ABSTRACT

This article focuses on implementing the revised AORN “Recommended practices for hand hygiene in the perioperative setting.” The content of the document has been expanded and reorganized from the previous iteration and now includes specific activity statements about water temperature, water and soap dispensing controls, the type of dispensers to use, paper towel dispenser requirements, placement of soap and rub dispensers, and regulatory requirements for products and recommendations for hand hygiene practices. A successful hand hygiene program allows end users to have input into the selection and evaluation of products and should include educating personnel about proper hand hygiene, product composition and safety, and how and when to use specific products. Measures for competency evaluation and compliance monitoring include observations, quizzes, skills labs, electronic monitoring systems, handheld device applications, and data collection forms. AORN J 95 (April 2012) 492-504. © AORN, Inc, 2012. doi: 10.1016/j.aorn.2012.01.019

Key words: AORN recommended practices, hand hygiene, surgical hand antisepsis.
WHAT’S NEW
The 2009 “Recommended practices for hand hygiene in the perioperative setting”\textsuperscript{1} supersedes the 2005 document, “Recommended practices for surgical hand antisepsis/hand scrubs.”\textsuperscript{2} The primary changes do not relate as much to content revision as they do to expansion and reorganization of the content. Procedures for hand washing have been separated from procedures for surgical hand antisepsis, and each is now the topic of a distinct recommendation. Instructions for surgical hand antisepsis using an antimicrobial surgical scrub agent and surgical hand antisepsis using an alcohol-based antiseptic rub have been combined into a single recommendation rather than remaining two separate recommendations as they were previously.

Several new activity statements have been added to address various aspects of hand hygiene,\textsuperscript{1} including the need for

- water temperature at the faucet to be maintained between 105° F and 120° F (40.6° C to 48.9° C),
- hands-free water and soap dispensing controls in new or remodeled facilities,
- paper towel dispensers designed in a manner that prevents recontamination of the hands when removing towels, and
- proper placement of alcohol-based hand antiseptic product dispensers in areas where surgical and other invasive procedures are performed.

Hand antiseptic product dispensers that contain flammable antiseptics may be a fire hazard in areas where oxygen and ignition sources are present; therefore, an activity statement was added to address the importance of dispensers being installed in accordance with the National Fire Protection Association Life Safety Code as well as state and local regulations.

The previous RP document contained a single recommendation for developing policies and procedures that also discussed the need for educating perioperative personnel regarding surgical hand antisepsis. The current RP document includes three separate recommendations related to education and competency validation, policy and procedure development, and quality management programs. The current RP document also includes a table that compares the activity of hand hygiene agents and various considerations that should be taken into account when selecting them.

RATIONALE
More than 150 years ago, Ignaz Semmelweis and Oliver Wendell Holmes independently concluded that the hands of health care providers could transmit infection to patients. They each demonstrated that the use of an antiseptic substantially reduced the risk of infection,\textsuperscript{3} but it took decades for hand hygiene to achieve widespread acceptance as a valuable infection prevention tool.

Infections acquired during treatment for medical or surgical conditions are known as health care-associated infections (HAIs).\textsuperscript{4} Health care-associated infections can occur in all patient care settings and are associated with a variety of causes (eg, medical devices such as catheters and ventilators, overuse of antibiotics, transmission between patients and health care workers).\textsuperscript{4} Health care-associated infections may arise from a wide variety of common and uncommon bacteria, viruses, and fungi.\textsuperscript{3} As of 2007, the greatest percentage of HAIs were urinary tract infections (34%), followed by surgical site infections (17%), bloodstream infections (14%), and pneumonia (13%).\textsuperscript{5}

A significant cause of morbidity and mortality, HAIs have been estimated to account for approximately 1.7 million infections and 99,000 deaths in the United States each year.\textsuperscript{5} Hospital stays for methicillin-resistant \textit{Staphylococcus aureus} (MRSA) infections have increased almost 10-fold since 1995 and have more than tripled since 2000.\textsuperscript{6}

Prevention of HAIs must be a priority for all health care personnel, regardless of their work
setting. Lack of appropriate hand hygiene is considered to be the leading cause of HAIs and the spread of multidrug-resistant organisms and associated outbreaks, yet it has been estimated that adherence to optimal hand hygiene practices by health care providers is less than 50%. Although the definitive effect of improved hand hygiene on HAIs has not been identified, evidence supports the theory that effective hand hygiene by health care providers can substantially reduce infection rates.

