HEALTHCARE PURCHASING NEWS

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The 5 "W"s of point-of-use treatment

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LEARNING OBJECTIVES

1. *Define point-of-use treatment for reusable medical instruments.*
2. *Identify areas where point-of-use treatment may occur.*
3. *Verbalize point-of-use treatment procedures.*

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The operating room is changing at a breakneck speed. What was once an intrusive open surgery has become a minimally invasive procedure. Robots aid surgeons in complex procedures. The operating room staff must be familiar with an ever-increasing inventory of complex medical instrumentation to support the advancement. Maintaining instrumentation during surgery and preparing them for transport is no longer a simple task of wiping of gross soils. Knowing why, who, where, what and when is imperative to successful point-of-use treatment.

Why is point-of-use treatment important?

Point-of-use treatment helps to protect instrumentation. OR staff remove gross soils intraoperatively and following completion of the surgery. This helps keep instrumentation in good working order keeping joints and hinges moving smoothly. Removing corrosive soils, such as saline and blood, protect instrument surfaces and cutting edges from rusting and pitting.

Point-of-use treatment supports sterile processing efficiencies necessary to support the OR. Maintaining moist soils prevents soils from drying, especially proteins. Think of an egg yolk left on a breakfast plate. If allowed to dry prior to cleaning, the egg yolk's protein becomes difficult to remove requiring more force and longer soak times in the sink. Rinsing the plate and preventing drying of the yolk makes it easier and faster to remove. Point-of-use treatment keeps soils moist allowing sterile processing departments to clean more efficiently helping them to deliver the processed instruments to the OR on time.

Point-of-use treatment is a necessary step to prevent cross contamination. Removing gross soils reduces the number of microbes and their food source slowing their growth and replication. This helps prevent the formation of biofilms. Biofilms are special bacterial colonies that can form a protective layer capable of preventing high level disinfection and sterilization from reaching the bacteria within. Controlling biofilm growth reduces the potential of cross contamination to the next patient using that instrument.

Lastly, point-of-use treatment is necessary for compliance. Guidelines and standards dictate the need to perform point-of-use treatment. It is a survey expectation. Inappropriate or missed point-of-use treatment can lead to noncompliance.

Who performs point-of-use treatment, Where is it done?

Scrub nurses and surgical technicians have responsibility for point-of-use treatment during and after the surgery. Often, the pressure of room turnover causes challenges to complete post procedure point-of-use treatment. Some facilities have moved case carts to hallways where sterile processing staff complete post procedure point-of-use treatment. This creates risk a of cross contamination as open case carts and bins expose hallways and surgical staff to potential contaminants.

Some facilities may choose to transport soiled instrumentation to sterile processing or a different location to complete point-of-use treatment. This delays treatment allowing residual soils to dry on instruments and biofilms to begin to form. According to the Association of peri-Operative Registered Nurses (AORN), the Association for the Advancement of Medical Instrumentation (AAMI), and the Association for Surgical Technologists (AST), point-of-use treatment should be done in the OR by OR staff members.

When and What should be done?

Point-of-use treatment begins during the set-up of the surgical procedure. The scrub and the circulator should plan and have sterile water on the surgical field while preparing the OR room for the procedure. If the case is small, then a liter of sterile water may be sufficient. However, some instrumentation and larger cases, such as

a total joint replacement, may require a sterile basin in a ring stand with two liters of sterile water to perform point-of-use cleaning. Sterile syringes may be needed to flush canulated instrumentation. This should be identified prior to the case and made available.

Point-of-use treatment expectations change based on timing.

Intraoperative point-of-use treatment

During the procedure, gross soil is removed from instruments returned to the scrub nurse or surgical technician. Scrub personnel wipe soils from the surface using a sterile gauze sponge moistened with sterile water. It is important to replace gauze sponges as they become soiled. All gauze sponges must be radiopaque and included in the sponge count at the beginning and completion of the procedure.

Canulated instruments are flushed by attaching a syringe filled with sterile water to one end of the instrument. When flushing submerge the cannulated tip beneath the surface of the sterile water in the basin to prevent aerosolization and splashes.

Some instruments may have added steps or specialized point-of-use instructions. Instructions may require soaking instrumentation between uses, for example. Robotic arms may require a sterile sheath to protect the arm from contamination between uses during the procedure.

Electrocautery instrumentation creates a unique challenge to point of use treatment. Electrocautery instrumentation uses electric current to create a high temperature working tip. The instrument cuts and stems bleeding by burning the tissue. These instruments can collect charred tissue called eschar that is difficult to remove. During the procedure, a sterile scrub pad moistened with sterile water is used to remove eschar. Additionally, instrument tips can be coated with an anti-stick solution that helps reduce eschar build up on instrument tips.

