

MIXED-REALITY HOLOGRAPHIC SCREENS AS THE REPLACEMENT FOR MONITORS IN THE ENDOSCOPY SUITE: A PILOT STUDY

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Poster

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A single-center trial of 30 operators using mixed-reality holographic displays during endoscopic procedures demonstrated technical feasibility with good interconnectivity and predominantly positive user acceptance ratings.

KEY POINTS

- 30 operators performed 30 diagnostic endoscopic procedures (15 esophagogastroduodenoscopies, 10 colonoscopies, 3 cholangioscopies, 2 endoscopic ultrasounds) using mixed-reality holographic monitors with VR lenses as replacements for conventional monitors.
- Technical performance showed mean latency of 89.7 ± 2.87 ms and frame rate of 58.50 ± 1.11 frames per second.
- User acceptance was predominantly positive: 90% rated gesture functionality as good or very good, 90% rated gesture learnability as easy or very easy, 100% agreed or totally agreed on lens comfortability, and 93.4% agreed or totally agreed on posture comfortability.
- Holographic image quality received more variable ratings: 73.3% rated it as good or very good, 16.7% as acceptable, and 10.0% as bad.
- The authors conclude that the system can replace surgical monitors with good interconnectivity and frame rate, and recommend prospective studies assessing more cases, remote assistance, and potential complications for real-world evaluation.

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