
# Best Practices for Dental Equipment Sterilization and Disinfection

Adherence to best practices from the Centers for Disease Control and Prevention (CDC), the American Dental Association (ADA), the Joint Commission and manufacturers for sterilization of dental instruments after each patient use involves a multistep procedure that must be followed carefully to ensure that all microorganisms are destroyed, sterility is maintained, and patients are kept safe. Protocols for sterilization and disinfection differ according to the category of contamination.

Failure to adhere to such processes can lead to contamination of instruments and the spread of potentially deadly infections to patients, as evidenced by studies showing inconsistent compliance with sterilization guidelines and reported outbreaks of infections. For example, the Veterans Health Administration investigated two breaches that resulted in 500 patients testing positive for bloodborne pathogens, and 7,000 patients in Oklahoma were identified at risk for HIV and hepatitis due to pitted and rusted instruments, no monthly biological (spore) testing, no sterilization logs, and improper wrapping and storage of instruments. Other reported incidents include the use of a non-approved disinfectant and instruments that were rinsed and packaged but not sterilized.

Administration of a dental infection prevention program should be governed by a written policy and procedure that is reviewed annually. The dental sterilization procedure should cover monitoring and testing, providing an adequate number of instruments and devices (along with protective equipment) to ensure efficiency, eliminating cross-contamination, and ensuring safety for patients and staff.

The following checklist outlines the basic requirements for the sterilization and disinfection of dental instruments and patient care items. Health centers and free clinics can utilize the checklist to strengthen their organization's processes.

- ☐ Review the clinic's dental policies and procedures annually referring to CDC's most recent guidance on the basic expectations for safe care in dental settings. Consult CDC's complete guidelines for infection prevention in dental settings for the rationales and scientific evidence behind these policies and procedures.

- ☐ Assign and train one individual (see page 4) for the role of infection control and prevention coordinator to be responsible for managing, coordinating, and monitoring the dental infection prevention program. This person should be a readily available resource for other staff on the sterilization and disinfection process for dental instruments and equipment.

- ☐ Establish a dental management program (see page 8) that takes into account the number and capacity of sterilization equipment and instruments, patient volume, and dental appointment times. Allow ample time in the schedule to follow dental instrument manufacturers' recommended disinfection wait times and turnaround times for sterilization.

- ☐ Educate staff and providers, including contract and temporary staff, upon hire and annually about infection prevention and provide sterilization and disinfection training followed by competency checks (see page 93). Staff who have successfully demonstrated competency may be assigned to responsibilities involving the disinfection and sterilization of dental equipment. Retain training records per state and accreditation requirements.

- ☐ Train staff to assess dental instruments, devices, and equipment to determine whether sterilization or disinfection is required by categorizing as critical, semicritical, or noncritical (see page 12) based on the risk of microorganisms that could be transmitted. Monitor to ensure that single-use devices such as suction tips, saliva ejectors, cups, and clinical contact surface barriers are used only once and then discarded.

- ☐ Designate sufficient space for a centralized processing area with separate space for receiving, cleaning, and decontamination; preparation and packaging; sterilization; and appropriate storage (see page 75). The storage area should be clearly separate from the area where contaminated instruments are held or cleaned.

- ☐ In the processing area, provide signage that identifies dirty and clean areas, easy access to written procedures, step-by-step descriptions of tasks, checklists, and manufacturer instructions.

- ☐ Monitor the effectiveness of the sterilization process with mechanical indicators (e.g., temperature, time, pressure) and chemical indicators (e.g., color changes on tapes, tabs, packages) on every sterilization load. Directly test effectiveness with weekly sterilizer biological tests (spore testing) (see page 76). Log and retain the results of these quality checks according to state and local regulations.

- ☐ Develop a calendar or tracking system to ensure that weekly spore testing and routine cleaning, maintenance, and servicing of the cleaning and sterilizing equipment are completed according to the CDC guidelines and manufacturers' recommendations.

- ☐ Standardize the dental infection prevention program criteria using the basic expectations for safe care, regularly audit adherence to the reprocessing procedure, include dental care in the quality program and provide feedback to the staff regarding their performance.

Want to learn more? See the Get Safe! checklist Preventing Transmission of Infectious Diseases in the Dental Clinic and the sample tools Managing Administrative Risks and

Dental Instrument Sterilization Workflow on the Clinical Risk Management Program website. All resources are provided for FREE by ECRI Institute on behalf of HRSA. Don't have access or want to attend a free, live demonstration of the website? E-mail Clinical_RM_Program@ecri.org or call (610) 825-6000 ext. 5200.

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