

SOP

FLEXIBLE ENDOSCOPE REPROCESSING BEST PRACTICES

POCKET GUIDE



DRYING and STORAGE

Proper drying is critical as bacteria, such as *Pseudomonas aeruginosa*, has been identified in both tap and filtered water and may multiply in a moist environment. Appropriate PPE must be worn and the endoscope manufacturer's validated instructions for use (IFU) must be available.

- Purge all channels with air until dry.
- Flush all channels, including accessory channels, with alcohol until the alcohol is observed exiting the opposite end of each channel.

Note: 70% isopropyl alcohol should be used and must be properly stored in a closed container between uses. Alcohol flushes should be used even when sterile water is used for rinsing.

- Purge all channels with air.
- Remove all channel adapters.
- Dry the exterior of the endoscope with a soft, clean lint-free towel.
- Thoroughly rinse and dry all removable parts. Do not attach removable parts (e.g. valves, etc...) during storage as this can trap liquid inside. Open all valves for the same reason.
- Store the endoscope in a closed cabinet with venting that allows air circulation around the endoscopes. Hang the endoscope in a vertical position to facilitate drying (with caps, valves, and other detachable components removed, per the endoscope manufacturer's IFU). Be sure there is adequate height to allow the endoscope to hang without touching the bottom of the cabinet and sufficient space for storage of multiple endoscopes without touching.

Note: Reprocessed flexible endoscopes should not be stored in their original shipment cases.

- Be sure the storage area is kept clean and well ventilated.
- The storage time before next use should be measured and monitored.
- Flexible endoscopes should be reprocessed before use if evidence of improper drying exists (e.g. discoloration, wet spots, stains, or soil in the storage cabinet).
- Association of Perioperative Registered Nurses (AORN) recommends endoscopes be reprocessed before use if unused for more than five days.

RECORD KEEPING

Document, document, document!

The reprocessing of flexible endoscopes, accessories and related equipment should be documented for patient safety and compliance with regulatory, as well as accreditation agency requirements. Records for flexible endoscope reprocessing should include, but are not limited to:

- Date
- Time
- Endoscope identification
- Method of cleaning
- Name of person who performed the cleaning
- HLD test strip quality control and MRC test results
- Routine and unscheduled maintenance or repairs
- Disposition of defective equipment
- Personnel training and competency in the use, care and processing of flexible endoscopes and related equipment periodically, and before new endoscopic equipment and/or accessories are introduced into the practice.



This complimentary educational pocket guide reviews "best practices" for cleaning and HLD of flexible endoscopes. Users should refer to published Standards, Guidelines and Recommended Practices for more comprehensive information.

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POINT OF USE Pre-cleaning

Pre-cleaning should be performed at point of use, before bioburden has an opportunity to dry and before formal decontamination. Appropriate PPE must be worn and the endoscope manufacturer's validated instructions for use (IFU) must be available.

- Immediately after removing the endoscope from the patient, wipe the insertion tube with a wet cloth or sponge soaked in freshly prepared detergent solution.
- Place the distal tip of the endoscope into an appropriate detergent solution and suction a large volume of detergent through the endoscope until it is clear.
- Finish by suctioning air.
- Flush air and water channels, in accordance with the endoscope manufacturer's IFU.
- Flush the auxiliary water channel, in accordance with the endoscope manufacturer's IFU.
- Detach the endoscope from the light source and suction lamp.
- Attach the protective video cap (if using a video source).
- Transport the soiled endoscope to the reprocessing area (should be a separate room) in a closed container (i.e. plastic bag, container with lid) to prevent exposure to staff, patients and the environment to potentially infectious organisms.
- The transport container should be large enough that the endoscope will not be damaged by being coiled too tightly.
- The transport container must be labeled to indicate biohazardous contents. The types of label may include, but are not limited to, stickers, plastic placards or magnetic signs.
- Do not transport a soiled endoscope in the manufacturer's original shipment case, as this will contaminate the case.

