

Endobronchial Ultrasound (EBUS)
BF-UC190F Endoscopes
Cleaning and Disinfection Checklist

Endobronchial Ultrasound (EBUS) Endoscopes

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.

Endoscope Models: Check each model reviewed during this session.

Facility Name

Date

BF-UC190F

Instructor Name

Title

Signature

Staff Member Name

Signature

Pre-Cleaning		Demonstrated
1.	Wear appropriate Personal Protective Equipment. (PPE).	
2.	Turn OFF the ultrasound center, video system center, and light source.	
3.	Remove the balloon and discard it.	
4.	Wipe the entire insertion section from the boot at the control section to the distal end with a water-soaked lint-free cloth. (500ml container).	
5.	Turn ON the suction source.	
6.	Ensure that the biopsy valve cap is closed.	
7.	Immerse the distal end of the insertion section in the Water.	
8.	Depress the suction valve, and aspirate the water into the channel for 10seconds or more	
9.	Remove the distal end of the insertion section from the water.	
10.	Depress the suction valve, and aspirate air for 10 seconds or more	
11.	Turn OFF the suction source.	
12.	Immerse the distal end of the insertion section in water.	
13.	Fill a 30 ml syringe with water and connect it to the irrigation port.	
14.	Flush the balloon channel with 30mls of Water and repeat an additional 2 times. (90mls total).	
15.	Fill the syringe with air and attach the syringe to the irrigation port.	
16.	Flush the balloon channel with 30mls air and repeat an additional 2 times (90mls total).	
17.	Disconnect the syringe from the endoscope.	
18.	Disconnect all removable and reusable parts from the endoscope.	
21.	Confirm that the Ultrasound Connector cap is dry and free of debris and attach the Ultrasound Connector cap.	
22.	Transport the endoscope to the reprocessing area in a covered container.	

Comments:

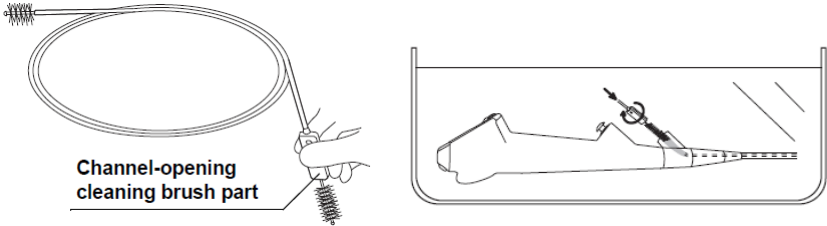
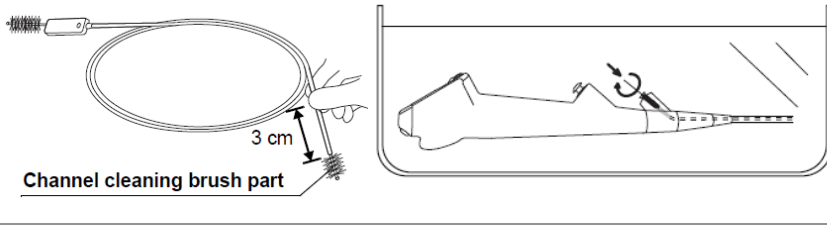
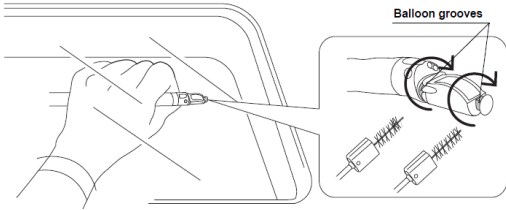
Leakage Testing		Demonstrated
1.	Fill a basin with clean water.	
2.	Connect the leakage tester to the MU-1. (Maintenance unit).	
3.	Turn ON the MU-1.	
4.	Depress pin inside connector cap to confirm that air is being emitted.	
5.	Confirm that the leakage tester's connector cap and venting connector are dry. If wet, dry with a lint free cloth.	
6.	Connect the leakage tester connector to the endoscope. Ensure bending section has inflated.	
7.	Completely immerse the endoscope in water.	
8.	Observe for approximately 30 seconds while angulating the bending section and confirm that there are no bubbles emerging from a single location.	
9.	If a continuous series of bubbles emerges from any location, remove the endoscope from the water, and contact Olympus for further instructions.	
10.	If no leak detected, remove the bronchoscope from the water with the leak tester still attached.	
11.	Disconnect the leakage tester from the MU-1.	
12.	Wait 30 seconds or until the bending section contracts to its pre-expansion size.	
13.	Disconnect the leakage tester connector cap from the venting connector.	
14.	Thoroughly dry the leak tester using a clean lint free cloth.	

Comments:

Manual Cleaning		Demonstrated
1.	Fill a basin with fresh detergent solution prepared as recommended by the manufacturer.	

