

## Orientation, Annual Review Guide: Care and Handling of Flexible Endoscopes



This document details the basic steps to correctly process and maintain a flexible endoscope. This document can be used to perform a competency review during orientation and annual review for personnel responsible for care and handling of flexible endoscopes.

### Educational references:

- Manufacturer's Instructions for Use (aka IFU, DFU or product manual).
- Care and Handling of Flexible Endoscopes, 2012. Video. Richard Wolf Medical Instruments Corporation.
- Multisociety Guideline on Reprocessing Flexible Gastrointestinal Endoscopes: 2011. American Society for Gastrointestinal Endoscopy, Society of Healthcare Epidemiology of America.
- Central Service Technical Manual, 7th Edition. 2007. International Association of Healthcare Central Service Materials Management.
- AORN Perioperative Standards and Recommended Practices, 2012. Association of Perioperative Registered Nurses.
- The Basics of Flexible Endoscope Reprocessing, First Edition. 2012. Edited by Nancy Chobin.
- ANSI:AAMI ST79:2010/A3:2012, Association for the Advancement of Medical Instrumentation.

Principal Activity	Date; Orientation or Review	Date; Return Demonstration
<b>Safety</b>		
Discuss the use of Instructions for Use Manual (IFU). <ul style="list-style-type: none"> <li>Where to locate the IFU, how to obtain</li> <li>Locate reprocessing instructions within IFU</li> </ul>		
Discuss the use of Personal Protective Equipment (PPE). <ul style="list-style-type: none"> <li>Review proper PPE – Decontamination, Assembly</li> <li>How to dispose of PPE after use</li> </ul>		
Discuss, demonstrate correct methods to transport endoscopes, prevent cross-contamination. <ul style="list-style-type: none"> <li>From patient care area to decontamination</li> <li>From decontamination to disinfection, final clean storage</li> <li>From decontamination to assembly, terminal sterilization</li> </ul>		
Discuss, demonstrate safe handling to prevent damage. <ul style="list-style-type: none"> <li>Transport (case carts, trays)</li> <li>Manual handling that prevents distal tip damage</li> </ul>		
Discuss safe use of chemicals used to reprocess flexible endoscopes. <ul style="list-style-type: none"> <li>Pre-treat sprays – used in patient care area</li> <li>Enzymatic detergents &amp; dilution ratio with water, best water temperature for mixing</li> <li>Liquid disinfectants – pouring, storing, disposition of residual</li> <li>70% Alcohol</li> </ul>		
Locate chemical spill kits: <ul style="list-style-type: none"> <li>OR</li> <li>CSSD</li> </ul>		
Discuss rationale for using processed water to reprocess instruments. <ul style="list-style-type: none"> <li>Discuss the problems of normal flora in tap water for cleaning, rinsing and sterilizing instruments</li> <li>Define various processed water types: distilled, sterile, deionized, reverse osmosis</li> <li>Discuss how tap water may contribute to Biofilm formation</li> </ul>		
Discuss, demonstrate correct use of the gas cap for flexible scopes. <b>USE GAS CAP WHEN SCOPE IS PACKAGED FOR TERMINAL STERILIZATION:</b> <ul style="list-style-type: none"> <li>EO</li> <li>Hydrogen Peroxide STERRAD®, V-PRO®</li> </ul>		

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<b>Inventory Management</b>		
Review the specific process for sending endoscopes for repair and how to request replacement parts as needed.		
Identify endoscope inventory location; usual par levels.		

<b>Maintain decontamination supplies, equipment, chemicals</b>		
Demonstrate how to reorder and stock supplies and chemicals for endoscope reprocessing.		
Demonstrate process to clean, disinfect or replace reusable brushes.		
Discuss steps for machine daily maintenance; how to report equipment failures.		
Discuss methods to maintain the cleanliness of the area.		

Staff Person's Name, Title	
Primary Educator/Preceptor's Name, Title	
Secondary Educator/Preceptor Name, Title	
Secondary Educator/Preceptor Name, Title	

**For reprints of this document see:**

[http://www.richardwolfusa.com/uploads/media/Orientation\\_\\_Annual\\_Review-\\_Care\\_and\\_Handling\\_of\\_Flexible\\_Endoscopes.pdf](http://www.richardwolfusa.com/uploads/media/Orientation__Annual_Review-_Care_and_Handling_of_Flexible_Endoscopes.pdf)



