Combine and conquer: OR/CSPD collaboration dramatically reduces IUSS rates

Using best practices to sterilize surgical instruments can help lower infection rates and, in some cases, prevent death. Over the past few years, staff at Banner Boswell Medical Center in Sun City, Arizona, have worked to reduce immediate use steam sterilization (IUSS) rates. Thanks to improved communication and workflow between the OR and sterile processing, IUSS rates have dropped to well below 5%, and all signs point to keeping IUSS to a minimum in the future.

The Centers for Disease Control and Prevention and AORN have advocated for minimal use of IUSS, or flash sterilization, and the Joint Commission says it should be used less than 5% of the time in hospitals.

After a 2012 Joint Commission survey, Banner Boswell staff learned that the hospital’s IUSS rate was 25%—and in some months more than 30%. The infection prevention, central sterile processing, and clinical performance assessment and improvement departments decided to take action. Even though data analysis did not identify any unanticipated outcomes stemming from the high rate of IUSS, the teams knew it was important to reduce IUSS.

Banner Boswell, part of the nonprofit Banner Health system, is a 501-bed acute care hospital serving a Phoenix suburb with mostly retired residents. Surgical procedures are a significant portion of Banner Boswell’s inpatient and outpatient volume. As a result, the hospital sterilizes thousands of surgical instruments each month. In March 2015, for example, the hospital ran 819 loads through its sterilizers, including 3,723 individual items.

Banner Boswell patients, surgeons, and OR nurses depend on instrument sterilization being performed correctly, every time. Shortly after the 2012 Joint Commission survey visit, a hospital task force was organized and began meeting weekly to reduce the use of IUSS. The team consisted of representatives from nursing, the surgery department, the central sterile processing department (CSPD) leadership, finance, infection preventionists, and quality improvement staff.

Analyzing the process

The team began with a comprehensive analysis of the hospital’s sterilization practices. Each instance of IUSS utilization was matched with one of four categories. The most frequent reasons for IUSS at Banner Boswell were (in order):

- Documented lack of instrumentation: Was there adequate surgical instrumentation available for the surgical caseloads?
- Immediate use standards: Was surgical instrumentation immediately required?
- Convenience: Was IUSS completed for the convenience of physicians and/or OR staff?
- Process improvement: Was there adequate communication between infection prevention, CSPD, and the OR?

Banner Boswell, like most hospitals, uses block scheduling and processes an enormous amount of surgical equipment for the multiple cases performed each day. During its analysis, the team determined that the hospital simply didn’t have enough high-demand surgical instruments. Emergency funds were procured.
to purchase critically needed and frequently used instruments that were in short supply, and a plan for additional instrument acquisition over time was developed.

Next, the front-line staff took immediate action to stop all convenience IUSS. Staff were instructed to review all IUSS cases with the on-duty OR manager before processing instruments in this manner.

Communication, including in-service education sessions to educate the OR staff on the risks to the patient from IUSS, also played a critical role in reducing the use of IUSS. In some cases, one-on-one coaching sessions were required with OR staff members to ensure they understood the new processes.

IUSS rates began to drop even before all the new instruments arrived.

**Cultivating good relationships**

Department “silos” were addressed as part of the process improvement work led by the task force. One issue recognized in the literature is the focus on processes without addressing the human resource or sociological components, which are often more important than workflows.

Trust between the infection prevention, CSPD, and OR teams was identified as an issue.

OR staff were concerned that CSPD would not be able to sterilize and return items in the time frame required. As a result, the OR team was reluctant to let the surgical instruments out of its control.

CSPD had to prove to the OR staff that it could meet the OR’s stringent time and scheduling requirements. Forming a buddy and shadowing system in which an OR staff member was paired with a CSPD employee created a direct contact person for each surgical service line and a relationship between the departments that was built on confidence, teamwork, awareness, and joint ownership.

Initially, infection prevention staff were perceived as “regulators” rather than “partners.” Actively involving infection prevention staff as evidenced-based coaches and guides was instrumental in ensuring processes and communication positively evolved.

**Setting new standards**

CSPD was able to improve sterilization processes to provide equipment in a timely manner. Central sterile processing persisted in their efforts and became accountable for the 5% goal. A CSPD standard was established to answer the phone in three rings or less when a member of the OR team called to determine an instrument’s immediate availability. In turn, education of the OR staff helped to foster trust in CSPD staff and their specialized skill sets.

