SCIENTIFIC EVIDENCE

related to single-use and reusable gastroscopes

CONTAMINATED GASTROSCOPES

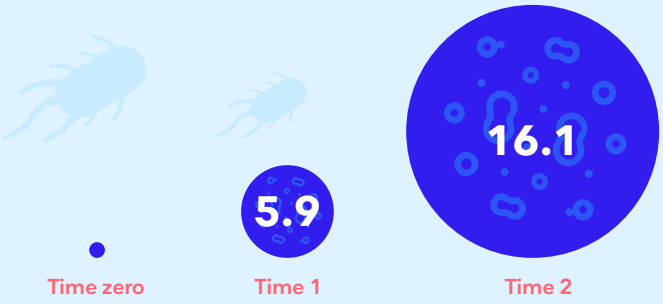
Pineau, 2023:

Microbiological study including 90,311 endoscope samples finds widespread presence of microorganisms in endoscope channels, including fungi, Bacillus, Coagulase-negative Staphylococcus, Micrococcus and Pseudomonas species. 13% of endoscopes require quarantine, while 21.1% show unsafe contamination levels. The non-compliance rate of the gastroscopes was 10.2%-19.2%. Current reprocessing procedures are insufficient, and ISO15883-4 testing is limited. Endoscope sampling is crucial for verification. Increased bacterial contamination is linked to higher infection transmission, and therefore standardized methods and threshold limits are needed.

Ultrasound gastroscopes	10.2 - 19.2%
Gastroscopes	11.2 - 22.8%

Guadagnin SVT et al., 2023

Bacterial contamination was detected on reprocessed flexible gastroscopes stored in non-Forced-Air Drying (FAD) cabinets overnight (12h) and increased with longer storage time (60 h). Contamination in "Time 1" and "Time 2" was 5.9 and 16.1 times greater than in "Time zero", respectively. The bacteria in biofilm multiply in the absence of FAD. Evidence-based criteria should be available for storage time according to the cabinet available.



Goyal et al., 2022: (Meta-analysis)

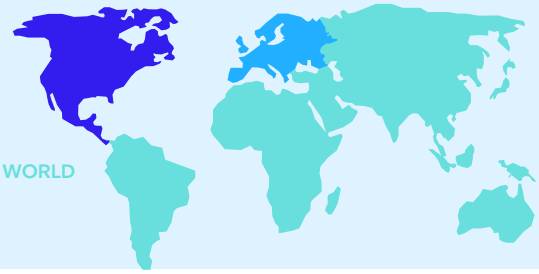
Approximately 20% of reprocessed gastrointestinal endoscopes may be contaminated when used in patients. This contamination rate varies across different types of endoscopes, geographies and colony-forming unit (CFU) thresholds. The elevator mechanism is not the only source of contamination, and guidelines should include more surveillance of the endoscope channels during reprocessing.

Contamination rates

US
6.01%

EU
18.16%

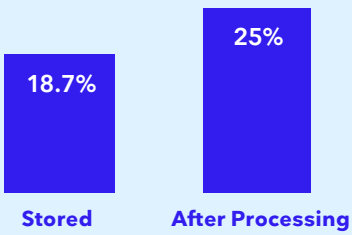
REST OF THE WORLD
42.10%



Madureira RADS, Oliveira AC. 2022

There are significant gaps in the pre-cleaning and cleaning stages of gastroscopes, colonoscopes and duodenoscopes in in-hospital health services. For gastroscopes a contamination level of 18.7% and 25% was found from stored and after processing, respectively, leading to the presence of protein residues and the growth of potentially harmful microorganisms. This highlights potential safety limitations in the endoscope-processing procedures, which may compromise disinfection processes and the safe use of endoscopes in patients.

Contamination level, gastroscopes



Larsen et al., 2021

These study findings indicate that contamination issues with gastroscopes are acknowledged amongst European gastrointestinal endoscopists. The average stated contamination rate across countries was 10.2% for gastroscopes. A total of 26% of the endoscopists were unaware of the reprocessing setup at their endoscopy unit.

10.2%
for reusable gastroscopes

Scan the QR code to learn more about single-use gastroenterology

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