New term clarifies instrument point-of-use treatment

What exactly is required to prepare instruments for transport to the decontamination room after a surgical procedure? Point-of-use cleaning, which may also be referred to as precleaning, has been used to describe instrument preparation at the point of use after a surgical procedure. But both point-of-use cleaning and precleaning have been misunderstood, and because the steps taken at the point of use are so important, standards and guidelines are adopting one term that better defines the actions to take at the point of use.

The term "point-of-use treatment" has recently been adopted in standards and guidelines because it better encompasses the activities that should take place at the procedure site to prepare instrumentation for transport to the decontamination area. In the past, the term "precleaning" caused confusion because it could refer to two different types of cleaning: point-of-use cleaning at the procedure site, or cleaning performed in the decontamination area to remove gross debris before placing instruments into an automatic cleaner.

Another term, "point-of-use cleaning," was often misinterpreted to mean that thorough cleaning should be performed in the surgical area after the procedure to remove all debris (which is not the intended purpose).

Contaminated flexible endoscope loosely coiled in container for transport to the decontamination room. Photo courtesy of Susan Klacik.

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Preparing for transport

All instruments opened in the OR are considered contaminated, regardless of whether they have been used. This is because during and after the procedure, personnel may have touched instruments without being aware of it, and used instruments might come in contact with other instruments.

Several tasks should be performed during and immediately after the surgical procedure to prepare instrumentation for transport.

The most important steps in point-of-use treatment are removing gross soil and moistening instrumentation to help prevent organic material and debris from drying on instruments, including lumened devices. It is harder to remove organic material and debris from surgical instruments when they are allowed to dry, and residual soil can affect the efficacy of disinfection and sterilization.

Removing organic debris also helps prevent the formation of biofilm, an accumulated biomass of bacteria and extracellular material that adheres tightly to a surface and cannot be easily removed. Biofilm protects microorganisms by preventing antimicrobial agents—such as sterilants, disinfectants, and antibiotics—from reaching microbial cells. Biofilm can form on many surfaces, but it is particularly challenging in devices with lumens. Once biofilm forms, direct friction and/or oxidizing chemicals are needed to remove it.

To prevent biofilm formation, instrumentation should be wiped with a clean, non-linting cloth or wipe; a non-abrasive sponge soaked in water; or a freshly prepared cleaning solution. Lumened devices should be flushed with sterile water, as needed, and it is important to avoid creating aerosolization.

If a flexible endoscope was used, the distal end should be placed in the cleaning solution, and the solution should be suctioned through the instrument/suction channel as indicated in the endoscope manufacturer's written instructions for use (IFU).

Once the instrumentation is prepared for transport, it must be transported to the decontamination room immediately. Prompt cleaning reduces the population of microorganisms and thus helps to prevent the formation of biofilm.

Instruments should be kept moist until they are received in the decontamination room. This can be done by using either saturation with a pretreatment product designed to dissolve soil (eg, an enzymatic spray or single-use wipes with enzymatic detergent) or another practice (eg, placing a water-moistened towel over the instruments, or placing instrumentation inside a package designed to maintain humid conditions).

Treating instruments with an instrument cleaner at the point of use can help prevent rusting and corrosion.

Protecting personnel and instruments

Personnel should wear personal protective equipment (PPE) when performing point-of-use treatment and handling contaminated instruments. PPE includes fluid-resistant surgical masks in combination with eye protection devices, such as goggles, glasses with solid side shields, or chin-length face shields; fluid-resistant gowns; gloves (fitted at the wrist or above); and liquid-resistant shoe covers (if there is potential for shoes to become contaminated and/or soaked with blood or other bodily fluids).

To prevent instrument loss and ensure efficiency, disassembled instru-

ments should be placed into their original set configuration and arranged in an orderly fashion according to the manufacturer's written IFU. To prevent injury to personnel, sharp instruments must be separated from other instruments and placed in an Occupational Safety and Health Administration (OSHA)-required container that is puncture-resistant, leak-proof on its bottom and sides, and properly labeled as biohazardous (or color coded).

Damaged instruments should be identified so they will be removed from use. This is typically done by placing a repair tag on the instrument.

Some instruments, such as flexible endoscopes, require the attachment of a fluid-resistant cap over any electrical components.

Delicate instrumentation should be protected from damage during transport by placing heavy instruments on the bottom of the container. If instrumentation shifts during transport, heavier instrumentation might damage fragile instruments.

Disposables should be removed rather than being sent to the decontamination area with reusable instrumentation.

Hand-off communication is required for flexible endoscopes and should include the patient identifier, date of procedure, and time when point-of-use treatment was completed. Other information that may be helpful is the completed procedure time, procedure location, and employee contact.

All instrumentation coming from procedural areas is considered contaminated and must be contained properly when transported to the decontamination room. There are several methods to do this, and whatever method is selected, it must prevent contact between personnel and the contaminated items to be transferred.

Bins with lids, enclosed or covered carts, rigid sterilization container systems, and impermeable bags are among the types of containers that may be used alone or in combination to transport contaminated items. Whichever method is selected, it must meet OSHA requirements.

According to OSHA, all containers and devices, including carts, used for transporting contaminated items must be marked with a biohazard label, a red bag, or another means of identifying contaminated contents, and containers should be puncture-resistant, leak-proof on the sides and bottom, closable, and labeled. Containers must be used for devices with edges or points capable of penetrating the container or skin. Containers and carts used for holding contaminated items should either be single use or made of material that can be effectively decontaminated.

There is much more to point-of-use treatment than precleaning the instrumentation in the procedure room. This new term better encompasses all of the necessary activities for instrument preparation and will be used as new standards and guidelines are published.

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Resources

AORN. Guideline for cleaning and care of surgical instruments. In: Guidelines for Perioperative Practice. Denver, CO: AORN, 2021. www.aorn.org.

Association for the Advancement of Medical Instrumentation. ANSI/AAMI ST79:2017, Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities. www.aami.org.