Postoperative point-of-use treatment

As the procedure closes, OR staff complete surgical counts and break down the back table. Post procedure point-of-use treatment starts at the same time however, application of pretreatment products should wait until the patient leaves the room.

Point-of-use treatment changes at the end of the procedure. Whereas intraoperative point of use focused on the removal of gross soil, post procedure point-of-use focuses on preparing the instrumentation for transport to sterile processing. Preparation for transport includes:

1. Removal of remaining gross soil
2. Preparing instrumentation for transport
3. Maintaining moist soils

Dispose of disposable sharps and other items as is required per hospital procedures for sharps and biohazardous wastes. Sort and regroup instrumentation into the trays and containers they came in. Grouping instrumentation helps with instrument counts in the OR and processing efficiencies in sterile processing. Instruments that came to the OR on stringers should go back to the sterile processing department open and on stringers. Be sure to identify instruments which need sharpening or repair.

As instruments are sorted, they are checked for residual soil. Surfaces should be wiped with a non-linting cloth or surgical sponge that has been moistened with sterile water. Start at the point on the instrument with the least amount of visible soil and move towards the areas with greater amounts of soil. Change the sponge or wipe when it becomes visibly soiled.

Lumens and cannulas are flushed with solution. Either a specific volume of solution or specified flush time will be listed in the instrument's instructions for use. Some instruments may require adapters to allow proper flushing.

Review the instrument's instructions for use. Some instruction may state the need for precleaning using a cleaning chemistry as part of post procedure point-of-use treatment. These recommendations do not follow the recommended practices, standards, and guidelines of the Association of peri-Operative Registered Nurses (AORN), the Association for the Advancement of Medical Instrumentation (AAMI), and the Association for Surgical Technologists (AST) in that cleaning of instrumentation should not done in the OR. The facility must resolve conflicts with policies, best practices, and instructions for use prior to use of the instrumentation. Reach out to the instrument manufacturer for guidance. Some manufactures may be able to supply alternative directions. In those rare cases where instrument manufacturer guidance does not resolve the conflict, work with risk management, infection control, and other key stake holders to assess the risks

Figure 1: Pretreatment Product Application should be even across all surfaces.

associated with the practice and develop an alternative practice. Remember to justify and document the decision for future reference during surveys.

Some instruments, such as retractors, may require disassembly during point-of-use treatment. Disassembly ensures the removal of gross soils that can become trapped in the instruments design. Always follow the manufacturer's instructions for use. Never forcibly disassemble an instrument that does not require disassembly per the instructions for use.

Instruments are expensive investments for any facility. Protecting that investment is an important part of preparing them for transport. When placing instruments in containers, trays, or bins; keep sharp edges away from soft materials like light cords, and tubing. Loosely coil power cords, light cords, and tubing. Tight coils places strain on the cords and tubing damaging them. Place heavy instruments like mallets on the bottom with lighter instrumentation above. This protects the lighter more delicate instruments from crushing.

All instrumentation should completely fit within the containment device. Instruments that hang over or above the containment device can catch on edges, corners, and other bins damaging the instruments.

Maintaining moist soils during transport and while awaiting the start of cleaning in sterile processing is a critical step for

Self-Study Test Answers: 1. D, 2. C, 3. A, 4. B, 5. B, 6. D, 7. A, 8. A, 9. D, 10. A

post procedure point-of-use treatment. Minimally, cover the instruments in each tray with a non-linting towel moistened with sterile water. The towel should be damp but not dripping. It should be large enough to cover the instruments but not hang over the side. Towels will dry over time. Facilities should evaluate how quickly towels will dry. It may be necessary to evaluate towels dampened by several staff members to capture the inherent variability between staff practices. Facilities should ensure that instruments begin the cleaning process before the towels dry.

Commercial pretreatment products are alternatives to dampened towels. Pretreatment products consist of foams or gels designed to cling to instrument surfaces and penetrate joint and hinges. All have cleaning agents that help to break down and lift soils from surfaces. Some have agents that prevent the growth of bacteria. This aids in preventing biofilm formation.

Application should occur at the time that instrumentation is placed into the trays. Apply products in an even pattern to evenly coat all instrument surfaces. Pay special attention to box locks, hinges and other moving components that can hold residual soils after soil removal. Pretreatment products should not be dispensed into channels, lumens, or cannulas unless directed to do so by the pretreatment product's instructions for use.

The pretreatment product dispensers should not create aerosols during dispensing. Aerosolization has the potential of making the gel or foam airborne where staff can inhale it. As these pretreatment products have several chemicals of which some are hazardous to breath in, it is important that they are applied in a non-aerosol generating manner.

