

INSTRUMENT PROCESSING ESSENTIALS

Effective sterilization practices require a comprehensive program using proven standards.



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STEP 1

Receiving, Cleaning
and Decontaminating

STEP 2

Preparing
and Packaging

STEP 3

Sterilizing

STEP 4

Monitoring/
Assuring Sterility

STEP 5

Storing

OVERVIEW OF INSTRUMENT PROCESSING BEST PRACTICES

1

RECEIVING, CLEANING AND DECONTAMINATING

- Instruments should be placed in an appropriate container at the point of use to prevent percutaneous injuries during transportation to the instrument processing area¹
- Wear puncture-resistant, heavy duty utility gloves, facemask, eye protection and a gown¹
- Reusable instruments, supplies and equipment should be received, sorted, cleaned and decontaminated in one section of the processing area¹
- If manual cleaning cannot be performed immediately after use, presoak with a specialized product (e.g. disinfectant, enzymatic cleaner)¹
- After cleaning, instruments should be rinsed with water to remove chemical or detergent residue. (Certain situations may require rinsing with distilled water.)¹
- Follow the instructions for use (IFUs) on cleaning for each instrument²
- Using automated equipment can be safer and more efficient than manually cleaning contaminated instruments¹
- Visually review all instruments after cleaning for residual debris and damage²
- If instruments are not thoroughly cleaned, sterilization may not be achieved²

2

PREPARING AND PACKAGING

- Separate instruments into functional sets or trays¹
- Jointed/hinged instruments should be in the open position so that all surfaces are exposed¹
- Rubber bands or tape should not be used to hold instruments together in a group²
- All instruments should be thoroughly rinsed and then dried before packaging or sterilization²
- Use a container system or wrapping that has received FDA clearance and is compatible with the type of sterilization process used¹
- An internal chemical indicator (CI) should be placed in every package. An external chemical indicator (e.g. chemical indicator tape) should be used when the internal indicator cannot be seen from outside the package¹
- Sterilization cycles should be verified for each sterilizer by the periodic use (at least weekly) of a biological indicator (e.g. spore test)¹
- For unwrapped loads, at a minimum, an internal chemical indicator should be placed in the tray or cassette with items to be sterilized¹

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STERILIZING

- Steam sterilization, which is dependable and economical, is the most widely used for wrapped and unwrapped critical and semicritical items that are not sensitive to heat and moisture¹
- Utility gloves are suggested for loading the sterilizer¹
- Use only FDA-cleared medical devices for sterilization and follow the manufacturer's instructions for correct use¹
- Handpieces can be contaminated internally with patient material and should be heat sterilized after each patient³
- Items to be sterilized should be arranged to permit free circulation of the sterilizing agent (e.g. steam)¹
- Pouches should be placed on edge.³
- Allow packages to dry in the sterilizer before they are handled to avoid contamination¹
- Items requiring the same cycle parameters (i.e. time, temperature) should be processed in the same load²

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MONITORING/ ASSURING STERILITY

- Use mechanical, chemical and biological monitoring to ensure effectiveness of the sterilization process¹
 - Results of biological monitoring should be recorded and sterilization monitoring records retained long enough to comply with state and local regulations¹
- ### MECHANICAL MONITORING
- Mechanical techniques for monitoring sterilization include assessing cycle time, temperature and pressure by observing the gauges or displays on the sterilizer and noting these parameters for each load¹
- ### CHEMICAL MONITORING
- Place a chemical indicator on the inside of each package¹
 - If the internal chemical indicator is not visible, place an exterior chemical indicator on the package¹
- ### BIOLOGICAL MONITORING/ SPORE TEST
- Biological indicators (i.e. spore tests) are the most accepted method for monitoring the sterilization process¹
 - Biological monitoring is recommended at least weekly and with all implantable devices¹
 - For table-top sterilization, a biological indicator should be run in a fully loaded chamber²

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STORING

- Storage, even temporary, of unwrapped instruments is discouraged because it permits exposure to dust, airborne organisms, and other unnecessary contamination before use on a patient¹
- Storage practices for wrapped sterilized instruments can be either date or event related¹
- Instruments should be stored in closed or covered cabinets¹
- Do not store instruments in an area where contaminated instruments are held or cleaned¹
- Before it is opened, the package should be inspected for the appropriate appearance of the external CI(s) and the physical integrity of the packaging²
- If packaging is compromised, the instruments should be recleaned, packaged in new wrap, and sterilized again¹
- Dental supplies and instruments should not be stored under sinks or in other locations where they might become wet¹

These tips are generally accepted practices as recommended by:

¹CDC Guidelines for Infection Prevention and Control Guidelines and Recommendations, [cdc.gov/oralhealth/infectioncontrol/guidelines/index.htm](https://www.cdc.gov/oralhealth/infectioncontrol/guidelines/index.htm)

²ANSI/AAMI ST79:2017, Comprehensive guide to steam sterilization and sterility assurance in health care facilities.

³CDC Guideline Updates for Disinfection and Sterilization in Healthcare Facilities, [cdc.gov/infectioncontrol/guidelines/disinfection/updates.html](https://www.cdc.gov/infectioncontrol/guidelines/disinfection/updates.html)

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

