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GI endoscopy

Scope storage: Don't get hung up on a number

ow long can a flexible endoscope be stored before it needs to be reprocessed for use in a patient? Guidelines differ, raising questions about the appropriate storage or "hang time."

Evidence is limited. What's the best course? How do accreditation surveyors assess this?

Though infections from GI endoscopes are rare, estimated at about 1 in 1.8 million procedures, contaminated scopes are linked to more health care-associated infection outbreaks than any other medical device, according to the Centers for Disease Control and Prevention.

All of the published incidents of pathogen transmission in GI endoscopy are linked to the failure to follow cleaning and sterilization/disinfection guidelines or defective equipment, notes the 2011 Multisociety Guideline on Reprocessing Flexible GI Endoscopes.

Improper cleaning and reprocessing

In discussing hang time, don't miss the real reason infections are spread—improper scope cleaning and reprocessing.

The most critical aspect of preventing transmissions is to be sure the whole process is followed correctly, stresses Kathryn Snyder, BSN, MM, RN, CGRN, endoscopy/ bronchoscopy/motility manager at the University of Virginia (UVA), Charlottesville. She offers a few reminders:

- Is your staff up to date on the latest society guidelines and manufacturers' instructions for endoscopy equipment?
- Are all reprocessing steps followed all of the time?
- Does the organization provide the resources to ensure processes are performed correctly?
- Do endoscopy technicians receive annual training and competency validation?
- Is documentation complete and consistent for endoscope reprocessing throughout your organization?

Guidelines on hang time

Two major guidelines differ in their recommendations on storage for flexible scopes based on the same 3 studies (sidebar, p 20):

• AORN advises reprocessing scopes before use if unused for more than 5 days.

• The Multisociety Guideline from the American Society for Gastrointestinal Endoscopy and Society for Healthcare Epidemiology of America says the issue is unresolved and data is insufficient, adding that reuse within 10 to 14 days of high-level disinfection appears safe.

The Society of Gastroenterology Nurses and Associates (SGNA) standards, revised in 2012, refer to the Multisociety Guideline, saying the issue "warrants further data and research."

Making an informed choice

In considering hang time, managers need to review the evidence and make an in-

Training: The missing piece in endoscope reprocessing

Training is often the missing piece in endoscope reprocessing, notes Kathryn Snyder, BSN, MM, RN, CGRN.

At her institution, the University of Virginia, Charlottesville, endoscopy techs are oriented for 6 weeks, not only on scope reprocessing but also on assisting the care team before, during, and after the procedure. The techs are retrained annually and must demonstrate competency to an expert.

Recently, endoscopy nurses also began receiving annual training and competency validation on scope reprocessing and handling.

"We found nurses weren't accustomed to trouble shooting scopes and assisting the MDs if the scope got clogged and so forth," she says. "It was an eye opener for some of our newer nurses who had never reprocessed a scope before."

Nurses also are better able to respond to patients' questions about reprocessing that they may have read about on the internet.



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formed decision appropriate to their organization, advises Cindy Taylor, RN, BSN, MSA, RN, CGRN, nurse manager of GI endoscopy/ bronchoscopy at Hunter Holmes McGuire VA Medical Center, Richmond, Virginia.

"I don't think there is a right or wrong answer, as long as there is a rationale to back up the decision that is supported by the literature, the standard of care, and society guidelines," she says.

"Be sure your policy is attainable," she adds. "Better to not have a policy than to have one and not follow it."

Some issues to keep in mind:

- GI endoscopes must be properly cleaned and at a minimum subjected to high-level disinfection (HLD).
- Consult with your physicians and infection prevention experts on the proper process for endoscopes used in immunosuppressed patients or in sterile regions such as the biliary tree, pancreas, or peritoneal space.
- If endoscopes are turned over frequently, storage time may not be an issue.
- Keep in mind that in the studies of storage time, the types of organisms cultured from endoscopes after storage were primarily non-pathogenic skin bacteria.

The VA's policy

The Veterans Health Administration currently follows a directive to reprocess unused scopes after 12 days of hang time, Taylor notes.

The hang time is documented:

- using a printout from the reprocessing machine
- keeping the printout in a plastic sleeve attached to the scope by a beaded chain
- scanning reprocessing information into each patient's medical record, including the HLD parameters, date reprocessed, person who reprocessed the scope, and the reprocessing machine number.

Studies: Endoscope storage

Contamination after storage

An Australian study that sampled 200 endoscopes before the first case of the day found the overall contamination rate was 15.5%, with a pathogenic contamination rate of 0.5%. The mean time between the last case on one day and reprocessing before the first case on the next day was 37.6 hours (median 18.8 hours).

The most frequently identified organism was coagulase-negative *Staphylococcus*, an environmental nonpathogenic organism.

-Osborne S, Reynolds S, George N, et al. Endoscopy. 2007;39:825-830.

Testing reprocessed scopes

A study tested 3 types of GI scopes (upper endoscopes, duodenoscopes, and colonoscopes) that had been reprocessed and stored in dust-proof cabinets. Samples were obtained daily for 5 days from the scopes' surfaces, piston valve openings, and accessory channels. They then were brushed and flushed after 5 days.

All scopes were bacteria free immediately after high level disinfection. In all, 4 of the 135 daily assays were positive, all for skin bacteria cultured from the endoscope surface. All flush-through samples were sterile.

> —Rejchrt S, Cermak P, Pavlatova L, et al. Gastrointest Endosc. 2004;60:76-78.

Three-phase study

A 3-phase study evaluated 4 endoscopic retrograde cholangiopancreatography (ERCP) scopes and 3 colonoscopes.

- Phase 1: Scopes were assayed after high-level disinfection and daily for 2 weeks.
- Phase 2: This procedure was repeated to confirm the results.
- Phase 3: Endoscopes were assayed after high-level disinfection and again after 7-day storage.

In phase 1, 6 of 70 assays were positive, all in the first 5 days. No cultures were positive in phase 2. In phase 3, 1 scope had a positive culture but only for *Staphylococcus epidermidis*, a low-virulence skin organism.

The authors conclude that reprocessing is unnecessary after at least 7 days of disuse and possibly up to 2 weeks.

-Vergis A S, Thomson D, Pieroni P, et al. Endoscopy. 2007;39:737-739.

Immediately prior to the scope's use, the plastic sleeve is removed, and the reprocessing information is verified by a nurse or technician.

"This has become part of our time-out before the procedure," says Taylor.

Practice at UVA

UVA is considering adopting a 2-week storage time for flexible scopes, says Snyder. Storage time will be tracked by:

• using a standardized form to document the data and time endoscopes were reprocessed and kept on file for 3 years



- tagging each scope with the date and time it was reprocessed
- removing the tag just prior to the scope's insertion in the next patient.

"The idea is that you never use a scope without taking the tag off," she says. "And you take the tag off immediately before insertion, not when you are setting up the scope." That is in case a physician decides to use a different scope at the last minute.

When surveyors visit

A surgeon surveyor from the Joint Commission asked about hang time in a 2010 visit to Taylor's facility. "He just wanted to know if we had a policy," she says.

At UVA, surveyors did not ask about hang time during recent inspections by the Joint Commission and Centers for Medicare and Medicaid Services (CMS). But that experience doesn't necessarily apply to others, Snyder cautions. Surveys vary by state and surveyor.

—Pat Patterson

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Have a question on the OR revenue cycle?

Keith Siddel will respond to questions in the column. Send your questions to editor@ormanager.com You can also reach Siddel at ksiddel@hrmlc.com.