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New forced-air system improves drying of endoscopes

Key takeaways:

- After an alcohol flush and air purge using an automated reprocessing machine, 100% of endoscopes were still wet.
- Endoscopes put through a forced-air drying system did not retain water.

A new forced-air system was more effective at drying and thus cleaning endoscopes than standard alcohol flush and air purge cycles, researchers found.

"Outbreaks of infection have been linked to inadequate endoscope drying because the presence of retained fluid can foster the growth of bacteria and fungi inside endoscopes," **Cori L. Ofstead, MSPH,** president and chief executive officer of Ofstead & Associates in Bloomington, Minnesota, told Healio.



A forced-air drying system was more effective at drying endoscopes than the standard use of an automated endoscope reprocessing machine, researchers reported.
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"Our research team had previously found that most endoscopes in the field are still wet when put into storage cabinets. Although conventional wisdom holds that flushing alcohol through the channels will aid in drying, recent studies have that the presence of alcohol actually impedes drying in small endoscope channels," she said.

According to Ofstead, current standards and guidelines recommend 10 minutes of forced air be used to dry channels, but the researchers were not sure this would be effective if alcohol was used before the final air-purge cycle in automated endoscope reprocessing (AER) machines.

"We aimed to evaluate the effectiveness of a new, automated forced-air drying system that circulated filtered air through channels after removing endoscopes from AERs," Ofstead said.

In an article published in the *American Journal of Infection Control*, Ofstead and colleagues explained that the new forced-air drying systems (FADS) "connects the suction and air-water cylinders on the control handle and auxiliary water inlet of the gastrointestinal endoscopes to simultaneously dry all channels."

To compare the efficacy of AER machines with the new FADS, Ofstead and colleagues evaluated drying with 22 gastroscopes and 20 colonoscopes at a health care facility. They assessed drying using droplet detection cards, visual inspection of air and water connectors, suction connectors and distal ends, and by using borescope examinations of the endoscope interiors.

After default AER alcohol and air purge cycles, the researchers reported that all 42 of the endoscopes were still wet, with "substantial" fluid emerging from distal ends during the 15 seconds of the 10-minute FADS cycle and droplets emerging from air, water and suction connectors.

After completing the FADS cycle, all 42 endoscopes were dry and none retained water, which Ofstead and colleagues said suggests a need to evaluate the effectiveness of current recommended drying practices.

"The study determined that multiple components of endoscopes remained wet after AER cycles intended to dry them, and it provided evidence bolstering standards and guidelines that recommend a minimum of 10 minutes forced air be used after removing endoscopes from the AER," Ofstead said. "In addition, the findings support the use of tools to determine whether drying practices are effective enough to prevent bacterial and fungal growth inside endoscopes."

References:

Ofstead CL, et al. *Am J Infect Control*. 2024;doi:10.1016/j.ajic.2024.02015.

Ofstead CL, et al. DS-02. Presented at: APIC 2024; June 3-5, 2024; San Antonio (hybrid)

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Collapse

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