



Diamond Knife and Instrument Care and Handling Guide

Rev -

 **ACCUTOME[®]**
A HALMA COMPANY

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A Guide to Proper Care and Handling of Ophthalmic Surgical Instruments

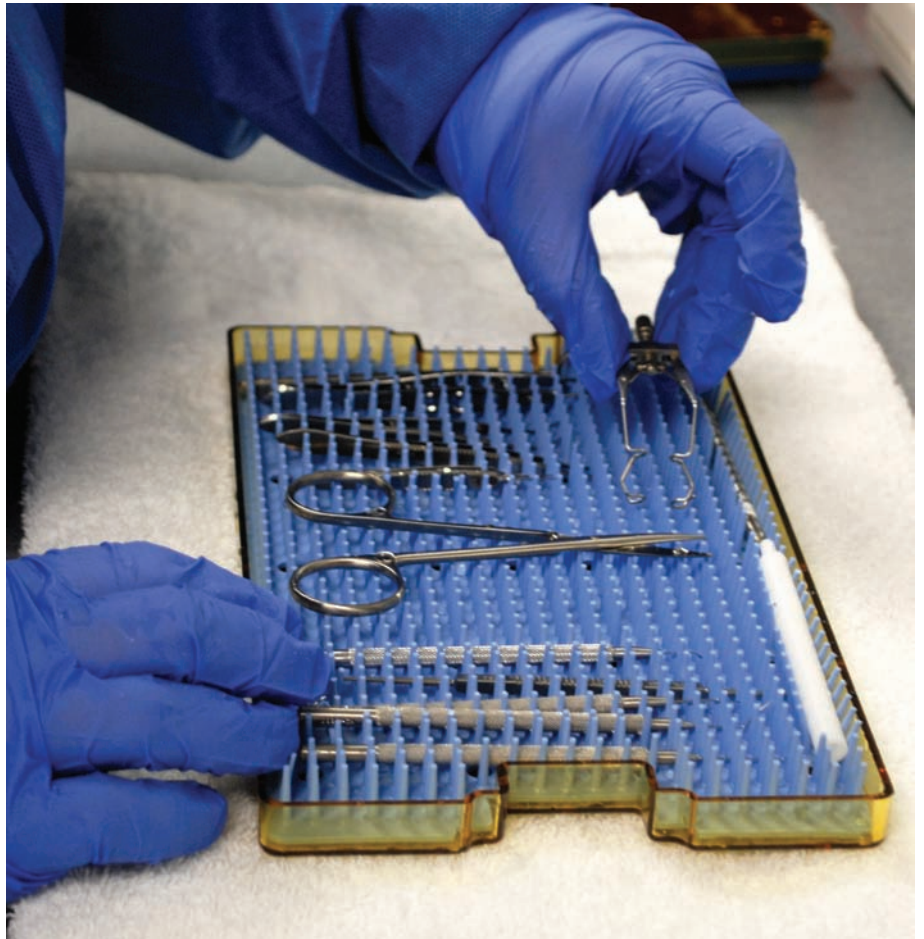
Accutome makes every effort to ensure that the instruments you receive are to their original specifications. However, it is best practice to inspect any instrument before preparing it for use in surgery. After carefully removing your new instrument, inspect it under a microscope to make sure there are no manufacturer inconsistencies or defects. If this is not available, a lighted magnifier may offer you a closer look. Any discrepancy should be repackaged and returned by obtaining a Return Authorization (RA) from our customer support at (800) 979.2020.

All instruments, even new out of packaging, must be prepared for surgery using the same methods each and every time. Keeping instruments moist with sterile H₂O during decontamination is the key to keeping them in mint condition. Special instrument wipes can be used to remove bioburden, BSS and viscoelastic material from the surface (Accutome offers instrument wipes, AX15383). If the instruments become dry, the decontamination process is difficult and may result in damage to the instrument.

Proper cleaning and decontamination is essential for effective sterilization. A sterilization process will not be effective if debris is dried and bioburden is trapped in the lumens. A simple rule to follow is that you cannot have a sterile instrument if it has not been completely cleaned.

The basic guidelines to reprocessing are:

- *Starting the precleaning process on the surgical field.*
- *Manual cleaning in decontamination suite with neutral pH surgical cleaners.*
- *Ultrasonic cleaning in a heated unit, ideally emptied after each set, dedicated to ophthalmic instruments only. Demineralized/Distilled H₂O ONLY.*
- *Inspection with microscope or powerful magnification.*
- *Drying the instruments with a compressed air gun.*
- *Assembling onto a tray with finger mats and opaque, vented instrument tips.*
- *Sterilization and dry time according to your manufacturer's recommended guidelines.*
- *Cooling of sterilized trays before storage.*
- *Proper storage locations.*



Silicone mats securely hold instruments.

