

# Keep Your Low Speed at Optimal High Performance

Anita H. Daniels, RDH\*

With today's technological advancements in low-speed handpieces, fatigue and operator strain during polishing procedures have been greatly reduced. Many of the lightweight, ergonomic designs available have features such as swivel connections that provide smooth rotation and prevent cord drag, quick disconnection of the cord for sterilization, and less heat buildup for maximum comfort. They are generally easier to maintain and lube-free, however, not maintenance-free. To follow CDC Infection Control Guidelines,<sup>1</sup> handpieces are to be heat-sterilized after each use, however, many hygienists have only one motor/handpiece and therefore may follow the long-established practice of leaving it attached to the tubing, surface disinfecting it between patients, and/or covering it with plastic barriers.<sup>2</sup> According to a handpiece specialist,<sup>3</sup> "long-term, repeated exposure to surface disinfectants can result in a pitted, corroded surface, dried out gaskets, a significant build up of plastic shavings, and sludge in the collet mechanism." These adverse conditions can lead to air leaks, loose-fitting disposable prophylaxis angles (DPA), DPA failures, and variability in handpiece speed control and torque. A typical fee for cleaning and repair can range from \$150 to over \$200, and the absence of the handpiece while it is out for repair.

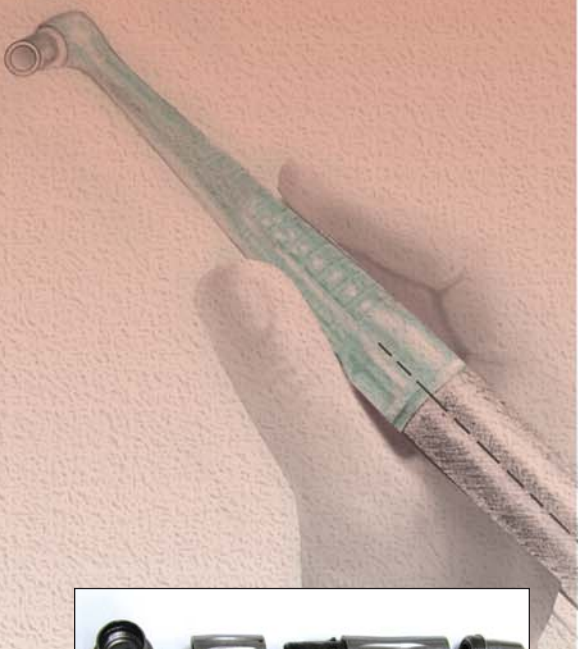
What can be done to avoid handpiece breakdown and costly repairs? First of all, it is recommended that users have at least two motors, preferably three, so they can be rotated through the proper asepsis and sterilization process. With one handpiece and a busy schedule, proper asepsis may not be possible. At the very least, users can clean the motor/handpiece a few times a week, prior to autoclaving, by pushing a brush (ie, a proxa-brush) into the opening of the nose cone. This step will help prevent the buildup of melted plastic shavings inside the nose cone from the disposable prophylaxis angle shaft and from the plastic barrier sleeve when the angle is pressed-to-place. To eliminate these problems, one disposable angle, ēsa™ (Preventech®, Matthews, NC) replaces the nose cone (ie, metal connector) when attached to the ēsamate® motor (ie, a closed "gear-to-gear" connection), thus eliminating the need to clean, lubricate, sterilize, cover, and/or repair that part of the handpiece.

Following the manufacturer's guidelines provided with each new handpiece and complying with the asepsis procedures recommended by the CDC for dental handpieces will reduce the risk of internal contamination of low-speed motors and optimize performance and thus avoid costly repairs.

## References

1. Centers for Disease Control, Guidelines for Infection Control in Dental Health Care Settings—2003, 36-37, 56. [www.cdc.gov/OralHealth/infectioncontrol/guidelines/index.htm](http://www.cdc.gov/OralHealth/infectioncontrol/guidelines/index.htm).
2. Andrews N. The low-down on slow-speed handpiece asepsis. *J Pract Hyg* 2006;15(1):14-15.
3. Correspondence with Craig Lindler, Handpiece Specialist, Lexington, SC.

*Photos courtesy of Craig Lindler, Handpiece Specialist, Lexington, South Carolina.*



**Figure 1.** A popular lube-free, low-speed assembled nose cone (bottom) and disassembled nose cone parts showing extensive dirt and debris prior to cleaning and repair.



**Figure 2.** Disassembled nose cone post repair and cleaning. Note the residual plastic barrier pieces on the explorer tip and the internal dirt and debris removed by the cotton swabs.

\*Editor-in-Chief, the *Journal of Practical Hygiene*, Adjunct Clinical Instructor, Department of Dental Implants, University of Miami School of Medicine, Coral Gables, Florida; practicing hygienist and international speaker.