

**Patient safety**

## 'Operation Zero' targets surgical site infections

**A** surgical site infection (SSI) prevention "bundle" is helping OR teams at Maine Medical Center (MMC) in Portland to further a strategic goal of preventing SSIs. Known as Operation Zero, or "Op-Z," the initiative is led by the chief of surgery, Brad Cushing, MD, with inspiration from a family whose healthy 85-year-old father died from an SSI after a total hip replacement at MMC.

Op-Z includes, in addition to the SSI bundle, notification of the entire perioperative team when a patient they cared for develops an SSI.

The SSI bundle, known as the Op-Z Checklist, is posted on the wall in each OR (sidebar). Before each case, the OR team verifies that it has reviewed the Op-Z checklist. The bundle constitutes one item on the presurgical checklist.

The Op-Z prompt encourages everyone in the OR to look around and make sure their colleagues are complying with the bundle's elements, such as covering all hair and wearing long-sleeved warm-up jackets, says Karen Dumond, MSN, RN,

CNOR, nursing director for the OR.

The bundle is not part of the time-out, she notes. Instead, surgeons are simply encouraged to say, "The team has reviewed the Op-Z Checklist," prompting the team to pause and check for compliance.

### Developing the bundle

The bundle was developed by groups of perioperative team members who suggested items they thought should be included. There were groups for the preoperative, intraoperative, and postoperative periods as well as for the ambulatory surgery unit and postanesthesia care. There also were groups for colon and vascular surgery.

Each group reviewed the literature, came up with 3 priorities, and sent those to the Surgical Services SSI Reduction Steering Committee. The committee reviewed the items and selected the initial bundle.

Reaching consensus took a lot of give and take.

"Everyone wanted to see the evidence," Dumond says. There may not be published studies specifically related to practices such as wearing long sleeves or not bringing items such as briefcases into the OR, though these are based on infection prevention principles.

(AORN's Recommended Practices for surgical attire advise wearing a long-sleeved jacket that is snapped closed. The rationale is that the sleeves help to contain skin squames shed from bare arms, and a closed jacket prevents the edges of the jacket from contaminating the skin prep area or sterile field. AORN also recommends not bringing items such as backpacks and briefcases into the OR because they are made of porous material that can harbor dust and pathogens.)

### Establishing a standard

At MMC, the steering committee took the position that it needed to establish a stan-

### Op-Z Checklist

The bundle for preventing surgical site infections at Maine Medical Center:

- All hair covered in OR, including facial hair.
- Attire appropriate. All staff to wear hospital-provided, clean/laundered apparel in the OR. Hospital-provided cover jackets will be worn in the presence of open sterile supplies. Exception is scrubbed personnel. Rings, bracelets, and watches are either removed or contained.
- No unnecessary items are brought into the OR. That includes briefcases or any other items not needed for the case.
- The sterility of all operative materials ensured.
- Appropriate skin prep used in proper fashion.
- Measures to ensure normothermia are in place, if appropriate.
- Blood sugar control plan instituted, if appropriate.
- Redosing antibiotic schedule determined and timer set, if needed.



dard that everyone would follow consistently.

“That makes people think about what they’re doing and about other areas we need to look at,” says Dumond.

Hair covering was an issue.

“The goal is that the head covering has to be clean and cover all hair,” she says.

Skull caps weren’t eliminated, however, because some surgeons who wear headlights said the bouffant caps caused the light to slide around. Skull caps can be worn only by individuals whose hair is shaved close to the back of the head.

Compliance with jackets was difficult in the summer, Dumond notes, “but people seem to be doing it. It’s easier now that we are going into winter.”

### **Kicking off Op-Z**

The Op-Z Checklist was rolled out in August 2011 with an all-hands meeting for surgeons, nurses, and anesthesia providers held in the hospital’s auditorium. This was not a routine meeting. As the audience entered, scrolling on the screen was a list of all of the SSIs at MMC, listing the procedures but not patient names.

“Almost every specialty was involved. It was very powerful,” says Dumond.

The family of the 85-year-old patient, George H. Ellis, PhD, was present. The patient’s son-in-law, Stephen Hudspeth, JD, gave a moving presentation, emphasizing that behind every patient with an SSI is a family.

“I’m told you do 1,800 hip and knee replacements annually,” he told the audience. “I’m told that in the past 6 months, there have been zero infectious outcomes,” even though the usual infection rate nationally for a hip replacement is 1.5%.

“That is 27 families over a year’s time who have you to thank for their continued ability to enjoy a loved one with them.” He asked the audience to imagine those 27 families assembled there and, behind them, hundreds more who represented their families and communities.

After Ellis’s death 5 years ago, the family set up a fund at MMC specifically for the purpose of infection prevention, and the family checks in regularly for progress reports. (See Editorial.)

Hudspeth congratulated the OR teams assembled for their work every day in preventing infections. Because of their work, he said, “These are families who don’t have to go through what we went through.”

Many in the audience had tears in their eyes.

### **Reinforcing practices**

A bit of levity helped to reinforce infection prevention practices at the meeting.

After a review of SSI statistics, the audience watched 2 humorous videos to help



*A lighted marquee at the OR entrance reminds everyone of the focus on preventing surgical site infections.*

## **Have a question on the OR revenue cycle?**

*Keith Siddel will respond to questions in the column. Send your questions to [editor@ormanager.com](mailto:editor@ormanager.com)*

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get the point across about the SSI bundle. The committee had checked in advance with the patient's family to make sure they wouldn't see the humor as disrespectful, Dumond notes.

One video illustrated the correct application of the surgical prep solutions. Using an inflatable doll, the surgeon applied the prep and set the timer for 3 minutes to let it dry. He then took the scalpel, made the "incision," and the doll deflated.

In the second skit, a mock orthopedic case, the team showed how to review the Op-Z line on the preop checklist. As they looked around, they realized that the anesthesia provider had to put a jacket on. The surgical technologist had a lock of hair showing, and someone clipped it off in humor. They then started the "case" using a kitchen knife and power tools brought from home.

The skits went over very well, Dumond says.

### **Teams notified of SSIs**

Though surgeons have always been notified of SSIs, as part of Op-Z, the entire team that was in the OR during that case is now notified, including the surgeon, anesthesia provider, nurse, and ST, as well as the admitting unit and postanesthesia care staff.

"It is not meant to be punitive but to raise awareness," Dumond says. "It helps to get people out of thinking, 'That doesn't happen to me.'"

### **Checking on compliance**

To ensure adherence with the SSI bundle, teams of anesthesia providers, surgeons, and staff will be conducting observations, as they did to ensure compliance with the time-out.

"We have more work to do," Dumond says, noting there is progress, such as more hair being covered. Baskets have been hung on the wall outside the ORs to hold belongings like briefcases.

She credits Dr Cushing for his leadership in building the momentum behind Op-Z. "He is very innovative. He really puts thought and work into this," she says. "He asks, 'How can we do this so it will have an impact?'"

When Dr Cushing first proposed to the nurses having the SSI bundle as another line on the surgical checklist, the reaction at first was, "not one more thing," recalls Dumond, admitting she agreed. Then the nurses began thinking about how they could make it work.

Changing culture is hard, she comments.

"The staff may wonder, 'Is this just the flavor of the month? If I wait, will it go away?' To make it a culture change, you have to get the message across that this is not going away." ♦

—Pat Patterson

### **Reference**

AORN. Recommended practices for surgical attire. *Perioperative Standards and Recommended Practices*. Denver, CO: AORN, 2011. [www.aorn.org](http://www.aorn.org)