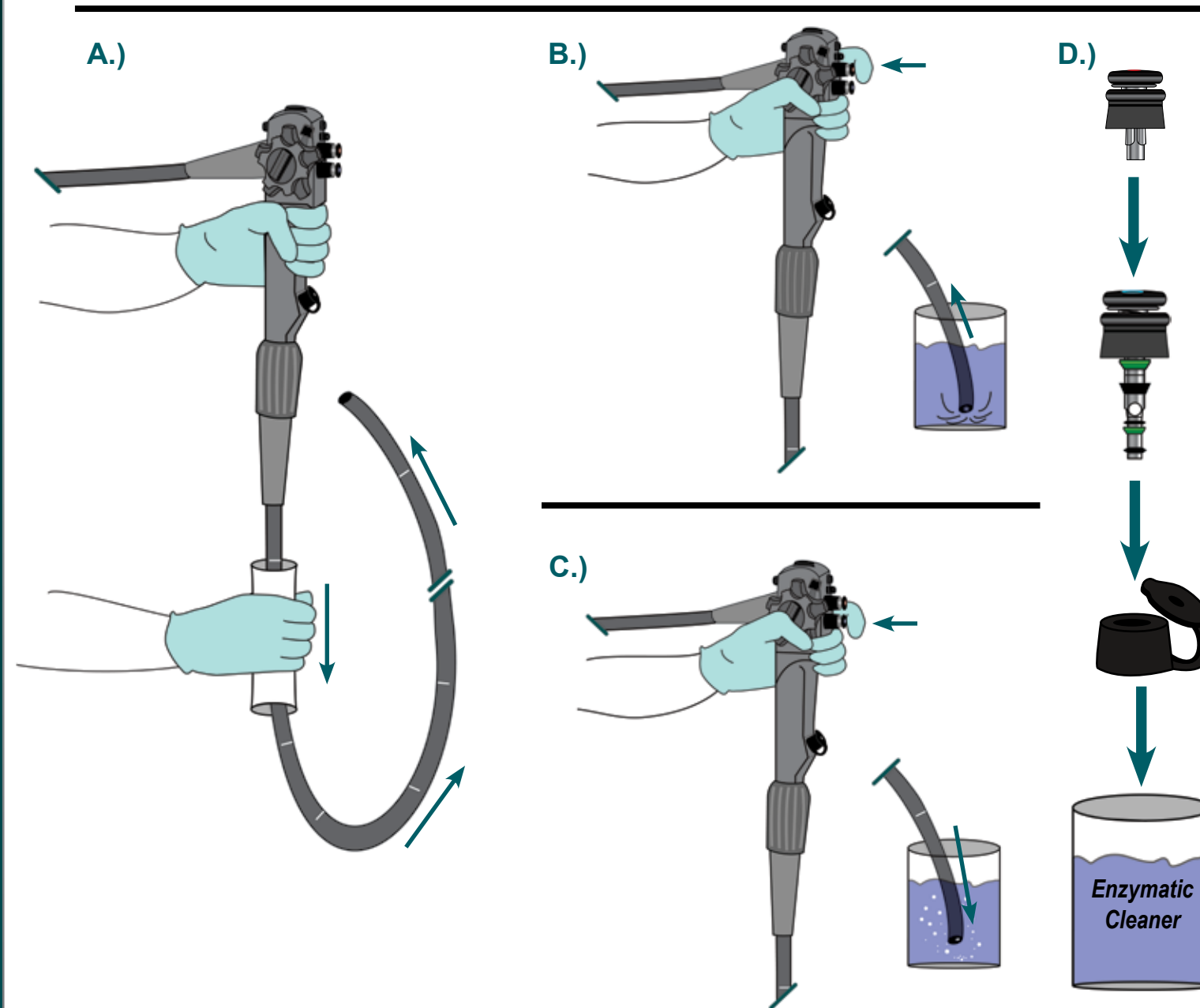


How to Thoroughly Clean and Disinfect Immersible GI Endoscopes

1. Pre-Cleaning

THIS STEP IS TO BE PERFORMED IN THE EXAMINATION ROOM.

