Under the Joint Commission’s National Patient Safety Goal 07.05.01 on preventing surgical site infections (SSIs), organizations are required to measure their SSI rates. They also need to provide process and outcome measures, such as SSI rates, to key stakeholders; for example, surgeons and senior administrators.

Perioperative nurses play an important role in surveillance by making sure accurate data are collected to be used in measuring and monitoring SSI rates:
- the patient’s wound class
- American Society of Anesthesiologists physical status
- length of the surgical procedure.

These 3 elements make up the SSI risk index used by the Centers for Disease Control and Prevention (CDC) to collect and report SSI rates. The rates are gathered and reported by the CDC’s National Healthcare Safety Network (NHSN) (sidebar).

**Documenting accurately**

If the wound class isn’t recorded correctly, a patient can be assigned to the wrong risk index, which can skew the data.

“When we have done auditing in the OR, we have found some wound classes are inaccurate,” says Shannon Oriola, RN, CIC, COHN, the lead infection control practitioner at the Sharp Metropolitan Medical Campus in San Diego.

“Nurses need to be reminded about what happens if they don’t put the right wound class.” For example, if a patient’s wound is classified as clean-contaminated when it should be documented as contaminated or dirty, the patient won’t be bumped to a higher risk category, which is the basis for reporting SSI rates.

**The role of surveillance**

Surveillance is a cornerstone of infection prevention. Gathering SSI data with feedback to surgeons was shown in research starting in the 1960s to be important to reducing infections. The CDC outlines recommendations for surveillance in its *Guideline for Prevention of Surgical Site Infection, 1999*.

As part of the patient safety goal, the Joint Commission requires SSI rates to be measured for the first 30 days after surgery except for implant procedures, which must be followed for a year.

**Following up on patients**

Surveillance is challenging because most surgery is performed in the outpatient setting.

Stephen Streed, MS, CIC, system director for epidemiology for Lee
Memorial Health System, Fort Myers, Florida, says his organization has several ways to detect postoperative infections for outpatients:

- A postop patient is admitted to the hospital for treatment of an infection.
- Physicians’ offices self-report to the hospital using a set of criteria and a list of their recent surgical patients.
- If physicians send lab cultures to the hospital, infection preventionists can search for keywords like “wound culture” in the microbiology reports.
- Keyword searches can be performed for emergency department visits using words that indicate an SSI.

Reporting of infections by surgeons has long been an accepted way to conduct surveillance. Cruse and Foord reported more than 30 years ago that giving feedback to surgeons was associated with a reduction in SSIs.

“Self-reporting by physicians actually works pretty well,” Streed says. “They are very good at letting us know if a patient is admitted or there is something else we need to know about.” In general, surgeons’ response rates to questionnaires are fairly high (72% to 90%), the CDC reports. In contrast, mail questionnaires to patients had a low response (15% to 33%).

**Electronic surveillance**

Infection surveillance software, though costly, is giving infection preventionists new power to detect SSIs.

“The intent is to have data-mining software that is sensitive enough to pick up most infections so we don’t have to go through reams of paper,” Oriola says. That frees preventionists to spend more time on case analysis and education.

The software will be even more helpful as electronic health records become more widely adopted, giving facilities reader access to data from physicians’ offices and outpatient clinics.

In a 2008 analysis, the Association for Professionals in Infection Control and Epidemiology found evidence was insufficient to make a business case that electronically enhanced surveillance yields cost savings for a hospital or society at large. Hospitals still have to do their own analysis to see if such a system would be justified in their own institution, the report concluded.

**Seeing the big picture**

In a new twist on surgeon feedback, Streed is giving some of the specialties a graph that shows each surgeon’s performance without identifying them.

An added step is to tell each surgeon which data is his or hers so the surgeon can compare with colleagues.

“Surgeons are a competitive lot. If they are at the upper end of the curve, they will try to discover what they are doing differently and what their colleagues are doing better,” Streed says.

The feedback is also consistent with the patient safety principle of making harm more visible, he points out. “Harm in this case is the development of an SSI. We think a lot of these are preventable, particularly those with a low-risk index, low-risk procedures, and healthy patients.

“Sometimes surgeons get busy and don’t see the aggregate, so this helps them see the bigger picture.”

**Does your staff know your SSI rate?**

Feedback to perioperative nursing staff is also important.
“There seems to be a disconnect. OR nurses almost never know what their infection rates are—even a ballpark,” says Kathleen Kohut, RN, MS, CIC, CNOR, an independent infection prevention consultant.

Though data isn’t collected on all procedures, managers can provide feedback to teams participating in procedures where SSI data is collected, such as cardiac and orthopedic surgery.

It’s one more step in raising awareness.

References


Where can we find SSI rates?

The Centers for Disease Control and Prevention (CDC) collects and reports SSI data through the National Healthcare Safety Network (NHSN). Facilities volunteer to participate and submit infection data in a standardized manner.

What are the latest SSI rates?

The latest report, for 2006-2008, is posted at www.cdc.gov/nhsn/index.html

The SSI rates are reported in Table 22 by procedure code.

If you want to compare your facility’s SSI rates and ratios with those of NHSN, the CDC says you must collect your data according to the method described by NHSN.

Basic SSI risk index

NHSN uses a risk index that assigns surgical patients to categories based on 3 major risk factors:

1. Duration of procedure
2. Wound class: Contaminated (Class 3) or dirty/infected (Class 4)
3. ASA classification of 3, 4, or 5, referring to the American Society of Anesthesiologists physical status.

Reference