

SCIENTIFIC EVIDENCE

related to single-use and reusable gastroscopes



CONTAMINATION

Multiple studies highlight the widespread presence of microorganisms in endoscope channels, sometimes higher than the target level. This underscores the urgency for improved reprocessing methods to mitigate contamination risks, and stresses the critical need to refine endoscope reprocessing procedures. Thereafter new alternatives to safeguard patient well-being and reduce contamination risks may be needed.

 [Pineau, 2023](#)
[Guadagnin et al., 2023](#)
[Goyal et al., 2022](#)
[Madureira RADS, Oliveira AC. 2022](#)
[Larsen et al., 2021](#)



INFECTION

A series of studies have explored infection outbreaks related to medical procedures, emphasizing the importance of infection control measures for different procedures, such as EGD, ERCP, and CLN. Single-use devices were suggested as a potential solution for reducing pathogen transmission, whilst other tools such as whole genome sequencing (WGS) surveillance, combined with a machine-learning algorithm, could also help to prevent infections. Higher post-endoscopic infection rates were found for EGD than for screening colonoscopy and screening mammography.

 [Scholz et al. \(2023\)](#)
[Sunderman et al. \(2020\)](#)
[Wang et al. \(2018\)](#)



ORGANIZATIONAL IMPACT

Recent research in gastrointestinal endoscopy has brought attention to critical organizational issues emphasizing the importance of improving patient care and procedural efficiency within this area. 13% of European gastrointestinal endoscopists frequently encountered delays due to gastroscopes unavailability before procedures, irrespective of the centre's volume. Moreover, the risks associated with the intrahospital transport of critically ill upper gastrointestinal patients could be reduced by 46% if ICUs had the necessary medical equipment and utilities. Single-use gastroscopes could contribute to solving these organizational matters.

 [Larsen et al. \(2021\)](#)
[Borja et al. \(2023\)](#)



PERFORMANCE

Single-use gastroscopes can be effective and may offer advantages in the medical field for urgent endoscopic evaluation and treatment of upper gastrointestinal bleeding (UGIB) and endoscopic submucosal dissection (ESD) for early gastric cancer, demonstrating high technical success rates and successful therapeutic interventions. Single-use gastroscopes mitigate bacterial growth and cross-infection risks associated with reusable endoscopes.

 [Ebigbo et al. \(2023\)](#)
[Okimoto et al. \(2023\)](#)



HEALTH ECONOMICS

The case study showcases single-use endoscope benefits, with positive quality perceptions and cost savings of around \$38,000 annually (\$126.23 per procedure). Adopting Ambu aScope Gastro could potentially enable 52 extra bariatric surgeries per year and an increased reimbursement revenue of \$800k.

 [Hoffman and Cool 2023](#)



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

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