- A.) **Wipe Insertion Tube** - Immediately after the procedure, wipe down the insertion tube with a clean soft cloth or gauze saturated with enzymatic detergent formulated for use with endoscopes.
- B.) **Aspirate Enzymatic Detergent Through Channel Systems** - Suction the enzymatic detergent solution through the endoscope. Dual-channel scopes require aspiration of detergent through both channels.
- C.) **Clear the Air / Water Channels** - Follow the manufacturer's instructions.
- D.) **Detach Removable Components** - Soak in detergent solution.
 - Air / Water Valve
 - Suction Valve
 - Biopsy Port Cap



2. Leak Testing

TO BE PERFORMED IN THE DECONTAMINATION AREA.

Always leak test per manufacturer's instructions found in the endoscope's owner's manual. If a leak is detected, you MUST keep positive pressure in the endoscope throughout the disinfection process either with a manual leak tester or an automatic leak testing unit (shown to right). Failure to do this could result in a costly fluid invasion of the scope.

- A.) **Perform a DRY Leak Test.** Prior to immersing into any fluid, a dry leak test needs to be performed. Visually inspect the water resistant cap for damage or wetness. If it is either, please use a different cap. Attach the water resistant cap to the endoscope. Never attach or disconnect this cap while the scope is immersed.

Attach the automatic leak testing unit (or manual tester) to the endoscope and introduce positive air pressure into the scope. Follow documented steps to ensure the fluid-tight integrity of the scope.



If using a manual tester (shown to left), pay close attention to the needle gauge for any significant movement that would indicate loss in pressure and a possible leak.

- B.) **Perform a WET Leak Test.** If there is a failure during the dry test with the automatic leak testing unit, a wet test is required to determine where the leak is located. Attach a manual leak tester (or maintenance unit) to the endoscope and continue constant pressurization.

Immerse the endoscope into a pan of clean water. Angulate the distal tip in all directions. Deflecting the tip will assist in exposing potential pin holes in the bending section rubber.

Wipe away any bubbles on the endoscope. If no additional bubbles are visible, the endoscope is air and fluid tight.

Note: If a leak is detected, to avoid further damage please contact Life Systems, Inc. for instructions on how to safely decontaminate the endoscope to safely send it in for repair.

All scopes must be decontaminated prior to shipment.



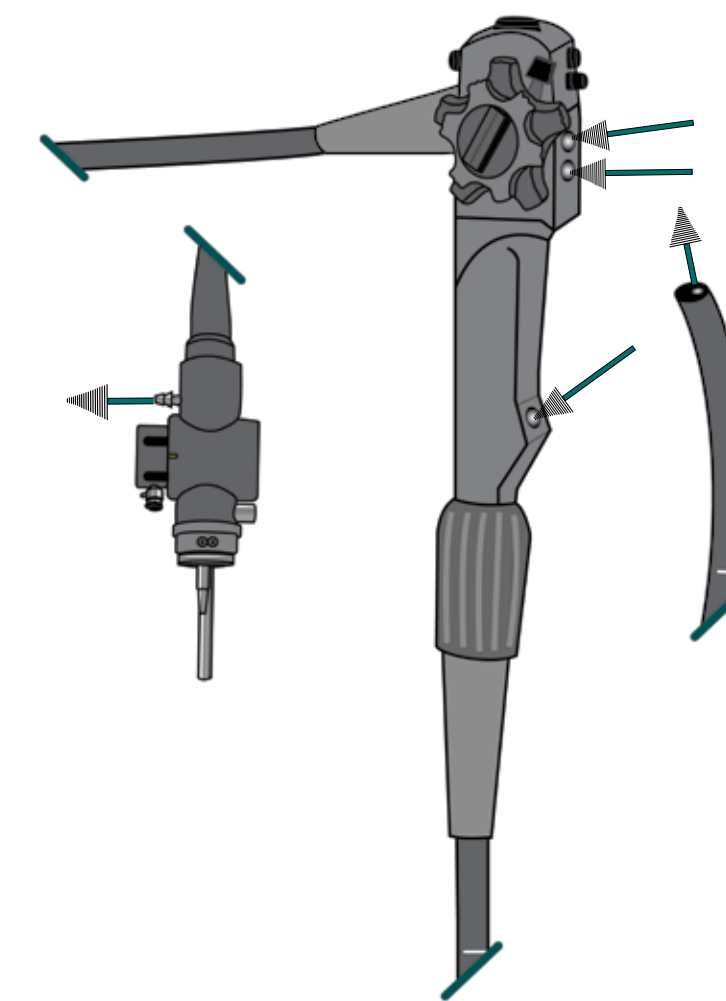
3. Manual Cleaning

TO BE PERFORMED IN THE DECONTAMINATION AREA.

