

Origin: Department of Hospital Epidemiology and Infection Prevention (HEIP)

I. PURPOSE

Effective hand hygiene removes transient microorganisms, dirt and organic material from the hands and decreases the risk of cross contamination from patients, patient care equipment and the environment.

Hand hygiene is the single most important strategy to reduce the risk of transmitting organisms from one person to another or from one site to another on the same patient. Cleaning hands promptly and thoroughly between patient contact and after contact with blood, body fluids, secretions, excretions, equipment, and potentially contaminated surfaces is an important strategy for preventing healthcare-associated infections.

II. POLICY

- A. Hands should be either washed or disinfected:
 1. whenever hands are visibly soiled or contaminated with body fluids.
 2. prior to contact with patients.
 3. after contact with patients.
 4. after contact with the patient care environment or equipment, e.g., exiting the patient's room.
 5. if moving from a contaminated-body site to a clean-body site during patient care (for example, after removing a soiled dressing and before applying a new dressing).
 6. whenever gloves are removed.
 7. after using the restroom.
 8. prior to eating.
 9. prior to touching one's eyes or mouth
- B. In some instances, handwashing is recommended instead of alcohol-based hand-rub disinfection. See Hand Hygiene table below
- C. Other Aspects of Hand Hygiene:
 1. Wearing a simple wedding ring (band) during routine care may be acceptable, but in high-risk settings, such as the operating room and Intensive Care Nursery, all rings or other jewelry must be removed. Employee Dress Standards - 4.03.04
 2. Fingernails:
 - i. Are to be kept neatly manicured and short, i.e. should not extend past the tip of the finger.
 - ii. Are to be kept clean.
 - iii. Artificial nails or enhancements are prohibited for staff who have direct patient contact, who prepare instruments for sterile procedures or who prepare sterile pharmaceuticals.
 - iv. Nail polish in good repair is permitted.
 - v. Exception: individuals who should not wear fingernail policy include scrubbed individuals who interact with the sterile field during surgical procedures and other areas where nail polish is not permitted per by department leadership.
- D. The choice of alcohol-based hand rub (ABHR), antimicrobial soap, or surgical hand preparation is based on:
 1. The degree of hand contamination.
 2. The degree to which reduced bacterial burden is required according to activity (see Table A. Guide for Hand Hygiene Decision-Making).
 3. Transmission and patient risk factors:
 - i. Requirements of immediate patient care
 - ii. High risk patient care (e.g., adult critical care, pediatric critical care, neonatal critical care (See Table A)
 - iii. Confirmed or suspected infection requiring Contact Precautions
 4. Invasive or surgical procedure.

Table A. Guide for Hand Hygiene Decision-Making

TYPE	PRODUCT	METHOD	PURPOSE
Hand decontamination	ABHR	Rub product over all surfaces of hands until dry, at least 20 seconds. Hands must not have VISIBLE SOILING .	To destroy transient and resident microorganisms on hands without visible soiling.
Antimicrobial hand antiseptis	Antimicrobial soap	Wet hands. Rub soap over all surfaces of the hands and wrists, then rinse with water and pat dry with paper towels. Total time 1 to 1 ½ minutes.	To remove soil and remove or destroy transient microorganisms.
Surgical hand antiseptis:	Waterless surgical scrub	Apply antimicrobial scrub agent and water with sponge to achieve friction for 5 minutes.	To remove or destroy transient microorganisms and reduce resident flora.
		OR apply waterless surgical scrub per manufacturer's instructions	

III. PROCEDURES

- A. Hand hygiene indications include:
1. Before touching a patient. For example:
 - a. Upon entry to the patient's room
 2. Before clean/aseptic procedure. For example:
 - a. Before handling sterile or clean supplies including medications
 3. After body fluid exposure. For example:
 - a. After contact with patients' body substances
 4. After touching a patient, including:
 - a. Upon exiting the patient room
 5. After touching patient surroundings. For example:
 - a. Exiting the patient care area
 - b. Before leaving the unit
 6. Additional hand hygiene indicators. For example:
 - a. After using the restroom
- B. Products for cleaning hands (refer to Table B):
1. Use ABHR for routine hand decontamination when hands are not visibly soiled.
 2. Use ABHR or antimicrobial soap for hand washing before invasive procedure such as IV insertion, bronchoscope or urinary catheter insertion.
 3. Use soap and water hand washing for visibly soiled hands.
 4. Use soap and water hand washing upon exit from the room of a patient on Contact Precautions regardless of whether you had contact with the patient.
 5. Use a surgical hand preparation before performing surgery.