2.	Clean the external surfaces of the insertion section.	
	a. Immerse the endoscope in detergent solution.	
	b. Wipe the insertion tube using lint-free cloths brushes, or sponges	
	c. Take the insertion section out of the detergent solution and confirm that no debris remains on all external surfaces, particularly the objective lens and the ultrasound transducer on the distal end.	
	d. If any debris remains repeat Steps “b and c” until no debris is observed.	
3.	Clean the external surfaces of the control section and its surrounding parts	
	a. Immerse the endoscope in detergent solution.	
	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, and ultrasound connector cap using clean lint-free cloths, sponges, or brushes.	
	c. Take the endoscope connector and the universal cord out and the ultrasound cap 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.	Use endoscope model-specific brushes to brush the instrument/suction channel, suction cylinder, instrument channel port, balloon channel and irrigation port.	
	a. Brush the channel through the suction cylinder.	
	1. Insert the channel-cleaning brush into the 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. Remove any debris from the bristles with your fingertips and carefully pull the brush back through the suction channel.	
	4. Clean the brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	
	b. Brush the channel through the instrument channel port.	
	1. Insert the channel-cleaning brush into the opening of the instrument port.	
	2. Using short strokes, feed the brush through the instrument channel until it emerges from the distal end of the endoscope.	
	3. Remove any debris from the bristles with your fingertips and carefully pull the brush back through the instrument channel.	
	4. Clean the brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	
	C. Brush the suction cylinder.	
	1. Insert the channel-opening cleaning brush into the suction cylinder until half the brush section is inserted.	
	2. Rotate the brush one full revolution and pull the brush out of the suction cylinder.	
	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.	
	d. Brush the instrument channel port.	
	1. Insert the channel-opening cleaning brush into the instrument channel port fully 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.	
	e. Brush the balloon channel/irrigation port in the insertion section.	
	1. Insert the channel-cleaning brush (BW-400B) into the irrigation port.	
	2. Using short strokes, feed the wire brush through the balloon channel until it emerges from the distal end of the endoscope.	
	3. Clean the bristles with your fingertips in the detergent solution.	

	4. Carefully pull the brush back through the channel and out of the irrigation port.	
	5. Clean the brush bristles with your fingertips in the detergent solution.	
	6. Repeat until no debris is observed on the brush.	
	f. Brush the balloon irrigation port.	
	1. Insert the channel-opening cleaning brush into the balloon irrigation port until it stops. ("Stubby end of brush").	
	 <p>Channel-opening cleaning brush part</p>	
	2. Turn the inserted brush once for one full revolution.	
	3. Pull the brush out and clean the brush bristles in the detergent solution.	
	4. Repeat until no debris is observed on the brush.	
	5. Insert the channel cleaning brush into the balloon irrigation port until it stops. ("long end of brush").	
	 <p>Channel cleaning brush part 3 cm</p>	
	6. Turn the inserted brush once for one full revolution.	
	7. Pull the brush out and clean the brush bristles in the detergent solution.	
	8. Repeat until no debris is observed on the brush.	
7.	Brush the balloon grooves with the channel-opening cleaning brush until all debris is removed.	
	 <p>Balloon grooves</p>	
8.	Remove endoscope from detergent solution.	

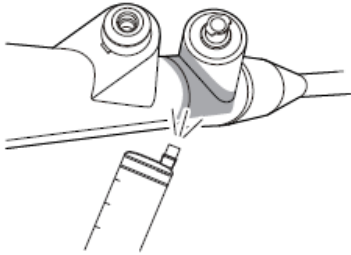
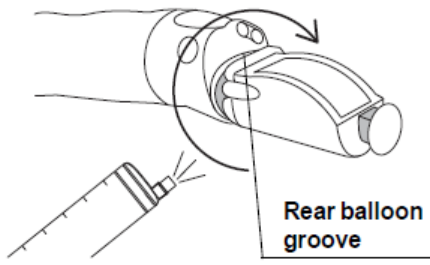
9.	Attach the suction-cleaning adapter (MAJ-222) to the endoscope.	
10.	Connect the suction tube to the suction-cleaning adapter.	
11.	Turn ON the suction source.	
12.	Immerse the endoscope's distal end in the detergent solution.	
13.	Aspirate the detergent solution for approximately 30 seconds or more.	
14.	Turn OFF the suction source.	
15.	Disconnect the suction tube from the suction-cleaning adapter.	
16.	Completely immerse the endoscope and suction-cleaning adapter in detergent solution.	
17.	Attach the 30ml syringe to the suction opening on the adapter.	
18.	Withdraw the plunger of the syringe to fill the suction-cleaning adapter and the channel with detergent solution.	
19.	Detach the syringe from suction cleaning adapter.	
20.	Fill the syringe with the detergent solution and attach the syringe to the irrigation port. Flush the balloon channel with 30mls of the detergent solution.	
21.	While the balloon channel is completely immersed in detergent, disconnect the adapter and syringe.	
22.	Using a lint-free cloth, wipe all debris from the endoscope's external surface.	
23.	Soak for the time and at the temperature specified by the detergent manufacturer.	
24.	Remove the endoscope and all equipment from the detergent solution.	
25.	Place all equipment in clean water, and gently agitate them to thoroughly rinse.	
26.	Attach suction-cleaning adapter to the endoscope and the suction tube.	
27.	Turn ON the suction pump, and aspirate clean water for 30 seconds or more.	
28.	Remove the endoscope, together with the suction-cleaning adapter, from the water.	
29.	Aspirate air for 20 seconds.	
30.	Turn OFF the suction source.	
31.	Detach the suction-cleaning adapter from the endoscope and the suction tube.	
32.	Fill a 30ml syringe with water and attach the syringe to the irrigation port.	