As a result of HAIs, it is estimated that annual health care costs in the United States are increased by $28 billion to $33 billion. The Centers for Medicare & Medicaid Services has implemented financial disincentives by refusing to reimburse health care organizations for costs associated with “hospital acquired infections.” Public reporting of infections is now required in 31 states and the District of Columbia, one state has voluntary reporting, and five other states have a study law (ie, a law floated before the legislature without an intent to pass it at that time or in that form) in progress.

DISCUSSION
Effective hand hygiene by health care personnel supports the maxim of “first, do no harm.” Hand hygiene is currently considered to be the cornerstone for preventing the spread of pathogenic organisms. To be effective, implementation of advances in practices and products requires a programmatic approach. This includes developing and implementing policies that govern the processes and products used, as well as monitoring compliance with these policies. It is the responsibility of the professional perioperative RN to ensure safe, high-quality nursing care to patients undergoing surgical and invasive procedures in all settings.

Educating health care providers on hand care, hand antisepsis, and the purpose and proper use of products is critical for a facility’s hand hygiene program. Education begins with new employee orientation. Orientation checklists are a good way to keep track of new employee education—these should include the elements of proper hand hygiene as well as elements related to product safety (eg, flammability, chemicals, material safety data sheets). A solid orientation helps ensure that new perioperative employees have the requisite knowledge and skills to properly perform the tasks associated with their position and to help prevent future problems. It is also important to provide ongoing education to all perioperative employees as a reminder of existing policies and as changes arise in products, equipment, processes, and procedures.

Recommendation I
“All health care personnel should follow established hand hygiene practices for maintaining healthy skin and fingernail condition and regarding the wearing of jewelry in the perioperative setting.”

Perioperative personnel must understand how to properly care for their hands to prevent skin irritation and to protect patients from pathogenic organisms. Personnel will likely not use products that give them rashes or cause other skin irritation. The use of alcohol-based...
hand rubs containing emollients may help to reduce skin damage, dryness, and irritation from antiseptic preparations. Irritated skin can become rough and broken, allowing colonization with pathogenic organisms that can be transmitted to patients or the patient’s environment and also increasing the potential for acquiring transmissible infections from the patient. Following the manufacturer’s instructions for hand hygiene product use increases product effectiveness and helps to maintain skin integrity.

A good example is the need for wetting hands before applying soap when washing. Most hand soap manufacturers and the Centers for Disease Control and Prevention recommend this, but it is a skin-protective practice that sometimes is ignored. Wetting the hands loosens transient soil and makes it easier to remove. Wetting the hands also helps disperse the product more evenly and aids in developing a lather that may enhance skin penetration. Using too much or too little of a product also can be a problem. Too much product can be difficult to rinse off, causing skin irritation. Using too little can result in inadequate cleansing or disinfection of the skin. Water temperature should be maintained between 105° F to 120° F because a comfortable temperature improves user acceptance and aids in preventing dermatitis. Thorough drying helps remove soil loosened during hand washing, and blotting rather than rubbing can decrease skin irritation.

Health care providers should adhere to the following practices:

- Keep fingernails short, not to exceed 1/4 inch. An easy and effective way to ensure that nails are the proper length is to hold the hand vertically and look at the palmar side; nails should not extend beyond the tip of the finger (Figure 1).
- Do not wear artificial nails, including resin bonding, extensions, tips, gels, acrylic overlays, resin wraps, or acrylic nails.
- Maintain nail polish. Nail polish is acceptable as long as it is not chipped, cracked, or crazed.
- Do not wear jewelry on the hands or wrists. Hand and wrist jewelry traps bacteria.
- Use hand lotion that is compatible with both gloves and antiseptic hand hygiene products. As with other hand hygiene products, lotions should be evaluated and approved by an interdisciplinary group with the authority to evaluate and select hand lotions.
- Exclude health care providers from the perioperative environment if they pose a threat to patient safety (eg, health care providers who have cuts, abrasions, weeping dermatitis, or fresh tattoos on exposed skin should not provide direct patient care until the skin is healed).

To effectively implement this recommendation, perioperative personnel will need to be educated about appropriate practices and products. Education should cover product composition, how to properly use products, and the specific function and application of each product in use at the facility. For example, alcohol-based foam is not a surgical scrub and should not be used for this.