Manual Cleaning

1. Remove excess soil from instruments with a moistened, sterile Accutome Instrument Wipe (AX15383). These non-shedding sponge wipes are designed specifically for cleaning delicate instruments while on the surgical field.
2. Rinse all instruments in the surgical tray with demineralized water, including those that were not used.
3. Keep used instruments submerged in a plastic basin filled with sterile water until further cleaning is possible.
4. Start the manual cleaning process with neutral pH cleaner and distilled H₂O. **Never use tap H₂O on an ophthalmic instrument.** Soft brushes and syringes to irrigate may be utilized. Irrigated fluids from the syringe should be deposited into the sink and not back into the ultrasonic cleaner. Ensure all instruments are disassembled and all jaws are open. Do not use metal brushes, steel wool, abrasive powders or bleach to clean instruments. These will damage the finish of the instruments, making them susceptible to corrosion.



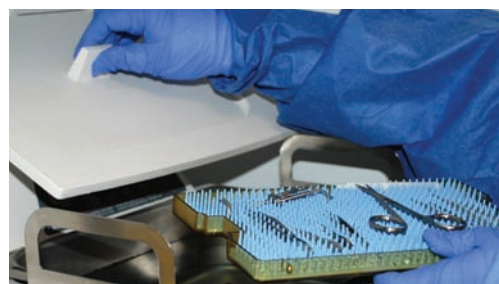
Flush with demineralized water



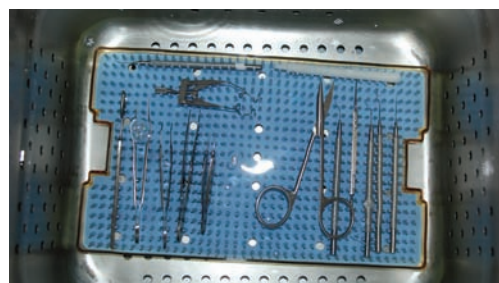
Soft brush for manual cleaning

Ultrasonic Cleaning

1. Accutome recommends that you dedicate an ultrasonic cleaner to be used only for ophthalmic instruments. Mixing other specialty instruments with eye instruments could promote TASS (Toxic Anterior Segment Syndrome).
2. Distilled water for ultrasonic cleaning should be heated to maximize its cleaning effect. Water temperature of about 150°F (65°C) is adequate for this purpose.
3. Continue to use a neutral pH detergent. Accutome offers a neutral detergent for your convenience (AX15579). Enzyme is NOT recommended for ophthalmic surgical instruments. If not properly removed, enzyme can digest corneal epithelium cells.
4. Sort instruments by similar metal so that contact between dissimilar metals will not occur (Electrolysis).
5. Prevent instruments from touching each other. This protects tips and provides better cleaning to all surfaces.
6. Place the instruments in a perforated tray and completely submerge the tray in cleaning solution. Run cycle according to your ultrasonic cleaner manufacturer's IFU guidelines.
7. Check manufacturer guidelines for ultrasonic cleaner preventative maintenance. If it is not cavitating properly, it is not cleaning your instruments.
8. After cleaning the instruments, thoroughly rinse with demineralized H₂O, flush lumens and dry instruments with a compressed air gun and lint-free cloth.



Visually inspect the water in the bath



Do not place instruments on metal basin



Thoroughly rinse instruments with demineralized water

Inspection

- Visibly inspect each instrument for debris and damage under magnification.
- Remove damaged instruments from the set. Accutome provides repairs on delicate instruments as well as replacement instruments. Accutome provides quick turn around time and can cross reference any brand of instrument. To send instruments for repair, call (800) 979.2020 for a Repair Authorization (RA). We do our own Diamond Knife repairs at Accutome and can reconfigure diamonds to your specifications.
- We recommend keeping instrument replacements so that your tray can stay in circulation and you can avoid the need to use the Immediate Use Steam Sterilization (IUSS) process. If interested in purchasing back up instruments, contact your Accutome surgical representative for availability and pricing.



Examine instruments under magnification

Lubrication



*MetriLube
AX13094*

- Instruments with moving parts, box locks and joints should be checked to make sure they move freely.
- The lubricant must be able to withstand the high temperatures of steam autoclaving and should be an oil based, non silicone formula. Accutome carries Metrilube for your convenience (AX13094).
- Do not lubricate all of the eye instruments. Corrosion can hide under the lubrication and cause extensive damage to the metals. Therefore, the instrument must be completely free of bioburden before application.

