

Chapter 3

HANDWASHING

1. Introduction. Handwashing is one of the most important procedures in preventing the transfer of micro-organisms from one person to another. The purpose of handwashing is to remove these micro-organisms from the folds and grooves of the skin by lifting and rinsing them from the skin surface. Good handwashing technique and use of gloves are essential before anticipated exposure to patients' blood or body fluids.

2. Skin Flora. The skin harbors two types of flora, resident and transient. Resident organisms can survive and multiply on the skin, can be cultured repeatedly from the skin, are usually of low virulence and are not easily removed. Conversely, transient bacteria do not survive and multiply on the skin and are not firmly attached. The mere mechanical action of rubbing the hands together and rinsing them under running water is effective in removing transient bacteria.

3. Handwashing Agents

a. Water-based Cleaning Agents. Products which include chlorhexidine, iodophors, and alcohol among the active antimicrobial ingredients are approved for handwashing. Products which use aqueous quaternary ammonium compounds, such as those containing dilute benzalkonium chloride, are not approved. Outbreaks of nosocomial infection associated with the use of aqueous quaternary ammonium compounds have been documented.

(1) Iodophors. These are water soluble complexes of iodine with organic compounds which are effective against all gram positive and gram negative bacteria and viruses. Iodophors usually do not have a long acting germicidal action and, if used frequently, may cause severe drying of the skin.

(2) Chlorhexidine Gluconate. This antiseptic is usually marketed as 4 percent chlorhexidine gluconate with 4 percent isopropyl alcohol in a sudsy base. Chlorhexidine gluconate is an effective antiseptic for reducing transient and resident microbial hand flora, has a sustained antimicrobial effect and does not appear to affect the skin adversely. It is also approved as a surgical scrub.

b. Waterless Handwashing Agents. Seventy percent isopropyl alcohol virtually disinfects the skin in 20 seconds. It is effective against bacteria, tubercle bacilli, fungi, and viruses. Unfortunately, it is volatile, flammable, evaporates quickly, and dries the skin. Alcohol-based, waterless handwashing agents may be

used in areas where handwashing sinks are not readily available. If the hands become visibly soiled, wash them with soap and water as quickly as possible.

4. Handwashing Equipment and Soap Dispensers

a. Sinks should have electronic elbow, foot, or knee action faucet controls for asepsis and ease of function.

b. Empty, disassemble, and clean weekly all refillable hand cleansing agent dispensers. Do not use bar soaps in bathrooms or clinical and common areas.

c. Nonhand actuated dispenser controls are preferable.

5. Handwashing Guidelines. All personnel involved in patient care must wash their hands, wrists, and forearms with a disinfectant soap and water:

a. At the beginning of each day.

b. Between patients, before and after going to lunch, taking a break, or using the bathroom, or anytime they become contaminated.

c. Before gloving, after degloving, and before regloving.

d. At the end of the day.

6. Handwashing Techniques. Dental staff personnel involved in patient care must follow a rigid handwashing protocol by:

a. Removing all jewelry and other ornaments from the hands and wrists.

b. Trimming the fingernails and cuticles. Nails should be no longer than the finger tips to avoid puncturing the gloves. Do not use false fingernails since contamination may occur from fungal growth between the false and natural nails. Also, do not wear nail polish since micro-organisms can hide in small cracks in the finish.

c. Wetting the hands under warm, running water and applying the amount of antimicrobial soap required to work up a lather. Vigorously rub the hands together, fingers entwined. This creates friction and loosens dirt and micro-organisms. Clean under the fingernails using the fingernails on the opposite hand. Continue scrubbing the wrists and lower forearms.

(1) Visibly soiled hands may require more time.

(2) Surgical teams must scrub their hands up to the elbows with an antimicrobial surgical product for the time specified by the manufacturer. After scrubbing, dry with a sterile towel.

(3) When washing times are too short or technique is poor, several problems may occur:

(a) Fingertips, thumbs, and the areas between the fingers are washed poorly or may be skipped entirely.

(b) The dominant hand is generally washed less thoroughly than the nondominant hand.

(c) Microbe counts under the fingernails have been found to remain high even after surgical scrubs.

d. Rinsing soap off by placing hands under warm, running water. If the sides of the sink are touched, repeat handwashing.

e. Drying hands with paper towels.

f. Using a paper towel when turning off the faucet, if the sink does not have an electronic elbow, foot, or knee action faucet control.