Resources for Implementation

- AORN Nurse Consult Line. (800) 755-2676 or (303) 755-6300, option 3.

Web site access verified December 19, 2011.
purpose. If a facility’s policy states to use products “per manufacturer’s instructions,” the most current instructions must be available and team members should be educated on the contents of the instructions and where to find them. Using a personal calendar that indicates when hand hygiene educational activities and monitoring should occur can be very useful for perioperative RNs overseeing hand hygiene compliance in the facility.

Education should be tailored to the specific personnel. For example, individuals who function in the role of scrub person will require additional education and competency validation in surgical hand antisepsis. Education should be provided on initial hire and at least annually afterwards, as well as any time products or procedures change.

**Recommendation II**

“A standardized procedure for hand washing should be followed.”

A proper hand wash includes using the correct product and correct amount of product; applying it for the required amount of time; and covering all hand, wrist, and finger surfaces.

A perioperative health care provider must wash his or her hands when coming on and leaving duty, before and after each contact with a patient or the patient’s environment, on donning or removing gloves, before and after eating or using the restroom, any time there is a possibility that there has been contact with blood or other potentially infectious materials or surfaces, and when hands are visibly soiled.

Wearing gloves does not replace the need for hand hygiene. When gloves are removed, hands must be washed or an alcohol-based hand rub used. Washing hands with soap and water for at least 15 seconds has been shown to be effective in removing pathogenic organisms. The Centers for Disease Control and Prevention recommends the use of an alcohol-based hand rub instead of soap and water when hands are not visibly soiled.

To perform the proper procedure for hand washing, health care providers should take the following steps:
Remove hand and wrist jewelry.

Use warm water to wet hands.

Apply soap per the manufacturer’s recommendations.

Scrub all skin surfaces, including wrists, backs of hands, fingertips, inner webs, and palms for at least 15 seconds.

Rinse thoroughly to remove all of the soap.

Dry with nonabrasive, absorbent, disposable paper towels.

Use paper towels to turn off the faucets and to open the door, if necessary, to prevent recontamination of hands.

Hand washing stations should be conveniently located throughout the facility and according to local and state building codes. The Guidelines for Design and Construction of Health Care Facilities, 2010 is an excellent resource for sink placement requirements.

Cartridge-type soap dispensers should be used because refillable soap containers can become contaminated and spread pathogens to the users’ hands. Paper towel holders should allow the user to pull down a single towel without touching the dispenser. Towels should be dispensed from the bottom of the dispenser.

In-counter containers that dispense from the top are not acceptable because they become contaminated easily. Use of paper towels that are stacked on top of the dispenser or on a counter should be discouraged for the same reason.

If hands are not visibly soiled, an alcohol-based hand rub may be used by dispensing the manufacturer-recommended amount of product and briskly rubbing all skin surfaces until the product is dry (Figure 2). Considerations for using alcohol-based hand rub dispensers include the following:

- An alcohol-based hand rub must contain at least 60% alcohol for use in a health care setting. Currently, there are no alcohol-free products that meet the criteria for health care use.
- The 2004 National Fire Protection Association Life Safety Code requires alcohol-based hand rub dispensers be placed at least 4 feet apart; hold no more than 1.2 L in rooms, corridors, and areas open to corridors; and not be placed within 6 inches of an electrical outlet or switch. State or local regulations may be more stringent.
- Alcohol-based hand rub containers should be disposable and never refilled from another source.
container. Some facilities have placed alcohol-based hand rub containers immediately outside each OR and require team members to “gel/foam in, gel/foam out.” Frequent and consistent use is particularly important relative to multidrug-resistant organisms that personnel may or may not be aware of in an individual patient. Dispenser locations that are convenient and easily spotted are likely to increase compliance. Other areas in which to place alcohol-based hand rub dispensers to encourage hand hygiene include the control desk, the nursing station, anesthesia carts, and lounge or break rooms.

New construction and remodeled facilities should include hands-free faucets, soap dispensers, and alcohol-based hand rub dispensers because these reduce the risk of cross-contamination. It is important to have team member input on placement of sinks, soap, alcohol-based hand rub and towel dispensers, or any other critical element related to hand hygiene in any OR renovation or construction project.