There are a few things to consider when selecting a pretreatment product. First is compatibility. The pretreatment product should be compatible with the instruments. It should also be compatible with any cleaning solutions used during manual and mechanical cleaning. Though instruments are rinsed prior to cleaning, residual pretreatment product could remain and react with cleaning solutions used in sterile processing.

The next important consideration is wetting properties. The product should cover quickly and adhere to surfaces. It should be fluid enough to penetrate crevasses, recesses, hinges, and other moving parts but not drip off as the instruments are transported.

Staying power is the last consideration. A product that drips off or dries out before cleaning starts is not suitable for the facility. Facilities should verify that the product maintains moist soils for the time needed at peek processing times where wait times between receipt in sterile processing and the start of cleaning are longest. During this time, the properties of the pretreatment product may change. Products that become tacky or stain surfaces with prolonged exposure may not be suitable.

Preparing to Transport

The container that will be used to transport contaminated instrumentation should be leak proof and puncture resistant on all sides and the bottom. It should be labeled, and color coded for identification as a biological hazard. Items should be covered to prevent accidental exposure to the contaminated materials while they are transported to the processing are.

Solutions for difficult-to-clean tips

As mentioned, eschar can be a difficult gross soil to remove. It can become lodged in crevasses, wires, and hinges not easily accessed during point of use treatment. Pretreatment products can aid with moisture retention but may not be able to start the cleaning process. For these types of devices and other tips that can create a challenge to gross soil removal, cleaning may be started using specialized pretreatment products which insert tips into a self-contained tube with cleaning solutions and enzymes that break down and lift soils. The vials also serve to protect tips during transport. As with any point-of-use treatment product, confirm compatibility of the product with cleaning chemistries used within sterile processing, the pretreatment products used by the OR, and the instrument. Always follow the manufacturer's instructions for use when using these types of products.

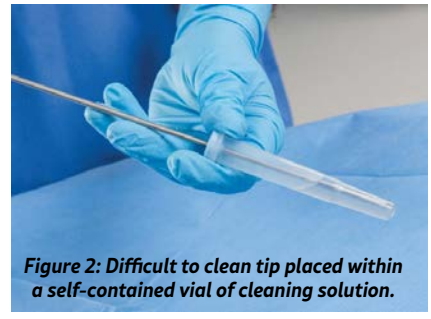

Figure 2: Difficult to clean tip placed within a self-contained vial of cleaning solution.

Conclusion

Point-of-use cleaning has become as varied and complex as the instrumentation used in surgery. Buy developing policies and procedures that follow manufacturer's instructions for use and best practices, facilities can ensure that this critical first step in successful processing of instrumentation is done right. HPN

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The 5 "W"s of point-of-use treatment

Circle the one correct answer:

1. **How does point-of-use treatment protect instrumentation?**
   A. It neutralizes sterilants
   B. It removes disposable items
   C. It adds lubrication
   D. It removes corrosive soils

2. **Why should soils be kept moist?**
   A. It makes cleaning harder
   B. It encourages biofilm formation
   C. It reduces cleaning time
   D. It eliminates the need to clean

3. **Which operating room team member does NOT perform point-of-use treatment?**
   A. SEnvironemntal Services
   B. Surgical technician
   C. Scrub nurse
   D. Scrub technician

4. **Where should point-of-use treatment be done?**
   A. Sterile hallway
   B. Operating room
   C. Decontamination room
   D. Soiled linen room

5. **Point-of-use treatment is pre-cleaning of instruments in the operating room using cleaning solutions.**
   A. True
   B. False

6. **When does point-of-use treatment happen?**
   A. During surgery and upon arrival in sterile processing
   B. Only during Surgery
   C. Only after the patient leaves the room
   D. During and after surgery

7. **When should instrumentation be disassembled for point-of-use treatment?**
   A. When the instructions for use state to
   B. When the surgeon hands the instrument back
   C. When there are hinges and moving parts
   D. When gross soil is lodged in a hard-to-reach place

8. **When should a commercial pretreatment product be applied to instrumentation?**
   A. As instruments are placed in containers
   B. After the container has been completely loaded
   C. After the containers are placed in the case cart
   D. When they arrive in sterile processing

9. **What should the pretreatment product be compatible with?**
   A. Cleaning Chemistry in sterile processing
   B. Disinfectant used in the operating room
   C. Instrument
   D. A and C
   E. B and C

10. **Which label should be applied to the transport cart?**
    A. Biohazard
    B. Chemical hazard
    C. Danger
    D. Radioactive

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