Medical Xpress

ACS and Surgical Infection Society announce guidelines for prevention, treatment of SSIs

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Newly released guidelines for the prevention, detection, and management of surgical site infections (SSIs) issued by the American College of Surgeons and the Surgical Infection Society provide a comprehensive set of recommendations clinicians can use to optimize surgical care and educate patients about ways to contribute to their own well-being. The guidelines are based on a review of the best available research and clinical practice experience and update previous sets of recommendations on detecting and preventing SSIs from professional clinical and hospital societies. The guidelines were presented at the Surgical Infection Society meeting, Palm Beach, Fla., in May 2016 and are published as an "" on the *Journal of the American College of Surgeons* website in advance of print publication.

SSIs are the most common type of hospital-acquired infection. SSIs account for 20 percent of all infections that occur in the hospital setting.[1] Although most patients recover from an SSI without any long-term consequences, they are at a 2- to 11-fold increased risk of mortality.[2]

Furthermore, SSIs are the most costly of all hospital-acquired infections. With an annual estimated overall cost of $3 to $5 billion in the U.S., SSIs are associated with a nearly 10-day increased length of stay and an increase of $20,000 in the cost of hospitalization per admission.[3]

As many as 60 percent of SSIs are considered to be preventable.[4] Now that the Centers for Medicare and Medicaid Services no longer pays additional amounts for the cost of treating conditions acquired in a

hospital, SSIs have been targeted not only to improve clinical quality, but also to protect hospital reimbursement.

The new guidelines were developed by investigators from the Board of Governors of the American College of Surgeons and the Surgical Infection Society. Evidence from the clinical literature was reviewed by expert panels from both societies as well as outside content experts to reach consensus across the full course of treatment of surgical patients, including prehospital preparation, hospital interventions, and post-discharge care.

"The guidelines give clinicians step-by-step ways to address SSIs, because there is no single specific fix to the problem and there are many factors in the processes of care," said principal author Therese M. Duane, MD, MBA FACS, FCCM, vice-chair of quality and safety of the department of surgery and medical director of acute care surgical research, Texas Health Care, at John Peter Smith Health Network, Fort Worth.

Some of the new guidelines call for a change in hospital management to reduce the risk of SSIs. While the presence of diabetes and use of diabetic medications are considered to be risk factors for SSIs, studies show that control of high blood sugar is more important immediately before an operation than over the long term. Research indicates that high blood sugar levels during an operation increase the risk of an SSI; excessively low blood sugar levels increase the risk of adverse outcomes and the frequency of hypoglycemic episodes, but they do not reduce the risk of an SSI. The consensus guidelines therefore set target blood glucose levels at 110-150 mg/dL for all patients regardless of their diabetic status in the immediate preoperative period.

A change in lifestyle habits can help patients reduce their risk of SSI. Recent research corroborates that smokers have the highest risk of SSIs

and former smokers are at greater risk of infection than nonsmokers. A consensus guideline therefore encourages surgeons to advise their patients to stop smoking four to six weeks before an operation.

"An important message coming out of these guidelines is that patients have a major role in their own outcomes. That message cannot be underscored enough. Smoking cessation, blood glucose control for diabetic patients, and weight loss are some of the things patients can do to prevent an SSI," Dr. Duane said.

Some aspects of surgical management still do not have enough robust, high-quality data to warrant clear recommendations, such as optimal wound care after discharge.

"These days, you can do all the right things preoperatively and in the hospital, but if clinicians do not give patients sufficient guidance about wound care and follow-up once they leave the hospital, patients can set themselves up for infections down the line.

Trying to make sure patients and their families optimize wound care after they go home is integral to the success of their treatment," Dr. Duane said.

The recommendations on reducing SSIs serve as starting points. These points provide benchmarks against which clinicians can track and trend their outcomes, and they identify for researchers the areas of surgical care that require more study.

"The guidelines show how we in the surgical community can make an impact from a practice and research standpoint," Dr. Duane said.

More information: Kristen A. Ban et al, American College of Surgeons and Surgical Infection Society: Surgical Site Infection

Guidelines, 2016 Update, *Journal of the American College of Surgeons* (2016). DOI: 10.1016/j.jamcollsurg.2016.10.029

1 Anderson DJ et al. Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014 Update. Infection Control & Hospital Epidemiology 2014; 35(06):605-627.
2 Bratzler DW et al. Clinical practice guidelines for antimicrobial prophylaxis in surgery. American Journal of Health-System Pharmacy 2013; 70(3)195-283.
3 Mangram AJ et al. Guideline for Prevention of Surgical Site Infection, 1999. Infection Control and Hospital Epidemiology 1999; 20(4):247-278.
4 Magill SS et al. Multistate point-prevalence survey of health-care associated infections. NEJM 2014;370(13):1198-1208.

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