As patient advocates with a responsibility to ensure safe patient care, perioperative RNs must take an active role in following, modeling, and promoting best practices for hand hygiene. In so much as it is possible, perioperative RNs should actively monitor that hand hygiene polices and procedures are being followed by colleagues and team members. Additionally, perioperative RNs should support and participate in the health care organization’s educational activities and work to ensure that engineering controls (eg, hand washing stations) are provided and that hand hygiene is easy and convenient throughout the facility.

Competency and compliance process measure evaluations for the hand hygiene program can be accomplished through observation of performance and verbal quizzing of perioperative personnel on elements of the program—are they familiar with the products, indications, contraindications, and proper use and the special precautions for alcohol-based products to reduce the risk of fire? Can they locate the manufacturers’ written instructions and recommendations for use of the products and the material safety data sheets? Observations are another excellent tool for measuring compliance with hand hygiene. One can observe an individual’s performance from beginning to end for a single procedure, checking that all the elements in the competency evaluation tool are being performed correctly or by observing hand hygiene of all personnel at the start of the day. Another option is to implement skills labs, during which each employee is required to go through a station and correctly perform a skill or task. This provides an opportunity to work one-on-one with anyone who is having a problem. There are also electronic monitors available that sense when the health care provider is approaching the patient and whether the health care provider activates either the soap or alcohol-based hand rub dispenser. Other monitoring systems read badges at sinks and record the amount of time spent; video monitoring can also be used to ascertain compliance. These electronic systems provide compliance reports by individual, unit, and facility, but they are expensive to acquire and use.

**Recommendation III**

A surgical hand scrub should be performed by health care providers before donning sterile gloves for surgical or other invasive procedures. Use of either an antimicrobial surgical scrub agent intended for surgical hand antisepsis or an alcohol-based antiseptic surgical hand rub with documented persistent and cumulative activity that has met US Food and Drug Administration (FDA) regulatory requirements for surgical hand antisepsis is acceptable.

All products used as surgical hand scrubs must be FDA approved for this purpose. Surgical hand antisepsis will only be successful if all skin surfaces are exposed to the mechanical cleaning and
chemical antisepsis process. A fast-drying alcohol and chlorhexidine product that has persistence and residual effect is preferred.3

When using an alcohol-based surgical hand antiseptic, perioperative health care providers should complete the following steps3:

- Remove rings, watches, bracelets, and other hand jewelry.
- Don a surgical mask—surgical masks should be worn by all personnel at the scrub sink during hand scrub activity.
- Prewash hands and forearms if they are visibly soiled.
- Clean under fingernails with a disposable nail pick under running water (Figure 3).
- Rinse hands and forearms under running water.
- Dry hands and forearms thoroughly with disposable paper towels.
- Dispense the manufacturer-recommended amount of surgical antisepsis product and apply it to hands and forearms according to the manufacturer’s recommendations.
- Repeat application as directed.
- Rub thoroughly until completely dry.

For surgical or invasive procedures, don a sterile surgical gown and sterile gloves in the OR or procedure room.

When using a traditional scrub-with-water product for surgical hand antisepsis, perioperative health care providers should complete the following steps15:

- Remove rings, watches, bracelets, and other hand jewelry.
- Don a surgical mask—surgical masks should be worn by all personnel at the scrub sink during hand scrub activity.
- Prewash hands and forearms with soap and water if they are visibly soiled.
- Clean under fingernails with a nail pick under running water.
- Rinse hands and forearms under running water.
- Dispense the approved antimicrobial scrub product per the manufacturer’s written instructions.
- Apply to wet forearms and hands using a soft, nonabrasive sponge.13,35
- Keeping hands elevated, methodically scrub all skin surfaces with a sponge for three
to five minutes, per the manufacturer’s instructions.

- For water conservation, turn off the faucet when it is not in use, if possible.
- Avoid splashing surgical attire.
- Discard sponges in an appropriate container.
- Keeping hands elevated, rinse hands and forearms from fingertips to elbows under running water (Figure 4).
- In the OR, dry thoroughly with a sterile surgical towel before donning sterile gown and gloves.

