LEARNING OBJECTIVES

1. List the reasons for point-of-use treatment
2. Identify the organizations that address point-of-use treatment
3. Describe common methods used to perform point-of-use treatment

Caring for patients is a team effort. Caring for the instruments, endoscopes and equipment used to treat patients also requires a team approach; this begins at the point of use by removing gross debris, flushing lumened devices, removing disposable items, and placing reusable medical devices safely in containment devices for safe transport to a decontamination area. The significance of point-of-use treatment has been demonstrated in recent studies regarding flexible endoscopes. Point-of-use treatment does not replace cleaning but is rather the beginning of the cleaning process.

Point-of-use treatment should occur wherever an item that requires reprocessing is used. Equipment that may require point-of-use treatment is not limited to instrumentation and endoscopes; it also includes patient care equipment used on nursing units that requires treatment before being transferred throughout the healthcare facility.

This lesson plan addresses why point-of-use treatment is an integral part of patient care and outlines methods used to perform point-of-use treatment.

OBJECTIVE 1: LIST THE REASONS FOR POINT-OF-USE TREATMENT

There are many reasons for providing point-of-use treatment of instrumentation, endoscopes and patient care equipment, but its primary purpose is to prevent the formation of biofilm.
Biofilm is an accumulated biomass of bacteria and extracellular material that tightly adheres to the surfaces of a device. Biofilm protects microorganisms, making it difficult (if not impossible) to remove using ordinary cleaning methods available in healthcare Central Service/Sterile Processing (CS/SP) departments. That protection prevents antimicrobial agents, disinfectants and sterilants from reaching microbial cells.

Biofilm formation can begin within minutes after a device is used. Once instrumentation is removed from the procedure room, transport to the decontamination area may be delayed or instruments can sit in the decontamination room before the next cleaning process begins. Long delays in processing further increase the risk of biofilm formation. Once formed, direct friction and use of oxidizing chemicals are the only methods for biofilm removal. While biofilm is problematic even for surfaces that are easily reachable, lumened devices are especially challenging due to their difficult-to-reach surfaces. The prevention of biofilm is the best method of treatment. By performing point-of-use treatment and cleaning the gross debris from device surfaces, the population of microorganisms is reduced, and biofilm formation can be prevented. A surface free of biofilm allows for the disinfectant or sterilant to reach the surface of the medical device, thereby, providing a disinfected/sterile medical device for the next patient. Removal of gross contaminates at the point of use also reduces the nutrient material that supports microbial growth; prevents the debris from drying on devices; reduces the number of microorganisms; and reduces the risk for contaminated instruments or equipment being used on a future patient.

Solutions frequently used during patient care procedures include saline, iodine and radiological dyes; all can corrode and otherwise damage medical devices. Body fluids and saline are highly corrosive and can cause pitting of instruments. Body fluids that become dried on instruments make the devices much more difficult to clean. If lumened instruments are not irrigated with sterile water following a procedure, they can become obstructed with organic material. Prompt removal of body fluids and solutions at the point of use helps prevent corrosion; keeps debris from drying on instruments; improves the efficiency and effectiveness of decontamination; and may extend the life of instruments.

Flexible endoscopes present a unique cleaning and disinfection or sterilization challenge. The importance of point-of-use treatment is emphasized in research as well as in many recognized standards and guidelines. Flexible endoscope manufacturers have also identified point-of-use treatment as a critical aspect of endoscope reprocessing. Flexible endoscopes present a unique cleaning and disinfection or sterilization challenge. The importance of point-of-use treatment is emphasized in research as well as in many recognized standards and guidelines. Flexible endoscope manufacturers have also identified point-of-use treatment as a critical aspect of endoscope reprocessing. Manufacturers’ IFU will outline how to perform point-of-use treatment on their flexible endoscopes. Point-of-use treatment for flexible endoscopes is especially important to help reduce the formation of biofilm and moisten, soften and remove organic material.

Point-of-use treatment should be applied consistently throughout a healthcare facility, and this is certainly true for flexible endoscopes, regardless of where they are used (e.g., Endoscopy suite, Operating Room, Emergency Department).

Before leaving the procedure areas, disposable products must be discarded in their appropriate containers. Transporting disposable sharps, such as scalpels, is a safety risk; therefore, disposable sharps should be placed in designated sharps containers. Disposable items that are opened in the surgical suite should be discarded in the surgical suite;
doing so not only helps streamline the decontamination process but also helps prevent confusion in the decontamination area regarding the identification of disposable and reusable items.

Containing contaminated medical devices during transport from the point of use to the decontamination area prevents personnel and patients from coming in contact with contaminated items during transport. The containment of contaminated medical devices is a regulation set forth by the Occupational Safety and Health Administration (OSHA).

OBJECTIVE 2: IDENTIFY ORGANIZATIONS THAT ADDRESS POINT-OF-USE TREATMENT
Point-of-use treatment plays a critical role in infection prevention and helping to ensure instrumentation stays in good working condition. The practice of point-of-use treatment is included in many IFU, standards and guidelines, and is being closely reviewed by surveying agencies.