6. Antimicrobial-impregnated wipes (e.g. towelettes) are not as effective as (and are not a substitute for) alcohol-based hand rubs or washing hands with an antimicrobial soap and water for reducing bacterial counts on the hands of staff.
 7. Avoid bar soaps.
 8. Use cassette-refillable dispensers. Do not refill or “top off” soap or ABHR cassettes, and do not use dispensers with refillable reservoirs. This practice can lead to bacterial contamination.
- C. Hand lotion may be used to prevent skin dryness and damage. See [Appendix B](#). Considerations include:
1. Lotion may promote the growth of bacteria. Do not refill containers.
 2. Petroleum-based (ingredients include mineral oil, petrolatum) lotions degrade latex.
 3. Petroleum-based lotions negate the persistent antimicrobial effect of CHG.
- D. Procedures for cleaning hands. Video instructions for proper hand hygiene can be found online: [ABHR & Soap and Water videos](#).
1. ABHR (not for visibly soiled hands)
 - a. Apply product to palm of one hand.
 - b. Rub hands together, covering all surfaces of hands and fingers until hands are dry.
 - c. Follow the manufacturer’s recommendations for product volume.
Total time to complete procedure = approximately 20 seconds
 2. Soap and water hand washing
 - a. Stand near the sink, but avoid touching it, as the sink itself may be a source of contamination.
 - b. If using a lever-operated paper towel dispenser, dispense a portion of towel before washing hands.
 - c. Using tepid water, wet hands. Avoid splashing and keep moisture away from sleeves and clothing. Avoid using hot water, as repeated exposure to hot water may increase the risk of dermatitis.
 - d. Apply soap product according to manufacturer’s recommendations.
 - e. Rub hands together for at least 15 seconds, covering all surfaces of the hands and fingers.
 - f. Rinse hands thoroughly.
 - g. Dry hands with disposable towel.
 - h. Use towel to turn off faucet for handle-operated faucets to prevent contaminating your hands.
Total time to complete procedure (a to h) = 1–1.5 minutes



Table B. Method of Hand Cleaning Indicated for Reducing Bacterial Burden Based Upon Activity

Activity/Method	Routine Patient Care	High Risk Patient Care	Invasive Procedure	Resistant Organisms	Any Contact Precautions	Surgery
Hand decontamination: ABHR on visibly clean hands	√	√	√	√		
Antimicrobial hand washing: antimicrobial soap and water	√	√	√	√	√	
Surgical hand antisepsis: Use of either an antimicrobial surgical scrub agent intended for surgical hand antisepsis or an alcohol-based antiseptic surgical hand rub is acceptable.						√

