

Radial Ultrasound (EUS) Endoscope GF-UE190
Cleaning and Disinfection Checklist

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Cleaning and Disinfection Checklist

This checklist is designed for use solely as a customer educational tool and is not intended to replace or in any way modify the Olympus instruction manual/reprocessing manual. Be sure to follow the detailed steps outlined in the reprocessing manual that was included with your Olympus equipment when purchased. While Olympus' training may be used in support of a facility's overall competency program, it shall not constitute certification of the facility's CDS protocol. Olympus shall in no event be held responsible for a facility's proper performance of CDS protocol nor for a facility staying current with ongoing CDS instructional changes and corresponding training updates. Facility owners of Olympus equipment are fully responsible for complying with industry CDS standards and manufacturer's proper use and CDS instructions.

Facility Name

Date

Endoscope Models: Check each model reviewed during this session.

GF-UE190

Instructor Name

Title

Signature

Staff Member Name

Signature

Pre-Procedure Inspection		Demonstrated
	<p>Note: the steps below refer to the Addendum released in 2020 and is included in the operation/IFU manuals. Please refer to Chapter 3 for additional information and inspection steps after inspecting the air/water valve functionality.</p> <p>If a channel blockage is identified or the air/water feeding function is compromised, you should no longer use the scope and contact Olympus for further instructions.</p>	
1.	<p>Inspection of the air feeding function:</p> <p>Prepare a container of sterile water to a depth of 10cms.</p>	
2.	<p>Confirm that no air bubbles are emitted when the air/water valve is not operated.</p>	
3.	<p>Cover the hole of the air/water valve with your finger and confirm that air bubbles are continuously emitted from the air/water nozzle for 10 seconds.</p>	
4.	<p>Uncover the hole of the air/water valve and confirm that no air bubbles are emitted from the air/water nozzle.</p>	
5.	<p>Inspection of the objective lens cleaning function:</p> <p>Keep the air/water valve's hole covered by your finger and depress the valve to the first stage. Observe the endoscopic image and confirm that the water flows from the air/water nozzle on the entire objective lens for 10 seconds.</p>	
6.	<p>Release the air/water valve. Observe the endoscopic image and confirm that the emission of water stops, and the valve returns smoothly to its original position.</p>	
7.	<p>While observing the endoscopic image, feed air (after feeding water) by covering the hole in the air/water valve with your finger. Confirm that the emitted air dries the objective lens and clears the endoscopic image.</p>	
8.	<p>Inspection of the water feeding function into the balloon:</p> <p>Cover the air/water valve's hole with your finger and completely depress the valve. Confirm that water is being emitted through the balloon water supply port for 10 seconds.</p> <p>Note: It may take a few second until water is emitted when the air/water valve is depressed for the first time.</p>	

Comments:

Pre-Cleaning		Demonstrated
1.	Wear appropriate Personal Protective Equipment. (PPE).	
2.	Turn off the video system center, light source, and ultrasound system.	
3.	Remove and discard the balloon if attached.	
4.	Using a water-soaked cloth, wipe down the insertion tube, and gently wipe the ultrasonic transducer. (500 mls water)	
5.	Turn ON the suction source.	
6.	Attach the biopsy valve cap.	
7.	Immerse the distal tip in water and depress the suction valve to the first stage to aspirate the water for 30 seconds or more.	
8.	Depress the suction valve completely to aspirate water for 30 seconds or more.	
9.	Remove the distal tip from water solution and depress the suction valve to the first stage to aspirate air for 10 seconds or more.	
10.	Depress the suction valve completely to aspirate air for 10 seconds or more.	
11.	Turn OFF the suction source and turn ON the light source.	
12.	Prepare a container of 500mls of water.	
13.	Insert the distal end of the insertion tube into the water.	
14.	Cover the hole of the air/water valve with your finger and confirm that air bubbles are continuously emitted from the air/water nozzle for 10 seconds.	
15.	Keep the hole of the air/water valve covered by your finger and depress the valve to the first stage. Observe the endoscopic image and confirm that the water flows from the air/water nozzle on the entire objective lens for 10 seconds.	
16.	Keep the air/water valve's hole covered with your finger and completely depress the valve. Observe the water is emitted through the balloon water supply port for 10 seconds.	
17.	Switch OFF the airflow regulator on the light source.	
18.	Remove the air/water valve.	
19.	Attach the air/water channel cleaning adapter. Turn ON the air source and set the airflow to HIGH.	
20.	Immerse the distal end of the insertion tube in water.	
21.	Depress the air/water channel cleaning adapter for 30 seconds or more.	
22.	Release the air/water channel cleaning adapter for 10 seconds or more.	