Failure to properly perform this step can pose an infection control risk.

Soak in Enzymatic Cleaner - All steps should be performed while the scope is completely immersed in cleaner. To prepare the detergent, follow the manufacturer's instructions.

- A.) **Submersion** - Gently coil the endoscope and completely submerge it into a basin of freshly prepared detergent. All steps below should be performed with the scope submerged.
- B.) **Components** - Transfer the previously removed components into the cleaning tub. Scrub, brush and soak all components. To fully clean the suction valve areas, depress the button and then brush all areas.



- C.) **Exterior Cleaning** - Use a soft brush or lint free cloth to clean the exterior surface of the endoscope. Take care when cleaning the distal tip as to avoid scratching the small lenses.

- D.) **Brushing the Channels** - Use cleaning brushes to scrub ALL areas of the suction / biopsy channel system. This includes the insertion tube, all channel inlets, suction valve housing and suction port connector. To remove debris, always clean the brush each time it exits the distal tip and umbilical cable. Repeat process until there is no visible debris on the brush.

- E.) **Flush the Channels** - Attach cleaning adapters to the appropriate ports on the endoscope. Aspirate the detergent through all channels to remove any loose debris. Continue until there is no visible debris is present.

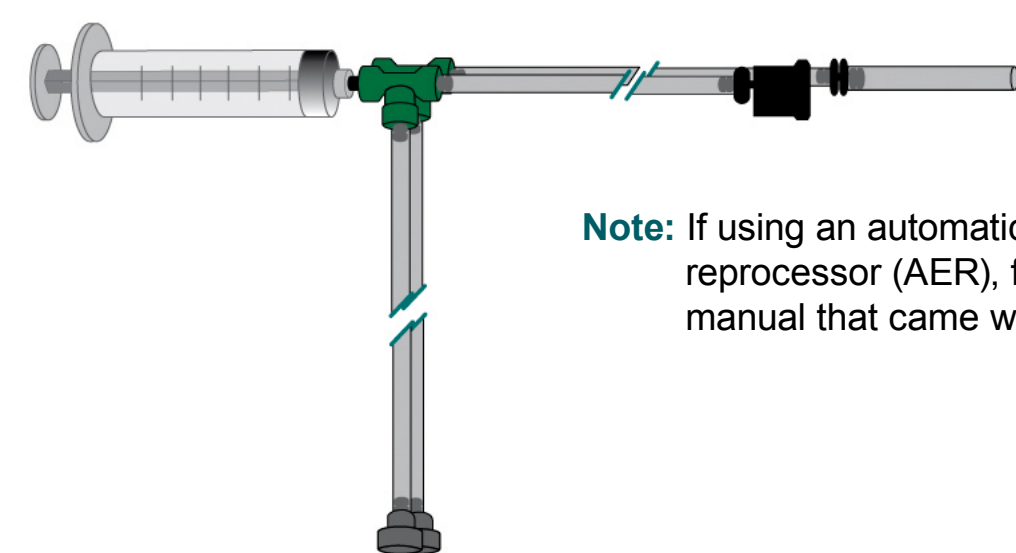
- F.) **Soak Channels with Cleaning Solution** - Using a syringe, fill the channels full of the detergent solution. Remove cleaning adapter.

- G.) **Soak endoscope and components in cleaning solution** - Refer to the detergent manufacturer's instructions for recommended length of time required to clean scopes.

5. Disinfection

TO BE PERFORMED IN THE DECONTAMINATION AREA.

- A.) **Prepare the High Level Disinfectant** - According to manufacturer's instructions.
- B.) **Immersion** - Attach suction cleaning adapter and immerse scope completely into the disinfectant solution.
- C.) **Disinfecting the Channels** - Attach a syringe to the cleaning adapter and withdraw the plunger to pull the disinfecting solution into the channels. To make sure the channels are full, check both hoses of the cleaning adapter. If they are filled with the solution, so are the channels. Disconnect the syringe and adapter from the scope.
- D.) **Soak the Endoscope, Components and Cleaning Adapter** - Consult the disinfectant manufacturer's instructions for appropriate length of time to properly soak the equipment for disinfection. Use a timer to ensure that this is achieved.



