Skin Preparation for Invasive Procedures

Purpose:

To reduce the microbial flora of the patient’s skin prior to performing an invasive procedure.

I. ANTISEPTICS FOR INVASIVE PROCEDURES AND CENTRAL LINE CARE:
Biopsies, Central Lines, Arterial Punctures, and Cutdowns.

A. Chlorhexidine gluconate – 4%
   1. Chlorhexidine gluconate 4% solution
      • Apply chlorhexidine gluconate 4% solution and cleanse area thoroughly for 2 minutes.
      • Blot dry with sterile 3 x 3.
      • Repeat steps 1 and 2 above.
   2. ChloraPrep® - (Chlorhexidine gluconate 2% with 70% isopropyl alcohol)
      Directions:
      Coverage area, application times, and drying times vary according to the volume of solution contained in the applicator. Carefully follow the manufacturer’s directions-of-use located on the package or package insert. Directions-of-use may also be accessed on the internet at: http://www.chloraprep.com/directions-of-use
      • Ensure skin is thoroughly clean prior to prepping.
      • Use back-and-forth strokes to apply the solution to the skin.
      • Avoid getting into hairy areas, as the drying time may take much longer or may not dry completely.
      • Discard the applicator after a single use.
      • Do not use a single applicator to prep multiple sites, such as bilateral groin biopsies or bilateral breast biopsies.
      • Multiple applicators may be used for larger prep area.
      • Chlorhexidine gluconate preparations can be used to prep the skin for an invasive procedure with the following exceptions:

Not to be used for:

1. NICU patients, except for central line insertion skin prep and line maintenance.
2. Children less than 2 months of age; except for central line insertion skin prep and line maintenance.
3. The prep of an eye or ear, mouth, or genital area;
4. Patients with known allergies to chlorhexidine or alcohol;
5. Lumbar puncture or in contact with the meninges;
6. Open skin wounds or as a general skin cleanser;
B. Iodophor Scrub and Solution Skin prep for cutdowns and biopsies  
(Povidone-iodine 7.5% Scrub; Povidone-iodine 10% aqueous solution)  
- Because Iodophor Surgical Scrub (Povidone – Iodine 7.5%) contains detergents, it must be rinsed off.  
- Follow manufacturer’s instructions.  
- Wet skin with sterile water. Apply Scrub, develop lather, and scrub thoroughly for 5 minutes. Starting at the site of incision or puncture, apply the antiseptic using concentric circles, working outward, making certain that the entire prepared area is completely wet. Do not allow Scrub to pool beneath the patient.  
- Rinse off with sterile gauze saturated with sterile water. Blot dry.  
- Apply Iodophor Solution (aqueous solution of 10% povidone – iodine). Starting at the site of incision or puncture, apply the solution using concentric circles, working outward, making certain that the entire area is prepped. Do not allow solution to pool beneath the patient.  
- Allow to dry.  
- Iodophor solution may be covered with a bandage if instructions from the manufacturer allows. Iodophor scrub should be removed from the skin before bandaging.  
- Do not use Povidone – iodine 7.5% or 10% aqueous solution in the eye.

C. Iodophor Solution for central lines and arterial punctures  
(Povidone – iodine 10% aqueous solution)  
- USE ONLY IF CHLOROHEXIDINE GLUCONATE IS CONTRAINDICATED.  
- Follow manufacturer’s instructions.  
- Ensure that skin is thoroughly clean prior to prepping.  
- Apply Iodophor Solution (aqueous solution of 10% povidone – iodine). Starting at the site of the puncture, apply the solution using concentric circles, working outward, making certain that the entire area is prepped. Do not allow solution to pool beneath the patient.  
- Allow to air dry.

D. Iodophor/Alcohol Combination (DuraPrep) (Used for surgical preps only)  
Follow the manufacturer’s instructions.  
- Ensure skin is thoroughly cleaned prior to prepping.  
- Do not use the 26 ml applicator for the head and neck or for an area smaller than 8 x 10 inches.  
- Do not use on patients with known allergies to iodine, open wounds, or infants under 2 months of age.  
- Avoid using on hairy areas. Wet hair is flammable, and drying may take up to one hour.  
- Starting at the site of incision or puncture, and working toward the periphery, paint a single, uniform coat of the solution on the skin. Use only light pressure. Do not scrub or go back over areas already prepped.
If pooling occurs, immediately blot with the sponge applicator and continue. Allow solution to dry on hairless skin for at least 3 minutes. In hair, up to one hour may be required. Do not use towel to blot dry. Use sterile gauze to wick away any pooling.

- Once dry, proceed with draping.

E. If the patient is allergic to all of the antiseptics listed above, contact Infection Control for an approved alternative.

Note: Chloraprep OneStep, DuraPrep, alcohol, and other alcohol containing preps are flammable, and must be dry and free of fumes if an electro surgical instrument such as cautery or laser is used.

II. SKIN PREP FOR INTRAMUSCULAR INJECTIONS AND PERIPHERAL IV’S

A. Chloraprep Sepp
   - Clean skin thoroughly if it is visibly soiled.
   - Prep area thoroughly.
   - Allow to evaporate.
   - Carry out procedure.

B. Alcohol 70%
   - Clean skin thoroughly if it is visibly soiled.
   - Prep area thoroughly.
   - Allow to evaporate.
   - Carry out procedure.

III. SKIN PREP FOR BLOOD CULTURES
Mechanically clean the skin if it is visibly soiled before applying antiseptics.

A. Chloraprep (Agent of Choice)
   - Apply Chloraprep solution.
   - Allow to dry (approximately 30 seconds).
   - Carry out procedure.

B. Tincture of Iodine
   - Apply Tincture of Iodine.
   - Allow to dry (approximately 15 seconds).
   - Carry out procedure.
   - If a bandage is needed, it should be loosely secured to prevent chemical burn to the skin.

C. Iodophor Solution (10% povidone – iodine aqueous)
   - Apply iodophor solution
   - Allow to dry (approximately 2 minutes)
• Carry out procedure.

If palpation of the vessel is necessary after the skin has been prepped, wear a sterile glove.

IV. PERSONAL PROTECTIVE EQUIPMENT

Personnel performing the above preps should wear PPE (mask, eye protection, gloves, gown) as deemed appropriate based upon the procedure and possibility of splashing.

References:


Carefusion (Chloraprep) website, accessed online March 19, 2013 at http://www.chloraprep.com


Hibiclens and Hibistat website accessed online March 19, 2013 at http://www.hibiclens.com

3M (Duraprep) website, accessed March 19, 2013 at http://www.3M.com

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