

# DEEP LEARNING AND DEVICE-ASSISTED ENTEROSCOPY: MULTIBRAND AND MULTISYSTEM DETECTION OF ULCERS AND EROSIONS

João Ferreira

UEG Week Copenhagen 2023

Poster

Oesophagus

October 15, 2023

**A convolutional neural network was developed and validated for automatic detection of ulcers and erosions during device-assisted enteroscopy, achieving 86.2% sensitivity and 99.8% specificity across multiple enteroscopy platforms.**

## KEY POINTS

- The CNN was trained and validated using 29513 images from 258 device-assisted enteroscopy exams, of which 633 images contained ulcers or erosions.
- The model achieved overall accuracy of 99.5%, with positive predictive value of 91.8%, negative predictive value of 99.7%, and area under the precision-recall curve of 1.00.
- The CNN was tested across three different enteroscopy systems: double-balloon (Fujifilm EN-580T), single-balloon (Olympus EVIS EXERA II SIF-Q180), and spiral enteroscopy (Olympus PowerSpiral Motorized Enteroscope PSF-1).
- This represents the first CNN constructed and validated for automatic detection of ulcers and erosions during device-assisted enteroscopy, including spiral enteroscopy.
- The authors suggest the multidevice performance addresses technological interoperability and allows replication across different technological contexts.

VIEW THIS CONTENT ON GUTFLIX

<https://gutflrx.eu/search/d/234fd1d8-743d-11ee-97f5-0242ac140004>



**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.