One strategy for improving hand hygiene compliance in health care facilities is routine observation and feedback. It is often valuable to have different team members be responsible for monitoring hand hygiene compliance at various times. Assigned team members should be provided with instructions as to the specific activities to observe and how to record observations. There are software applications that can be tailored to a specific unit and results entered into a handheld device.\(^{36}\) Additionally, sample compliance data collection forms are available in the Institute for Healthcare Improvement hand hygiene tool kit.\(^{37}\)

### Recommendation IV
Surgical hand hygiene products should be selected following an analysis of product effectiveness, application requirements, and user acceptance.\(^{11}(p78)\) Perioperative RNs can participate in the collaborative evaluation process as members of the multidisciplinary infection prevention and control committee and as individual end users. To maximize product acceptance, end users of surgical hand hygiene products should have input into the selection and evaluation regarding the feel, fragrance, and skin tolerance of such products. Products that are not well accepted by end users can be a deterrent to frequent hand hygiene.\(^{20}\) Written evaluation criteria should include, but not be limited to, the following:

![Figure 4. Rinsing from fingertips to elbows during surgical hand scrub.](image-url)
Cost is listed last because product selection should not be made on the basis of cost alone. It is unlikely that a single product will work for everyone. There will always be a small number of health care providers who will be sensitive to any given product, so often multiple products are needed to serve all health care providers. This can frustrate purchasing personnel who try to standardize and reduce the number of like products; however, it is better to have several acceptable products and reduce skin irritation issues than a single product that does not work for everyone. A material safety data sheet must be on file and readily available for each product used in the facility, including sample products.

Facility policies and procedures should clearly delineate hand hygiene products (eg, soaps, antiseptics, lotions) that are to be used in the facility. Policies and procedures also should include written criteria for evaluation and selection of hand hygiene products and identify the designated approving body and those individuals, including end users, to be involved in the evaluation process.

The Final Three
In the “Recommended practices for hand hygiene in the perioperative setting,” the final three recommendations discuss education/competency, policies and procedures, and quality assurance/ performance improvement. These topics are integral to the implementation of AORN practice recommendations. Personnel should receive initial and ongoing education and competency validation as applicable to their roles. Implementing new and updated recommended practices affords an excellent opportunity to create or update competency materials and validation tools. AORN’s perioperative competencies team has developed the AORN Perioperative Job Descriptions and Competency Evaluation Tools to assist perioperative personnel in developing competency evaluation tools and position descriptions.

Policies and procedures should be developed, reviewed periodically, revised as necessary, and readily available in the practice setting. New or updated recommended practices may present an opportunity for collaborative efforts with nurses and personnel from other departments in the facility to develop organization-wide policies and procedures that support the recommended practices. The AORN Policy and Procedure Templates, 2nd edition, provides a collection of 15 sample policies and customizable templates based on AORN’s Perioperative Standards and Recommended Practices. Regular quality improvement projects are necessary to improve patient safety and to ensure safe, quality care. For details on the final three practice recommendations that are specific to the RP document discussed in this article, please refer to the full text of the RP document.

AMBULATORY PATIENT SCENARIO
Nurse S works in the postanesthesia care unit at an orthopedic surgical facility. After helping Nurse T perform a dressing change on Mr P, who underwent a knee arthroscopy, Nurse S sees Nurse T enter a cubicle and begin caring for another postoperative patient without washing his hands. What actions should Nurse S take?

Nurse S must recognize that by failing to perform proper hand hygiene, Nurse T is putting himself, his patients, and other facility personnel at risk for infection. The appropriate action for Nurse S would be to respectfully remind Nurse T

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Nurse S works in the postanesthesia care unit at an orthopedic surgical facility. After helping Nurse T perform a dressing change on Mr P, who underwent a knee arthroscopy, Nurse S sees Nurse T enter a cubicle and begin caring for another postoperative patient without washing his hands. What actions should Nurse S take?

Nurse S must recognize that by failing to perform proper hand hygiene, Nurse T is putting himself, his patients, and other facility personnel at risk for infection. The appropriate action for Nurse S would be to respectfully remind Nurse T
about the need to perform proper hand hygiene before and after every patient contact. Nurse S could refer to the facility policy and procedure and emphasize the importance of proper hand hygiene by all members of the health care team in preventing HAIs and reducing the potential for acquiring transmissible infections. Nurse S also may want to report her concerns to her nurse manager.

HOSPITAL PATIENT SCENARIO
Nurse R is employed as a perioperative RN in the vascular surgery department at a community hospital. He has been assigned to circulate for a laparoscopic cholecystectomy with a new scrub person. As the scrub person begins to scrub her hands at the sink, Nurse R notices that the scrub person appears to have a moderate case of weeping dermatitis on her right wrist. When questioned about this, the scrub person states that she was embarrassed and afraid to mention her condition for fear of losing her job. She further states that the procedure is minimally invasive and she does not think it really matters because the affected skin will be covered with her sterile gown and two pair of gloves. What actions should Nurse R take?