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Disposable, Non-woven wrap: <ul style="list-style-type: none"> <li>• Appropriate type &amp; size of non-woven wraps for trays</li> <li>• Appropriate wrapping techniques</li> <li>• Proper methods for securing of and labeling contents</li> </ul>		
Demonstrate correct use of ancillary packaging within a tray. <ul style="list-style-type: none"> <li>• Towels, linen or non-woven</li> <li>• Tray liners</li> <li>• Silicone mats</li> <li>• Baskets</li> <li>• Dividers, posts, fasteners</li> <li>• Placement of CI within the tray</li> </ul>		
<b>Discuss and Demonstrate Low-Temperature Sterilization Methods, as per the facility.</b>		
Discuss importance of using the Gas Cap during Low-Temperature Sterilization		
Hydrogen Peroxide Gas Plasma (STERRAD®) or Hydrogen Peroxide Vapor (V-PRO®)		
EO		
Peracetic Acid		
Glutaraldehyde		
Discuss quality control monitoring and devices used in measuring sterility assurance levels for sterilized trays. <ul style="list-style-type: none"> <li>• BI <ul style="list-style-type: none"> <li>• EO</li> <li>• Hydrogen Peroxide</li> <li>• Peracetic acid</li> </ul> </li> <li>• CI <ul style="list-style-type: none"> <li>• Class 1</li> <li>• Class 5</li> <li>• Class 6</li> </ul> </li> <li>• Chemical strips – Glutaraldehyde</li> </ul>		
<b>Demonstrate correct storage protocols.</b>		
Clean storage following cleaning or disinfection: <ul style="list-style-type: none"> <li>• Place a tag on endoscope to detail pertinent reprocessing information</li> <li>• Demonstrate transport methods to protect scope from damage &amp; cross-contamination</li> <li>• Discuss importance of hanging scope in vertical dependent position during storage</li> <li>• Discuss correct storage location to prevent damage or cross-contamination</li> </ul>		
Sterile storage following terminal sterilization: <ul style="list-style-type: none"> <li>• Demonstrate transport techniques that maintains packaging integrity</li> <li>• Discuss acceptable environmental conditions for sterile storage, as defined in ANSI: AAMI ST: 79</li> </ul>		

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<b>DO NOT USE GAS CAP WHEN SCOPE IS:</b> <ul style="list-style-type: none"> <li>• In liquids of any kind (cleaning, soaking, liquid disinfection, STERIS SYSTEM 1E®)</li> <li>• During patient care</li> </ul>		
List the potential patient risk when scopes are mismanaged; their role in avoiding damage to endoscopes.		
<b>Review surgical procedures that use flexible endoscopes and accompanying surgical instruments.</b>		
Laparoscopy, Pelviscopy (laparoscopes, choledochoscopes)		
Cystoscopy, Ureteroscopy		
Hysteroscopy		
Bronchoscopy		
Gastrointestinal tract		
Sinoscopy		
<b>Discuss, demonstrate use of Spaulding Classification</b>		
Review Spaulding Classification Chart. <ul style="list-style-type: none"> <li>• Critical, must sterilize</li> <li>• Semi-critical, may HLD, ideally sterilize</li> <li>• Non-critical, clean or LLD</li> </ul>		
Discuss the use of Spaulding Classification Chart to select correct reprocessing methods for flexible scopes based on surgical use.		
<b>Pre-clean flexible endoscope, point of use</b>		
Discuss method to clean endoscope before transporting from the patient care area, point of use. <ul style="list-style-type: none"> <li>• Use sterile or tap water, enzymatic detergent or enzymatic sponge to clean channels, attachments and endoscope exterior</li> <li>• Disassemble valves &amp; attachments for initial cleaning</li> <li>• Flush valves &amp; attachments using syringe or suction</li> <li>• Flush channels with water/detergent solution using syringe or suction</li> <li>• Wash the endoscope's exterior with soft, lint-free cloth or endoscope sponge</li> <li>• Discuss techniques to prevent soils drying on scope</li> </ul>		
<b>Initial Disassembly, Leakage Testing</b>		
Disassemble all attachments, soak in enzymatic detergent.		
Perform leakage test on endoscope – DO NOT PLACE IN ANY SOLUTION OR WATER! <ul style="list-style-type: none"> <li>• Ensure the correct leakage testing device is used for the specific endoscope per IFU</li> <li>• NOTE: Leakage test devices are NOT universal</li> </ul>		
Demonstrate deflating the endoscope before disconnecting the leakage test device.		
Discuss correct protocol when sending endoscope for repair.		

