Surgical Preps - Skin Antisepsis

While the process of surgical site preparation has remained virtually unchanged over the years, the variety and delivery of solutions has not. Today’s solutions range from aqueous/non-aqueous isdophor and isopropyl alcohol to iodine, chlorhexidine and chloroxylenol and gel compounds, all of which come in multi-use bottles, or pre-measured single-use applications.

In addition to meeting the primary goal of surgical skin preparation — to remove dirt, oil and reduce microbial count as quickly as possible with as little irritation as possible — the selection of scrub solutions should also be based on:

- Compatibility with the items it comes in contact with, including gloves and draping materials
- Flammability
- Whether or not it is inactivated by organic material
- How easily it can be removed from the skin surface
- The area being prepped, procedure being performed and the patient’s condition

Use of single use preps-key benefits are:

- They are faster to apply, less messy, cleanse more effectively, dry faster and enhance drape adhesion, thus preventing the sterile surface from being compromised while speeding prep time.
- They reduce cross-contamination.
- Pooling between patient and equipment is reduced since application is controlled, thereby reducing the risk of skin irritation and providing for a “quicker” post-procedure clean-up.

Surgical Prep Solutions:

- Betadine scrub
- Betadine solution
- Betadine swabs
- 5% Betadine Opth solution
- Chlorhexidine-Chloraprep
- 2% Iodine
- Acetone
- Alcohol
- Chloraprep
- Duraprep

Considerations:

- Allergies, Age of Patient, Size/Location, Time, Shaving, Skin Assessment
- Surgical site must be marked
- Prepping from the incision site out vs. back and forth method*
<table>
<thead>
<tr>
<th>Solution</th>
<th>Use on eye or ear</th>
<th>Genital Area</th>
<th>Meninges</th>
<th>Use on mucous membranes</th>
<th>Flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol / Acetone</td>
<td>No, can cause corneal damage. Can cause deafness if in contact with inner ear</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Povidone-iodine- Betadine Ophthalmic (5%)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Povidone-iodine- Betadine solution (10%)</td>
<td>Yes, moderate ocular irritant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Povidone-iodine- Betadine scrub (7 ½ %)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Chlorhexidine-Chloraprep</td>
<td>No, can cause corneal damage. Can cause deafness if in contact with inner ear</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chlorhexidine gluconate-Exidine</td>
<td>No, can cause corneal damage. Can cause deafness if in contact with inner ear</td>
<td>No</td>
<td>No</td>
<td>Use with caution</td>
<td>No</td>
</tr>
<tr>
<td>Iodine Povacrylex-Duraprep</td>
<td>No, can cause corneal damage. Can cause deafness if in contact with inner ear</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

Both Chloraprep & Duraprep should not to be used on: children less than 2 months of age, for open wounds, in emergency situations where there is not time for the prep to dry.