

## 15 STEPS YOU CAN TAKE TO REDUCE YOUR RISK OF A HOSPITAL INFECTION

Most of us will have to go into the hospital some day. Here are specific steps you can follow to protect yourself from deadly hospital infections:

- 1. Ask that hospital staff clean their hands before treating you, and ask visitors to clean their hands too.** This is the single most important way to protect yourself in the hospital. If you're worried about being too aggressive, just remember your life could be at stake. All caregivers should clean their hands before treating you. Alcohol-based hand cleaners are more effective at removing most bacteria than soap and water. Do not hesitate to say: "Excuse me, but there's an alcohol dispenser right there. Would you mind using that before you touch me, so I can see it?" Don't be falsely assured by gloves. If caregivers have pulled on gloves without cleaning their hands first, the gloves are already contaminated before they touch you. <sup>1</sup>
- 2. Before your doctor uses a stethoscope, ask that the diaphragm (the flat surface) be wiped with alcohol.** Stethoscopes are often contaminated with *Staphylococcus aureus* and other dangerous bacteria, because caregivers seldom take the time to clean them in between patient use. <sup>2</sup>
- 3. If you need a "central line" catheter, ask your doctor about the benefits of one that is antibiotic-impregnated or silver-chlorhexidine coated to reduce infections.** <sup>3</sup>
- 4. If you need surgery, choose a surgeon with a low infection rate.** Surgeons know their rate of infection for various procedures. Don't be afraid to ask for it.
- 5. Beginning three to five days before surgery, shower or bathe daily with chlorhexidine soap.** Various brands can be bought without a prescription. It will help remove any dangerous bacteria you may be carrying on your own skin. <sup>4</sup>
- 6. Ask your surgeon to have you tested for methicillin-resistant *Staphylococcus aureus* (MRSA) at least one week before you come into the hospital.** The test is simple, usually just a nasal swab. If you have it, extra precautions can be taken to protect you from infection. <sup>6</sup>
- 7. Stop smoking well in advance of your surgery.** Patients who smoke are three times as likely to develop a surgical site infection as nonsmokers, and have significantly slower recoveries and longer hospital stays. <sup>7</sup>
- 8. On the day of your operation, remind your doctor that you may need an antibiotic one hour before the first incision.** For many types of surgery, a pre-surgical antibiotic is the standard of care, but it is often overlooked by busy hospital staff. <sup>8</sup>
- 9. Ask your doctor about keeping you warm during surgery.** Operating rooms are often kept cold, but for many types of surgery, patients who are kept warm resist infection better. <sup>9</sup> This can be done with special blankets, hats and booties, and warmed IV liquids.
- 10. Do not shave the surgical site.** Razors can create small nicks in the skin, through which bacteria can enter. If hair must be removed before surgery, ask that clippers be used instead of a razor. <sup>10</sup>

- 11. Avoid touching your hands to your mouth, and do not set food or utensils on furniture or bed sheets.** Germs such as "C. Diff" can live for many days on surfaces and can cause infections if they get into your mouth.
- 12. Ask your doctor about monitoring your glucose (sugar) levels continuously during and after surgery, especially if you are having cardiac surgery.** The stress of surgery often makes glucose levels spike erratically. When blood glucose levels are tightly controlled, heart patients resist infection better. Continue monitoring even when you are discharged from the hospital, because you are not fully healed yet.<sup>12</sup>
- 13. Avoid a urinary tract catheter if possible.** It is a common cause of infection. The tube allows urine to flow from your bladder out of your body. Sometimes catheters are used when busy hospital staff don't have time to walk patients to the bathroom.<sup>13</sup> If you have a catheter, ask your caregiver to remove it as soon as possible.
- 14. If you must have an IV, make sure that it's inserted and removed under clean conditions and changed every 3 to 4 days.** Your skin should be cleaned at the site of insertion, and the person treating you should be wearing clean gloves. Alert hospital staff immediately if any redness appears.
- 15. If you are planning to have your baby by Cesarean section,** follow the steps listed above as if you were having any other type of surgery.<sup>14</sup>

[1] Studies show that, nearly three quarters of patients' rooms are contaminated with MRSA and 69% with VRE. In one study, 42% of gloves worn by hospital personnel who had no direct patient contact but who touched contaminated surfaces became contaminated. Boyce JM et al., "Environmental contamination due to methicillin-resistant *Staphylococcus aureus*: possible infection control implications," *Infection Control and Hospital Epidemiology* 18.9 (1997): 622-627. A Consensus Statement by a multidisciplinary group of experts asked by the American Medical Association to provide guidelines for infection control cautions that: "In some cases caregivers actually go from patient to patient without changing their gloves, apparently confusing self-protection" with patient protection. Goldmann DA et al., "Strategies to Prevent and Control the Emergence and Spread of Antimicrobial-Resistant Microorganism in Hospitals," *JAMA* 275.3 (1996): 234-240.