LEAK TESTING Manual Steps

Leak testing should be performed in the decontamination area and before cleaning to detect damage to the interior or exterior of the endoscope. It is done before immersion into detergent solution to minimize damage to parts not designed for fluid exposure.

- Remove suction valves, air water valves, and biopsy valves. Discard those parts that are single-use, disposable.

- Attach the leak tester and pressurize the endoscope before submerging into tap water.

Note: Detergent should not be added to water before or during the leak testing.

- With the pressurized endoscope submerged, flex the distal portion in all directions, observing for bubbles. Depress the freeze and release buttons while observing the control head of the endoscope for bubbles. Check the insertion tube, the distal bending section and the universal cord for bubbles coming from the interior of the endoscope.

Note: A few bubbles may initially rise from recessed areas of the endoscope.

- Remove the endoscope from the basin and turn off the leak tester and disconnect the video cap (if applicable). Allow the endoscope to depressurize and ensure the video cap is secure and has not loosened (if applicable).
- For computerized leaking testing, refer to the leak test equipment manufacturer's IFU.
- Continue with reprocessing steps when test is completed, unless a leak is detected or damage to the endoscope is observed.

MANUAL CLEANING and RINSING

Manual cleaning and thorough rinsing of endoscopes is necessary prior to manual or automated disinfection. Appropriate PPE must be worn and the endoscope manufacturer's validated instructions for use (IFU) must be available.

- Fill a sink or basin with a fresh solution of water and a medical grade, low-foaming, neutral pH detergent formulated for endoscopes that may or may not contain enzymes. Dilute and use according to the detergent manufacturer's IFU.
- Ensure the video cap is secure and then immerse the endoscope into the detergent solution.
- Wash all debris from the exterior by brushing and wiping the endoscope while submerged in the detergent solution.
- Use a small, soft brush to clean all removable parts, including inside and under the suction valve, air and water valve, and biopsy port cover and openings. Brush all accessible endoscope channels including the body, insertion tube and the umbilicus of the endoscope. Be sure to use a brush size compatible with each channel. After each passage, rinse the brush in the detergent solution to remove any visible debris before retracting and reinserting it. Continue until there is no visible debris on the brush.

- Attach the endoscope manufacturer's cleaning adapters for suction, biopsy, air and water channels, in accordance with the endoscope manufacturer's IFU.
- Flush all channels with the detergent solution. Soak the endoscope and its internal channels for a period of time, if specified.
- Thoroughly rinse the endoscope and all removable parts with clean water to remove residual debris and detergent.
- Purge water from all channels using forced air.
- Dry the exterior with a soft, lint-free cloth.

HIGH-LEVEL DISINFECTION and RINSING

HLD destroys all viable microorganisms, except spores and is recognized as the standard for reprocessing flexible, gastrointestinal endoscopes. Appropriate PPE must be worn and the HLD manufacturer's validated instructions for use (IFU) must be available.

- Prepare the HLD solution in an appropriate size basin, according to the manufacturer's IFU. Document the date the HLD solution was poured from the original container and the date the reuse life ends.
- Before each use and according to the manufacturer's IFU, test the HLD for minimum recommended concentration (MRC) with a product specified test strip and record test results.

Note: Prior to testing, be sure to document the quality control steps as directed by the test strip manufacturer.

- Completely immerse the endoscope and all removable parts into the HLD solution and flush HLD into all channels until a steady flow of solution can be seen exiting each channel.
- Cover the soaking basin with a tight fitting lid to minimize chemical vapor exposure. Soak the endoscope in the solution for the time and temperature required to achieve HLD, per the manufacturer's IFU. Use a timer to verify the soaking time.
- For automated HLD, follow the automated endoscope reprocessor (AER) manufacturer's IFU.
- Thoroughly rinse all surfaces and all removable parts with clean water. Flush all channels, in accordance with the endoscope manufacturer's IFU. Fresh, clean water should be used for each rinse.