E. Surgical Team hand hygiene

1. A traditional, standardized, surgical hand scrub procedure includes:
 - a. Remove jewelry including rings, watches, and bracelets.
 - b. Don a surgical mask during hand scrub.
 - i. Anyone standing at the scrub sink (regardless of whether they are scrubbing), must wear a surgical mask while in the presence of anyone else performing hand scrub activity.
 - c. Wash hands and forearms if visibly soiled with soap and running water immediately before beginning the surgical scrub.
 - d. Clean the subungual areas of both hands under running water using a disposable nail cleaner.
 - e. Rinse hands and forearms under running water.
 - f. Dispense the approved antimicrobial scrub agent according to the manufacturer's written directions.
 - g. Apply the antimicrobial agent to wet hands and forearms using a soft, nonabrasive sponge.
 - h. A three- or five-minute scrub should be timed to allow adequate product contact with skin, according to the manufacturer's written directions.
 - i. Visualize each finger, hand, and arm as having four sides. Wash all four sides effectively, keeping the hand elevated. Repeat this process for opposite fingers, hand, and arm.
 - j. For water conservation, turn water off when it is not directly in use, if possible.
 - k. Avoid splashing surgical attire.
 - l. Discard sponges, if used, in appropriate containers.
 - m. Hands and arms should be rinsed under running water in one direction from fingertips to elbows as often as needed.
 - n. Hold hands higher than elbows and away from surgical attire.
 - o. In the OR, dry hands and arms with a sterile towel before donning a sterile surgical gown and gloves.

2. A standardized surgical hand scrub procedure **using an alcohol-based surgical hand rub product** includes:
 - a. Remove jewelry including rings, watches, and bracelets.
 - b. Don a surgical mask. If others are at the scrub sink, a surgical mask should be worn in the presence of hand scrub activity.
 - c. If visibly soiled, prewash hands and forearms with plain soap and water or antimicrobial agent.
 - d. Clean the subungual areas of both hands under running water using a disposable nail cleaner.
 - e. Rinse hands and forearms under running water.
 - f. Dry hands and forearms thoroughly with a disposable paper towel.
 - g. Dispense the manufacturer-recommended amount of the surgical hand rub product.
 - h. Apply the product to the hands and forearms according to the manufacturer's written instructions.
 - i. Repeat the product application process as directed.
 - j. Rub thoroughly until completely dry.
 - k. In the OR or other invasive procedure room, don a sterile surgical gown and gloves.

IV. RESPONSIBILITIES

A. Indications and Technique

HEIP is responsible to determine indications and techniques for hand hygiene and product suitability to accomplish desired hand hygiene results.

B. Dispenser Type, Location, and Maintenance

1. HEIP recommends that ABHR dispensers be installed at the entry to the patient care environment (e.g., rooms, bays) and other convenient locations. The unit manager is responsible to recommend specific locations that are applicable to the unit's workflow and accessible at the point of care.
2. Facilities Management is responsible for dispenser installation through the Work Order process and assures compliance with applicable Fire Code and other regulations related to location of ABHR products. Facilities Management works with managers to review smoke compartment limitations on ABHR, identify appropriate dispenser locations, and install dispensers.
3. Hospitality Services is responsible for dispenser ordering, cleaning, and replacement if damaged or not functioning.

C. Hand Hygiene Products Inventory

1. Hospitality Services is responsible for ordering and maintaining product availability in all dispenser and other hand hygiene locations.
2. Hospitality Services ensures the appropriate storage of ABHR product.

D. Product Evaluation

The Value Analysis Committee is responsible to review information related to

- a. Capacity to achieve desired hand hygiene results
- b. Manufacturer information regarding known interactions among any of the following:
 - i. hand hygiene products
 - ii. skin care products
 - iii. gloves used in the institution
 - iv. persistent effects of antimicrobial soaps used in the institution



- c. Low irritancy potential
- d. Cost
- e. Staff feedback regarding feel, fragrance, and skin tolerance of any products under consideration
- f. Dispenser evaluation related to functioning and maintenance, suitability to deliver appropriate volume of product, and compliance with regulations and codes

E. Skin Irritation and Alternate Products

- 1. Occupational Health Services is responsible for responding to and evaluating staff skin irritation complaints and alternate product recommendations.
- 2. Hospitality Services provides one hand lotion dispenser at patient care unit stations. Additional lotion dispensers can be ordered by patient care unit managers.

F. Enforcement

- 1. Managers are responsible for enforcing compliance with all elements of this policy in their departments
- 2. As per Medical Staff Rules and Regulations (Section II Patient Affairs, II. Infection Control and Communicable Diseases) all providers are responsible for complying with all elements of this policy.



