PREOPERATIVE SKIN PREPARATION OF THE PATIENT

1. OPTIMAL OUTCOMES
   • To reduce the incidence of a surgical site infection and the subsequent sequelae by removing transient microorganisms from the skin, reducing resident microbial count to subpathogenic levels in a short time period and inhibiting rebound growth of microorganisms.

2. PATIENT
   • Woman requiring a surgical procedure.

3. STAFF
   • Ward nurses and midwives
   • Operating Suite nurses and midwives
   • Medical Officers

4. EQUIPMENT
   • Battery operated clipper with a single use disposable clipper head
   • Antimicrobial agent for skin preparation

5. CLINICAL PRACTICE

   Shower
   • Patient instructed to shower the morning of the procedure

   Skin Inspection
   • Surgical site assessed for lesions, rashes and body piercing sites
   • Inform Medical Officer and document in progress notes as appropriate

   Surgical Site Hair Removal
   • Remove hair from the surgical site only if clinically indicated
   • Remove hair as close to the time of surgery as possible
   • Perform hair removal in an area away from where the operative procedure will be performed
   • Don appropriate PPE
   • Remove hair using a disposable surgical clipper
   • Remove hair in a manner that preserves skin integrity
   • Dispose of clipper head or preoperative razor in the sharps container

   Skin Preparation with Antimicrobial Agent
   • Don appropriate PPE
   • Select antimicrobial solution according to surgical site and surgeon’s preference
   • Check patient sensitivity to preferred antimicrobial solution
   • Place absorbent sheets around the area to be prepared to protect the patient from pooling of solutions and to minimise the risk of burns to the skin or ignition
   • Use sterile swabs, containers and applicator to apply the antimicrobial solution using an aseptic, non-touch technique
   • Apply antimicrobial solution to patient commencing at the cleanest area, usually the surgical incision site, and proceed in a concentric circles to the least clean area
   • Application of antimicrobial solution should not be excessive and should not be allowed to pool. The greatest efficacy of antimicrobial solutions is achieved with the drying of the area after application.
   • Prepare areas with high microbial counts such as the umbilicus, pubis, groin, perineum, axillae and open wounds separately
   • Remove excess solution from the umbilicus and vagina to prevent excess irritation and to maximise antimicrobial effect.
PREOPERATIVE SKIN PREPARATION OF THE PATIENT  cont’d

- Apply the antimicrobial solution wide enough to permit the extension of the surgical incision and placement of drains
- Ensure aseptic technique is maintained
- Remove the absorbent sheets post application of the antimicrobial solution and prior to draping the patient
- Allow the antimicrobial solution to air dry prior to applying drapes and performing the surgical incision

6. HAZARDS/SUB-OPTIMAL OUTCOMES
- Pooling of antimicrobial solution causing skin irritation or chemical burns
- Ignition of alcohol based antimicrobial solutions in the presence of diathermy or laser
- Surgical site infection due to inadequate skin preparation

7. DOCUMENTATION
- Integrated notes
- DSU clinical pathway
- eMR – Surginet case data
- Operation report

8. EDUCATIONAL NOTES
- There is no evidence that the use of an antiseptic solution for preoperative showering reduces the incidence of surgical site infection
- Appropriately skilled personnel such as the Scrub or Scout nurse or a member of the surgical team should perform the surgical skin preparation. It is not necessary for the person applying the antimicrobial solution to be wearing sterile gown and gloves thus facilitating the process and maximising drying time.
- Physically drying the surgical site with a sponge, swab or other sterile material negates the residual action of the antimicrobial solution.
- The most commonly used antimicrobial solutions are:
  - Chlorhexidine gluconate – disrupts cell membranes
  - Iodophors, such as povidone-iodine - oxidation/substitution with free iodine
  - Alcohol-based solutions – alcohol denatures proteins and increases the antimicrobial action when combined with another antiseptic agent e.g. Chlorhexidine gluconate

9. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES

10. REFERENCES
NSW Health Infection Control Policy, PD2007_036, Publication date 23-May-2007