

Patient safety

New AORN recommendations focus on infection prevention, patient safety

AORN leaders' efforts over the past few years have led to evidence-rated recommendations for some of the 2013 Perioperative Standards and Recommended Practices (RPs), representing "landmark progress in the evolution of recommended practices," according to Ramona Conner, MSN, RN, CNOR, manager of the standards and recommended practices. Conner introduced speakers who gave updates on the RPs for prevention of transmissible infections, sterile technique, and sharps safety at the AORN Congress in March 2013 in San Diego.

Here are highlights of the session. For complete language, see the 2013 Perioperative Standards and Recommended Practices.

Sterile technique

AORN's Recommended Practices for Sterile Technique have replaced the RP for Maintaining a Sterile Field and now include the RP for Selection and Use of Surgical Gowns and Drapes.

A change in the recommendation about sterile fields generated audible surprise during the presentation by lead author Sharon A. Van Wicklin, MSN, RN, CRNFA, CPSN, PLNC, CNOR, a perioperative nurse specialist with AORN.

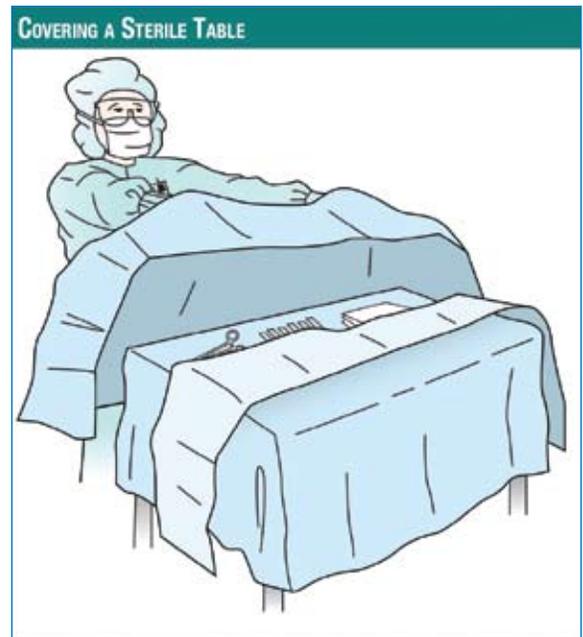
AORN has had a long-standing recommendation that, once created, the sterile field should not be left unattended until the procedure has been completed, and this has not changed. The new recommendation is that if there is an unanticipated delay or during periods of increased activity, such as when the patient is being brought into the room, the sterile field that will not be immediately used may be covered with a sterile drape (illustration).

This recommendation shows how evidence can change practice; recent research demonstrates that covering the sterile table "may actually help to preserve the sterility of the field and to prevent environmental and microbial contamination," Van Wicklin said. For example, a study of 41 total joint replacements showed that covering the instruments during periods of increased activity shortened overall exposure time and led to a 28-fold reduction of instrument contamination.

Sterile fields should be covered in a manner that does not allow the portion of the cover that falls below the sterile field to come above the sterile field.

AORN also recommends that organizations work with their infection prevention personnel to develop a standardized procedure for covering the sterile field.

According to Van Wicklin, covered sterile fields should be monitored, and policies about monitoring, uncovering the field, and the length of time the sterile field is covered should be determined by each individual facility, ideally with the help of an infection preventionist.



The first drape is placed with the cuff at the halfway point. The second drape is placed from the opposite side and completely covers the cuff of the first drape.

Illustration by Colleen Ladny and Kurt Jones.

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Gloves

One new recommendation is to use a closed assisted gloving method; the open assisted gloving method should be used only when closed assisted gloving is not possible or practical, according to Van Wicklin. This is not a change but rather a clarification based on the evidence.

The double-gloving recommendation, also a part of the RP for prevention of transmissible infections and the RP for sharps safety, was added to the sterile technique RP because of its importance as a means to prevent surgical site infection (SSI), she noted. The recommendation is to double glove during procedures when there is potential for exposure to blood, body fluids, or other potentially infectious materials.

"There may be rare occasions when double-gloving is not absolutely necessary, but the amount and quality of the evidence that supports the recommendation for double-gloving is very clear," she said, citing support from the Centers for Disease Control and Prevention (CDC), the American College of Surgeons, and the American Academy of Orthopaedic Surgeons (AAOS). In addition, a meta-analysis of 5 trials found that significantly more perforations were detected when a perforation indicator system (ie, wearing a colored pair of surgical gloves underneath a standard pair of surgical gloves) was used than when it was not (77% vs 21%, respectively).

The RP includes specific times for changing gloves:

- after each patient procedure
- after touching the surgical helmet system, ie, hoods and visors (new)
- after adjusting the eyepieces on an operating microscope (new)
- after direct contact with methyl methacrylate
- when gloves begin to swell on the hands
- when a perforation is suspected or actually occurs
- every 90-150 minutes (new).

