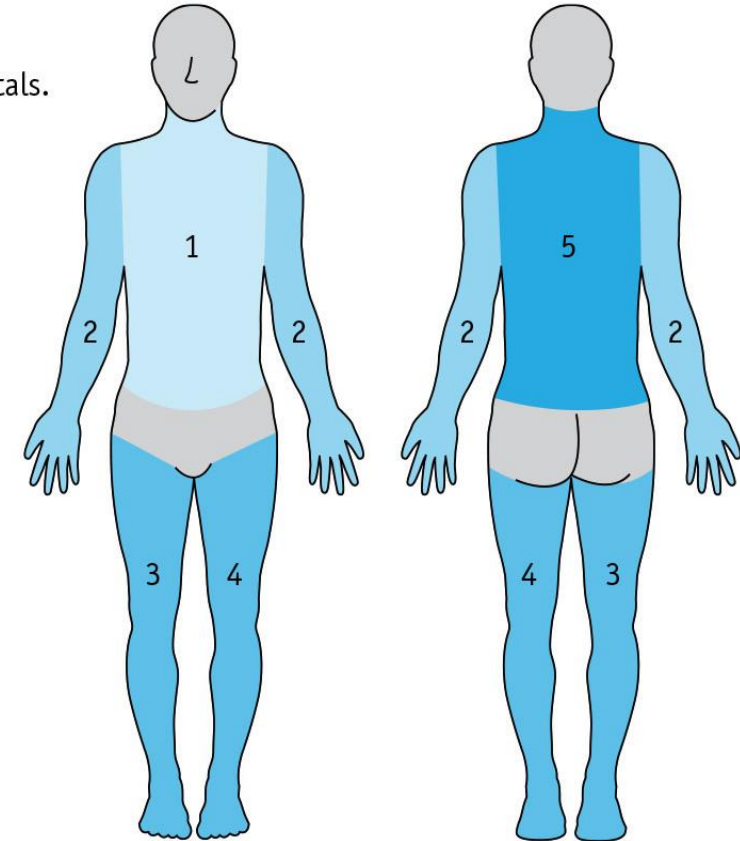
1. Neck, Chest, Abdomen

2. Arms

3 & 4. Legs

5. Back

6. Surgical Area - Hip or Knee
(Do this site LAST)





SURGICAL SITE INFECTION



- Infections that occur in the wound created by an invasive surgical procedure are generally referred to as surgical site infections (SSIs). **SSIs are one of the most important causes of healthcare-associated infections (HAIs)**
- The type of surgical procedure is also a significant risk factor.
- An infection of the tissue in or around a surgical wound.
- **To be considered a surgical site infection, the infection must occur within 30 days after surgery.**

