

# Reducing IUSS across healthcare facilities

## Executive summary

Patient safety and the prevention of surgical site infections (SSIs) should be a primary objective in healthcare facilities, as SSIs increase patient mortality and cost of care.<sup>1</sup> The risk of infection may be associated with the common use of immediate-use steam sterilization (IUSS);<sup>1,2</sup> however, IUSS is still in practice due to time constraints on healthcare personnel.<sup>2</sup> The use of CareFusion's *IMPRESS*<sup>®</sup> instrument management systems in sterile processing departments (SPDs) helps healthcare facilities measure their instrument processing and SPD employee data. The systems also enable facilities to identify and track surgical instruments as they move through different stages of the SPD work cycle, ultimately helping to reduce the use of IUSS and the chance for SSIs.<sup>3</sup> The goal for healthcare facilities is to collect data to determine how to eliminate IUSS except in emergency situations and prevent SSIs.<sup>2</sup>

## IUSS: what it is and when to use it

The Association for the Advancement of Medical Instrumentation (AAMI) defines IUSS as the “process designed for the cleaning, steam sterilization, and delivery of patient care items for immediate use.”<sup>2</sup> Although IUSS seems like a quick-fix sterile processing solution, the downside is that it is associated with an increase in SSIs.<sup>1</sup> An estimated 750,000-1,000,000 SSIs occur annually, which increase mortality, morbidity, hospital length of stay (LOS) and cost, with an estimated \$1.6 MM in additional healthcare charges.<sup>1</sup> The Association of periOperative Registered Nurses (AORN) and The Joint Commission recommend that IUSS be kept to a minimum, preferably used only in emergency situations (*e.g., resterilizing an instrument that accidentally dropped on the OR floor prior to use*).<sup>2,4,5</sup> Some suggested guidelines regarding the use of IUSS include:

1. Only use in selected clinical situations and in a controlled manner.<sup>2</sup>
2. Only use when there is insufficient time to process by the preferred method intended for terminal sterilization.<sup>2</sup>
3. IUSS should not be used as a substitute for sufficient instrument inventory.<sup>2</sup>

## Concern for facilities practicing IUSS

Patient safety is a major concern for healthcare facilities. Facilities are aware that instrument contamination can lead to SSIs—yet there is pressure on SPD personnel to process/turn instruments around faster.<sup>2</sup> This can lead to greater use of IUSS. According to a multi-society position paper and Joint Commission expectations, consistent cleaning processes should be used across ORs and SPDs.<sup>5</sup> This includes cleaning, packaging, and sterilization.<sup>5</sup>

In an effort to curb IUSS, one particular healthcare system has an “almost NO IUSS is acceptable” policy in their facilities. The HealthEast Care System in St. Paul, MN developed an improvement plan to help reduce their use of IUSS to < 1 load/day, and no loads in a typical month in their ERs.<sup>5</sup> Other healthcare facilities have also set goals for reducing IUSS. At the University of Louisville Hospital (UofL) in Louisville, KY, SPD Manager Kimberly Same noted that when she started, “the hospital’s (IUSS) level was ~38%; now it’s usually ~12%. Less than 10% is ideal.” With the support of OR staff, Same wants to minimize the facility’s use of IUSS to help reach her department’s goals for reduction.

At Sacred Heart Hospital in Springfield, OR, SPD Manager Dan Hughes also hopes to eliminate IUSS:

“Any flashing is too much...I won’t be happy until our IUSS rate is 0%. Patient safety is a great advocate as well as physician support.”

