



# CARE INSTRUCTIONS FOR NON- POWERED SURGICAL INSTRUMENTS



<b>INTRODUCTION .....</b>	<b>3</b>
<b>SURGICAL INSTRUMENTS. GENERAL INSTRUCTIONS .....</b>	<b>4</b>
<b>DIAMOND KNIVES .....</b>	<b>7</b>
<b>BEEHLER PUPIL DILATOR.....</b>	<b>9</b>
<b>ASPIRATING CANNULAS, ASPIRATING SPECULUMS AND BIMANUAL INSTRUMENTS.....</b>	<b>11</b>
<b>STOLTE IOL CUTTER .....</b>	<b>12</b>
<b>VITREORETINAL INSTRUMENTS.....</b>	<b>13</b>

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## **CARE INSTRUCTIONS FOR NON- POWERED SURGICAL INSTRUMENTS**

**Although all Titan Surgical Instruments are manufactured of high quality titanium and stainless steel, regular maintenance is very important to guarantee a long life to all products.**

**Please read all information contained in this brochure. Incorrect handling and care as well as misuse can lead to premature wear of surgical instruments.**

**All persons using this device should be knowledgeable in the use and handling of surgical instruments, accessories and related equipment.**

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## **SURGICAL INSTRUMENTS. GENERAL INSTRUCTIONS**

### **INITIAL USE OF NEW INSTRUMENTS**

Every instrument must be cleaned and sterilized before it is used for the first time.

### **INSPECTION AND FUNCTIONAL CHECK**

It is very important to carefully examine each surgical instrument for breaks, cracks or malfunctions before use. It is especially essential to check areas such as blades, points, stops, snaps and all moveable parts.

**Don't use damaged instruments.** Never attempt to make repairs yourself. Service and repair should be referred to trained qualified persons only. Refer questions about repair to Titan Surgical.

### **CLEANING**

1. Inspect instruments for corrosion, soil and damage.

**Important:** Do not allow debris and soil to dry on the instrument.

2. Rinse under cold water for about 30 seconds.
3. Soak instruments in neutral pH solution (follow its instruction).

**Important:** Do not use solutions containing chlorine or chlorides, it may cause corrosion or damage the instrument.

4. Clean all instruments with soft brush or scrubbing cloth. Pay attention to joints, locks, tubes and slots.

**Important:** Do not use metal or solid brushes, abrasive powders in order to avoid damage of instrument's surface.

5. Flush items with a lumen using syringe with distilled water.
6. Rinse under distilled water for about 30 seconds.
7. Place the instruments in ultrasonic bath and use it according to the instructions of your ultrasonic cleaner. Make sure that all instruments are immersed in the cleaning solution (If ultrasonic cleaner is not available, blow instruments with forces air or dry with lint free cloth).

**Important:** Do not allow instruments contact each other.

Sort instruments by similar metal.

Use a silicone mat, do not place instruments on the surface of the basin.

Change the solution before it gets visibly soiled, clean ultrasonic cleaner at least once a day.

8. Rinse under distilled water for about 30 seconds.
9. Blow instruments with forced air or dry with lint free cloth.

**STERILIZATION**

Use steam autoclaving procedure to sterilize the instruments.

**Important:** Make sure the instruments are cleaned before sterilization.

Use flash sterilization only in the emergency if the instruments are needed immediately after sterilization.

**Minimum Cycle Times for Gravity-Displacement Steam Sterilization Cycles**

Item	Exposure time at 121°C (250°F)	Exposure time at 132°C (270°F)	Exposure time at 135°C (275°F)	Drying times
<b>Wrapped</b>	30 minutes	15 minutes		15-30 minutes
<b>Unwrapped</b>		3 minutes	3 minutes	0-1 minute

**Minimum Cycle Times for Dynamic-Air- Removal Steam Sterilization Cycles**

Item	Exposure time at 132°C (270°F)	Exposure time at 135°C (275°F)	Drying times
<b>Wrapped</b>	4 minutes		20-30 minutes
<b>Unwrapped</b>	3 minutes	3 minutes	NA

## Minimum Cycle Times for Standard Gravity-Displacement Flash Sterilization

Item	Exposure time at 132°C (270°F)	Exposure time at 135°C (275°F)
<b>Nonporous Items</b>	3 minutes	3 minutes
<b>Combination of Nonporous Items, Porous Items, Items with Lumens</b>	10 minutes	10 minutes

### **STORAGE**

1. You may use sterilization trays to store the instruments.
2. Protect delicate tips with soft silicone tubes.
3. Store diamond knives in separate containers.



## **DIAMOND KNIVES**

### **CLEANING**

After using the knife during the operation it is necessary to do the following:

1. The blade should be flashed off with the distilled water through the syringe as soon as possible.
2. It should be wiped without any pressure with the surgical sponge moistened with the neutral PH detergent. Do it only along the edges and the sides of the blade toward the point. Never wipe the blade away from the point of the blade.
3. It should be washed with the distilled water again.
4. It should be rinsed in the 70% alcohol.
5. It should be washed with the distilled water once again.
6. The cutting edge of the knife should be examined through a microscope to be sure it is clean.

If you see the opaque or cloudy film on the blade (blood or cellular debris) the procedure of cleaning must be repeated but in this case the blade should be wiped with the full strength hydrogen peroxide.

You can also use the steam cleaner (19-010) for the cleaning procedure.

**Important:** Never wipe the blade with cotton wool or any other fabrics.

**Important:** Do not knock or rub the blade with any metal parts of the medical instruments or any surgical fabrics (cotton wool, cotton cloth, etc.) during the operation or storage.