23.	Turn OFF the light source.	
24.	Disconnect the ultrasonic cable, endoscope, and accessories; attach the Ultrasound Connector cap.	
25.	Detach the endoscope from the video system center, (CV-1500 when it is used). <i>Remember to press "Disconnect Scope" and follow the prompts on the LCD touch panel screen prior to removing the scope from the video system center/processor.</i>	
26.	Transport to reprocessing area in a covered container.	

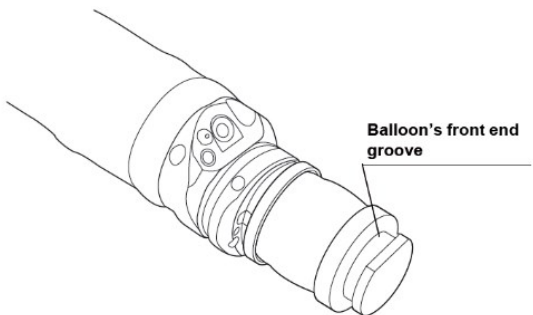
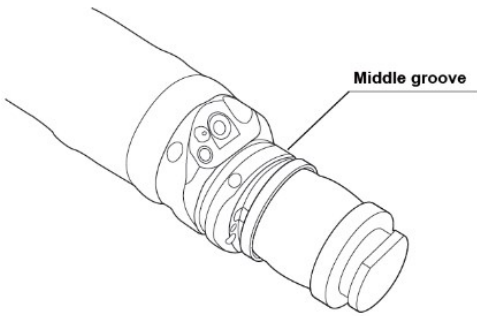
Comments:

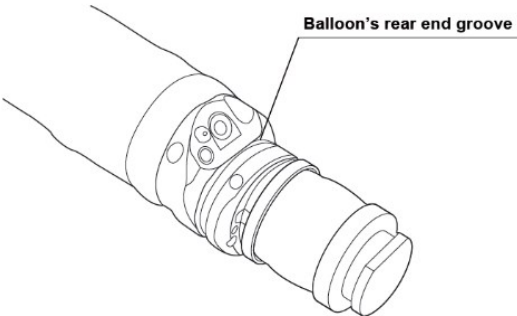
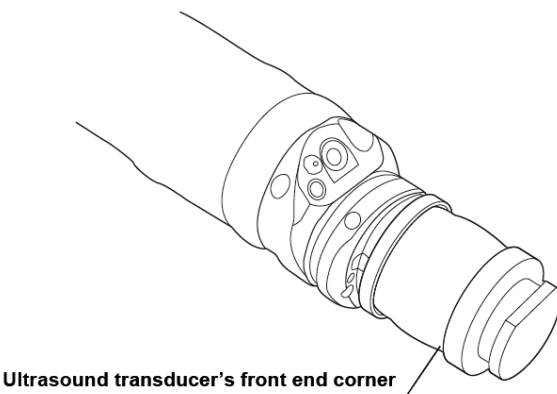
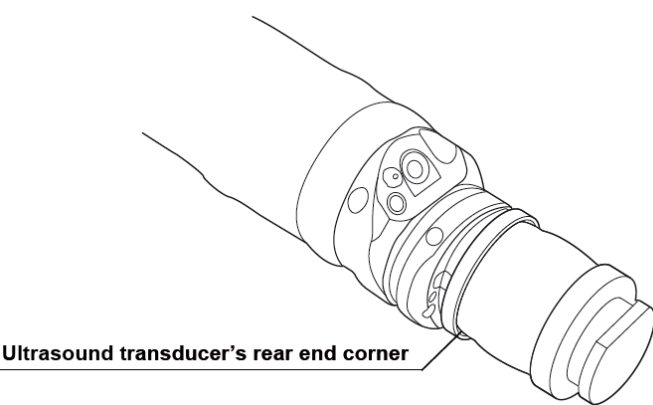
Leakage Testing		Demonstrated
1.	Fill an appropriately sized basin with clean water.	
2.	Detach air water cleaning adapter, suction valve and biopsy cap and place in detergent solution.	
3.	Connect the leakage tester to the MU-1 (Maintenance unit).	
4.	Turn on the MU-1.	
5.	Depress pin inside connector cap to confirm that air is being emitted.	
6.	Confirm that the leakage tester's connector cap and the venting connector on the ultrasound connector cap are dry. If wet, dry with a lint free cloth.	
7.	Connect the leakage tester to the ultrasound water resistant connector cap on the endoscope.	
8.	Ensure bending section has inflated. Completely immerse the endoscope in water.	
9.	Observe for 30 seconds while angulating the bending section and confirm that there is no location on the endoscope from which a continuous series of bubbles emerges.	
10.	If a continuous series of bubbles emerges from any location, remove the endoscope from the water.	
11.	If no leak is detected, remove the endoscope from the water and turn OFF the MU-1.	
12.	Disconnect the leakage tester from the MU-1.	
13.	Wait 30 seconds or until the bending section contracts to its pre-expansion size.	
14.	Disconnect the leakage tester connector cap from the ultrasound venting connector.	
15.	Thoroughly dry the leakage tester using clean lint free cloths.	