HOSPITAL EPIDEMIOLOGY AND
INFECTION PREVENTION:
HAND HYGIENE POLICY

POLICY 1.2
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V. HISTORY OF POLICY

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Appendix A

Surgical hand preparation technique with an alcohol-based antiseptic surgical hand rub

The handrubbing technique for surgical hand preparation must be performed on perfectly clean, dry hands. On arrival in the operating theatre and after having donned theatre clothing (cap/hat/bonnet and mask), hands must be washed with soap and water. After the operation when removing gloves, hands must be rubbed with an alcohol-based formulation or washed with soap and water if any residual talc or biological fluids are present (e.g. the glove is punctured).

Surgical procedures may be carried out one after the other without the need for handwashing, provided that the handrubbing technique for surgical hand preparation is followed (Images 1 to 17).



1
Put approximately 5ml (3 doses) of alcohol-based handrub in the palm of your left hand, using the elbow of your other arm to operate the dispenser



2
Dip the fingertips of your right hand in the handrub to decontaminate under the nails (5 seconds)



3
Images 3–7: Smear the handrub on the right forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the handrub has fully evaporated (10-15 seconds)



4
See legend for Image 3



5
See legend for Image 3



6
See legend for Image 3



7
See legend for Image 3



8
Put approximately 5ml (3 doses) of alcohol-based handrub in the palm of your right hand, using the elbow of your other arm to operate the dispenser



9
Dip the fingertips of your left hand in the handrub to decontaminate under the nails (5 seconds)

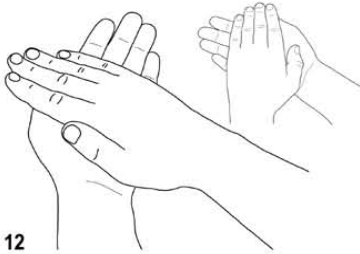
Surgical hand preparation technique with an alcohol-based antiseptic surgical hand rub continued...



10
Smear the handrub on the left forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the handrub has fully evaporated (10-15 seconds)



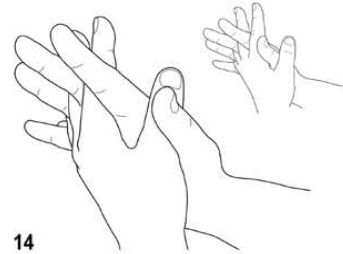
11
Put approximately 5ml (3 doses) of alcohol-based handrub in the palm of your left hand, using the elbow of your other arm to operate the distributor. Rub both hands at the same time up to the wrists, and ensure that all the steps represented in Images 12-17 are followed (20-30 seconds)



12
Cover the whole surface of the hands up to the wrist with alcohol-based handrub, rubbing palm against palm with a rotating movement



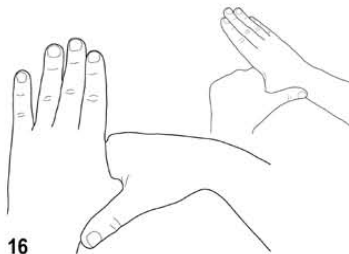
13
Rub the back of the left hand, including the wrist, moving the right palm back and forth, and vice-versa



14
Rub palm against palm back and forth with fingers interlinked



15
Rub the back of the fingers by holding them in the palm of the other hand with a sideways back and forth movement



16
Rub the thumb of the left hand by rotating it in the clasped palm of the right hand and vice versa



17
When the hands are dry, sterile surgical clothing and gloves can be donned

Repeat the above-illustrated sequence (average duration, 60 sec) according to the number of times corresponding to the total duration recommended by the manufacturer for surgical hand preparation with an alcohol-based handrub.

Appendix B

SKIN INTEGRITY ISSUES WITH HOSPITAL-PROVIDED HAND HYGIENE PRODUCTS

Staff who experience skin integrity issues attributed to hospital-provided hand hygiene products must be evaluated by Occupational Health Services. Occupational Health Services and the staff persons' manager/supervisor will use the checklist to address hand skin integrity issues. This checklist may be used for two purposes:

1. To educate healthcare workers about the proper way to clean hands and preserve hand skin integrity.
2. For managers/supervisors to evaluate staff adherence to hand skin integrity strategies when a healthcare worker reports breakdown in hand skin integrity.

