

# STAFF EDUCATION: HAND HYGIENE

## Overview

Numerous studies have shown that maintenance of excellent **hand hygiene** is one of the most important, effective, and simple means of preventing the transmission of microorganisms among patients, staff and visitors in healthcare facilities. Hand-hygiene techniques include:

- **Hand washing**
- **Hand antisepsis**
- **Handrub**
- **Surgical scrub**

## HAND WASHING

### 1. Purpose

The purpose of **hand washing** is to mechanically remove soil and debris from the skin and to reduce the number of transient microorganisms, i.e., those microorganisms that have been acquired by recent contact with infected or colonized patients and/or contaminated environmental surfaces.

### 2. Indications

In the absence of a **true** emergency, The Ohio State University Medical Center staff members and employees must wash their hands immediately or as soon as possible:

- Whenever hands are visibly soiled
- Before and after patient contact
- After contact with patient blood, body fluids or substances, mucous membranes, and nonintact skin
- After contact with inanimate objects and surfaces that are likely to be contaminated
- After gloves are removed
- Between tasks and procedures on the same patient to prevent cross-contamination to different body sites
- After personal use of the restroom

### 3. Product

For routine hand washing, a mild nonantimicrobial soap should be used.

### 4. Technique

The technique for routine hand washing is:

- Thoroughly wet hands.
- Apply a hand washing soap.
- Rub with friction all areas of hands and fingers for at least 10-15 seconds, paying close attention to the areas under the fingernails and between the fingers.
- Rinse hands thoroughly.
- Dry hands with a paper towel or hot air dryer.
- If the sink does not have foot controls or an automatic shut-off, use a paper towel when turning off the water.

## HAND ANTISEPSIS

### 1. Purpose

The purpose of **hand antisepsis** is to mechanically remove soil and debris from the skin and to significantly reduce both transient and resident microorganisms on health care workers' hands. Resident microorganisms are those that are normally present on the skin of most persons. They usually are of low pathogenicity (i.e., not disease-producing), but can cause infections in patients whose normal host defense mechanisms are compromised. Resident microorganisms are not easily removed by mechanical friction, but can be usually killed or inhibited by hand antisepsis with products that contain antimicrobial ingredients.

### 2. Indications

**Hand antisepsis** should be performed in those clinical situations where removal of microorganisms from the hands is of particular importance. Hand antisepsis should be completed before the performance of invasive procedures, such as placement of a urethral or intravascular catheter, before contact with highly susceptible patients, such as neonates, patients in intensive care units and immunosuppressed patients (e.g., neutropenic patients, transplant patients), and after contact with patients in Contact Isolation and/or contact with items or surfaces which may be contaminated by microorganisms from those patients.

### 3. Product

In order to accomplish hand antisepsis, an antimicrobial soap, such as 2% chlorhexadine gluconate (CHG) should be used.

#### 4. Technique

The technique for hand antisepsis is:

- Thoroughly wet hands.
- Apply an antimicrobial soap.
- Rub with friction all areas of hands and fingers for at least 10-15 seconds, paying close attention to the areas under the fingernails and between the fingers.
- Rinse hands thoroughly.
- Dry hands with a paper towel or hot air dryer.
- If the sink does not have foot controls or an automatic shut-off, use a paper towel when turning off the water.

### HANDRUB

#### 1. Purpose

The purpose of a **handrub** is to inhibit or kill transient and resident flora, and involves the use of a waterless alcohol-based handrub agent; **A HANDRUB MAY BE UTILIZED IN LIEU OF HAND WASHING OR HAND ANTISEPSIS UNLESS HANDS ARE VISIBLY SOILED, IN WHICH CASE MECHANICAL REMOVAL OF SOIL AND DEBRIS USING SOAP AND WATER MUST BE PERFORMED PRIOR TO USE OF A HANDRUB AGENT.**

#### 2. Indication

A handrub should be performed in those clinical situations where removal of microorganisms from the hands is of particular importance. A handrub should be completed before the performance of invasive procedures, such as placement of a urethral or intravascular catheter, before contact with highly susceptible patients, such as neonates and immunosuppressed patients, and after contact with patients in Contact Isolation and/or contact with items or surfaces that may be contaminated by microorganisms from those patients.

#### 3. Product

Handrub involves the use of a waterless alcohol-based handrub or hand rinse.

#### 4. Technique

The technique for waterless handrub is:

- Apply enough alcohol-based hand rinse or foam to cover the entire surface of hands and fingers.
- Rub the solution vigorously into hands until dry (approximately 30 seconds).

### SURGICAL SCRUB

#### 1. Purpose

The purpose of a **surgical scrub** is to mechanically remove soil, debris, and transient microorganisms, and to reduce resident microorganisms for the duration of a surgical procedure.

#### 2. Indications

A surgical scrub should be performed prior to the performance of an invasive surgical or radiologic procedure that involves access to sterile body sites, such as tissues or organs.

#### 3. Product

An antimicrobial surgical scrub agent must be used. Acceptable products include 4% CHG or an iodophor.

#### 4. Technique

The general surgical scrub technique is:

- Remove rings, watches, and bracelets.
- Thoroughly cleanse hands and forearms to the elbow.
- Clean nails with a nail cleaner.
- Rinse thoroughly.
- Apply 3 to 5 ml of antimicrobial agent.
- Vigorously scrub all surfaces of hands, fingers, and forearms for at least 2 minutes. If a disposable brush or sponge is used, it should be discarded after scrub. If a reusable brush or sponge is used, it should be decontaminated and sterilized before reuse.
- Rinse hands and arms thoroughly, holding the hands higher than the elbows.
- Keep hands up and away from the body, do not touch any contaminated surface or article, and dry with a sterile towel.

Source: The Ohio State University Medical Center, Columbus.