Sterilizing

We recommend that you sterilize your Accutome surgical instruments using the steam autoclaving procedure that is regularly used in hospitals and surgery centers. The following table provides the suggested cycles based on AAMI and AORN recommended practices. However, Accutome does not recommend IUSS.

Steam Sterilization Cycle	Preparation	Exposure Time (Minimum Time)	Temperature	Drying Time (Minimum Time)
Gravity Displacement	Wrapped	15 minutes	132 °C/ 270 °F	20 minutes
Pre-Vacuum	Wrapped	4 minutes	132 °C/ 270 °F	20 minutes
Pre-Vacuum	Wrapped	3 minutes	134 °C/ 273 °F	20 minutes
IUSS	Unwrapped	3 minutes	132 °C/ 270 °F	N/A

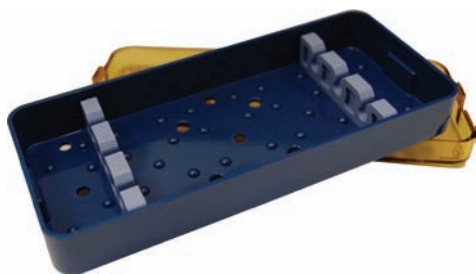
NOTE: Consult the manufacturer of your steam autoclave to confirm appropriate temperatures and times. All changes require validation.

- Do not use IUSS to save time or as a substitute for standard instrument reprocessing. IUSS is designed to manage unanticipated, urgent needs for instruments during an emergency.
- Follow IFU and PM guidelines from your sterilizer manufacturer.

Storage

Accutome offers a variety of cases, made of plastic or aluminum, to accommodate one instrument or a complete set.

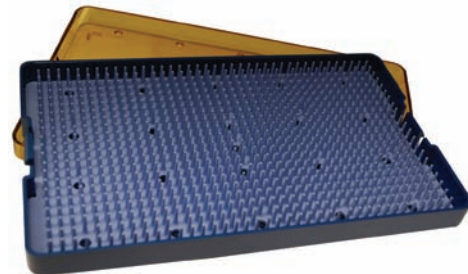
All trays by Accutome include silicone "finger" mats to hold each instrument in place. The mats can be cut with scissors to accommodate instruments of any size (i.e. Lieberman speculums).



AT0200 - Small plastic Diamond Knife sterilization tray, 6"x 3"x 3/4"



AT0210 - Small plastic instrument sterilization tray, 6"x 2.5"x 3/4"



AT0190 - Medium plastic instrument sterilization tray, 6"x 10"x 3/4"

For additional tray sizes and configurations contact your Accutome surgical sales representative.

Handling

- We recommend storing instruments in the same container in which they will be sterilized. Make sure there is plenty of space and consider there may be additional instruments added to the tray in the future.
- Always store and sterilize diamond knives in a separate tray (See above for tray options).
- Store occasional use instruments in separate small trays, peel pouched and ready for use. This prevents needle holders, tying forceps and other delicate instruments from being decontaminated and reprocessed when not used.
- Keep delicate tips protected with tip guards when the instrument is not in use. Accutome provides a line of color-coded protective tip guards in various sizes with venting (a sterilization requirement). Contact your Accutome surgical sales representative at (800) 979.2020 for more information and pricing.



AX11288



AX13979



AX11208



AX15047



AX12025



AX10807

Repairs

Accutome's surgical instruments are manufactured by skilled instrument experts. We stand by our exceptional quality and repair programs including hand held instruments, diamond knives and phaco handpieces from all manufacturers. For expert evaluation and repairs, please contact Accutome at (800) 979.2020.

Understanding Staining, Rusting and Corrosion

Rust “never sleeps” and will leave permanent damage, but general stains can be removed. Look for the following signs first in order to evaluate your instrument issues:

- **Light and dark spots-** could be caused by mineral deposits from water spots if instruments are allowed to air dry and demineralized water is not used (*tap H₂O and air drying*).
- **Dark brown/black stains-** could be caused by exposure to dried blood, inappropriate detergents, or acids (*proteins and high pH*).
- **Blue-black stains-** could be caused by different types of metal being processed together in the ultrasonic cleaner or steam autoclave sterilizer (*single use instruments, titanium*).
- **Black stains-** could be caused by exposure to acids, ammonia, or bleach (*all high pH, corrosive*).
- **Brown/orange stains-** these stains can indicate rust. A simple way to find out is to rub a pencil eraser on the stain. If this reveals a pit mark, it is rust. However, if the metal underneath is smooth, the stain may have been caused by baked-on blood, saline solution, cold sterilization solution, or inappropriate detergents (*high pH, bioburden, proteins*).

