Healthcare-associated infections (HAIs) account for an estimated 1.7 million infections and 99,000 associated deaths each year. The number one way to prevent these infections is hand hygiene, according to the CDC and the World Health Organization (WHO) (see A brief history of hand hygiene). The Joint Commission advocates following current CDC or WHO hand hygiene guidelines to improve hand hygiene compliance and decrease the incidence of HAIs. This article describes the current evidence-based practices for hand hygiene in the perioperative setting.

Hand hygiene in the perioperative setting consists of two components:
- hand washing, which decontaminates the hands and reduces transmission of HAIs. According to the Association of periOperative Registered Nurses (AORN), soap and water, antiseptic and water, or an antiseptic hand rub (if the hands aren’t visibly soiled) may be used.
- surgical hand scrub, which is performed before a surgical or other invasive procedure before sterile gloves are donned. This scrub can be done with water-aided brushless surgical hand antisepsics, waterless and brushless surgical hand antisepsics, or traditional surgical hand scrub using a sponge.

As evidence-based practices are published, nurses need to become familiar with them so that they can provide optimal safe patient care. For example, the AORN board of directors revised one of its recommended practices for hand hygiene in 2009. The revised recommendation called for performing a surgical hand scrub before donning sterile gloves, and noted that healthcare providers could use an antimicrobial surgical scrub agent or an alcohol-based antiseptic surgical hand rub that met FDA requirements for surgical hand antisep-sis. (Previous guidelines didn’t allow the option of an FDA-approved alcohol-based antiseptic surgical hand rub.) However, a year after this recommendation was released, some facilities appear to still be following older guidelines: In the August 2010 issue of AORN Journal, an anonymous reader asked why AORN’s new standards no longer called for a traditional surgical hand scrub using a brush at the beginning of the day, a practice still reflected in the facility’s policy manual. AORN’s standards note that the use of a brush for surgical hand scrub isn’t necessary and that scrubbing with a brush can damage skin, creating microcrevices that encourage bacterial growth and increased bacterial load.

The key evidence-based points for hand hygiene in the perioperative setting can be summarized as follows:

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Staying up-to-date on hand hygiene can help you reduce infection transmission.

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Keep natural fingernails short (one-quarter inch or less) and avoid wearing fingernail polish or artificial nails. Chipped nail polish can contaminate the sterile environment of the OR when glove integrity is compromised; artificial nails, including gels, acrylics, and resins, have been shown to harbor microorganisms that cause surgical site infections.

- Avoid wearing rings, and remove watches and bracelets before washing hands.
- Use hand lotions that are facility provided and approved. Some hand lotions contain substances that impair the efficacy of the hand hygiene products or compromise the integrity of latex gloves. Your facility infection prevention specialist and the product evaluation committee must review the product information for all of the facility-approved hand hygiene agents, hand lotions, and gloves to be sure that all products are compatible.
- Use a standardized procedure for hand washing on entering the perioperative area, before and after each patient contact, before donning personal protective equipment (PPE) or gloves and after removing PPE or gloves, after contact with blood or potentially infectious materials or surfaces, before and after eating, before and after using the restroom, and whenever hands are visibly soiled. If your surgical patient has or is suspected of having *Clostridium difficile*, wash your hands with soap and water—alcohol-based hand hygiene products don’t eradicate *C. difficile* spores.
- Wash hands between every surgical procedure.
- Follow the manufacturer’s directions for use of hand hygiene products, alcohol-based hand rubs, and surgical hand scrub. Efficacy is best when these products are used correctly.
- Healthcare workers should receive education and competency assessment on surgical hand hygiene products.
- When performing a traditional surgical hand scrub, use a sponge instead of a brush.
- Written surgical hand hygiene policies should be readily available and reviewed annually by a multidisciplinary team that includes OR staff, infection prevention specialist, and the employee health nurse.

By staying up-to-date on evidence-based hand hygiene practices, you can help reduce the transmission of HAIs. OR

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A brief history of hand hygiene

1847—Austrian physician Ignaz Semmelweis provides the first evidence that HAIs can be reduced if healthcare providers wash their hands with an antiseptic agent between patients.

1867—Joseph Lister advocates applying carbolic acid to surgeons’ hands before procedures, and demonstrates a positive association between this practice and a decrease in surgical site infections.

1900s—The importance of hand washing and gloving gain widespread acceptance. Guidelines published in 1975 and 1985 by the CDC advocate the use of alcohol-based antiseptic products when sinks aren’t available.

2002—The CDC publishes a guideline for hand hygiene in healthcare settings. The guideline is the first to recommend use of alcohol-based hand gels for hand hygiene when the healthcare provider’s hands aren’t visibly soiled, and is the first to recommend that healthcare providers avoid artificial fingernails and keep their fingernails short and free from nail polish.

2009—The WHO publishes guidelines on hand hygiene in healthcare, including surgical hand preparation.

2010—AORN publishes recommendations for hand hygiene in the perioperative setting. These recommendations concur with the 2002 CDC and 2009 WHO guidelines.

REFERENCES


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