Several studies have shown a positive correlation between the rate of glove perforation and the length of time that they're worn. AAOS recommends changing outer gloves at least every 2 hours. Recognizing that gloves cannot be changed at a precise time during a procedure, AORN recommends a span of time during which gloves should be changed (ie, every 90 to 150 minutes). But the published literature does not provide an answer on whether to change 1 or both gloves, Van Wicklin pointed out.

Other sterile practices

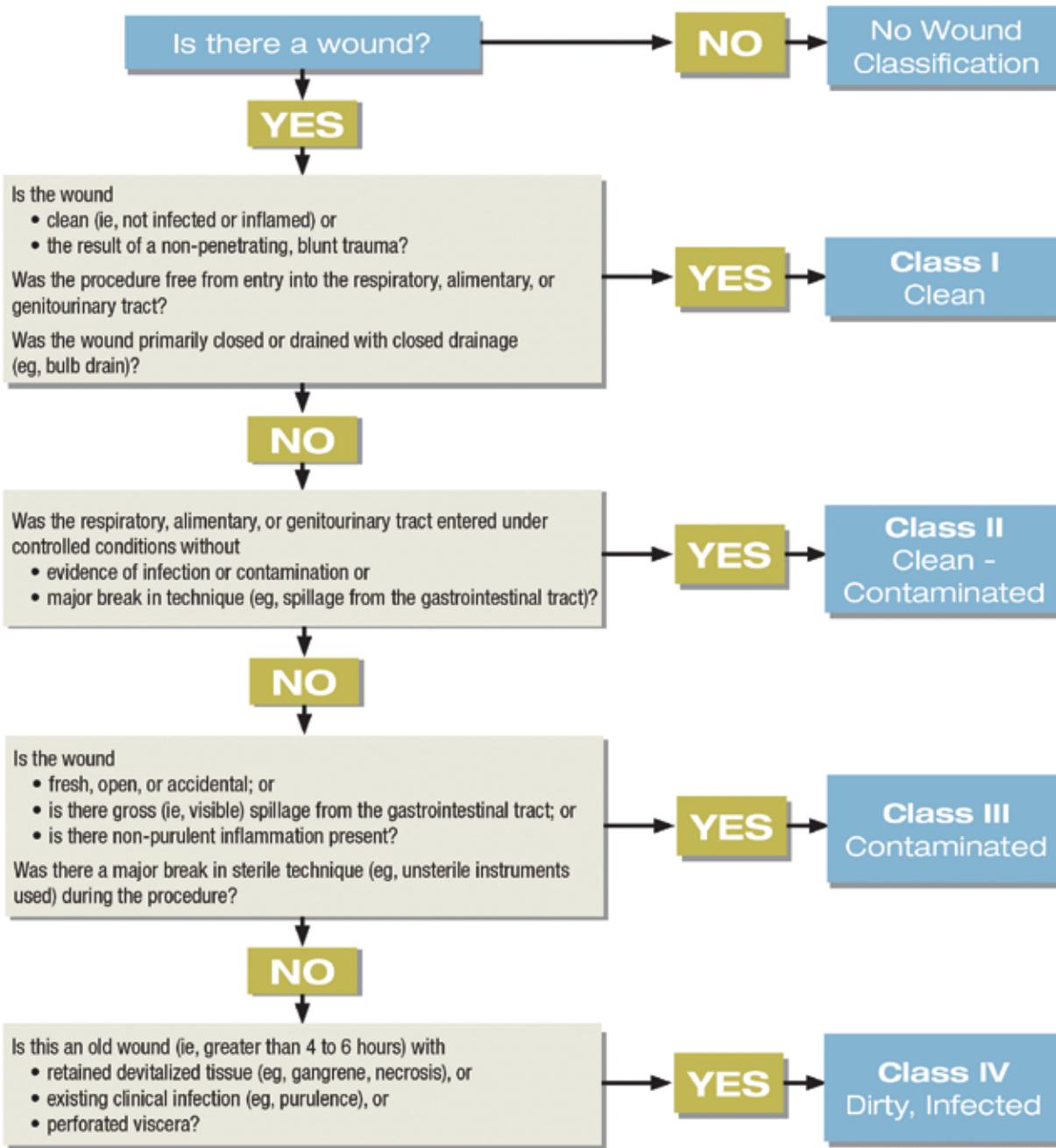
- Based on studies showing high levels of contamination of the C-arm drape, another new recommendation is to consider the upper portion of the C-arm drape contaminated.
- A recommendation is added to use the isolation technique during bowel resection and resection of metastatic tumors. This can be accomplished with a single or dual setup, and instructions are included in the RP.
- Minimizing the number of personnel in the OR is not a new recommendation but is emphasized in this RP, Van Wicklin said. Studies have documented the relationship between increased numbers of personnel and higher levels of particulates in the environment.

