

APPENDIX A

GENERAL SURGICAL HANDSCRUB

SUPPLIES

The supplies needed for a surgical handscrub include:

- Plain or antiseptic (preferred) soap (Larson 1988)
- Antiseptic agent (povidone-iodine or chlorhexidine is less irritating to skin)
- Running water (When no running water is available, use a bucket with a tap, which can be turned off to lather hands and turned on again for rinsing, or a bucket and pitcher.)
- Soft stick with pointed end or brush for cleaning underneath the fingernails (These items must be cleaned and preferably high-level disinfected after each use.)
- Soft brush or sponge for cleaning the skin (These items must be cleaned after each use.)¹
- Towels (sterile towels should be provided in the operating room.)

PROCEDURE

The surgeon, scrub nurse or technician should wear a short-sleeved shirt or blouse when performing a surgical handscrub because it requires scrubbing to the elbows (Sorensen and Luckman 1979).

Procedure	Rationale
1. Remove all jewelry.	1. Jewelry harbors microorganisms, is difficult to clean and makes putting on gloves more difficult (Salisbury 1997).
2. Hold hands above the level of the elbow and wet hands thoroughly. Apply soap, and clean under each fingernail using the stick or brush.	2. Water should flow from area of least contamination (hands) to most contamination (arms). Washing removes many organisms. Fingernails should not extend beyond the tip of the finger more than 3 mm (or 1/8 inch). Long fingernails can puncture gloves, and bacteria grow easily underneath them.

¹ Avoid using stiff scrub brushes as these can damage the skin, especially if surgical handscrub is done several times per day.

General Surgical Handscrub

Procedure	Rationale
3. Beginning at the fingertips, lather with a soft brush or sponge, using a circular motion. Wash between all fingers. Move from fingertips to the elbow of one arm and repeat for the second arm.	3. Friction and lather raise microorganisms. Moving from area of least contamination to area of most contamination decreases the possibility of spreading contamination.
4. Wash using a soft brush or sponge for at least 2 minutes.	4. If a brush is used, it should be decontaminated and either high-level disinfected or sterilized before reuse; sponges, if used, should be discarded.
5. Rinse each hand and arm separately, fingertips first, holding hands above the level of elbows. Do not let rinse water flow over clean area.	5. Water should flow from area of least contamination to area of most contamination to decrease the possibility of contamination.
6. Apply antiseptic agent and vigorously rub all surfaces of hands, fingers and forearms for at least 2 minutes.	6. Use sufficient antiseptic to cover hands, fingers and forearms.
7. Repeat #5 using clean water. ²	7. See #5.
8. Use a separate sterile or clean cloth towel for each hand to wipe from the fingertips to the elbow and then discard the towel.	8. Moving from area of least contamination to area of most contamination decreases the possibility of spreading contamination.
9. While waiting to put on sterile or high-level disinfected surgical gloves, hold hands above the level of the waist and do not touch anything.	9. Contact with soiled objects contaminates clean hands. The area below the level of the waist is considered unclean.

Note: If scrubbed hands touch any contaminated surface or object before gloving, Steps 3 through 9 must be repeated.

REFERENCES

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- Salisbury DM et al. 1997. The effect of rings on microbial load of health care workers' hands. *American Journal of Infection Control* 25(1): 24–27.
- Sorensen KC and J Luckman. 1979. *Basic Nursing: A Psychophysiologic Approach*. WB Saunders Co.: Philadelphia, pp 934–938.
- Huq A et al. 1996. A simple filtration method to remove plankton-associated *Vibrio cholera* in raw waters supplies in developing countries. *Appl Environ Microbiol* 62(7): 2508–2512.

² If tap water is cloudy, most particulates (debris and organic material) can be removed by filtering through four layers of moderately woven cotton cloth, such as cheese cloth or old sari material, before boiling or treating with dilute chlorine (sodium hypochlorite) solution (Colwell et al 2003; Huq et al 1996).