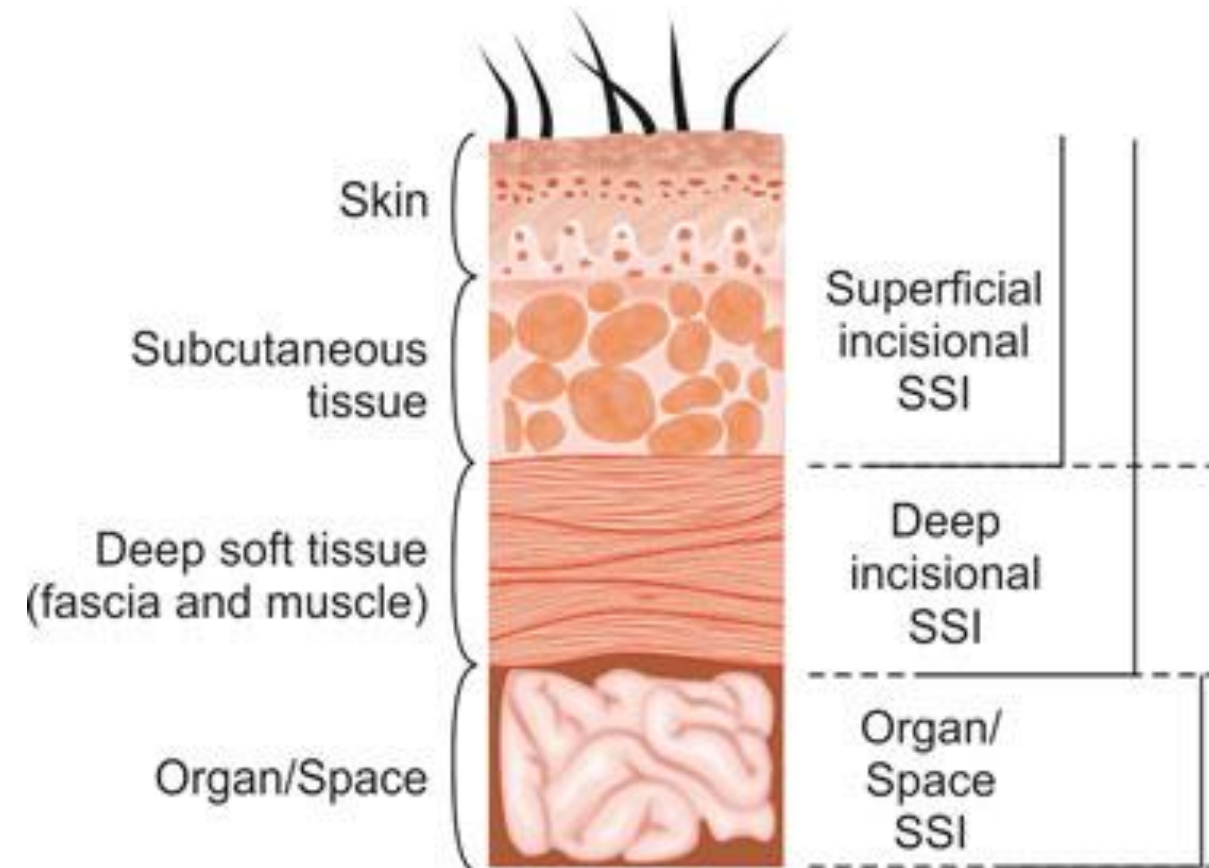




TYPES OF SSI



- **Superficial Incisional SSI** – Involves skin and subcutaneous tissue
- **Deep Incisional SSI** – Involves deep soft tissue – muscles and fascia
- **Organ/ Space SSI** – Involves area of the body organs. I.e., Body Cavity

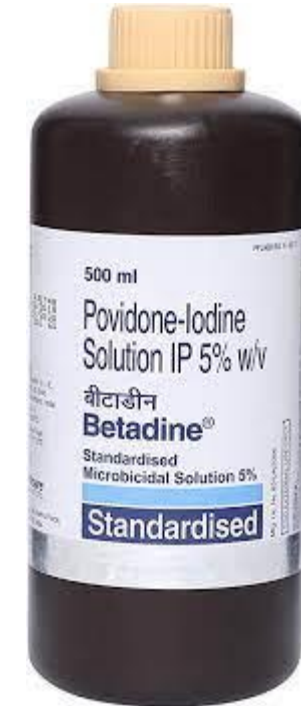




ACTION OF SKIN PREPARATION



- **Mechanical friction** - the rubbing of one object or surface against another
- **Chemical antiseptic solution** - an antiseptic is a substance which inhibits the growth and development of microorganisms.
- Anti = prefix meaning against septic = containing or resulting from disease-causing organisms