Note: If using an automatic endoscope reprocessor (AER), follow the instruction manual that came with the unit.

6. Rinsing & Drying

TO BE PERFORMED IN THE DECONTAMINATION AREA.

Failure to properly perform this step can pose a toxic risk to future patients.

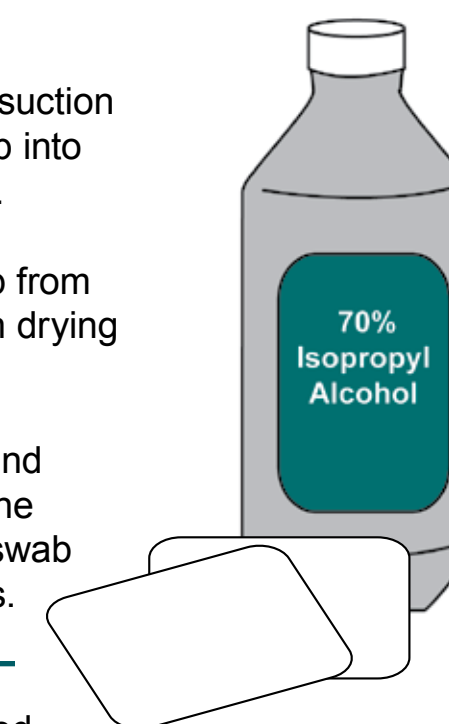
- A.) **Dispel Disinfectant** - After soaking for recommended amount of time, reconnect the suction cleaning adapter and then connect a sterile syringe to it. Inject air to purge the disinfectant solution from the channels.
- B.) **Rinsing Disinfectant** - Transfer the endoscope and components into a basin of fresh rinse water. Fully submerge the equipment. Use a lint free cloth to wipe the exterior surfaces of the endoscope. Connect the cleaning adapter to a suction unit and pull fresh water through the channels. If using an AER, rinsing is performed by the unit.
- C.) **Remove Endoscope from Rinse Water** - Transfer the endoscope and components onto a sterile towel.
- D.) **Drying the Endoscope** - Use a sterile, lint-free cloth to thoroughly dry all external areas of the endoscope and cleaning adapter.

7. Alcohol Flush

TO BE PERFORMED IN THE DECONTAMINATION AREA.

Alcohol promotes drying of the endoscope channels and inhibits the growth of bacteria.

- A.) **70% Ethyl or Isopropyl Alcohol** - Fill a beaker or sterile container with alcohol.
- B.) **Aspirate Alcohol Through Channels** - Reconnect the suction cleaning adapter to the suction device. Immerse distal tip into the beaker of alcohol and aspirate through the channels.
- C.) **Aspirate Air Through Channels** - Remove the distal tip from the beaker and aspirate air through the channels to aid in drying the alcohol. Remove suction cleaning adapter.
- D.) **Alcohol Wipe** - Soak a sterile, lint-free cloth in alcohol and wipe off any remaining water on the external surface of the endoscope and components. Next, soak a clean cotton swab and use it to dry the internal suction and instrument ports.