The Association for the Advancement of Medical Instrumentation (AAMI) publishes standards for use in healthcare facilities. ANSI/AAMI ST79:2017 Comprehensive guide to steam sterilization and sterility assurance in health care facilities includes an entire section on point-of-use treatment; Section 6.3, Point-of-use care and handling of contaminated reusable items, provides recommendations for proper handling of instrumentation during the surgical procedure; how and when to remove gross soil; how to prepare instruments for transport; and how to contain instruments for transport. AAMI Standard ST91:2015 Flexible and semi-rigid endoscope processing in health care facilities also provides recommendations for point-of-use treatment for these types of instruments.

The Association of periOperative Registered Nurses (AORN) addresses point-of-use treatment in the Guideline for Cleaning and Care of Surgical Instruments and the Guideline for Processing Flexible Endoscopes.

The Joint Commission (TJC) identified an increase of breaches in sterilization and high-level disinfection (HLD) practices in healthcare facilities and published the HLD and Sterilization BoosterPak in 2015. In this BoosterPak, TJC includes point-of-use treatment in the checklist for sterilization processes.

OBJECTIVE 3: DESCRIBE COMMON METHODS USED TO PERFORM POINT-OF-USE TREATMENT
All instruments that are opened in the OR or procedure room should be considered contaminated, regardless of whether they were used; this is because even unused instruments may have come in contact with contaminated material or instrumentation during the procedure. Point-of-use treatment begins during the procedure. As instrumentation is used, the devices should be wiped, as needed, with surgical sponges moistened with sterile water to remove gross soil. Lumened instrumentation should be irrigated with sterile water to prevent debris from drying.

At the end of the procedure, while personal protective equipment (PPE) is still being worn, any liquids used to soak the instruments during the procedure should be safely discarded. All disposables should be removed and special attention should be paid to sharps to prevent injury to other healthcare personnel.

Reusable instrumentation should be prepared by opening instrumentation that can be opened; disassembling multi-part instrumentation in accordance with the IFU; protecting delicate instruments from damage by placing heavier instrumentation on the bottom of the tray and lighter instrumentation on top; arranging instruments in an orderly fashion; identifying damaged instrumentation so it can be removed; and flushing lumened devices with water. Having instruments opened, disassembled and returned to their original instrument tray improves the efficiency of the decontamination process and minimizes instrumentation loss.

As instruments are prepared, they should be placed into a container that will properly contain them. Per OSHA regulations, all contaminated items must be identified as “contaminated” when being transported to the decontamination area (e.g., labeling the container with a “biohazard” label or placing in a red “biohazard” bag). Again, items with sharp edges or those that can penetrate the skin must be placed in a container that is puncture-resistant, leak-proof on the sides and bottom, closable and clearly labeled as “biohazardous.” To prevent organic soils from drying, contaminated items should be kept moist, but not by soaking items in a solution. This can be accomplished by placing a towel moistened with water or a pre-treatment product specifically intended for this use on top of instruments, or by placing items inside a package that can maintain moist conditions. The type of transport container depends on the items being transported. Types available include bins with lids, enclosed or covered carts, rigid sterilization container systems, and impermeable bags. Note: Even if the decontamination area is located directly across the hall from the procedure room, point-of-care treatment and safe transport practices must always be followed.

The process for point-of-use treatment for flexible endoscopes is available in the manufacturer’s IFU and should be carefully followed. Basic steps include:
Point-of-use treatment is an integral part of the care and handling of medical devices. It requires a team effort and should begin during the patient care procedure. Prompt removal of organic debris can prevent the instrument damage and the formation of biofilm. Proper care of instrumentation and equipment at the point of use helps prolong the useful life of the instrument or equipment, protects staff, makes cleaning more efficient and effective, and promotes safe patient care.

1. Using a freshly-prepared cleaning solution to wipe the exterior of the endoscope with a clean, lint-free cloth or sponge;
2. Suctioning the cleaning solution through the channels;
3. Flushing air, water and other channels alternatively with the cleaning solution and air (with air being the final flush);
4. Visually inspecting the endoscope for damage; and
5. Discarding the cleaning solution and cleaning cloth or sponge.

Based on research and changes in national standards, it is recommended that all reusable accessory pieces are kept with the endoscope as a set, so they remain together throughout the cleaning process, beginning with point-of-use treatment. When preparing the endoscope and accessories for transport to the decontamination area, they should be kept wet or damp, but should not be left in the solution. The endoscope and accessories should be transported in a single container. Requirements of the transport container remain the same; however, the container should be of a sufficient size for the endoscope to be coiled in large loops to prevent endoscope damage.

If items are transported offsite for processing, all of these same steps must be followed, along with local, state and federal Department of Transportation (DOT) regulations for transporting biohazardous material.

**CONCLUSION**
Point-of-use treatment is an integral part of the care and handling of medical devices. It requires a team effort and should begin during the patient care procedure. Prompt removal of organic debris can prevent instrument damage and the formation of biofilm. Proper care of instrumentation and equipment at the point of use helps prolong the useful life of the instrument or equipment, protects staff, makes cleaning more efficient and effective, and promotes safe patient care.

**RESOURCES**

Association for the Advancement of Medical Instrumentation. *ANSI/AAMI ST79:2017 Comprehensive guide to steam sterilization and sterility assurance in health care facilities*.

Association for the Advancement of Medical Instrumentation. *ANSI/AAMI ST91:2015 Flexible and semi-rigid endoscope processing in health care facilities*.