Accutome Cleaning Devices

It is important that all surgical instruments are thoroughly cleaned and/or sterilized. Accutome offers a wide variety of high quality cleaning and sterilization devices in various sizes and options to meet your needs. Our cleaning device line includes steamers, sterilizers, ultrasonic cleaners, and diamond knife cleaning kits. Please contact your Accutome surgical sales representative at (800) 979.2020 for more information and pricing on any of our cleaning devices.



Ultrasonic Cleaners



Sterilizers



Steamers



Opti-Kleen Diamond Knife Cleaning Kit

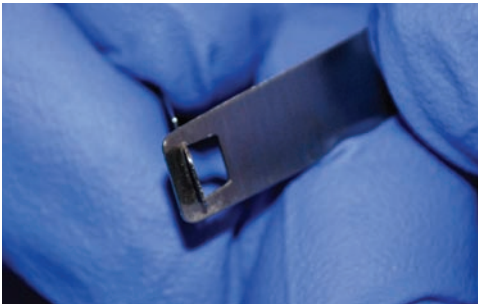
Care of Aspirating Instruments



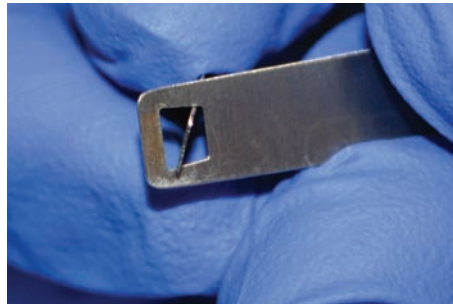
- Accutome only recommends the use of single use cannulas in conjunction with the recommendations from the CDC, AAMI and AORN.
- When cleaning aspirating instruments, clean from the smallest port to the largest opening.
- Start the cleaning process by submerging the instrument in water and irrigating it with a syringe before using the ultrasonic cleaner.
- Use forced compressed air to dry the lumen.
- In the event the tips become clogged call Accutome at (800) 979.2020 to get an evaluation for repair.

Spring Handled Instruments

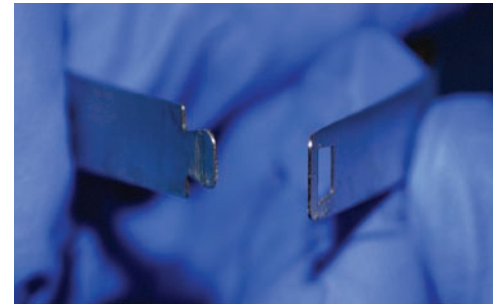
Accutome recommends disassembling the spring hinge for easy access to clean the box lock.



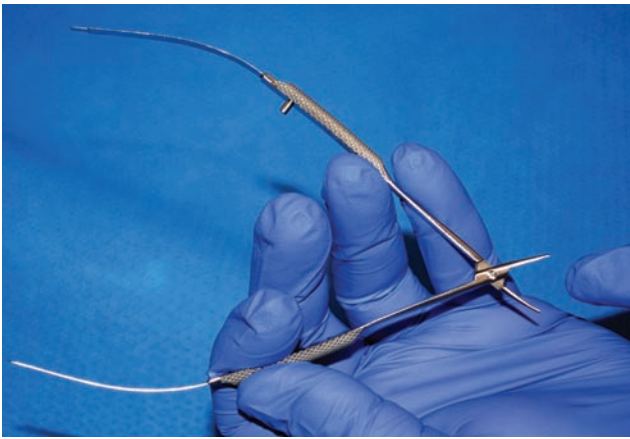
Grasp instrument by springs



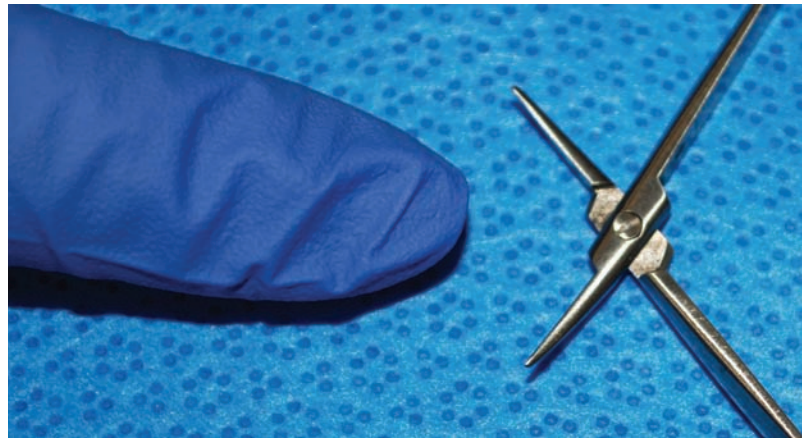
Turn spring with tab 45°, aligning with corners of box