The use of IUSS is usually based on the number of surgeries performed, lack of available equipment, saving time and convenience.<sup>4</sup> These factors can be monitored in conjunction with IUSS use. To keep track of IUSS rates, AORN says details should be maintained for each load, such as which items were processed, which patient they were used on, and what type of cycle and parameters were used.<sup>2</sup>

### Typical levels and impact of IUSS usage

Four years ago, Lehigh Valley Hospital in Allentown, Pennsylvania was experiencing rates of IUSS at 40-45%. To evaluate their high numbers, they initiated a “Biggest Loser” campaign to help reduce IUSS. This entailed an OR specialty review team assessing instrument trays, personnel teams and physicians determining what’s no longer needed and taking those tools out of circulation. The goal was to help make the trays lean by reducing the need to count and wash fewer instruments, ultimately freeing up additional inventory for other procedures.<sup>6</sup> In 2012, their rate was regularly < 4%. IUSS reduction at Lehigh Valley has been resolved by educating staff, evaluating the OR surgical schedule and prioritizing instrument trays based on types/number of scheduled procedures.<sup>6</sup> Hope Johnson, an OR director at Lehigh, says, “At the end of the day, it is all about education, engagement and empowerment.”<sup>6</sup> Several factors can impact the levels of IUSS usage:

- Number and types of procedures<sup>6</sup>
- Surgeon pushback/signoff<sup>7</sup>
- Lack of knowledge about the importance of minimizing IUSS<sup>8</sup>
- Insufficient instrument inventory, especially regarding sets and trays from a particular vendor<sup>6</sup>
- Improper handling of items during assembly or transport, resulting in tears/punctures of internal filters or outer packaging<sup>8</sup>
- Instruments contaminated during surgery<sup>8</sup>
- Loaner items not received in time to send through central sterile processing (CSP)<sup>8</sup>

### An impressive addition makes an impact

A combination of efforts made by a healthcare facility can help make a positive impact on IUSS reduction. In an effort to practice better instrument management and reduce the use of IUSS, many facilities have implemented the *IMPRESS* system.

During a recent survey, UofL used the *IMPRESS* system to provide The Joint Commission with information about their IUSS process as well as biological indicator (BI) documentation. *IMPRESS* Connect helps them identify staffing needs by showing the number and type of staff required, as well instrument availability. After implementing the *IMPRESS* Connect system in March 2011, they experienced greater asset visibility within the first week through use of the Locate functionality, and were utilizing quick turnover of instruments.

Sacred Heart estimates that 70% of the impact on their IUSS reduction was due to internal initiatives like staff schooling and education. In addition, the *IMPRESS* Connect system helped Sacred Heart reduce their manual processes by 30%. Their *IMPRESS* Connect system is interfaced with their OR system, which automatically prioritizes surgical instrumentation by need. Quite simply, implementing the *IMPRESS* system removed anxiety. “Having *IMPRESS* made our jobs easier and less stressful,” says Hughes. If an instrument is dropped, a patient could be under anesthesia while waiting for another instrument or for the dropped tool to be sterilized. The *IMPRESS* system helps address instrument visibility and availability, which ultimately can help reduce risk to patients, as they’re under anesthesia for less time. Physicians are also more satisfied because they have less time to wait for their instruments to be ready. Use of the *IMPRESS* system has resulted in financial savings as well—they saved one full-time employee (FTE) in labor costs.

In the OhioHealth system, most of the hospitals are currently at IUSS rates of < .5%. In general, the volume of IUSS at OhioHealth is based on the number of sets sterilized. The *IMPRESS* system helps OhioHealth’s SPDs continuously monitor sterilization rates. If instruments are flashed more than five times a day, more instruments are ordered as most flashing is due to insufficient instrument quantity.

## Conclusion

Healthcare facilities can improve patient care with the help of an instrument management system such as the *IMPRESS* system. Facilities can greatly reduce their use of IUSS, ultimately reducing the chance of SSIs. The robust functionality of the *IMPRESS* product portfolio has been instrumental in helping facilities reduce their IUSS rates through several initiatives, including managing appropriate staff and OR scheduling and identifying instrument volume, locations and sterilization. *IMPRESS* systems also help improve resource management and productivity in SPDs, document/monitor sterilization records, improve communication between departments and control costs through improved instrument management, including loaner instruments. Ultimately, the *IMPRESS* system can provide facilities with important and necessary information to help enhance patient safety.

## References

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