Nurse R should understand that health care personnel with breaks in skin integrity may be at risk for acquiring or transmitting infections. Nurse R should express his concern to the scrub person that she is putting herself at risk by not allowing the affected area to heal. He should take action to ensure that she does not scrub in on the procedure and immediately report his concerns to his nurse manager. The scrub person should not be allowed to have patient contact until the condition is healed and she has been cleared by an infection preventionist, employee health or occupational health nurse, or other health care professional with specialized knowledge in making a determination regarding the safety of the employee returning to work in the perioperative setting.

CONCLUSION
A comprehensive hand hygiene program can improve team member compliance with hand hygiene measures and help to ensure patient safety. Products for hand hygiene that are acceptable for users, hand washing stations and alcohol-based hand rub dispensers located in strategic areas, and clear expectations and enforced policies for perioperative personnel set the stage for uniform compliance.

A critical element in an effective hand hygiene program is the need for financial resources to accomplish the program goals. Funding to accomplish the goals of the hand hygiene program is essential for the program to succeed. The organization’s financial plan or budget should include funding for acceptable hand hygiene products, systems for performance monitoring, and education on hand hygiene. Reducing infections will save money over time and will lead to improved patient outcomes and health care provider satisfaction.

References


**Resources**


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This RP Implementation Guide is intended to be an adjunct to the complete recommended practices document upon which it is based and is not intended to be a replacement for that document. Individuals who are developing and updating organizational policies and procedures should review and reference the full recommended practices document.
Implementing AORN Recommended Practices for Hand Hygiene

PURPOSE/GOAL

To educate perioperative nurses about how to implement the AORN “Recommended practices for hand hygiene in the perioperative setting” in inpatient and ambulatory settings.

OBJECTIVES

1. Describe new activity statements that have been included in the updated recommended practices document.
2. Identify potential risks involved with insufficient hand hygiene practices.
3. Discuss AORN’s practice recommendations for hand hygiene in the perioperative setting.
4. Discuss methods for implementing AORN’s practice recommendations for hand hygiene.

The Examination and Learner Evaluation are printed here for your convenience. To receive continuing education credit, you must complete the Examination and Learner Evaluation online at http://www.aorn.org/CE.

QUESTIONS

1. For hand washing, water temperature at the faucet should be maintained between
   a. 75° F and 90° F (23.9° C and 32.2° C).
   b. 90° F and 105° F (32.2° C and 40.6° C).
   c. 105° F and 120° F (40.6° C and 48.9° C).
   d. 120° F and 135° F (48.9° C and 57.2° C).

2. Lack of appropriate hand hygiene is considered to be the second leading cause of health care-associated infections and the spread of multidrug-resistant organisms and associated outbreaks.
   a. true
   b. false

3. Critical elements of a facility’s hand hygiene program include educating health care providers on
   1. elements related to product safety.
   2. hand care.
   3. hand antisepsis.
   4. the purpose and proper use of products.
      a. 1 and 3
      b. 2 and 4
      c. 2, 3, and 4
      d. 1, 2, 3, and 4

4. Examples of proper use of hand hygiene products in the perioperative setting include
   1. wetting the hands before applying soap.
   2. using more product than is recommended by the manufacturer to ensure thorough cleansing.
3. partially drying hands with paper towels and allowing them to air dry completely.
4. blotting rather than rubbing to dry.
   a. 1 and 4
   b. 2 and 3
   c. 1, 3, and 4
   d. 1, 2, 3, and 4

5. In the perioperative setting, health care practitioners
   1. should keep fingernails shorter than 1/4 inch.
   2. may wear artificial nails but not extensions or tips.
   3. may wear nail polish, as long as it is not chipped, cracked, or crazed.
   4. should use hand lotion that is compatible with gloves and antiseptic hand hygiene products.
      a. 1 and 4
      b. 2 and 3
      c. 1, 3, and 4
      d. 1, 2, 3, and 4

