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Play it safe when handling endoscopes

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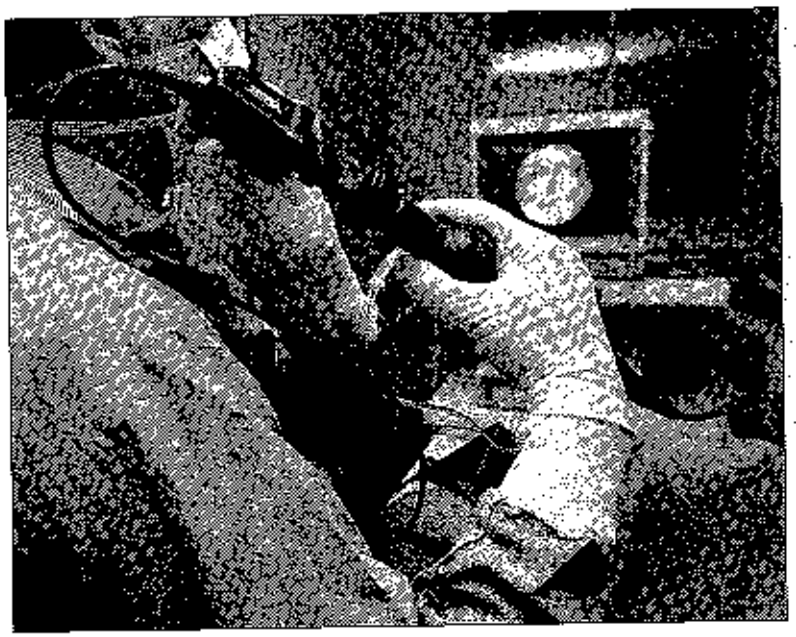

Endoscopic surgery plays a major part in today's healthcare practice with millions of endoscopic procedures performed each year in the United States. Patients undergoing endoscopic procedures face potential risk for healthcare acquired infection if endoscopes and endoscopic accessories aren't adequately reprocessed. Pathogen transmission of HIV and hepatitis B and C viruses, and resistant pseudomonas aeruginosa pose the greatest concern.

The potential risk for serious healthcare-acquired infections from contaminated endoscopes and recent outbreaks of contaminated endoscopes associated with failure to follow established cleaning and disinfection or sterilization guidelines, as well as the use of defective equipment, underscore the need for added vigilance in endoscope reprocessing.

Endoscopes are sophisticated, reusable medical devices that require proper care and handling, adequate cleaning, and high-level disinfection or sterilization before use. Endoscopic instruments have an array of lumens, channels, attachments, and multiple moving parts that are challenging to clean. The complex, intricate designs of flexible and rigid endoscopes may accumulate organic debris and microorganisms a nightmare for infection control. Healthcare employees who are responsible for cleaning, disinfecting/sterilizing reusable endoscopes are at potential risk for blood and body fluids and chemical exposure.

Safe practices

Safe handling and processing practices are critical to prevent the spread of infection. The Occupational Safety and Health Administration (OSHA) mandates that personal protective equipment be supplied by employers and worn by employees when there's the potential for blood and body fluid exposure to reduce the risk of direct exposure to blood and body or other fluids that may contain potentially infectious microorganisms.[1] When processing endoscopes, employees must follow the OSHA mandate and wear appropriate gloves, gown, facemask, eye protection/shield, and hair covering to protect themselves.

Proper cleaning is the first critical step in the reuse process. Endoscopes are typically cleaned using a multistep manual process. If endoscopes aren't adequately cleaned, subsequent high-level disinfection or sterilization may not be achieved. Endoscopes should be cleaned promptly after each use to prevent debris from drying on the device, which could prevent or impede the penetration of the disinfectant or sterilant. The manufacturer's written instructions should

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be followed for cleaning and selection of appropriate cleaning products that ensure compatibility with the endoscope's materials. Generally, enzymatic detergents are recommended to clean endoscopic instruments. It's important to use enzymatic detergents for which efficacy data is available from the manufacturer for soil removal and bioburden reduction.

The level of disinfection/sterilization of endoscopic instruments should be based upon the Spaulding classification system. According to the Spaulding system, items penetrating skin or mucous membranes or entering a sterile body cavity, such as endoscopic biopsy forceps, are classified as critical items and require sterilization. Items touching intact mucous membranes, such as flexible gastrointestinal (GI) endoscopes are classified as semicritical items and require high-level disinfection at a minimum.[3]

Based on the specific endoscope manufacturer's written instructions, a manual or automated disinfection process may be recommended. It's important to consult the automated endoscope reprocessor labeling to determine compatible brands and models of endoscopes and identify limitations to process certain brands and models of endoscopes and accessories. Select and use a high-level disinfectant/sterilant compatible with the endoscope and the equipment, and make sure to monitor and document the process for quality.

After high-level disinfection, the manufacturer's instructions should be followed for rinsing the endoscope and flushing the channels with water, and subsequently flushing channels with alcohol and drying with forced air to reduce the possibility of recontamination by waterborne microorganisms.

Manufacturers continually develop new equipment offering advanced technology. An endoscope cleaner and reprocessor recently received FDA clearance for use in the United States.[2] The automated washer/disinfection system virtually eliminates the requirement for labor-intensive manual cleaning of endoscopes and performs automated leak detection and high-level disinfection. The advanced equipment technology reduces the risk of human variation in cleaning and disinfecting endoscopes, an important consideration in infection prevention.

Education/training

Establishing, implementing, and maintaining effective policies and procedures for processing endoscopes play an important role in infection prevention and employee and patient safety. Be mindful that ensuring staff education and training, and enforcing compliance are important aspects of the total process and critical to the safety and success of endoscope use.

Be certain that applicable regulatory requirements and device manufacturer's instructions are reflected in policy and procedure development and practice, and protocols are based on current standards and recommended practices impacting endoscopes. Professional organizations have published guidelines reflecting the care, cleaning, decontamination, maintenance, handling, storage, high-level disinfection or sterilization of flexible and rigid endoscopes and related accessories.

The Multi-society Guideline for Reprocessing Flexible Gastrointestinal Endoscopy was published in 2003 as a consensus position statement recommending evidence-based guidelines for reprocessing GI endoscopes.[3] Another resource, the Association of periOperative Registered Nurses (AORN) 2007 Standards and Recommended Practices and Guidelines includes a recommended practice for Cleaning and Processing Endoscopes and Endoscope Accessories.[4] Sample protocols for cleaning and high-level disinfection of endoscopes are included in the document.

As endoscopes and endoscopic accessories continue to evolve, it's more important than ever that healthcare professionals respond to the challenges involved with these sophisticated medical devices. Effective policies and procedures for endoscope reprocessing, an educated and trained staff that perform the processes with appropriate competence and personal integrity as well as utilization of efficient and effective products/equipment are critical to help ensure infection prevention and employee and patient safety. **OR**

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