

# Maintaining Diamond Blades

Three manufacturers share pearls for the care of these keratomes.

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Cataract surgeons who favor a diamond keratome value its strong, keen, reusable blade. Because these knives are expensive, it is essential to ensure their appropriate care. *Cataract & Refractive Surgery Today* asked several manufacturers of diamond keratomes to share their advice on the maintenance of these instruments.

## CLEAN AND STERILIZE YOUR KERATOME

According to Accutome, Inc. (Malvern, PA), diamond knives can last for well over 2,000 cases when properly maintained. One way to keep them in good shape, according to ASICO LLC (Westmont, IL), is to sterilize the keratomes with their blades retracted at 134°C for 18 minutes. The company recommends fitting the sterilization filters with cushioned mats (eg, Sterilization Tray No. AST20; ASICO LLC), which come with each of the manufacturer's diamond knives. Keep the blade retracted until you are ready to use it and retract it again as soon as you are finished with the instrument.

Rinse the knife immediately after concluding the operation so that cellular and viscoelastic material does not build up on the blade. ASICO LLC recommends using distilled water and, if you wish, removing the dirt along the handle with a small, soft brush or moistened sponge. According to the company, it is important always to work toward the tip.

Accutome, Inc., discourages both wiping the diamond with any type of product and cleaning the knife with a metal or any abrasive material. Instead, the company suggests running the blade under tepid water for 1 minute and avoiding heavy water pressure. Retracting the blade and placing it in an ultrasonic cleaner with distilled water and one scoop of enzymatic powder for 2 to 3 minutes, according to the manufacturer, will break apart protein buildup on the blade. Diamond keratomes from

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Accutome, Inc., may be sterilized by any normal method if completely retracted, and the company suggests consulting the manufacturer of your sterilizing equipment for specific guidelines on temperature and time. In addition, Accutome, Inc., offers a deep cleaning service for all of its diamond blades. This process cleans the blade of protein and other buildup and helps to keep it performing at its maximum cutting level. A portable steamer is another option for cleaning the blade after surgery. Again, the company recommends using only distilled water.

According to Mastel Precision, Inc. (Rapid City, SD), it is worthwhile to invest in an effective cleaning system. It suggests the sets that have three compartments of foam and cleaning solutions that it helped to develop years ago. Per the company, ultrasound works, but it is cumbersome and offers a line-of-sight action only. Moreover, the manufacturer reports that submerging a handle in an ultrasonic cleaner with the blade retracted does little to clean it, loads up the internal mechanism with fluids (perhaps not perfectly clean to begin with), and sets up corrosion on ferrous alloy-based instruments. Mastel Precision, Inc., recommends concentrating on cleaning the diamond while it is exposed, rinsing it thoroughly before retracting the blade, and paying little attention to the handle other than periodically rinsing it.

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### ISOLATE YOUR KNIFE

Contact with other instruments can damage a diamond knife. When you set it down, the keratome should not roll around, and its blade should not be exposed. Instead, put the diamond knife back in its case or on a surface designed to hold it in place. According to Mastel Precision, Inc., even a retracted blade can be damaged if a proximal instrument on the tray enters the keratome's distal tip. Similarly, a grommet from the tray could break the blade. Once you have finished cleaning the keratome, ASICO LLC recommends storing it in a sterilization box until the next procedure.

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### BE PROPRIETARY

The more people who handle a diamond blade, the more opportunities for it to become damaged. Mastel Precision, Inc., suggests that surgeons all have their own sets and assume personal responsibility for advancing, retracting, and cleaning the diamond each time. This approach avoids finger pointing—and subsequent disgruntlement among the surgeons and OR staff—once a diamond blade has sustained damage.

### STAY SHARP

Using a dull blade leads to complications, according to Mastel Precision, Inc. The company recommends regularly scheduling the keratome's maintenance in order to check the mounting, diamond, and handle. Be sure to send damaged knives out for repair promptly. When properly cared for, the manufacturer reports, diamond keratomes are the most cost-effective scalpels available. ■

*For information on the diamond knife collection from Accutome, Inc., call (800) 979-2020 or visit <http://www.accutome.com>.*

*For information on the diamond knife collection from ASICO LLC, call (800) 628-2879 or visit <http://www.asico.com>.*

*For information on the diamond knife collection from Mastel Precision, Inc., call (800) 657-8057 or visit <http://www.mastel.com>.*