Challenges and difficulties of CSSD staff

Key Facts at a glance:

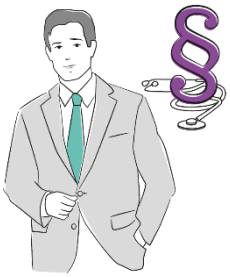
- CMS (Centers for Medicare and Medicaid Services) investigated infection control practices at ambulatory surgery centers in 2008 and found that **28%** of the **facilities** had some **type of lapse in reprocessing medical equipment**.
- Joint Commission reports that **36% of accredited hospitals** surveyed in 2011 were **noncompliant** with its **standards to reduce the risk of infection** associated with medical equipment, devices, and supplies.
- Experts agree that there is an increase in the number of cases of improperly cleaned instruments reaching end users.
- FDA received **80 reports of inadequate reprocessing** between January 2007 and May 2010; **28 reports** of infection may have occurred from the **inadequate reprocessing**.
- Post-sterilization **contamination of sets** was linked with an increased rate of deep **surgical site infections** in orthopedic (and ophthalmic) patients.

Executive Summary:

Consequences of Suboptimal Reprocessing

Every day, healthcare facilities' sterile processing departments handle thousands of reusable surgical instruments and devices.

Suboptimal reprocessing practices can mean that instruments that have gone through the department are returned to the operating room (OR) with human tissue, bone, or other organic material in or on the treated instruments.



The consequences can be disastrous for patients, staff, clinicians, and the organization. Significantly, patients are at risk of infections from dirty instruments used on them.

Even if a soiled instrument is discovered before it is used on a patient, there could be procedure delays while the healthcare team waits for clean instruments.

In one report submitted to ECRI Institute PSO, the OR team had to request two instrument trays until it was provided a third tray that was ready for use. The patient was under anesthesia once the first replacement tray was returned:

Case: Bone and tissue were observed in the instrument tray for joint replacement surgery. The tray was removed, and a new sterile field and replacement instruments were set up in the room. The replacement instrument tray had fluid on several instruments and bone fragments. The second setup was broken down, and a new setup was opened using sterile technique.

→Consequence: High costs. Costs of one OR minute between $15 and $20.

(**Source**: Macario A. What does one minute of operating room time cost? J Clin Anesth. 2010 Jun;22(4):233-6.)

The number of reported incidents of contaminated reusable instruments reaching end users is the "tip of the iceberg," says one official from the Centers for Disease Control and Prevention (CDC).

More Complex Instruments: Harder to Clean

In addition to the challenges from cleaning more complex instruments, other factors contributing to the increase in reported incidents include the following:

- Pressure on sterile processing departments to quickly turn around instruments for scheduled procedures due to insufficient instrumentation; staff may even resort to risky shortcuts.
- An inefficient work environment.
- Poor communication between OR and sterile processing staff about each department's needs.
- ...

Lessons learned

Inspect instruments after cleaning. Before being sterilized or placed in storage, a decontaminated instrument should be inspected for cleanliness and device function. Otherwise, an item with contamination that is undetected during the inspection process is likely to be returned to clinical use after it is sterilized.

- **SQ.line double action instruments:**

  >50% reduction in difficult-to-inspect areas means visual inspection is faster and easier

Address ease of device cleaning before purchase. Healthcare facilities might consider involving a representative from their sterile processing departments in instrument purchase decisions in order to evaluate.

- **All SQ.line instruments are made entirely from stainless steel. Without critical interfaces to other materials they are less vulnerable and easier to clean.**

- **SQ.line double action instruments:**
  Manual pre-cleaning steps can be eliminated with fully machine-cleanable instruments.
  The limit of protein residues is reached at an earlier stage during cleaning and disinfection compared to current instrument designs. Probability of reprocessing rework is reduced.

Source:
Sterile Processing Department's Role in Patient Safety:
https://www.ecri.org/components/PSOCore/Pages/PSONav0812.aspx

Surgical site infections linked to contaminated surgical instruments:
https://www.ncbi.nlm.nih.gov/pubmed/22704634