**Important:** Never use ultrasonic method for cleaning our blades. In this case super thin edge of the blade may be damaged and the guarantee cannot cover these cases.

### **Titanium handle**

The handle of the knife should be cleaned with a soft brush and dried with a facial quality tissue or a hot air dryer. Hydrogen peroxide may discolor titanium handles.

To restore the original blue lustre, wipe the surface with alcohol.

### **STERILIZATION**

Diamond knives can be gas or steam sterilized.

### **STORAGE**

Diamond knives should be stored in special sterilization trays and sterilized separately from other instruments.

### **GUARANTEE**

The warranty-covered period of a diamond knife is 2 years from the date of its purchase. The defects resulted from the severe damage of the mechanical part and the fracture and chopping of the cutting edge of the diamond blade are not accepted.



## **BEEHLER PUPIL DILATOR**

### **CLEANING**

1. Make sure the microfinger prongs are retracted into the handle.
2. Hold the Beehler Pupil Dilator firmly with two hands and twist the back of the handle in a counter clockwise direction.
3. The Beehler Pupil Dilator will now be in two pieces. Take a syringe and flush the first part of the dilator with clean distilled water or a water/hydrogen peroxide solution. You may also use the syringe to flush the opening of the thumb button. Please do not use saline or other solutions that will leave particulates.
4. Extend the prongs and check for residual debris. If there are any particles, retract the prongs and soak in an enzymatic solution and/or ultrasonic cleaner and then flush with distilled water. Do not use a brush or sponge to clean the prongs.
5. Reassemble the Beehler Pupil Dilator and sterilize using your regular method of sterilization.
6. It is very important that the moving mechanism is flushed with dean distilled water or water/hydrogen peroxide solution only.

Other solutions may leave particulates as it dries that will impair the performance of the delicate instrument.

### **Important:**

1. The Tip of the Beehler Pupil Dilator is introduced into the anterior chamber under viscoelastic with the instrument oriented parallel to the incision.
2. After entering the Beehter Pupil Dilator is turned 90 degrees and engages the pupil margin.
3. As the tip of the Beehler Pupil Dilator and the hooked pupil are withdrawn, extend the prongs of the Beehler Pupil Dilator by pushing the thumb button forward.
4. At this time the cups on the microfinger prongs of the Beehier Pupil Dilator will

engage the pupil margin one by one.

5. Continue to extend the microfinger prongs as far as it will extend. You will be enlarging the pupil at three or four points on the style dilator used.

6. After the Beehler Pupil Dilator is fully extended, retract the microfinger prongs by sliding the thumb button backwards.

7. Disengage the Beehler Pupil Dilator by centering the tip and remove from the eye.

**ASPIRATING CANNULAS, ASPIRATING SPECULUMS AND BIMANUAL INSTRUMENTS**

**CLEANING**

**Important:** Always clean in the direction from smallest to largest openings.

The best way to clean and maintain instruments that aspirate is to properly remove any debris remaining inside. This can be accomplished by submerging its small port(s) in demineralized water and aspirate into a syringe. Flushing in this direction prevents debris from occluding the small ports. Any instrument which becomes clogged should be sent to Titan Surgical for repair.

Cannula Gauge	Minimum Flush Volume*	Minimum Drying Volume**
25-30	5ml	10ml
19-24	10ml	10ml

Minimum amount of demineralized water to forcefully flush through the lumen during cleaning. If the cannula was used with heavy fluids (i.e. viscoelastics), continue flushing until demineralized water flows freely through the lumen.

Minimum amount of air to be forced through the lumen with a dry syringe following the flushing step. Compressed air, if available, may be substituted for a syringe.

## **STOLTE IOL CUTTER (OS 312)**

### **CLEANING**

1. Attach a 30ml syringe filled with demineralized water to the cleaning tube luer lock connector supplied with the instrument. Never flush with tap water or saline solutions.



2. Carefully place the silicone cleaning tube over the end of the instrument and attach to the front of the handle (Figure 1). Depress the syringe plunger to flush the instrument with the demineralized water.
3. Carefully remove the syringe from the cleaning tube connector and attach another 30ml syringe containing isopropyl alcohol. Depress the syringe plunger to flush the instrument with isopropyl alcohol and remove any remaining water.
4. Remove the syringe from the cleaning tube connector and attach an empty 30ml syringe. Depress the syringe plunger to flush the instrument with air to dry and remove any residual isopropyl alcohol. Compressed air, if available, may be substituted for a syringe.
5. Place the clean, dry instrument securely in a tray suitable for sterilization.

## **VITREORETINAL INSTRUMENTS**

**Important:** These instruments have a precision delicate mechanism inside. Intraocular fluids will enter this mechanism during surgery. If these fluids are not promptly and properly cleaned out, it will lead to corrosion and the possibility of instrument malfunction. Proteins may also accumulate inside of the mechanism.

### **CLEANING**

1. Unscrew the tip from the handle, then attach flushing adapter OVC 001.



2. Ultrasonically clean both parts, if possible.

3. Flush the tip with distilled or deionized water by connecting syringe filled with water to adapter.

4. Flush the tip with alcohol. This will remove the water and facilitate drying.

5. Dry the tip by forcing one or two syringes full of air through tip. Pressurized air is recommended, as it flushes out debris and fluid more efficiently than syringe forced air. Thoroughly dry handle, tip and cup.

6. Force special thermoresistant instrument milk through the tip.

7. Dry with air.

8. Handle should be soaked in distilled or deionized water for two minutes.

9. Dry with surgical sponge.

10. Lubricate joints in handle with instrument milk and work the mechanism. Attach the flushing adapter, to the instrument.

11. Flush the instrument by syringe with distilled or deionized water.