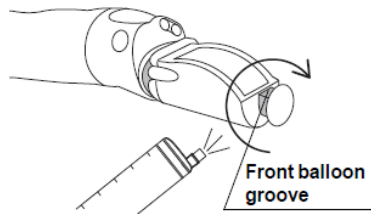
33.	Depress the syringe plunger to flush water through the balloon channel.	
34.	Repeat to flush balloon channel 5 times. (total of 150mls)	
35.	Flush 30 mls of air through the balloon channel 5 times to expel all water.	
36.	Disconnect the syringe from the endoscope.	
37.	Using a lint-free cloth, thoroughly wipe and dry the endoscope.	
38.	Inspect the endoscope. If debris remains, repeat the manual cleaning procedure.	

Comments:

Automated Endoscope Reprocessor (AER) High-Level Disinfection		Demonstrated
AER Type:		
High Level Disinfectant Type:		
1.	Test the potency of the disinfectant solution (i.e. MRC) according to the manufacturer's instructions.	
2.	Inspect the connections according to the AER manufacturer's instructions.	
3.	Attach the endoscope connectors/adapters to the AER and endoscope as per the AER manufacturer's instructions.	
4.	Operate the AER according to the AER manufacturer's instructions.	
5.	Remove the endoscope promptly after the AER cycle is completed.	
6.	Perform the terminal steps that the AER does not perform (e.g., alcohol and air purge).	
FOR FACILITY INTERNAL USE ONLY		

Comments:

Manual High-Level Disinfection		Demonstrated
1.	Fill a basin with disinfectant solution prepared as recommended by the manufacturer.	
2.	Test the potency of the disinfectant solution according to the manufacturer's instructions.	
3.	Attach the suction-cleaning adapter to the endoscope.	
4.	Attach the 30ml syringe to the suction-cleaning adapter.	
5.	Immerse the endoscope and all equipment in the disinfectant solution.	
6.	Pull the syringe plunger to fill the channel and suction-cleaning adapter with disinfectant. Confirm no air bubbles exit channels. If bubbles are still exiting on aspiration repeat steps until no bubbles are seen.	
7.	Detach syringe from suction cleaning adapter and fill the syringe with disinfectant solution and attach to the irrigation/balloon channel port. Flush the balloon channel with 30mls of disinfectant solution.	
8.	While the balloon channel is completely immersed, disconnect all reprocessing equipment from the endoscope.	
9.	Using the syringe, flush the external instrument channel side of the irrigation port at the control section of the endoscope with 30mls of disinfectant solution. Confirm no air bubbles are attached to the instrument channel port. If any air bubbles remain repeat step 9 until no air bubbles are seen.	
		
10.	Using the syringe, flush the rear balloon groove at the distal end of the endoscope with 30mls of the disinfectant solution. Confirm no air bubbles are attached to the instrument channel port. If any air bubbles remain repeat step 10 until no air bubbles are seen.	
		
11.	Using the syringe, flush the front balloon groove at the distal end of the endoscope with 30mls of the disinfectant solution. Confirm no air bubbles are attached to the instrument channel port. If any air bubbles remain repeat step 11 until no air bubbles are seen.	

		
12.	Wipe all external surfaces of the endoscope and suction cleaning adapter using your gloved finger or sterile lint free cloths.	
13.	Cover the basin with a tight-fitting lid to minimize exposure to disinfectant vapors.	
14.	Soak the equipment for the time and at the temperature recommended by the disinfectant manufacturer.	
15.	Before removing the endoscope from the disinfectant solution, attach the suction-cleaning adapter to the endoscope.	
16.	Attach the 30ml syringe to the adapter, and flush with 90mls of air.	
17.	Connect the syringe to the irrigation port, and flush 30mls of air through the balloon channel 5 times.	
18.	Remove the endoscope and all equipment from the disinfectant solution.	
19.	Disconnect all equipment from the endoscope.	