Comments:

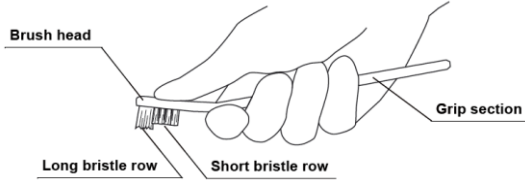
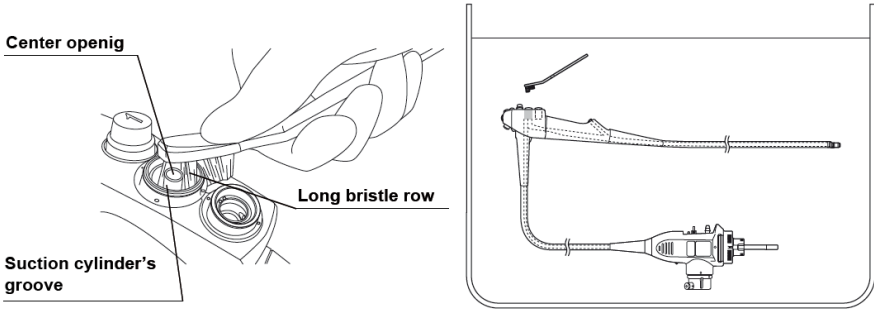
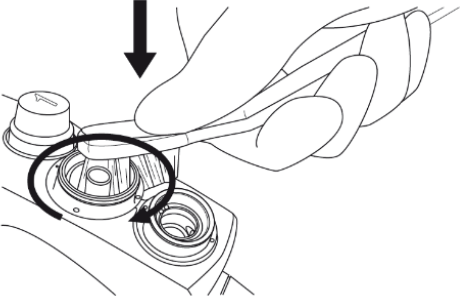
****Note**

If manual cleaning could not be performed within 1 hour after the patient procedure or if you are not sure whether manual cleaning could be performed within 1 hour, dried debris may not be removed, and reprocessing of the endoscope may not be performed effectively. Using the manual flushing attachments, fill all channels of the endoscope and allow the endoscope to soak completely in the detergent solution for more than 2 hours. Do not immerse the endoscope for more than 10 hours. Refer to section 5.9 of the Reprocessing manual, "Presoaking the endoscope".