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<b>Demonstrate manual cleaning and rinsing</b>		
Rinse pre-cleaning solutions, gross debris before cleaning.		
Discuss rationale for NOT USING GAS CAP when cleaning.		
Immerse endoscope into fresh enzymatic detergent, soak for prescribed time.		
Flush channels with enzymatic detergent using correct pressure cleaning pistol or syringe.		
Brush channels using proper technique until no visible debris on the brush.		
Brush valves, ports and attachments.		
Flush debris after brushing (scope channels, attachments, valves) using correct pressure cleaning pistol or syringe.		
Wash outside of scope with soft, lint-free cloth; includes eyepiece and distal optics.		
Rinse with processed or sterile water: scope exterior, channels, valves using correct pressure water pistol or syringe.		

<b>Demonstrate correct drying protocol following manual cleaning and rinsing</b>		
Discuss techniques to dry a scope: Prior to manual disinfection, clean storage or terminal sterilization.		
Demonstrate how to use a syringe, suction or low-pressure filtered compressed air to dry the channel.		
Discuss the rationale to use 70% alcohol to dry the channels.		
Discuss when and how to use a drying cabinet.		
Discuss rationale and demonstrate how to hang a scope in a vertical, dependent position for drying.		
Discuss process to keep scope parts with the scope after drying.		

<b>Demonstrate how to perform Manual Disinfection, High-level Disinfection</b>		
Discuss correct usage of the chemical, using the product label or manufacturer's IFU.		
Demonstrate how to perform chemical quality check, document the results.		
Demonstrate methods to dry the channels and scope before using a manual disinfectant.		
Discuss rationale for NOT USING GAS CAP during manual disinfection.		
Demonstrate techniques to ensure the scope is in full contact with disinfectant (scope, channels and accessories) and methods to contain the disinfectant fumes from the environment.		
Discuss acceptable exposure time and temperature for manual disinfection.		
Discuss importance of rinsing with processed water after completing disinfection: channels and scope exterior, accessories.		

<b>Demonstrate correct drying techniques following manual disinfection.</b>		
Demonstrate the use of syringe, suction or low-pressure filtered compressed air to dry channels, dry exterior.		
Discuss the use of a drying cabinet.		

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Discuss rationale and demonstrate how to hang scope in a vertical, dependant position.		
Discuss the rationale for 70% alcohol when drying the channels.		

<b>Demonstrate how to use machine for reprocessing.</b>		
Discuss methods to ensure machine is appropriate to use for specific model of flexible fiberscope.		
Demonstrate or discuss operating steps for machine at your facility.		
Discuss rationale for NOT USING GAS CAP during machine reprocessing.		
Discuss the importance of performing a leakage test even if the machine performs an automated test.		
Discuss the importance of performing a manual cleaning process even though the machine may clean and disinfect.		

<b>Demonstrate steps to dry endoscope following machine reprocessing.</b>		
Demonstrate the use of a syringe or use of a low-pressure, filtered compressed air device to dry the channels.		
Demonstrate how to dry scope exterior, accessories.		
Discuss the use a drying cabinet; rationale for hanging the scope in a dependent, vertical position.		
Demonstrate the use 70% alcohol to dry channels if machine does not do this step.		

<b>Inspection, Function and Cleanliness</b>		
Demonstrate the physical inspection for an endoscope: <ul style="list-style-type: none"> <li>• Activate the bending mechanisms – distal tip articulation</li> <li>• Inspect scope's covering &amp; distal tip covering – cracks, holes or wear in the bending rubber</li> <li>• Inspect body of endoscope – cracks, chips, damage</li> <li>• Inspect the eyepiece – cracks, fogging, noticeable water under the lens</li> <li>• Inspect the distal lens – cracks, fogging, noticeable water under the lens</li> <li>• Fiber optics, light – check for adequate illumination (distal lens), using a portable light source or room light</li> </ul> Demonstrate cleanliness inspection, using designated materials for daily and random quality checks: <ul style="list-style-type: none"> <li>• Scope exterior, channels</li> <li>• Eyepiece and distal lens</li> <li>• Light post, light transmission from light post to distal tip</li> </ul>		

<b>Discuss, demonstrate packaging for sterilization &amp; sterile storage</b>		
Correct utilization of various sterilization packaging: <ul style="list-style-type: none"> <li>• Rigid containers</li> <li>• Open or vented trays with non-woven wraps</li> </ul> Rigid container systems: <ul style="list-style-type: none"> <li>• Remove excess moisture</li> <li>• Ensure latches allow for proper seal</li> <li>• Ensure rubber gaskets are intact, no dry-rot</li> <li>• Insert new filters</li> <li>• Ensure placement of tamper proof seals, external labels</li> </ul>		