6. To implement the recommendation for following established hand hygiene practices for maintaining healthy skin and fingernail condition, a facility’s education program
   1. should cover product composition and how to properly use products.
   2. may include the use of personal calendars that indicate when educational activities and monitoring should occur.
   3. should be the same for personnel in all roles.
   4. should be provided on initial hire and at least annually afterwards.
      a. 1 and 4
      b. 2 and 3
      c. 1, 2, and 4
      d. 1, 2, 3, and 4

7. Perioperative health care providers must wash their hands
   1. any time there has been contact with potentially infectious materials.
   2. before eating.
   3. before and after each contact with a patient or the patient’s environment.
   4. after using the restroom.
   5. when coming on and leaving duty.
   6. on removing gloves.
      a. 1, 3, and 5
      b. 2, 4, and 6
      c. 1, 2, 4, and 5
      d. 1, 2, 3, 4, 5, and 6

8. Strategies that might help promote competency and compliance with a facility’s hand hygiene program may include
   1. asking personnel to locate the manufacturer’s instructions for use of a product.
   2. implementing skills labs during which each employee is required to correctly perform a skill or task.
   3. observing an individual’s performance from beginning to end for a single procedure.
   4. using electronic monitors to track whether health care providers activate soap or alcohol-based hand rub dispensers.
   5. verbal quizzing of perioperative personnel on elements of the program.
      a. 3 and 5
      b. 1, 2, and 4
      c. 1, 2, 3, and 4
      d. 1, 2, 3, 4, 5

9. When using an alcohol-based surgical hand antiseptic, the first step a perioperative health care provider should complete is to
   a. don a surgical mask.
   b. prewash hands and forearms if they are visibly soiled.
   c. remove rings, watches, bracelets, and other hand jewelry.
   d. rinse hands and forearms under running water.

10. To maximize acceptance of hand hygiene products in the perioperative setting, written evaluation criteria for hand hygiene products should include
    1. safety and efficacy.
    2. cost.
    3. ease of use.
    4. skin comfort and reaction.
    5. fragrance and color.
    6. compatibility with other products.
       a. 1, 3, and 5
       b. 2, 4, and 6
       c. 1, 2, 3, and 6
       d. 1, 2, 3, 4, 5, and 6

The behavioral objectives and examination for this program were prepared by Kimberly Retzlaff, editor/team lead, with consultation from Rebecca Holm, MSN, RN, CNOR, clinical editor, and Susan Bakewell, MS, RN-BC, director, Perioperative Education. Ms Retzlaff, Ms Holm, and Ms Bakewell have no declared affiliations that could be perceived as posing potential conflicts of interest in the publication of this article.
Implementing AORN Recommended Practices for Hand Hygiene

This evaluation is used to determine the extent to which this continuing education program met your learning needs. Rate the items as described below.

OBJECTIVES

To what extent were the following objectives of this continuing education program achieved?

1. Describe new activity statements that have been included in the updated recommended practices document. Low 1. 2. 3. 4. 5. High

2. Identify potential risks involved with insufficient hand hygiene practices. Low 1. 2. 3. 4. 5. High

3. Discuss AORN’s practice recommendations for hand hygiene in the perioperative setting. Low 1. 2. 3. 4. 5. High

4. Discuss methods for implementing AORN’s practice recommendations for hand hygiene. Low 1. 2. 3. 4. 5. High

CONTENT

5. To what extent did this article increase your knowledge of the subject matter? Low 1. 2. 3. 4. 5. High

6. To what extent were your individual objectives met? Low 1. 2. 3. 4. 5. High

7. Will you be able to use the information from this article in your work setting? 1. Yes 2. No

8. Will you change your practice as a result of reading this article? (If yes, answer question #8A. If no, answer question #8B.)

8A. How will you change your practice? (Select all that apply)

1. I will provide education to my team regarding why change is needed.

2. I will work with management to change/implement a policy and procedure.

3. I will plan an informational meeting with physicians to seek their input and acceptance of the need for change.

4. I will implement change and evaluate the effect of the change at regular intervals until the change is incorporated as best practice.

5. Other: ___________________________

8B. If you will not change your practice as a result of reading this article, why? (Select all that apply)

1. The content of the article is not relevant to my practice.

2. I do not have enough time to teach others about the purpose of the needed change.

3. I do not have management support to make a change.

4. Other: ___________________________

9. Our accrediting body requires that we verify the time you needed to complete the 2.7 continuing education contact hour (162-minute) program: ___