1.	Fill an appropriately sized basin with fresh detergent solution prepared as recommended by the manufacturer.	
2.	While immersing the endoscope completely in the detergent solution, thoroughly brush or wipe all external surfaces of the insertion section, using clean lint-free cloths brushes, or sponges.	
	<p>a. Grip the channel-opening cleaning brush (Stubby) part of the single use combination cleaning brush (BW-412T).</p>	
	<p>b. While immersing the distal end of the insertion section in the detergent solution, brush all around the balloon's front end groove six times or more.</p> 	
	<p>c. While immersing the distal end of the insertion section in the detergent solution, brush all around the middle groove six times or more.</p> 	

	<p>d. While immersing the distal end of the insertion section in the detergent solution, brush all around the balloon's rear end groove six times or more.</p> 	
	<p>e. While immersing the distal end of the insertion section in the detergent solution, brush all around the ultrasound transducer's front-end corner six times or more.</p> 	
	<p>f. While immersing the distal end of the insertion section in the detergent solution, brush all around the ultrasound transducer's rear end corner six times or more.</p> 	
	<p>g. Take the insertion section out of the detergent solution and confirm that no debris remains on all its external surfaces, particularly the distal end.</p>	
	<p>h. If any debris remains, repeat Steps "a" through "g" until no debris is observed. When all debris is removed, put the insertion section in the detergent solution.</p>	
<p>3.</p>	<p>Clean the external surfaces of the control section and its surrounding parts.</p>	
	<p>a. Immerse the endoscope in detergent solution.</p>	

	b. Thoroughly wipe or brush all external surfaces of the control section, the boot, and the universal cord's boot, using clean lint-free cloths, sponges, or brushes.	
	c. Take the control section, the boot, and the universal cord's boot out of the detergent solution and confirm that no debris remains on all their external surfaces.	
	d. If any debris remains, repeat Steps "b and c" until no debris is observed.	
4.	Clean the external surfaces of the endoscope connector and the universal cord.	
	a. Immerse the endoscope in detergent solution.	
	b. Thoroughly wipe or brush all external surfaces of the endoscope connector and the universal cord, using clean lint-free cloths, sponges, or brushes.	
	c. Take the endoscope connector and the universal cord out of the detergent solution and confirm that no debris remains on all their external surfaces.	
	d. If any debris remains, repeat Steps "b and c" until no debris is observed.	
5.	Brush the suction, instrument and balloon channels/cylinders/ports until no visible debris remains.	
	a. Brush from the suction cylinder to the distal end of the endoscope: (this brushes the instrument channel in the insertion section and the suction channel in the control section).	
	1. While immersing the endoscope completely in the detergent solution, insert the channel-cleaning brush straight into the center opening of the suction cylinder.	
	2. Using short strokes, feed the brush through the suction channel until it emerges from the distal end of the endoscope.	
	3. Clean the brush bristles with your fingertips and carefully pull the brush back through the channel and out of the suction cylinder.	
	4. Clean the brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	
	b. Use the channel-cleaning brush to brush the suction channel in the universal cord:	
	1. While immersing the endoscope completely in the detergent solution, insert the channel-cleaning brush straight into the opening of the suction cylinder. (Top hole at the 1 o'clock position).	
	2. Using short strokes, feed the brush through the suction channel until it emerges from the suction connector on the endoscope connector.	
	3. Clean the brush bristles with your fingertips and carefully pull the brush back through the channel and out of the suction cylinder.	
	4. Clean brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	

	<p>C. Use the BW-400L to brush the balloon channel:</p>	
	<p>1. While immersing the endoscope completely in the detergent solution, insert the brush straight into the hole on the insertion tube side of the three holes inside the suction cylinder. (Balloon suction channel located in the 7 o'clock position).</p>	
	<p>2. Using short strokes, feed the brush through the balloon suction channel until it emerges from the distal end of the endoscope's insertion tube.</p>	
	<p>3. Clean the brush bristles with your fingertips and carefully pull the brush back through the channel and out of the suction cylinder.</p>	
	<p>4. Clean the brush bristles with your fingertips to remove any debris.</p>	
	<p>5. Repeat until no debris is observed on the brush.</p>	
	<p>d. Brush the suction cylinder:</p>	
	<p>1. Put your thumb on the brush head of the cleaning brush (MAJ-1534) and grip the grip section of the brush with the other fingers.</p> 	
	<p>2. While immersing the endoscope completely in the detergent solution, insert the long bristle row of the cleaning brush into the suction cylinder's groove around the center opening.</p> 	
	<p>3. While pushing the brush head down into the groove, brush all around the suction cylinder's groove six times or more.</p> 	

	4. Pull the brush out of the cylinder.	
	5. Inspect whether there is debris on the bristles.	
	6. Clean the bristles in the detergent solution using your gloved fingertips to remove any debris.	
	7. Take the control section out of the detergent solution and confirm that no debris remains on the suction cylinder's groove around the center opening.	
	8. If any debris remains, repeat Steps "2" through "7" until no debris is observed center opening.	
	e. Brush the instrument channel port:	
	1. While immersing the endoscope completely in the detergent solution, insert the channel-opening cleaning brush into the instrument channel port until the brush handles touches the channel opening.	
	2. Rotate the brush one full revolution and pull the brush out of the instrument channel port.	
	3. Remove any debris on the brush bristles with your fingertips and clean the brush in the detergent solution.	
	4. Repeat until no debris is observed on the brush.	
6.	Aspirate detergent solution through the instrument channel, the suction channel, and the balloon suction channel:	
	a. Attach the suction valve to the endoscope.	
	b. Attach the connecting end of the suction cleaning adapter (MH-856) to the instrument channel port.	
	c. Attach the suction tube from the suction pump to the suction connector on the endoscope connector.	
	d. Turn the Suction source ON.	
	e. Depress the suction valve to the first stage and aspirate the detergent solution through the suction channel and instrument channel of the endoscope for 30 seconds or more.	
	f. Depress the suction valve completely and aspirate the detergent solution through the balloon channel of the endoscope for 30 seconds or more.	
	g. Turn OFF the suction source and disconnect the suction tube and suction valve.	
	h. Disconnect the suction valve and the suction-cleaning adapter. Reprocess the accessories as described in the Olympus Reprocessing Manual, Chapter 6, <i>Reprocessing the Accessories</i> .	

Comments:

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Manual Cleaning Manual Flushing of Endoscope Channels		Demonstrated
1.	Attach the channel plug to the air/water and suction cylinders, and the biopsy valve cap to the instrument channel port, attach the injection tube to the endoscope connector.	
2.	Immerse the suction port of the injection tubing into the detergent solution.	
3.	Attach a 30 ml syringe to the air/water port on the injection tube.	
4.	Flush the air/water channel with 150 mls of detergent (at least 5 times).	
5.	Wipe external surfaces of the endoscope/accessories with a clean lint-free cloth, brush, or sponge.	
6.	Soak the endoscope and accessories in detergent solution for the time specified by the detergent manufacturer.	
7.	Remove the endoscope and accessories from the detergent solution.	
8.	Immerse the endoscope and accessories in clean water, and gently agitate to rinse.	
9.	Use a 30ml syringe to flush 150 mls of water through the suction channel (left side port) of the injection tube, and flush 150 mls of water through the air/water (right side port) injection tube.	
10.	Remove the endoscope and accessories from the water and place them in a clean basin.	
11.	Cover the distal end with a lint free cloth.	
12.	Use a 30ml syringe to flush 150 mls of air through each side of the injection tube.	
13.	Detach the channel plug and the injection tube from the endoscope	
14.	Use a lint-free cloth to dry all external surfaces of the endoscope, channel plug and injection tube.	
15.	Reprocess the accessories as described in the Olympus Reprocessing Manual, Chapter 6, <i>Reprocessing the Accessories</i> .	

Comments:

Automated Endoscope Reprocessor (AER) High-Level Disinfection	Demonstrated
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AER Type:

High Level Disinfectant Type:

1.	Test the potency of the disinfectant concentration (i.e. MRC) according to the manufacturer's instructions.	
2.	Inspect the connections according to the AER manufacturer's instructions.	
3.	Verify that the proper connector is being used for the endoscope being reprocessed.	
4.	Attach the endoscope connectors/adapters to the AER and endoscope as per the AER manufacturer's instructions.	
5.	Operate the AER according to the AER manufacturer's instructions.	
6.	Ensure the endoscope is soaked in disinfectant solution according to the disinfectant manufacturer's recommendations for time and temperature.	
7.	Remove the endoscope promptly after the AER cycle is completed.	
8.	Perform the terminal steps that the AER does not perform (e.g., alcohol and air purge).	

