Question of the Week #27: Immediate use sterilization

The free-standing ambulatory surgery center in which you work utilizes block scheduling for surgeons who frequently book cases. This is a huge surgeon, staff, and patient satisfier as cases can be completed more efficiently. A new plastic surgeon has just joined the staff for your center. He typically schedules 4-6 procedures in a day. He has a "favorite" needle holder for skin closures which is sterilized between cases in a steam autoclave.

You are updating the policy on immediate use sterilization. After reviewing AORN’s 2012 recommended practices, you note a discrepancy in what is considered best practice and what is actually being done. What solutions can you provide your facility and your surgeon to decrease the practice of immediate-use sterilization?

Response:
Immediate use or “flash” sterilization refers to the process of steam sterilizing instruments for immediate delivery to the sterile field. Chances for breakdown in the immediate use sterilization process tend to cluster around the following areas:

1. Cleaning
2. Increased risk for injury, either from contamination during transfer with the potential for causing Surgical Site Infections (SSI’s) and Hospital Acquired Infections (HAI’s) or from burns, either to staff or patients. Anyone who has waited 10 minutes for a red-hot weighted speculum to cool down has probably wondered where the cost savings have been realized.
3. Human error

The process for cleaning, disinfecting, and sterilization of instruments should provide for sterile transfer to the surgical field regardless of the method used. Standards are the same regardless of where the processing occurs (Spry, 2008, p. 538). Although there is nothing in the scenario that leads us to believe that cleaning and disinfection of the needle holder is not being done correctly, this week’s group is astute in noting that this is a crucial first step in the appropriate processing of instruments.

Immediate use sterilization immediately pulls into play the issue of time. Consequently, the person responsible for cleaning, disinfection, and sterilization of instruments that bypass the usual facility practices for sterilization may not be a sterile processing technician at all, but a registered nurse or surgical technologist who is working under a double handicap of hurrying to turn over a room and performing a task which may be outside his/her typical role. This highlights the importance of all staff being educated on proper cleaning methods and agents. Scrub sinks should not be used for cleaning instruments. The appropriate Personal Protective Devices (PPD’s) including eye protection should be used whenever processing contaminated instruments. Adding an additional 20-30 minutes to the normal turnover time assigned to cases to accommodate the need to process immediate use instruments is an excellent visual reminder to surgeons.
that this process is not instantaneous; the cost of extended turnover times may more than outweigh the cost to purchase adequate inventory.

Immediate use sterilizers are pre-programmed to specific time and temperature settings which have been established by the manufacturer based on the type of device to be sterilized, the type of sterilizer (prevac or gravity), and the packaging utilized. Sterilizers should be checked daily for appropriate functioning. Each cycle and each tray configuration needs to be tested (Carlo, 2008). The extra work to test and document cycle efficacy needs to be considered when looking at the overall resources needed to support immediate use sterilization.

The sterilization cycle for a steam autoclave in the substerile of an OR suite and for one found in the Sterile Processing Department (SPD) is the same minus the drying cycle. This leads one to wonder what all the fuss is about related to immediate use (formerly known as “flash”) sterilization. The last part of the process, and one not addressed by our core group of experts, is how to deliver a sterile instrument to the field without contaminating it. This risk is high enough that the practice is discouraged except when there is insufficient time to process by the preferred wrapped or container method (AORN, 2011, p.467). It should never be used as a substitute for insufficient inventory or to accommodate a vendor’s lack of timely delivery of instrument pans to an OR.

The physical layout of the operating room suite should be taken into account when transferring the sterile instruments from the autoclave to the field. Delivery of immediate use sterile items should not have to be made through semi-restricted areas or hallways. Facilities may not have been designed to accommodate direct transfer of sterile instruments in this manner; in these cases, a closed container, which is always a good idea, becomes even more important as a means to reduce the risk of contamination of the instruments during transport.

From a regulatory standpoint, Joint Commission uses a tracer system much like is done for patients, in which survey teams will follow a set of instruments from the time they leave one OR until they are returned to the next (Mews, 2010). Having policies and procedures in place that represent current best practice, and assuring that they are being implemented and followed, will take much of the angst out of this portion of the survey.

Record keeping, logs, and audits tend to be some of the least favorite tasks for many nurses, but in this case the data collected can be used to help move our hypothetical facility towards the desired outcome, e.g. minimizing the routine practice of immediate use sterilization. Sterilization records at the minimum should include the item processed, the patient receiving the item, the cycle parameters (cycle duration, temperature), the name of the operation, the surgeon, date and time, and the reason for the flashing the instruments (Denholm, 2011). This information, besides assuring traceability of an instrument to a patient and whether an SSI could be attributed to the sterilization cycle, can also be used for budgetary justification to purchase additional instruments. These logs should be part of every Infection Prevention and Quality
Assurance meeting. Joint Commission will also be very interested in reviewing this information.

Although it may realistically be impossible to eliminate the use of immediate use sterilization entirely, judicious application of current best practices combined with a thoughtful assessment of resources, time, and cost containment measures can all work together to provide optimal outcomes for both patients and health care providers.

References and Resources


