ACE Panel Report

Reprocessing of Rotary Cutting Instruments

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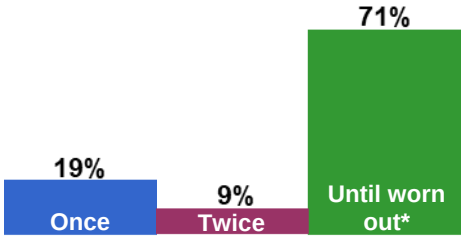
Survey Results

Data reflects the responses of 345 ACE Panel member dentists in the United States.

Usage Rate of Rotary Cutting Instruments



*90% of respondents report decreased cutting efficiency as the primary indication that a bur has worn out.

Commonly Used Methods for Cleaning

67%	Ultrasonic Bath
12%	Manual Scrubbing
6%	Automated Instrument Washer

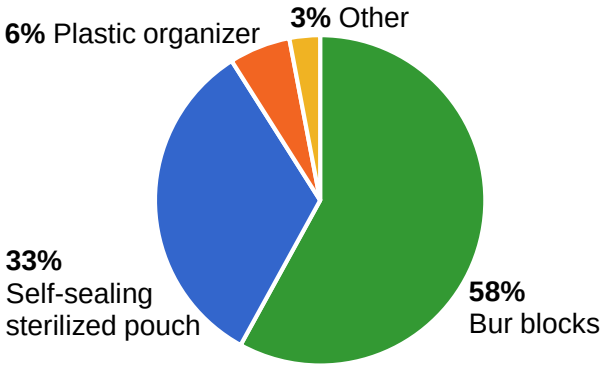
4% of respondents use chemical cleaning, 4% use debriding stone and 7% specified other methods

Preferred Sterilization Methods

85% of respondents use steam sterilization

15% of respondents use dry heat, chemical vapor, or cold sterilization

Storage Approaches After Sterilization



Clinical Insight: Considerations for Cleaning Multiple Use Dental Instruments

Cleaning is defined as the *removal of potential contaminants* from an item to the extent necessary for further processing or for intended use[1]. **Disinfection** is the process to *reduce the number of viable microorganisms* to a level previously specified as being appropriate for a defined purpose[2]. **Sterilization** describes a process that *destroys or eliminates all forms of microbial life* and is carried out in health-care facilities by physical or chemical methods[3]. Without proper cleaning, residual debris on reusable instruments may still be retained and may impede the downstream process of disinfection and/or sterilization. Accordingly, microbes or proteinaceous material that remain on improperly cleaned dental instruments may cause inflammation or infection in the body. Additionally, organic material not completely removed from rotary instruments may greatly reduce their cutting efficiency. Hence, cleanliness is paramount to maintaining safe and effective instrument processing. The following insights include some considerations for cleaning multiple use rotary cutting instruments.

- ❑ The primary indicator for discarding a multiple use instrument is wear and decreased cutting efficiency. Embedded material covering part or all of the diamond surface or edges on the flutes of carbides, may impede the instrument from effectively gripping and cutting the tooth. Proper cleaning is essential for maximizing the use and efficiency of rotary cutting instruments.
- ❑ Presoaking instruments helps prevent drying of debris and helps soften or reduce the amount of contaminants on the instruments. It is best to purchase instruments with clearly defined cleaning instructions from the manufacturer.
- ❑ Upon adequate cleaning, multiple use rotary cutting dental instruments should be immediately used after sterilization or retained in sterile, sealed packaging to prevent external environmental contamination.

1. ASTM F3127-16 Standard Guide for Validating Cleaning Processes Used During the Manufacture of Medical Devices. 2. ISO 17664:2017 Processing of health care products -- Information to be provided by the medical device manufacturer for the processing of medical devices. 3. Centers for Disease Control and Prevention Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.