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Summary

Flexible endoscope channel cleaning; Insights into endoscope architecture (Nanosonics)

UEG Week Barcelona 2026 | Presentation

Nurses

October 17, 2026

The complex internal architecture of flexible endoscopes, including narrow channels, multiple junctions, and variable diameters, creates significant challenges for manual cleaning and poses risk for persistent microbial contamination and biofilm formation.

KEY POINTS

- The air water channel is the most complex, cannot be brushed due to small diameter, and relies only on flushing for cleaning, yet contains multiple cylinders, connectors, and a y-piece that are difficult to reach with cleaning solutions.
- Flow rates in narrow endoscope channels are severely limited—the speaker stated the air water channel allows only 15ml (one tablespoon) of cleaning agent per minute, compared to 135ml per minute in the working channel.
- When endoscopes are coiled in the cleaning sink, the brush may travel along the outer wall while the inside curve remains uncleaned, and damaged lumens with surface roughness from instrument use show 3.2-fold greater bacterial attachment than new tubing.
- Simethicone, used clinically to reduce bubbles and improve visualization, is oil-based and can leave dried residue in channels that poses a reprocessing challenge, with the speaker noting there are no clear solutions today when relying only on manual cleaning.
- The speaker emphasized that endoscopes are designed for clinical function rather than ease of cleaning, creating closed environments with wet-dry cycles where microorganisms can thrive and current manual methods may be inadequate.

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