INSTRUMENT PROCESSING ESSENTIALS

Effective sterilization practices require a comprehensive process using proven standards.

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STEP 1
Receiving + Cleaning

STEP 2
Preparation + Packaging

STEP 3
Sterilization

STEP 4
Monitoring/Sterility Assurance

STEP 5
Storage

OVERVIEW OF INSTRUMENT PROCESSING BEST PRACTICES

1 Receiving + Cleaning

- Place instruments and other sharp items in an appropriate puncture-resistant container at the point of use to prevent percutaneous injuries during transport to the sterilization center.[1]
- Wear appropriate PPE, including puncture-resistant, heavy-duty utility gloves, a facemask, eye protection and a gown.[1]
- Receive, sort, clean and decontaminate reusable instruments, supplies and equipment in one section of the sterilization center.[1]
- Follow the instructions for use (IFU) on cleaning for each instrument.[2]
- Use automated cleaning equipment to help improve safety and efficiency compared to manually cleaning contaminated instruments.[1]
- If manually cleaning instruments, presoak any items that cannot be cleaned immediately after use utilizing a specialized product (identified in the instrument IFU).[1]
- Visually inspect all instruments after cleaning for residual debris and damage. If instruments are not thoroughly cleaned, sterilization may not be achieved.[2]
- Rinse instruments with water after cleaning to remove chemical or detergent residue.[2] (Certain instrument instructions may require rinsing with distilled water.)

2 Preparation + Packaging

- Check that all instruments have been thoroughly rinsed and dried before packaging for sterilization.[2]
- Separate and arrange instruments into functional trays or baskets.[1]
- Process jointed/hinged instruments in the open and unlocked position so that all surfaces are exposed.[1]
- Use a container system or wrapping that has received FDA clearance and is compatible with steam sterilization to keep instruments together. Do not use rubber bands or tape to hold instruments together in a group.[1]
- Place an internal chemical indicator (CI) in every package. Use an additional external chemical indicator (e.g., chemical indicator tape) when the internal indicator cannot be seen from outside the package.[1]
- Place an internal chemical indicator, at a minimum, in the tray or cassette with the items to be sterilized for unwrapped loads.[1]
- Place a biological indicator (e.g., spore test) inside of a package at least weekly to monitor sterilization cycles.[1] Check local, state and national regulatory requirements.
- Label packages to identify the sterilizer used, cycle or load number, sterilization date and, if applicable, expiration date.[2]

3 Sterilization

- Depend on steam sterilization as the most widely used method for wrapped and unwrapped critical and semicritical items that are not sensitive to heat and moisture.[1]
- Use puncture-resistant utility gloves when loading the sterilizer.[1]
- Use only FDA-cleared medical devices for sterilization and follow the manufacturer's IFU.[1]
- Determine cycle parameters. Items requiring the same cycle parameters (time, temperature, etc.) can be processed in the same load.[2]
- Arrange items to be sterilized so as to permit free circulation of the sterilizing agent (e.g., steam).[2]
- Place pouches on edge for sterilization.[2]
- Allow packages to complete the dry cycle in the sterilizer and ensure they are cool and dry before handling them to avoid contamination.[2]

4 Monitoring/ Sterility Assurance

- Use mechanical, chemical and biological monitoring to ensure efficacy of the sterilization process.[1]
- Record results of sterilization monitoring and retain records long enough to comply with local, state and national regulations.[1]

MECHANICAL MONITORING

- Perform mechanical sterilization monitoring by assessing cycle time, temperature and pressure on the sterilizer and noting these parameters for each load.[2]

CHEMICAL MONITORING

- Verify the appropriate change in chemical indicators after each sterilization cycle for every package in the load.[1]

BIOLOGICAL MONITORING/ SPORE TEST

- Perform biological monitoring for each sterilizer at least weekly. Biological indicators (i.e., spore tests) are the most accepted method for monitoring the sterilization process since they assess the effect on highly resistant microorganisms.[1]
- Run a biological indicator in a fully loaded chamber for tabletop sterilization.[2]

5 Storage

- Store wrapped instruments. Do not store unwrapped instruments. Even temporary storage of unwrapped instruments permits exposure to dust, airborne organisms, and other contaminants before use with a patient.[1]
- Follow either date-related (e.g., shelf-life) or event-related (e.g., packaging is torn, punctured or wet) storage practices for wrapped sterilized instruments.[1]
- Store instruments in closed or covered cabinets, separated from the area where contaminated instruments are held or cleaned. Do not store supplies or instruments under sinks or in other locations where they might become wet.[1]
- Inspect stored packages for the appropriate appearance of the external CI(s) and physical integrity (e.g., intact, dry) before opening for use.[2] If packaging is compromised, the instruments inside should be recleaned, repackaged in a new wrap and sterilized again.[1]

These tips are generally accepted best practices as described in the following sources:

1 CDC Guideline Updates for Disinfection and Sterilization in Healthcare Facilities, cdc.gov/infectioncontrol/guidelines/disinfection/updates.html
2 ANSI/AAMI ST79:2017, Comprehensive guide to steam sterilization and sterility assurance in health care facilities.

Please refer to your particular state's regulations for instrument processing protocols specific to your area.

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