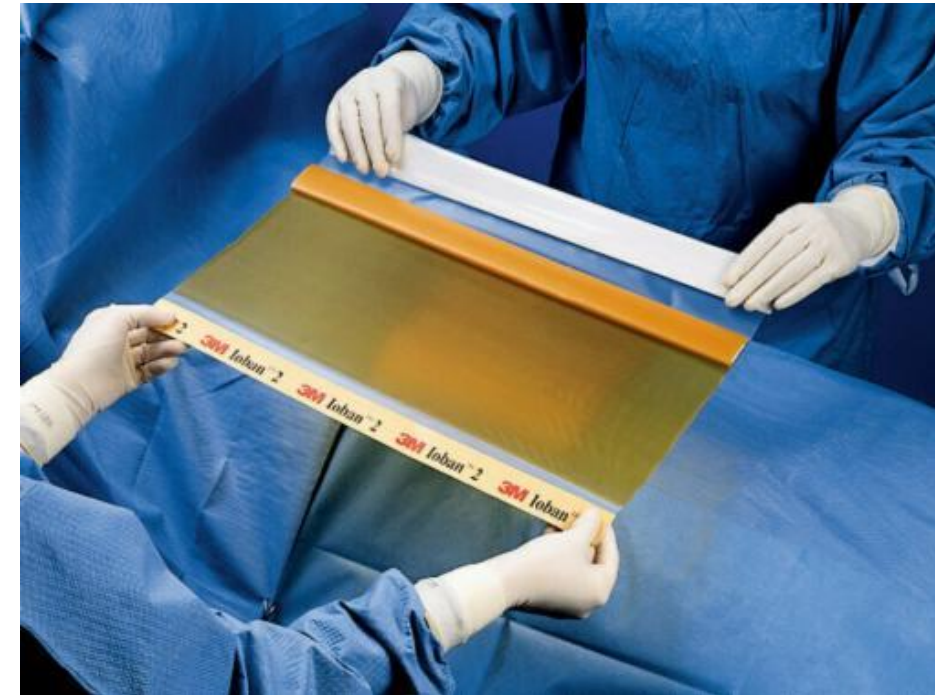


TYPES OF ANTISEPTICS ALCOHOL



Alcohol

- May use after iodine to provide better adhesion of bio-drape (Ioban)
- If on field at start color or clearly label to avoid confusion with other clear medications that may be on the field
- Avoid splashing as this is a re-capped solution
- **FLAMMABLE!** Avoid pooling.





TYPES OF ANTISEPTICS ALCOHOL



- **Iodine** - Remove after 2-3 minutes to avoid skin irritation (dry/blot with sterile towel)
- **Iodophors** - less irritating to skin/no need to remove
- **Chlorohexidine (Hibiclens)** - less rapid reduction of microbial count, Residual effect 4-6 hours
- **Hexachlorophene (G-11)**-can use several days prior to surgery as builds up a lasting or cumulative effect





CONSIDERATIONS FOR ANTISEPTIC



- Should be “broad spectrum antiseptic”
- Should provide “residual or lasting” effect
- Patient specific (sensitivities/allergies)
- Procedure specific
- Surgeon preference
- Prevent pooling
- Avoid splashing
- Avoid eyes, ears, nose





DRAPING



- Draping is "**The procedure of covering pt. and surrounding areas with a sterile barriers to create and maintain sterile field during operation.**"

Types of Drapes:

- Towels
- Laparotomy sheet
- Stockinet
- Ortho pack sheet





SPECIAL CONSIDERATIONS



- Persons in sterile attire touch only sterile articles.
- Persons in sterile attire do not turn their backs to a sterile field
- Persons in sterile attire do not lean or reach over un-sterile surfaces
- Persons in non-sterile attire avoid reaching over or touching the sterile field when delivering sterile supplies to the sterile field.
- Articles that drop below the umbilical level of the gown are discarded.
- Hands are not placed under the arms in the axillary region.
- The edges of containers enclosing sterile items are not considered sterile once the container is opened.
- Non sterile persons maintain a safe distance from sterile areas.



SPECIAL CONSIDERATIONS



- Tables draped with sterile drapes are sterile only at table level.
- Scrub persons perform all work on the sterile surface of the table
- Materials that hang over the edge of the sterile field are not considered sterile and are discarded.
- Items that fall below the level of the sterile field are not brought back onto the sterile field.
- The gown is considered sterile from the level of the umbilicus to the axillary level in front.
- Sleeves are considered sterile to two inches above the elbow.
- The back of the gown is not considered sterile.