Add-on surgical cases, which are often urgent or emergent, presented a special challenge because the surgical equipment required for the add-on cases was sometimes in use by other surgeons. Add-on cases require significant planning related to instrument sterilization and biological indicators (BIs).

BIs are the most accepted means of monitoring the sterilization process because
they directly determine whether the most resistant microorganisms (eg, *Geobacillus* or *Bacillus* species) are present rather than just whether the physical and chemical conditions necessary for sterilization are met.

Because spores used in BIs are more resistant and present in greater numbers than are the common microbial contaminants found on patient care equipment, an inactivated BI indicates that other potential pathogens in the load have also been killed.

Usually, BIs required a 3-hour sterilization run time. A safe 1-hour BI process being used within Banner Health was put into service at Banner Boswell, thereby reducing the amount of time patients had to wait for their urgent or emergent surgery.

**Getting surgeons on board**

Some of the specialized, personalized instruments used at the hospitals where surgeons had admitting privileges accounted for a number of the items undergoing IUSS. A zero-tolerance policy was created for personal instrumentation IUSS. This meant that all such instrumentation had to be properly sterilized via the 3-hour process the day before surgery, with no exceptions.

All surgeons were notified of this policy, and a handful of surgeons who used equipment requiring IUSS received personal visits or consultations from OR/CSPD administration prior to the implementation of the policy.

To reduce the inconvenience to surgeons and ensure compliance with this new policy, the hospital arranges for couriers to pick up the surgical instrumentation from the surgeon’s office the day before the surgery. There has been 100% cooperation and compliance from all the surgeons with this new policy.

**Building on progress**

With these measures in place, the IUSS rate had dropped to 10% by January 2013 (sidebar, p 26).

At this point, OR staff were required to call CSPD before flashing any item. Often, CSPD staff could find the item needed in the OR because they knew it had been sterilized and set aside for a case later in the day.

CSPD and OR leadership continued to track families of instruments at risk for IUSS and identified other opportunities to further decrease the IUSS rate.

Through daily rounding in the OR, CSPD staff were able to talk about scheduling and instrumentation requirements. Communication was further enhanced through combined meetings of the surgery and sterilization staff. These meetings helped uncover any remaining communication or documentation issues between departments.

One outcome of the meetings was a new tagging system to help CSPD prioritize instrument turnaround time throughout the day. The OR staff tags instruments that require rapid turnaround. The tag, which lists the surgeon’s name, the time the instruments are needed, and the OR delivery area, follows the instruments through the entire CSPD process.

Other process improvements included CSPD staff review and acknowledgement of position descriptions. This step was added to enhance technicians’ awareness of accountability, individual contributions, and the significance of their role in patient safety.

Banner Health policy states that all CSPD technicians must be certified. With support from leadership, the Banner Boswell CSPD technicians chose to be certified by the International Association of Healthcare Central Sterile Materiel Management.

OR leaders also reviewed expectations and contract obligations with vendors. The Banner Health CSPD policy states that vendors must bring instruments 24 hours in advance to ensure proper processing time, ie, avoid the need for IUSS.
Maintaining the weekly task force meetings was also important, even as the IUSS rate continued to trend downward, and successes large and small were considered as achievements for both OR and CSPD staff.

**Exceeding expectations**
Efforts to reduce the IUSS rate at Banner Boswell have exceeded expectations by nearly every measure. The hospital’s IUSS rate has remained below 5% with the latest data showing an IUSS rate below 1%. Staff remain accountable; monthly data are reviewed and shared with both leadership and frontline staff.

Orthopedics and spine procedures are only two surgical areas that see a small amount of IUSS because of the nature and volume of those procedures, and both are monitored closely to keep IUSS at a minimal level.

The positive transformation in Banner Boswell’s IUSS rates was multifactorial. The transformation included developing a plan and using strategic and tactical actions to ensure its success. Ongoing vigilance has been hard-wired into the revised processes, as demonstrated in outcomes data and the fact that results have been sustained despite changes in departmental leadership over time.

The authors (left to right): Lori Swann, MT, (ASCP), CIC, senior supervisor of infection prevention; Joni Campion, CSFA/CRCST, senior manager of central sterile processing department; Tom Snyder, MBA, BSN, RN, HACP, director of clinical performance assessment and improvement; Angela Jenkins, MSN-L, BSN, RN, director of perioperative services; Linda Sewell, RN, clinical performance assessment and improvement specialist. Courtesy Banner Boswell Medical Center, Sun City, Arizona. Used with permission.