Gently pull tab end through box



Carefully spread handle open up to 45°



Remove all debris around pin or screw area

Opti-Kleen Diamond Knife Blade Cleaning System

1. Expose the blade and gently insert it into the large, blue cleaning pad. Swipe gently, about 1 to 2 inches in a straight line. Using a vertical motion, make several passes to remove stubborn debris. Move the blade with a cutting motion through the block; advancing the cutting edge and not the blunt edge. It is best to start the process on the left side of each cleaning pad and move to the right every time you clean a blade.
2. Once the blade has been cleaned in the blue pad, insert it into the first white rinse pad and make a few passes.
3. Repeat the process in the second white cleaning pad.
4. Rinse the blade and handle with distilled/deionized H₂O.
5. The unit can be used throughout the day. Discard the unit at the end of each surgical day according to your managed waste laws.
6. Carefully retract the blade into its protective handle and place it into your diamond knife sterilization tray.
7. To clean the handle place the diamond knife in the sterilization tray and immerse into an ultrasonic cleaning unit.



Opti-Kleen Diamond Knife Cleaning Kit (AX11396)

Diamond Knife Ultrasonic Cleaning

1. Accutome recommends to decontaminate your diamond knife with a diamond knife cleaning system, such as Opti-Kleen, before using an ultrasonic cleaner.
2. Place the knife (with blade in the fully retracted position) in an ultrasonic unit filled with warm distilled/deionized H₂O (150°F) along with a neutral pH cleaner for two (2) to three (3) minutes. The knife may be fully immersed with the blade fully retracted in a small ophthalmic dedicated ultrasonic cleaning unit. It is best to put the diamond knife in its dedicated tray with finger mats to reduce vibration.
3. After ultrasonic cleaning is complete, rinse knife under distilled/deionized H₂O to remove remaining residue from the blade. Do this for 30 seconds on each side of the blade while the blade is exposed. Blade should not be extended beyond footplate for Radial Keratotomy (RK) knives. Do not use heavy water pressure; a small stream of water is adequate. Point the front of the knife down when flushing. Retract blade and rinse the handle.
4. Inspect diamond knife blade under microscope.
5. Place the diamond knife back in the dedicated tray and dry with compressed warm air at low pressure.
6. Sterilize by steam methods.

Diamond Knife Steam Cleaning

1. Immediately after surgery clean your diamond knife. Angle the diamond tip in a downward slant and away from you. The blade should be approximately one inch away from the steamer spout.
2. Steam each side of the blade for approximately 8 seconds. If there is still debris on the blade repeat the steam process on each side of the blade.
3. Retract the blade. Hold the knife at the end of the handle (the knob) and steam the handle to clean.
4. After steam cleaning, rinse knife under distilled/deionized H₂O to remove remaining residue from the blade. Do this for 30 seconds on each side of the blade while the blade is exposed. Blade should not be extended beyond footplate for Radial Keratotomy (RK) knives.
5. Place retracted diamond knife into the dedicated tray and continue with ultrasonic cleaning guidelines above.
6. Inspect diamond knife blade under microscope.
7. Sterilize knife by steam methods listed below.

Minimum Cycle Times for Gravity-Displacement Steam Sterilization Cycles

Item	Exposure Time (at 250°F or 121°C)	Exposure Time (at 270°F or 132°C)	Exposure Time (at 275°F or 135°C)	Drying Time
Wrapped Instruments	30 minutes	15 minutes	10 minutes	15-30 minutes

Minimum Cycle Times for Dynamic Air-Removal Steam Sterilization Cycles

Item	Exposure Time (at 270°F or 132°C)	Exposure Time (at 275°F or 135°C)	Drying Time
Wrapped Instruments	4 minutes	3 minutes	20-30 minutes

NOTE: Accutome does not recommend or support the use of immediate use steam sterilization (IUSS) for these delicate instruments.

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800.979.2020 • 610.889.0200
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Accutome, Inc.
3222 Phoenixville Pike • Malvern PA 19355 USA



EMERGO EUROPE
Molenstraat 15
2513 BH, The Hague
The Netherlands