SEQUENCE OF PRE-OPERATIVE PREPARATION



- Anesthesia administered
- Urinary catheter placed
- Patient positioned
- All pre-operative procedures must occur before the “prep” to prevent contamination of the incision site
- Skin prep
- Draping of the patient
- Intra-operative phase begins with incision or beginning of surgery





PRIOR TO PROCEDURE



- Clean surgical site prior to prep, which is out of dirt, grease, etc.,
- May need to shave area: electric razor preferable as is less likely to create skin irritation which can open an area exposing to potential infection
- Shave should occur as close to time of surgery as possible (surgeon preference if removed)
- Remove all hair
- May need to change a draw sheet
- Do not want hair floating around and getting in surgical site





PROCEDURE BASIC HANDWASH GATHER SUPPLIES: PREP KIT



- Sterile gloves (open glove technique for circulator if doing pre-scrub)
- Clean working surface
- Lighting
- Trash
- Positioning aides prn
- Final surgical position achieved prior to prep

Closed gloving method





PREPARATION AREA



- **Abdomen Incision site to nipples and pubis, pubis last**

May include upper thighs, still prep groin and pubis last

- **Prep Area: Chest & Breast**

Incision site, around to bedline, includes shoulder and axilla
May include arm

Prep the skin as follows:

Avoid eyes, ears, mouth, and genitals.

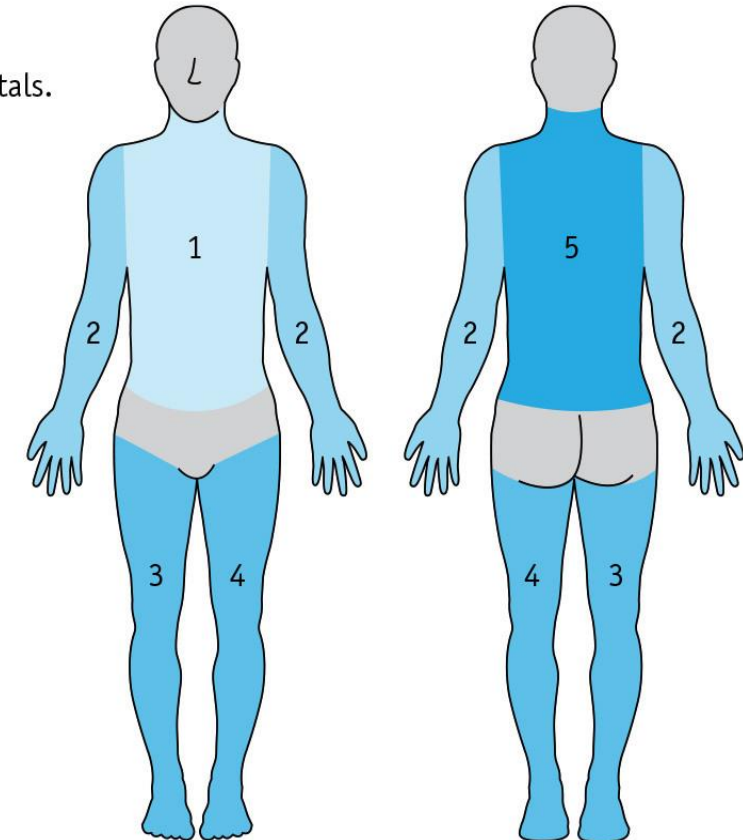
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PREPARATION OF EXTREMITY



Prep Area: Extremities

Assistant with sterile gloves will grasp extremity after a prepped area has been washed and hold up for prepping

- Begin at surgical incision site and move around circumference of extremity, prepping groin or axilla last
- Feet or hands will be prepped separate or last if groin or axilla not involved





PREPARATION OF EXTREMITY



- **Foot & Ankle:** foot and entire leg ankle to knee
- **Hip:** hip, abdomen on affected side, entire leg and foot, buttocks to table line, groin, and pubis
- **Bilateral leg:** both legs to toes or ankles to waist line or umbilicus, prepping groin and pubis last

- **Hand:** hand & arm to 3 inches above the elbow
- **Shoulder:** shoulder, base of neck, chest to midline, upper arm circumferentially, axilla last
- **Arm:** entire arm circumferentially, shoulder, hand (prn), axilla last



AFTER PROCEDURE



- Remove drip towels without touching prepped area (circulator will remove these)
- Clean up supplies
- Remove contaminated gloves
- Wash your hands





THANK YOU



References:

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