gutflix
GI learning, personalised

Summary

AUTOMATED LAYER-SPECIFIC BOWEL WALL STRATIFICATION FROM INTESTINAL ULTRASOUND ENABLES OBJECTIVE ASSESSMENT OF EARLY POST-OPERATIVE CROHN'S DISEASE: THE PROSPER STUDY

Enrico Grisan

UEG Week Barcelona 2026 | Presentation

Colorectal | IBD

October 19, 2026

A novel AI model achieved excellent correlation (CCC 0.78-0.89) with expert assessment for automated bowel wall thickness measurement across different intestinal segments in post-operative Crohn's disease using intestinal ultrasound.

KEY POINTS

- The ResNet18-based model distinguished informative from non-informative ultrasound frames with 87.0% accuracy (95% CI 79.0-94.9), 100% sensitivity (95% CI 91-100), and 69% specificity (95% CI 52-85.8).
- Automated bowel wall thickness measurement showed very high correlation with manual expert assessment in the neoterminal ileum (CCC 0.89, mean absolute error 8.36 pixels, mean percentual error 25.0%) and colon (CCC 0.83, mean absolute error 8.66 pixels, mean percentual error 22.7%).
- The model maintained good performance even in the anatomically challenging anastomotic region (CCC 0.78, mean absolute error 8.76 pixels, mean percentual error 22.7%).
- The automated approach provides objective and reproducible bowel wall layer stratification and thickness measurement, addressing the substantial interobserver variability that limits current intestinal ultrasound interpretation.
- The model was developed using 341 frames from 43 videos from patients enrolled in the international, multicentre PROSPER study (NCT06505304), supported by a research grant from Helmsley Charitable Trust.

– Further refinement and integration of additional sonographic features is planned to support standardised monitoring and improve early detection of post-operative disease recurrence in Crohn's disease.

VIEW THIS CONTENT ON GUTFLIX

https://gutflix.eu/search/d/6b49d0a2-d12c-11f1-80d4-daaa6dbee0a2

AI-generated summary

This summary was generated by an AI large language model based on the content transcript. It is for informational purposes only and should not be considered a substitute for clinical judgment. Always rely on your professional expertise and the full clinical context when making clinical decisions.