[2] Routine disinfection of stethoscopes between patients is recommended by the American Medical Association. Salgado CD, Farr BM, "MRSA and VRE: Preventing Patient-to-Patient Spread," *Infections in Medicine* 20 (2003):194-200; Marinella MA et al., "The stethoscope: a potential source of nosocomial infection?" *Archives of Internal Medicine*,157.7 (1997): 786-90; Zachary KC et al., "Contamination of gowns, gloves, and stethoscopes with vancomycin-resistant Enterococci," *Infection Control and Hospital Epidemiology* 22.9 (2001): 560-564; Noskin GA et al., "Recovery of vancomycin-resistant Enterococci on fingertips and environmental surfaces," *Infection Control and Hospital Epidemiology* 17.12 (1996): 770-772.

[3] The Agency for Healthcare Research and Quality recommends use of antibiotic catheters as one of its eleven patient safety practices. *Making Healthcare Safer: A Critical Analysis of Patient Safety Practices*. AHRQ Publication 01-E058, 2001. Also see: Darouiche RO et al., "A comparison of two antimicrobial-impregnated central venous catheters," *New England Journal of Medicine* 340.1 (1999): 1-8; Raad I et al., "Central venous catheters coated with Minocycline and Rifampin for the prevention of catheter-related colonization and bloodstream infections," *Annals of Internal Medicine* 127.4 (1997): 267-274.

[4] The following four studies support this suggestion : (1) Vernon MO et al., "Chlorhexidine gluconate to cleanse patients in a medical intensive care unit," *Archives of Internal Medicine* 166 (2006): 306-312. (2) Hayek LJ et al., "Preoperative whole body disinfection - a controlled clinical study," *Journal of Hospital Infection* 11, Suppl. B (1988): 15-19 This study showed that two chlorhexidine showers reduced total infection rate by 30% and Staph aureus infections by 50%. (3) Byrne DJ et al., "Rationalizing whole body disinfection," *Journal of Hospital Infection* 15.2 (1990): 183-187. This study shows that a single shower does not maximize skin disinfection. The authors conclude that three showers should be recommended. (4) Daryl S. Paulson, "Efficacy Evaluation of a 4% Chlorhexidine Gluconate as a Full-Body Shower Wash," published by the Association for Practitioners in Infection Control (1993). This study found that showering for five days with chlorhexidine yielded maximum results for reducing bacteria on the skin, and keeping it low for 24 hours or more. "A 1 or 2 day presurgical application period is simply too short to establish the necessary levels of residual antimicrobial properties to be of value in reducing post-surgical infection rates."

[6] Worcester S, "Hospital system takes on MRSA," *Internal Medicine News* 38.19 (2005): 1-2.

[7] Kurz A et al., "Perioperative Normothermia to Reduce the Incidence of Surgical-Wound Infection and Shorten Hospitalization," *New England Journal of Medicine* 334.19 (1996): 1209-1215.

[8] The Institute for Healthcare Improvement guidelines for improving infection prevention state that: "Administration of prophylactic antibiotics beginning 0 to 1 hour prior to surgical incision decreases the risk of surgical infection. <http://www.ini.org/IHI/Topics/PatientSafety/SurgicalSiteInfections/ImprovementStories> (accessed 10-14-02). See also: Burke JP, "Maximizing appropriate antibiotic prophylaxis for surgical patients: an update from LDS Hospital, Salt Lake City," *Clinical Infectious Diseases* 33, Suppl. 2 (2001): S78-83.

[9] *Ibid.*, the Institute for Healthcare Improvement Guidelines for improving infection state that "surgical patients with core temperatures greater than 36 degrees C./ 98.6 degrees F are less likely to get an infection."

[10] *Ibid.*, the Institute for Healthcare Improvement states that "clipping instead of shaving results in decreased infection rates," and recommends that patients be told "not to shave the surgical site for 72 hours prior to surgery."

[12] Pittsburgh Regional Healthcare Initiative, "PHRI Executive Summary," (June, 2005).

[13] Urinary tract infections are the most common hospital-acquired infections. Limiting the use and duration of urinary tract catheters reduces risk of infection. See: Puri J et al., "Catheter Associated Urinary Tract Infections in Neurology and Neurosurgical Units," *Journal of Infection* 44.3 (2002): 171-175; Stephan F et al., "Reduction of Urinary tract infection and antibiotic use after surgery: a controlled, prospective, before-after intervention study," *Clinical Infectious Diseases* 24 (2006): 1544-1551.

[14] Killian CA et al., "Risk Factors for Surgical-Site Infections Following Cesarean Section," *Infection Control and Hospital Epidemiology* 22.10 (2001): 613-7.