

## 3 Out of 20 Scopes Used to Examine GI Tracts and Colons Improperly Cleaned

Association for Professionals in Infection Control

*Scopes at 5 US hospitals analyzed for presence of 'bio dirt'*

Three out of 20 flexible gastrointestinal (GI) endoscopes used for screening were found to harbor unacceptable levels of "bio dirt" – cells and matter from a patient's body that could pose potential infection risk -- according to a study of endoscopes used at five hospitals across the U.S.

In an abstract to be presented at the [40th Annual Conference](#) [1] of the Association for Professionals in Infection Control and Epidemiology ([APIC](#) [2]), researchers in the 3M Infection Prevention Division analyzed 275 flexible duodenoscopes, gastroscopes, and colonoscopes and found that 30 percent, 24 percent, and 3 percent respectively did not pass a cleanliness rating.

"Three out of 20 is an unexpectedly high number of endoscopes failing a cleanliness criterion," said Marco Bommarito, PhD, lead investigator and lead research specialist, 3M Infection Prevention Division. "Clearly, we'd like no endoscopes to fail a cleanliness rating."

In the last several years there have been reports of improperly cleaned endoscopes at healthcare facilities across the country, including the Veterans Administration, in which thousands of patients required testing for HIV, as well as hepatitis B and C. According to the Centers for Disease Control and Prevention, who published guidelines for reprocessing endoscopes in 2008, more healthcare-associated outbreaks have been linked to contaminated endoscopes than to any other medical device.<sup>1</sup> In addition, cross-contamination from flexible endoscopes has been identified by the ECRI Institute, an independent organization that researches patient safety and quality, as a leading health hazard.<sup>2</sup>

Annually between 15 and 20 million endoscopy procedures are conducted with reusable endoscope devices to screen various components of a patient's GI tract. These devices allow healthcare providers to investigate the surface of this organ and identify issues such as polyps or colon cancer. Duodenoscopes, gastroscopes, and colonoscopes examine the duodenum – or the first section of the small intestine, the stomach, and the colon, respectively.

After an endoscope is used for a procedure it is sent for cleaning before being reused with another patient. This reprocessing involves two steps: first, manual cleaning with an enzymatic cleaner and flushing by a hospital technician and second, soaking the device in a high-level disinfectant. The first step is vital to ensure that the disinfection process is effective. After manual cleaning is completed, the technician visually inspects the instrument to ensure cleanliness.

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However, this study has found that contamination can remain on the device and may be invisible to the naked eye.

In the study, after the manual cleaning step of the decontamination and disinfection process, cleaning technicians at five hospitals across the U.S. were asked to flush the scopes with sterile water, and this sample was analyzed by researchers for adenosine triphosphate (ATP) – a marker of bio contamination. The amount of ATP, in relative light units (RLUs), was measured with a hand-held luminometer. Based on previously published clinical data, a threshold for "pass/fail" was set at 200 RLUs.<sup>3,4</sup> Any instruments with more than 200 RLUs were identified as a cleaning failure.

"The cleaning protocols for flexible endoscopes need improvement, such as guidelines tailored to the type of scope or identifying if there is a critical step missing in the manual cleaning process, and documented quality control measures" said Dr. Bommarito. "These types of improvements could have a positive impact on patient safety."

For more information, visit [Association for Professionals in Infection Control](#) [3].

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