Comments:

Manual High-Level Disinfection	Demonstrated
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1.	Fill an appropriately sized basin with disinfectant solution.	
2.	Test the potency of the disinfectant solution according to the manufacturer's instructions.	
3.	Attach the channel plug and injection tube to the endoscope.	
4.	Completely immerse the endoscope and accessories in the disinfectant solution.	
5.	While immersing the syringe completely in the disinfectant solution, slowly pull the syringe plunger to fill the syringe with the disinfectant solution. Then forcefully push in the plunger to flush the suction channel with 300 ml of the disinfectant solution (i.e., by pumping the syringe at least ten times). Confirm that no air bubbles exit from the distal end of the endoscope during the last flush.	
6.	Move the syringe to the air/water channel port of the injection tube. While immersing the syringe completely in the disinfectant solution, slowly pull the syringe plunger to fill the syringe with the disinfectant solution. Then forcefully push in the plunger to flush the air/water	

	channel with 300 ml of the disinfectant solution (i.e., by pumping the syringe at least ten times). Confirm that no air bubbles exit from the distal end of the endoscope during the last flush.	
7.	Disconnect all equipment from the endoscope.	
8.	Remove any bubbles that adhere to the surfaces with a clean lint-free cloth.	
9.	Cover the basin of the disinfection solution with a tight-fitting lid to minimize the diffusion of disinfection vapors.	
10.	Soak the endoscope and all equipment for the time and at the temperature recommended by the disinfectant manufacturer.	
11.	Remove the endoscope and the accessories from the disinfectant solution.	
12.	Re-attach the channel plug and injection tube to the endoscope.	
13.	Remove the suction port of the injection tube from the disinfectant solution.	
14.	Attach a sterile 30 ml syringe to the suction channel port on the injection tube and flush 150 mls of air. (by pumping at least 5 times). Confirm that air bubbles exit from the distal end of the endoscope during the last flush. If air bubbles do not exit from the distal end of the endoscope during the last flush, flush the channel with air until air bubbles exit.	
15.	Move the syringe to the air/water channel port of the injection tube.	
16.	Pull the syringe plunger to fill the syringe with air. Then push in the plunger to flush the air/water channel with 150 ml of air (i.e., by pumping the syringe at least five times).	
17.	Remove the endoscope and accessories from the disinfectant solution.	

Comments:

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Rinsing after Manual High-Level Disinfection		Demonstrated
1.	Fill a basin with sterile water, filtered water or potable tap water. Confirm Ultrasound cap is attached to the endoscope.	
2.	Completely immerse the endoscope and equipment in the water.	
3.	Detach the channel plug (MAJ-621) and the injection tube (MH-946) from the endoscope.	
4.	Wipe all external surfaces with a lint-free cloth.	
5.	Attach the channel plug and injection tube to the endoscope, and completely immerse the endoscope in the sterile rinse water with the accessories attached.	

