



## TAKEAWAY

## EXPLANATION

Perioperative team members should maintain healthy fingernails.

- Maintaining short fingernails (ie, no longer than 2 mm [0.08 inches]) reduces the risk of harboring pathogens under fingernails, puncturing gloves, or injuring patients during patient handling. **1.1.1**
- Artificial fingernails or extenders should not be worn in the perioperative setting because artificial nails have been associated with hand contamination and epidemiologically implicated in outbreaks caused by gram-negative bacteria and yeasts. **1.2**
- **NEW** An interdisciplinary team at the health care organization should determine whether nail lacquer or enhanced nail lacquer products (ie, UV-cured polish, dipped nail coating) may be worn by non-scrubbed personnel in the perioperative setting.
  - Although the collective moderate-quality evidence is inconclusive regarding the effect of nail lacquer on hand hygiene, potential harms could include hindering the effectiveness of hand hygiene, obscuring a nail infection, transmitting pathogens harbored in chipped or old nail lacquer to a patient, or chipped nail lacquer becoming deposited in the sterile field or wound.
  - There is minimal research to support or refute the wearing of enhanced nail lacquer. However, the harms of wearing enhanced nail lacquer may include damage to the natural fingernail and harboring of pathogens in the gaps created as the nail and cuticle grow. **1.3**

Perioperative team members should maintain healthy skin condition by taking measures to prevent hand dermatitis.

- Using moisturizing skin care products that are approved by the health care organization is important because some types of lotion have been associated with altered integrity of latex rubber gloves, reduced persistent effects of hand antiseptics, and bacterial contamination of the lotion. **1.5.1**
- Water temperature for hand hygiene should be maintained between 70° F and 80° F (21.1° C and 26.7° C). Repeated exposure to hot water can irritate the skin and may lead to dermatitis or bacterial colonization. **1.5.2**
- Hands should be completely dry before gloves are donned. There is an increased risk for skin irritation from wearing gloves on wet hands. **1.5.3**
- Unless handwashing with soap and water is indicated, personnel should disinfect their hands with an alcohol-based hand rub. Alcohol-based hand rubs are well tolerated and associated with less irritant contact dermatitis than soap and water. **1.5.6**

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Facility policy should specify the type of hand and wrist jewelry that may or may not be worn by perioperative team members.

- Jewelry (eg, rings, watches, bracelets) should not be worn by scrubbed team members. Wearing jewelry on the hands or wrists may impede the removal of microorganisms from the hands during surgical hand antisepsis. **2.1.1**
- **NEW** After weighing the benefits and harms, an organization may determine a ring, wristwatch, or personal fitness tracker constructed of smooth materials without stones or adornments may be worn by non-scrubbed team members who are not performing a task requiring sterile technique.
  - Evidence of the potential harms of wearing a simple ring in the perioperative setting is inconclusive. However, potential harms may include interference with effective hand hygiene and the inability to clean the ring.
  - Potential benefits of wearing a simple watch or fitness tracker may include improved personal health and fitness, continual ability to assess time, and ability to measure the patient's pulse and respirations. Potential harms may include an infection risk to the patient and wearer due to frequent contact of the device with the wearer's hands and the inability to clean the device and a risk for injury to the patient or wearer because of potential entrapment of the device within the patient's gown, linens, or drapes. **2.1.2**

All individuals who participate in patient care in the perioperative setting should perform hand hygiene.

- Perioperative team members should perform hand hygiene
  - before and after patient contact,
  - before performing a clean or sterile task,
  - after risk for blood or body fluid exposure,
  - after contact with patient surroundings,
  - when hands are visibly soiled,
  - before and after eating, and
  - after using the restroom.**3.2**
- The use of gloves does not replace the need for hand hygiene. **3.2.2**
- Performing a single act of hand hygiene may fulfill multiple indications (eg, opening multiple sterile items sequentially). Multiple indications for hand hygiene may arise simultaneously that create a single opportunity to perform hand hygiene. **3.2.3**
- In the event that performing hand hygiene would put the patient at risk, the health care provider should weigh the risks and benefits of delaying hand hygiene. **3.3**

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Perioperative team members should perform surgical hand antisepsis before donning sterile gowns and gloves for operative and other invasive procedures.

- Due to the risk for glove failure, surgical hand antisepsis is the primary line of defense to protect the patient from pathogens on the hands of scrubbed perioperative team members. **4.1**
  - Surgical hand antisepsis should be performed using a surgical hand scrub or rub according to the manufacturer's instructions for use. Failure to adhere to the manufacturer's instructions for use may result in harm or ineffectiveness of the surgical hand antiseptic. **4.1.1, 4.2, 4.3**
- The surgical hand scrub should not be performed using a brush because scrubbing with a brush may damage skin and increase the number of bacteria shedding from the hands. **4.3.2**

A facility water management plan should include a process for carefully evaluating the selection and use of electronic faucets in the perioperative environment.

- **NEW** An interdisciplinary team should determine whether electronic sensor faucets will be used and if so, under what circumstances.
  - Electronic faucets are mechanically complex, and the benefits of using them may not outweigh the harms.
  - Harms include biofilm formation and bacterial growth. A direct link has been found between electronic faucets and health care-associated infections in vulnerable populations. **5.4**
- **NEW** The team evaluating electronic faucet installation on a hand hygiene or surgical scrub sink should assess
  - sink utilization,
  - water flow rate,
  - holding water temperature,
  - complexity and composition of internal components, and
  - location and volume of the mixing chamber.**5.4.1**
- **NEW** More-frequent monitoring of high-risk sink hardware (ie, electronic faucets) for deviance from established parameters (ie, physical, chemical) and growth of waterborne pathogens may be implemented. **5.4.2**

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Actions should be taken to prevent waterborne pathogen dispersion during use of hand hygiene and surgical scrub sinks.

- **NEW** Sinks, faucets, and drains are common sources of *Pseudomonas aeruginosa* and other gram-negative bacteria. Forming or utilizing an existing water management team to develop a plan for reducing bacterial contamination of sinks, faucets, and drains is key to preventing pathogen transmission. **5.5**
- **NEW** Dispersal of water and potential waterborne pathogens may be minimized by:
  - installing sinks with basins deep enough to minimize splashing;
  - minimizing surface area in contact with water;
  - providing adequate space between sinks and patients, sterile items, and medication preparation;
  - installing splash guards where appropriate;
  - locating faucets so that they do not discharge directly above the drain;
  - adjusting water pressure to reduce forceful discharge into the sink at maximum flow; and
  - implementing routine cleaning of sinks and surrounding areas.**5.5**

Streamlining processes and incorporating reminders can improve performance of hand hygiene.

- **NEW** The rapid pace and high task load within the perioperative environment can make hand hygiene a lower priority or a task that is simply forgotten. Providing visual reminders in electronic and paper format may increase hand hygiene performance. **9.5**
- **NEW** Improving workflow (eg, supply availability) and revising protocols to better characterize hand hygiene opportunities can reduce the number of contacts with the patient's environment and the need for hand hygiene, potentially leading to an increase in hand hygiene compliance. **9.7**