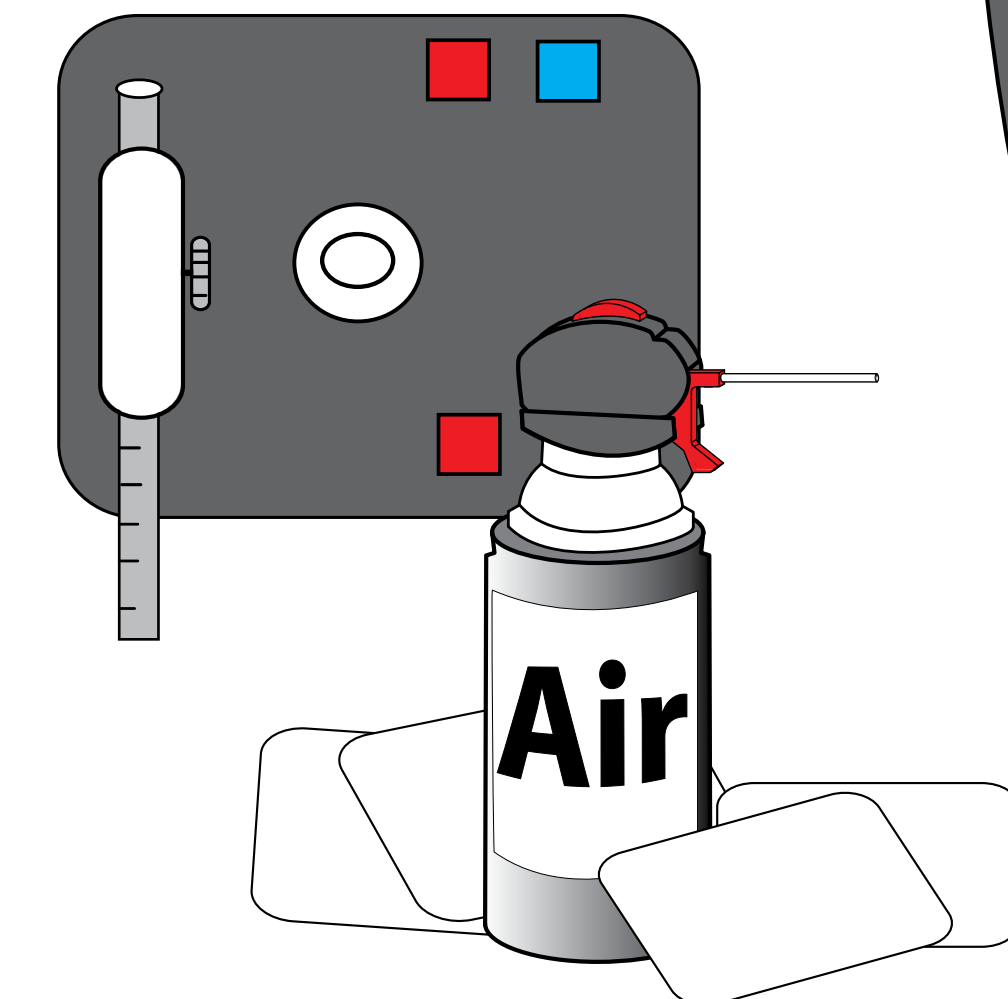
Note: If using an AER, the alcohol flush is typically performed by the unit. Please check owner's manual for indication of this feature.

4. Rinsing & Drying

TO BE PERFORMED IN THE DECONTAMINATION AREA.

- A.) **Thoroughly Rinse Detergent from the Endoscope** - This includes all surfaces, the removed components and internal channels with clean water. Use a clean, lint-free cloth to wipe outside of the endoscope. Reconnect the suction cleaning adapter and aspirate rinse water through the channels.
- B.) **Purge All Channels with Air** - Hold distal tip above water and aspirate all channels with air.
- C.) **Thoroughly Dry All Areas of the Endoscope** - To ensure the effectiveness of the high-level disinfectant utilized in the next step, all areas - including the channels - must be completely dried. Use a clean, lint-free cloth to dry the exterior areas of the endoscope.

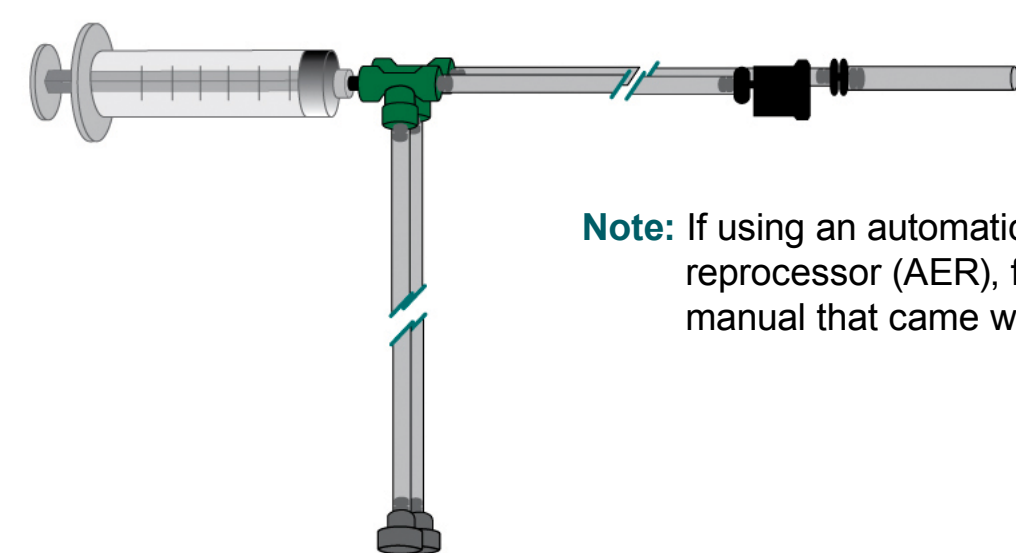
Internal channels should be dried by utilizing forced air.