Comments:

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Rinsing after Manual High-Level Disinfection		Demonstrated
1.	Fill an appropriately sized basin with sterile water, or water that has been processed to improve its microbiological quality.	
2.	Completely immerse the endoscope and suction-cleaning adapter in the water.	
3.	Wipe all external surfaces with a lint-free cloth.	
4.	Connect the suction-cleaning adapter and sterile suction source to the endoscope.	
5.	Turn ON the suction source.	
6.	Aspirate water for 30 seconds or more.	
7.	Remove the endoscope from the water, and aspirate air for 60 seconds or more.	
8.	Turn OFF the suction source.	

9.	Immerse the distal end of the insertion section in the water.	
10.	Connect a 30ml syringe to the irrigation port and pull the plunger to aspirate water through the balloon channel 5 times.	
11.	Remove the distal end of the insertion section from the water, and flush 30mls of air through the balloon channel 5 times.	
12.	Hold the control section with the instrument channel port pointing down and disconnect the suction-cleaning adapter from the endoscope.	
13.	Disconnect the syringe from the endoscope.	
14.	Wipe and dry all external surfaces of the endoscope and adapter with a lint-free cloth.	

Comments:

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Alcohol Flush		Demonstrated
1.	Re-attach the suction-cleaning adapter to the endoscope and suction source.	
2.	Turn ON the suction source.	
3.	Immerse the distal end of the endoscope in 70% ethyl or isopropyl alcohol.	
4.	Aspirate alcohol for 5 seconds.	
5.	Remove the distal end of the endoscope from the alcohol, and aspirate air for 20 seconds.	
6.	Turn OFF the suction source.	
7.	Immerse the distal end of the endoscope in 70% ethyl or isopropyl alcohol.	
8.	Connect the 30ml syringe to the irrigation port.	
9.	Pull the plunger, and aspirate 30 mls of alcohol through the balloon channel 5 times.	
10.	Remove the distal end of the endoscope from the alcohol, and flush 30mls of air through the balloon channel 5 times.	
11.	Hold the control section with the instrument channel port pointing down and disconnect the suction-cleaning adapter from the endoscope.	
12.	Disconnect the syringe from the endoscope.	

13.	Using a sterile, lint-free cloth, thoroughly wipe and dry the external surfaces of the endoscope and suction-cleaning adapter.	
14.	Using a sterile, lint-free cloth moistened with alcohol, thoroughly wipe and dry the external surfaces of the endoscope and suction-cleaning adapter.	
15.	Using sterile cotton swabs, dry the inside of the suction cylinder and instrument channel port.	

Comments:

Sterilisation with Ethylene Oxide or Sterrad 50/100S or V-PRO MAX		Demonstrated
After performing precleaning, leakage testing, and manual cleaning, perform the following:		
1.	Dry all external and internal surfaces of the endoscope before Ethylene oxide (ETO) or Sterrad.	
2.	Dry the external surface of the Ultrasound Connector cap (MAJ-2295) by wiping with sterile lint free cloths.	
3.	Attach the Ultrasound Connector cap (MAJ-2295) to the ultrasound cable connector on the endoscope.	
4.	When sterilising with the STERRAD 50/100S Sterilisation system, depending on the internal diameter/length of the channel, it is necessary to attach the booster (REF15400) to instrument channel of the endoscope according to the instructions of the steriliser manufacturer. Seal the instrument in a package appropriate for sterilisation according to your hospital's protocol.	
5.	Sterilise the package according to the recommended ETO or hydrogen peroxide gas exposure parameters described in the endoscope instruction manual and the steriliser manufacturer's instructions Place endoscope upon instrument tray and double wrap the tray with sterilisation wraps according to your hospital's protocol and compatible instrument trays.	
6.	For ETO, aerate the components following the minimum aeration parameters specified in endoscope instruction/reprocessing manual. Sterilise the packaged endoscope according to the recommendations of steriliser manufacturer.	

Comments:

Endoscope Storage		Demonstrated
1.	Detach all equipment from the bronchoscope, as applicable following manual alcohol flushing.	
2.	Confirm that all surfaces of the bronchoscope are completely dry.	
4.	Detach the water-resistant Ultrasound Connector cap (MAJ- 2295) from the electrical connector on the endoscope connector for vertical storage.	
5.	Store the endoscope in a well-ventilated cabinet.	
6.	Hang the endoscope with the distal end hanging freely and the insertion tube hanging vertically.	
7.	Store the sterilised endoscope in a proper storage cabinet, following policies in your institution, professional society guidelines and recommended practices. *Note Sterile endoscopes may be stored flat in their sterilisation wrap.	

Comments: