

Status **Active** PolicyStat ID **17344884**



Origination 01/2005
Last Approved 01/2025
Effective 01/2025
Last Revised 01/2025
Next Review 01/2028

Owner Sherie Goldbach: Project Coordinator
Policy Area Infection Prevention
Applicability UNC Medical Center

Hand Hygiene

I. Description

Describes the indications and methods for hand hygiene in healthcare personnel.

II. Policy

A. Definition of Terms

Term	Definition
Alcohol-based hand rub (ABHR)	A solution containing 60-95 percent alcohol (ethanol or isopropanol) and is designed to be applied to the hands to reduce the number of viable microorganisms.
Antimicrobial soap	Soap containing an antiseptic agent.
Antiseptic agent	Antiseptics are antimicrobial substances that are applied to the skin to reduce the number of microbial flora. Examples include alcohols, chlorhexidine, chlorine, hexachlorophene, iodine, para-chloro-meta-xyleneol, and quaternary ammonium compounds.
Antiseptic hand-wash	Washing hands with water and soap or other detergents containing an antiseptic agent.
Artificial Nails	Substances or devices applied or added to the natural nails to extend or augment (ie, sculpt, shape) the wearer’s nails. These included extensions, tips, acrylic overlays, and wraps.
Hand antisepsis	Refers to either antiseptic hand-wash or antiseptic hand rub.

Hand hygiene	A general term that applies to handwashing, antiseptic handwash, antiseptic hand rub, or surgical hand antisepsis.
Handwashing	Washing hands with a non-antimicrobial or antimicrobial soap and water.
Persistent activity	Antimicrobial activity that persists after the agent has been rinsed off the skin or has dried.
Plain soap	Plain soap refers to products that do not contain antimicrobial agents, or contain very low concentrations of antimicrobial agents.
Surgical hand antisepsis	Antiseptic hand-wash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient and reduce resident hand flora. Antimicrobial soap preparations often have persistent antimicrobial activity.
Visibly soiled hands	Hands showing visible dirt or visibility contaminated with blood or other body fluids/substances (e.g., blood, fecal material, urine).

B. Transmission of Pathogens on Hands

Transmission of healthcare-associated pathogens from one patient to another via the hands of staff requires four elements:

1. Organisms present on the patient's skin, or that has been shed onto inanimate objects immediately surrounding the patient, must be transferred to the hands of staff.
2. Organisms must be capable of surviving for at least several minutes on the hands of staff.
3. Handwashing or hand antisepsis by staff must be inadequate or omitted altogether, or an inappropriate agent used for hand hygiene.
4. The contaminated hands of staff must come in direct contact with another patient, or with an inanimate object that will have contact with the patient.

C. Indications for Hand Hygiene

1. When hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids, wash hands with soap and water.
2. If hands are not visibly soiled, you may use an alcohol-based hand rub for routinely decontaminating hands in all other clinical situations described below in items 2a-g. Alternatively, staff may wash hands with an antimicrobial soap and water in all clinical situations described in items 2a-g.
 - a. Perform hand hygiene before having direct contact with patients, even if gloves are worn.
 - b. Perform hand hygiene before donning sterile gloves and before inserting devices.
 - c. Perform hand hygiene after contact with a patient's intact skin (e.g., taking a

- pulse, taking blood pressure, lifting a patient)
- d. Perform hand hygiene after contact with mucous membranes, non-intact skin, or wound dressings, if hands are not visibly soiled (if soiled see item 1).
 - e. Perform hand hygiene if moving from a contaminated body site to a clean body site during patient care.
 - f. Perform hand hygiene after contact with inanimate objects (e.g., medical equipment, computers) within the patient's environment.
 - g. Perform hand hygiene after removing gloves.
3. Before eating and after using a restroom, wash hands with a soap and water.
 4. Staff should use an antimicrobial soap and water when providing care for patients on Enteric Precautions for a suspected or known case of infectious gastroenteritis (e.g., *C. difficile* or norovirus). See Infection Prevention policy: [Isolation Precautions](#), Attachment 1-Type and Duration of Precautions Recommended for Selected Infections and Conditions for a complete list of infectious gastrointestinal diseases requiring Enteric Precautions.
 5. Wash hands with soap and water, if exposure to Anthrax (*Bacillus anthracis*) is suspected or proven. The physical action of washing and rinsing hands under such circumstances is recommended because alcohols and other antiseptic agents have poor activity against Anthrax (*Bacillus anthracis*) spores.

D. Preparations Used for Hand Hygiene

Chlorhexidine, iodophors, and alcohols are the active antimicrobial ingredients recommended for hand hygiene and skin antisepsis. The hand hygiene products that are most commonly used within UNC Hospitals are chlorhexidine gluconate and alcohol-based waterless hands rub. For additional information regarding effectiveness of antiseptic agents, refer to Attachment 1 - Characteristics of Antisepsis (Antimicrobial Agents) of this policy.

1. **Alcohol:** It is effective against bacteria, mycobacteria, fungi, and viruses. However, it is also flammable, evaporates quickly, dries the skin, and has no residual antimicrobial effect.
2. **Iodophors:** (e.g., Betadine). These are water-soluble complexes of iodine with organic compounds, which are effective against all Gram-positive bacteria, Gram-negative bacteria, and viruses. The iodophors are not long lasting and, if used frequently, may cause considerable drying of the skin.
3. **Chlorhexidine gluconate** (e.g., CHG). This antiseptic is 2% chlorhexidine gluconate (CHG) with 4% isopropyl alcohol in a sudsing base. CHG is an effective antiseptic for reducing transient and resident microbial hand flora and has a sustained antimicrobial effect. It is also approved for surgical hand antisepsis. It does not appear to have adverse actions on the skin as do some of the other handwashing agents.

4. **Other agents:** Other antiseptic agents for hand hygiene must first be approved by Infection Prevention and/or Occupational Health Services (OHS).

E. Availability and Management of Hand Hygiene Products

1. Liquid soap dispensers are monitored by Environmental Services and should be replaced when empty. Dispensers must not be "topped off" since this can lead to bacterial contamination of the soap.
2. Alcohol-based waterless hand rubs must be available in all patient care areas. They should be located at the entrance to the patient's room, at the bedside, or in other convenient locations. For areas where hand rubs may not be readily available (e.g., inpatient psychiatric units), the healthcare provider should carry pocket-sized containers.
3. Alcohol-based waterless hand rubs should also be made available in the public waiting areas to promote hand hygiene among patients and visitors.

F. Hand Hygiene Technique

1. When decontaminating hands with an alcohol-based hand rub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. Follow the manufacturer's recommendations for use (MIFU) on the volume of product to use. If an adequate volume of an alcohol-based hand rub is used, it should take 20 seconds for hands to dry.
2. When washing hands with a non-antimicrobial or antimicrobial soap, wet hands first with warm water, apply 3 to 5 mL of detergent to hands, and rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers to include the nail beds and between the fingers. Rinse hands with warm water and dry thoroughly with a disposable towel. Use towel to turn off the faucet.

G. Other Aspects of Hand Care and Protection

1. Staff with a cast or splint below the wrist that is non-removable are not allowed to provide direct patient care as they cannot perform hand hygiene. Staff with a removable splint can only provide direct patient care if the splint is not worn during the entire period of providing patient care.
2. **Gloves:** Single-use, disposable nitrile gloves must be worn when encountering blood or other potentially infectious materials (OPIM).
 - a. Hand hygiene with soap and water, or with an alcohol-based antiseptic hand rub should be performed after glove removal.
 - b. Remove gloves after caring for patient.

- c. Do not wear the same pair of gloves for the care of more than one patient. Do not wash gloves or use alcohol-based hand rub on gloves between patients.
- d. Change gloves and decontaminate hands during patient care when moving from a contaminated site to a clean site.

3. Fingernails/Artificial Nails/Nail Polish

- a. Follow hygiene standards for nails from the Human Resources policy: [Professional Business Attire](#).
- b. Long nails are known to promote growth of Gram-negative bacteria and yeast. Nails will be kept less than ¼ inch long for staff providing direct patient care.
- c. Artificial fingernails are prohibited for all staff who provide direct patient care in high-risk areas where published outbreaks have been linked to long, artificial nails: NCCC, areas following the Perioperative Services Policy: [Perioperative Services Surgical Attire](#), all ICUs, Dialysis, and BMTU/5CH.
- d. Nail polish, if used, must be intact and well maintained. Polish should be removed/replaced when chipped.

4. Jewelry

- a. Rings can make donning gloves more difficult and may cause gloves to tear more readily.
- b. Certain high-risk areas may prohibit wrist jewelry and rings.

H. Surgical Hand Antisepsis

- 1. Surgical hand antisepsis, using either an alcohol-based waterless surgical hand antiseptic or an antimicrobial soap, will be performed **before** donning sterile gloves when performing surgical procedures.
- 2. All rings, watches, and bracelets must be removed prior to performing surgical hand antisepsis.

I. Dermatitis

- 1. Staff with cracked skin or dermatitis pose an infectious risk and are required to be evaluated by Occupational Health Services (OHS) as to work status and methods to relieve the condition.
- 2. To prevent and manage irritant contact dermatitis:
 - a. Encourage use of alcohol-based antiseptics for routine hand hygiene. These are well tolerated and associated with less irritant contact dermatitis than

soap and water handwashing. This does not apply to a situation that requires soap and water hand hygiene (e.g., patients with *C. difficile* infections).

- b. Wash hands with warm or cold water. Hot water should be avoided because it can irritate the skin, leading to dermatitis and bacterial colonization.
- c. If dermatitis occurs, OHS may recommend the use of cotton glove liners. Glove liners may help individuals with irritant contact dermatitis to maintain healthy skin.
 - When used, cotton glove liners should be replaced at the beginning of each shift with a clean pair. If they become contaminated with blood, OPIM, or become generally soiled in appearance, they should be removed promptly and replaced.

J. Skin Care/Lotions

1. Staff should use hand lotion in order to minimize the occurrence of irritant contact dermatitis associated with hand antisepsis and hand hygiene.
2. Hand lotions/creams must be compatible with both the antimicrobial agent and use of nitrile gloves.
 - Some lotions and creams interfere with the effectiveness of the antimicrobial handwashing agents. CHG can be inactivated by a number of ingredients found in common hand lotion/cream brands.
3. Compatible lotion may be ordered from Lawson (#050939) and should be available for use in clinical areas.
 - The Maintenance Department will install the hand lotion dispenser when requested.

K. Healthcare Worker Behavior and Compliance

Efforts to improve hand hygiene practice will be multifaceted and will include continuing education and feedback to staff on behavior or infection surveillance data. Clean In, Clean Out is UNC Health's system-wide hand hygiene program to measure and promote hand hygiene compliance.

L. Disaster Planning

In the event of interruption of water supply, alcohol-based hand rubs and alternative methods of performing hand hygiene, including portable hand washing sinks, will be available. In situations where soiling occurs, baby wipes (Lawson # 135812) should be used to cleanse the hands; alcohol-based hand rubs should then be used to achieve hand antisepsis.

M. Implementation

Implementation of this policy is the responsibility of Infection Prevention, Service Line Directors, Nursing Service, Phlebotomy, and Medical Staff.

III. References

SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update

Center for Disease Control and Prevention: Clean Hands. February 2024 <https://www.cdc.gov/clean-hands/about/index.html>. Accessed October 25 2024.

Haas, J. & Newman, H (2021). *Hand Hygiene*. APIC text. Accessed November 18, 2024. <https://text.apic.org/toc/basic-principles-of-infection-prevention-practice/hand-hygiene>

IV. Related Policies

[Human Resources Policy: Professional Business Attire](#)

[Infection Prevention Policy: Chlorohexidine Gluconate Treatments \(CHG\) and Skin Antisepsis](#)

[Infection Prevention Policy: Isolation Precautions](#)

[Infection Prevention Policy: Infection Prevention Guidelines for Perioperative Services](#)

[Perioperative Services Policy: PeriOperative Services Surgical Attire](#)

V. Responsible for Content

Department of Infection Prevention Leadership Team

All Revision Dates

01/2025, 07/2022, 02/2022, 01/2022, 11/2020, 01/2020, 04/2019, 09/2018, 06/2017, 02/2016, 02/2013, 02/2010, 03/2007, 01/2005

Attachments

[01: Characteristics of Antisepsis \(Antimicrobial Agents\)](#)

Approval Signatures

Step Description	Approver	Date
------------------	----------	------

Policy Stat Administrator	Judith Strubin: Mgr Program-IP	01/2025
	Thomas Ivester: CMO/VP Medical Affairs	01/2025
	Emily Vavalle: Dir Epidemiology	01/2025
	Sherie Goldbach: Project Coordinator	01/2025

Applicability

UNC Medical Center

Standards

No standards are associated with this document

COPY