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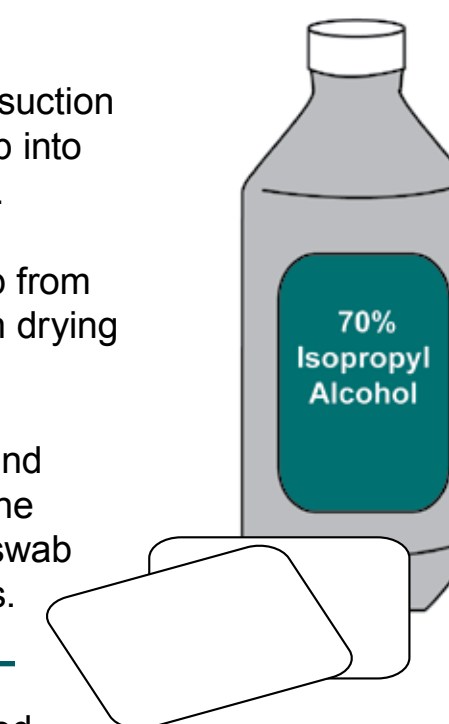
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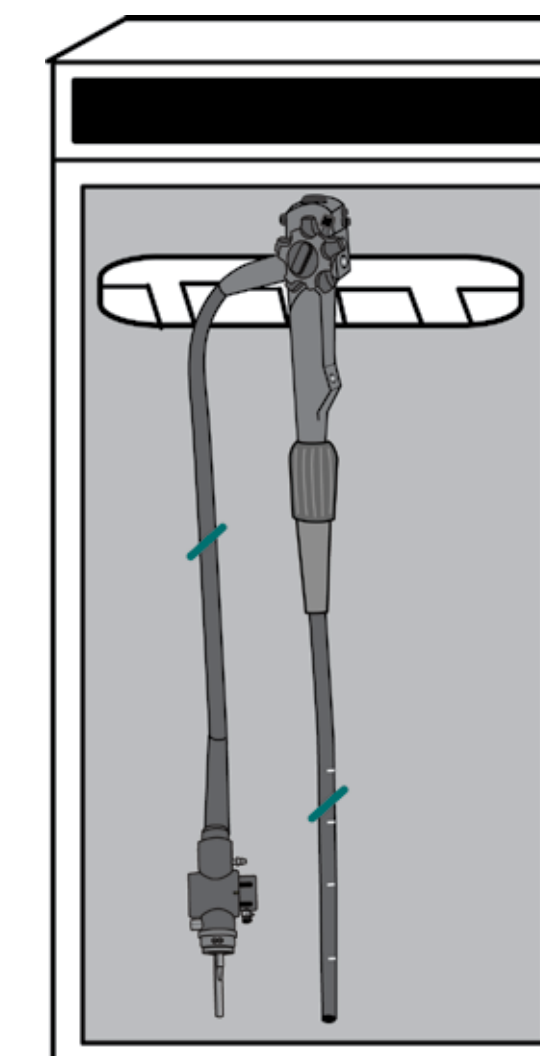
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8. Storage

THE ENDOSCOPE IS NOW READY FOR PATIENT USE OR STORAGE.



- A.) **Remove Water Resistant Cap** - From the light guide connector.
- B.) **Check Angulation Lock** - For storage, this lock needs to be set in the free position.
- C.) **Transfer to Storage Cabinet** - Do NOT store reprocessed endoscopes in carrying case. Carefully transfer the endoscope to a well-ventilated storage cabinet. Hang the endoscope vertically with the insertion tube as straight as possible.
- D.) **Suction and Air / Water Valves** - Do NOT replace removable parts until the endoscope is going to be used in a procedure.

Life Systems, Inc.
 515 Trade Center Boulevard
 Chesterfield, MO 63005
 Phone: 636.787.2100
 Fax: 636.787.0016
 Toll free: 888.LIFE.SYS / 888.543.3797
 www.lifesystemsinc.com