EVALUATING PRACTICE FOR HAND SKIN INTEGRITY

A. Soap-and-water hand hygiene (total procedure takes 1-1.5 minutes):

- Wet hands first before applying soap.*
- Use only one squirt of soap per wash. It is difficult to thoroughly remove excessive product, and the residual chemicals and perfumes have been associated with developing dermatitis.
- Rinse thoroughly—allow enough time and water to remove all traces of soap.
- Pat hands dry with paper towels (rather than rubbing hands dry).
- Always use an *antimicrobial* hand soap or an alcohol-based hand rub with persistent activity to clean hands prior to an invasive procedure (e.g., starting an IV, placing a urinary catheter).

B. ABHR (total procedure takes approximately 20 seconds):

- Use whenever hand hygiene is indicated and hands are not visibly soiled.
- There is no “set” number of uses after which one should wash with soap and water. Let your senses be your guide, and when you feel like washing, wash.

C. Lotion use:

- It is recommended that you apply lotion to your hands periodically throughout the day to replenish skin moisture. The following four times may be appropriate opportunities to do so making sure to leave it on your skin for at least 30 minutes after each application:
 - Following morning bathroom use
 - At your meal break
 - At the end of your work shift
 - When preparing to sleep
- Use the UCSF-provided lotion. Our hand product manufacturer develops products that are formulated to work cooperatively on your skin and not interact with certain other products in use at UCSF.

SKIN INTEGRITY ISSUES WITH HOSPITAL-PROVIDED HAND HYGIENE PRODUCTS

D. What if hands develop rash, dermatitis, lesions?

- If you develop a rash or open areas on your hands, do not perform direct patient care.
- If you develop dry skin, pay very close attention to all variables: what products have changed at home and at work? Are you following all the steps above? Is it a dry time of year? (Recall that dermatitis and dry skin occur cyclically, with worsening in winter.)
- If you develop a skin reaction that you believe is related to a hand hygiene product, advise your manager and make an appointment to be evaluated by Occupational Health Services (OHS). Skin reactions related to products provided by the institution should be documented in your record. Alternative products can be provided for your use as a direct patient care provider.
- Above all, communicate with OHS if a problem persists.



VI. REFERENCES

1. Association of Operating and Perioperative Nurses. Guidelines for Perioperative Practice, (2023).
2. Centers for Disease Control and Prevention, Guideline for Hand Hygiene in Health-Care Settings, MMWR 51(RR16): 1-44, 2002.
3. Centers for Disease Control and Prevention, Guidelines for Preventing Opportunistic Infections Among Hematopoietic Stem Cell Transplant Recipients, 20003.
4. Centers for Disease Control and Prevention website on Healthcare Associated Infections [Healthcare-Associated Infections \(HAIs\) | HAI | CDC](#)
5. Centers for Medicare and Medicaid Services. Conditions of Participation (77 FR 29034); published May 16, 2012; effective July 16, 2012
6. Joint Commission. Hospital Accreditation Standards. Retrieved on January 4, 2023 at [Standards for Joint Commission Accreditation and Certification | The Joint Commission](#)
7. Society for Healthcare Epidemiology (SHEA). SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update. Retrieved on February 24, 2023 from [SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update | Infection Control & Hospital Epidemiology | Cambridge Core](#)
8. World Health Organization. Infection Prevention and Control. Hand Hygiene. Retrieved on January 4, 2023 at [Infection prevention and control \(who.int\)](#)

VII. Associated Policies

1. Artificial fingernails & enhancements (see Employee Dress Standards A.3) Employee Dress Standards - 4.03.04
2. HEIP Standard and Transmission Based Precautions Policy 1.1 [Standard and Transmission Based Precautions \(ucsfmedicalcenter.org\)](#)