6.	Attach a sterile 30 ml syringe to the suction channel port on the injection tube and flush 150 mls of air. (by pumping at least 5 times). Confirm that air bubbles exit from the distal end of the endoscope during the last flush. If air bubbles do not exit from the distal end of the endoscope during the last flush, flush the channel with air until air bubbles exit.	
7.	Move the syringe to the air/water channel port of the injection tube.	
8.	Pull the syringe plunger to fill the syringe with air. Then push in the plunger to flush the air/water channel with 150 mls of air (i.e., by pumping the syringe at least five times).	
9.	Repeat steps 1-5 the necessary number of times as described by the disinfectant manufacturer's guidelines.	
10.	Remove the endoscope from the rinse water solution with accessories attached and place them in a sterile basin.	
11.	Cover the distal end and the control section of the endoscope in sterile lint-free cloths to prevent splashing from the channel openings.	
12.	Attach the syringe to the suction channel port of the injection tube.	
13.	Pull the syringe plunger to fill the syringe with air. Then push in the plunger to flush the suction channel with 150 mls of air (i.e., by pumping the syringe at least five times).	
14.	Move the syringe to the air/water channel port of the injection tube.	
15.	Pull the syringe plunger to fill the syringe with air. Then push in the plunger to flush the air/water channel with 150 mls of air (i.e., by pumping the syringe at least five times).	
16.	Remove the cloths from the endoscope.	
17.	Detach only the injection tube from the endoscope	
18.	Attach a sterile suction tube from a suction source to the suction connector on the endoscope connector. Activate suction. Aspirate air for 15 seconds or more. Deactivate suction source.	
19.	Detach the suction tube and the channel plug from the endoscope. Thoroughly dry the external surfaces of the endoscope, the channel plug, and the injection tube by wiping with sterile lint-free cloths.	
20.	Thoroughly dry the inside of the suction cylinder, the air/water cylinder, and the instrument channel port of the endoscope, using sterile cotton swabs	

Comments:

Alcohol Flush		Demonstrated
1.	Attach a reprocessed channel plug and injection tube to the endoscope.	
2.	Immerse the injection tube's suction port in 70% isopropyl or ethyl alcohol.	
3.	Cover the distal end of the control section of the endoscope with a sterile lint free cloth to prevent splashing alcohol from the channel openings.	
4.	Use a 30 ml syringe to flush 150 mls of alcohol through the suction channel of the injection tube.	
5.	Use a 30 ml syringe to flush 150 mls of alcohol through the air/water channel of the injection tube.	
6.	Remove the suction port from the alcohol.	
7.	Use a 30 ml syringe to flush 150 mls of air through the suction channel of the injection tubing.	
8.	Use a 30 ml syringe to flush 150 mls of air through the air/water channel of the injection tubing.	
9.	Detach the injection tube only from the endoscope.	
10.	Attach a sterile suction tube from the suction pump to the suction connector on the endoscope.	
	a. Turn suction source ON and Aspirate for at least 30 seconds or more.	
	b. Turn the suction source OFF.	
	c. Detach the suction tube and channel plug from the endoscope.	
11.	Wipe all external surface with a sterile, lint free cloth.	
12.	Dry the inside of the air/water and suction cylinders, and the instrument channel port with sterile cotton swabs.	

Comments:

Drying the Endoscope with Compressed air		Demonstrated
1.	Cover the distal end, the control section, and the endoscope connector of the endoscope in sterile lint-free cloths to prevent splashing alcohol from the channel openings.	
2.	Feed compressed filtered air of less than 0.5 MPa from the opening of the suction cylinder until no alcohol exits from the distal end, the instrument channel port, and the suction connector of the endoscope.	
3.	Feed compressed filtered air of less than 0.5 MPa from the instrument channel port until no alcohol exits from the distal end of the endoscope.	
4.	Feed compressed filtered air of less than 0.5 MPa from the large opening of the air/water cylinder until no alcohol exits from the distal end and the water supply connector of the endoscope.	
5.	Feed compressed filtered air of less than 0.5 MPa from the two small openings of the air/water cylinder until no alcohol exists from the air supply connector and the air pipe of the endoscope.	
6.	Thoroughly dry the inside of the suction cylinder, the air/water cylinder, and the instrument channel port of the endoscope, using sterile cotton swabs.	
7.	Thoroughly dry the external surfaces of the endoscope by wiping with sterile lint-free cloths.	

Comments:

Endoscope Storage		Demonstrated
1.	Detach all accessories and removable parts from the endoscope, as applicable following manual alcohol flushing of endoscopes.	
2.	Ensure that angulation locks are in the free position.	
3.	Confirm that the surfaces of the endoscope and accessories are dry.	
4.	Hang the endoscope so that the universal cord and insertion tube are hanging vertically, and the distal tip of insertion tube is hanging freely.	
5.	Store the endoscope in a well-ventilated cabinet, according to National and Professional guidelines.	

Comments: