

Oral Presentations II

Tracks | LT4

Tuesday, June 23, 2026

4:00 PM - 5:00 PM

LT4

Speaker

Dr David Snead
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AI screening of large bowel endoscopic biopsies with COBIX - preliminary results from a multi-site study.

4:00 PM - 4:15 PM

Abstract

Background: Endoscopic large bowel biopsies (ELBB) account for around 10% of cellular pathology requests, and 38% of cases are signed out as normal (unpublished audit), representing a workload where the pathologist reporting time invested adds little to patient management. Clinical details are often used for triage to avoid delay in reporting of malignant cases, but incorrect triage classification can exacerbate delays for those patients. In this setting digital pathology allows artificial intelligence supported analysis of whole slide images, both to improve workflow efficiency and potentially automate reporting of normal cases.
Purpose: to measure the accuracy of an AI algorithm trained to deliver a five fold classification of ELBB prior to its lock-down in an on-going study multi-site UK study.
Methods: 8516 consecutive retrospective ELBB specimens were recruited from 5 sites and classified into either normal or abnormal groups the latter divided into urgent and non-urgent neoplastic and urgent and non-urgent non-neoplastic categories. The algorithm used was as reported in Graham et al. improved by additional training on minimal change colitis, granulomas and intestinal spirochaetosis.
Results: Performance on the combined dataset, evaluated using five-fold cross-validation with patient-level separation, demonstrated strong discrimination, with a mean AUC–ROC of 0.9758 (SD:0.055) and AUC–PR of 0.9776 (SD:0.0042). At 99% sensitivity specificity was 0.4108. No urgent neoplastic lesions were misclassified as normal.
Conclusions: The algorithm reached the study target for overall accuracy, demonstrating excellent

translation across the different data sets. Investigation will continue across the remaining study cohort of 9,500 cases, including 1000 prospective cases. The results show AI classification of ELBB can be extremely accurate and shows promise for improved triage of cases and automated reporting of around 40% of normal biopsies.

Graham et al Gut 2023;72:1709-1721.

Snead, Graham, Rajpoot, Natu, Konanahalli disclose financial interest in Histofy Ltd.

Dr. Adnan Khan
Industry
Histofy Ltd

A Portable Report De-identification System to Enable Multi-Centric Pathology Research and Development of Artificial Intelligence Algorithms

4:15 PM - 4:30 PM

Abstract

Background:
The secondary use of clinical data for pathology research requires robust redaction of patient and staff personally identifiable information (PII). Strict data governance policies often prohibit transmitting sensitive data to cloud-based large language models (LLMs), creating significant bottlenecks, particularly for multi-centre studies.

Purpose:
To develop and evaluate a portable endoscopic report de-identification system that ensures data privacy by processing multi-format documents entirely on-premise, thereby facilitating secure multi-centre clinical research.

Methods:
We engineered a standalone, portable embedded system that employs a hybrid de-identification approach, combining deterministic pattern-based matching with a locally deployed LLM to extract and redact PII data transparently. To validate
efficacy, endoscopy reports were selected from an ongoing validation study. Each report is a complex, multi-page PDF containing highly sensitive PII, including patient names, addresses, NHS and hospital numbers, dates of birth, procedure dates, and clinician/nurse names, intricately interwoven with critical clinical findings and procedural images. The system natively supports multiple input and output formats (PDF, TXT, XLS). Further, the system allows redacted documents in their original format or as plain text.

Results:
In an independent evaluation by the Addenbrookes lab, the proposed tool achieved 100% redaction accuracy on the 100 selected endoscopy reports. The system identified approx. 60-100 redactions in each report, with 7,800 redactions in total including NHS numbers and patient demographics while preserving vital clinical data such as polyp characteristics and colonoscopy findings. Furthermore, the edge device exhibited high efficiency, requiring an average of only 1.5 minutes to fully redact a two-page endoscopy report in PDF format.

Conclusions:
Our portable edge-AI system provides a highly accurate, efficient, and secure solution for on-premise