Sharps safety

The Recommended Practice for Sharps Safety, previously a guidance statement with suggested strategies for preventing injuries, is now a new RP expected to be released to e-subscribers in June 2013 and will be published in the 2014 Perioperative Standards and Recommended Practices book, according to lead author Mary Ogg, MSN, RN, CNOR, a perioperative specialist at AORN.

There have been 132 documented cases of patient to health care worker transmis-

Surgical Wound Classification Decision Tree



REFERENCES

1. Mangram AJ, Horan TC, Pearson ML; Hospital Infection Control Practices Advisory Committee. Guidelines for prevention of surgical site infection, 1999. *Am J Infect Control.* 1999;27(2):97-132.
2. Garner, JS. CDC guideline for prevention of surgical wound infections, 1985. Supersedes guideline for prevention of surgical wound infections published in 1982. (Originally published in 1985). Revised. *Infect Control.* 1986;7(3):193-200. <http://wonder.cdc.gov/wonder/prevguid/p0000420/p0000420.asp>. Accessed July 31, 2011.
3. Altemeier WA. Surgical infections: incisional wounds. In: Bennett JV, Brachman PS, eds. *Hospital Infections.* Boston, MA: Little, Brown and Co; 1979:287-306.
4. Howard JM, Barker WF, Culbertson WR, et al. Postoperative wound infections: the influence of ultraviolet irradiation of the operating room and various other factors. *Ann Surg.* 1964;160(Suppl2):1-192.

NOTE: These are the original source documents for development of the CDC surgical wound classification system.

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sion of HBV, HIV, and HCV, she noted. The RPs are based on regulations from the Occupational Safety and Health Administration.

This RP recommends the following:

- Safety-engineered devices (eg, safety scalpels, needleless IV connectors).
- Blunt suture needles unless contraindicated. A review by the Cochrane Collaboration (highest level of evidence) found that blunt suture needles reduced glove perforations by 50% and lowered disease transmission. These have been rated as acceptable in 5 of 6 studies.
- Alternative wound closure devices.
- A neutral zone or hands-free technique for passing sharps, blades, and needles.
- Double-gloving.
- A glove perforation indicator system.

Transmissible infections

Perioperative actions to prevent transmission of health care-associated infections (HAIs) are included as part of a new section of the Prevention of Transmissible Infections RP, according to Lisa Spruce, DNP, RN, ACNS, ACNP, ANP, CNOR, director of evidence-based perioperative practice for AORN and lead author of this RP.

There are 500,000 surgical site infections per year; SSIs make up 1.7 million of all HAIs, based on statistics compiled by the CDC. SSIs are the second most common type of HAI after urinary tract infections. Actions to prevent SSIs include:

- maintain a clean environment and surgical attire
- use skin antisepsis
- use good hand hygiene
- minimize OR traffic
- verify adequate sterilization.

The research on the merits of decolonization of the patient is conflicting, especially on *Staphylococcus aureus* in the nasal pharynx, Spruce said. Physicians may or may not elect to do this, so it's important to keep an eye on developments.

The CDC recently issued an alert on carbapenem-resistant Enterobacteriaceae. A tool kit available at www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html provides guidelines for preventing this HAI.

A new recommendation involving prevention of central line-associated bloodstream infections (CLABSIs) is included because clinicians put in lines in the OR, Spruce said. They should use the same technique used to insert these lines at the bedside. The CDC recommends use of a maximal sterile barrier (ie, hair cover, mask, sterile gown, gloves, full-body drape).

She encouraged clinicians to follow CDC guidelines for prevention of catheter-associated urinary tract infections (CAUTIs). Use catheters only as indicated, not just for convenience; document the date and time of insertion; and remove them as soon as possible after surgery, preferably within 24 hours. She emphasized that perioperative RNs should be educated and demonstrate competency on catheter insertion.

A new feature is a useful surgical wound classification decision tree that was reviewed by the CDC (chart). Also new is a quick reference table for care and transportation of patients who are on contact, airborne, or droplet precautions.

Accrediting (eg, Joint Commission) and regulatory agencies (eg, the Centers for Medicare and Medicaid Services) require all facilities to have an infection control plan, so "this should be a very easy RP for you to implement," Spruce said. ❖

—Elizabeth Wood

References

Chosky S A, Modha D, Taylor G J. Optimisation of ultraclean air. The role of instrument preparation. *J Bone Joint Surg Br.* 1996;78(5):835-837.

Parantainen A, Verbeek J H, Lavoie M C, Pahwa M. Blunt versus sharp suture needles for preventing percutaneous exposure incidents in surgical staff. *Cochrane Database Syst Rev.* 2011;11:CD009170.

Tanner J, Parkinson H. Double gloving to reduce surgical cross-infection. *Cochrane Database Syst Rev.* 2009;3:CD003087; doi:10.1002/14651858.CD003087.pub2.