

# EXPERIMENTAL AND CLINICAL VALIDATION OF A NOVEL VENTURI EFFECT-BASED ENDOSCOPE CLEANING AND DRYING SYSTEM

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UEG Week Berlin 2025

Poster

Pancreas

October 7, 2025

**A novel Venturi Clean and Dry System using physics principles significantly outperformed conventional channel brushes in laboratory and clinical testing of endoscope reprocessing, achieving protein and hemoglobin removal below safety benchmarks and complete drying in under 4 minutes.**

## KEY POINTS

- In head-to-head laboratory testing with three commercial brushes, the Venturi Clean system achieved protein residual of negative  $0.64 \log_{10} \mu\text{g}/\text{cm}^2$  and hemoglobin residual of negative  $2.69 \log_{10} \mu\text{g}/\text{cm}^2$ , significantly outperforming all comparators ( $p < 0.001$  to  $p < 0.0001$ ) and exceeding ISO and AAMI benchmarks.
- None of the three comparator brushes met protein standards and only one met hemoglobin standards in the test setting.
- Clinical testing across 43 endoscopes at three independent sites showed no detectable residual protein after a single Venturi pass and complete drying in 4 minutes or less, verified by visual inspection and moisture assay with sensitivity at least  $0.05 \mu\text{L}$ .
- Scope turnaround time was reduced by 31 to 56 minutes compared to published measurements using manufacturer instructions, and nurse and technician ease-of-use feedback was positive.
- The single-use devices use computational fluid dynamics to create self-centering 360-degree hydrodynamic cleaning forces and aerodynamic drying forces without requiring a pump; the authors serve as clinical advisors to the manufacturer GI Scientific LLC.

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