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CASE STUDY · MARLUC SYNOPSIS

Colonoscopy AI and endoscopist deskilling

IMPLEMENTED 2021–2022 · HEALTH AND LIFE SCIENCES · POLAND · BAND D · PARTLY PROVED

VERSION 1.1 · PUBLISHED 15 NOVEMBER 2026 · UPDATED 15 NOVEMBER 2026 · FACTS CHECKED 15 NOVEMBER 2026

A peer-reviewed study found that adenoma detection in colonoscopies done without AI fell after endoscopists had been using AI assistance routinely. It is observational, so the cause is not settled.

ABOUT THIS SYNOPSIS

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Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date. Check the original source before relying on any figure.

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NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

AI used: Computer-aided detection: deep-learning software that flags possible polyps on the live colonoscopy image (ENDO-AID CADe, Olympus).

Implemented: 2021–2022. Grade: band D, Task support, Partly proved.

Headline result, as reported: After four Polish centres introduced AI polyp detection, adenoma detection in colonoscopies done without AI fell from 28.4% to 22.4% (observational, Lancet Gastroenterology & Hepatology, 2025)

1 · The case

The facts, as reported by the 4 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Four endoscopy centres in Poland (ACCEPT trial). Four endoscopy centres in Poland that took part in the ACCEPT trial (Artificial Intelligence in Colonoscopy for Cancer Prevention), part of the University of Oslo-led OperA project. The sub-study covers diagnostic colonoscopies by 19 experienced endoscopists, 16 gastroenterologists and three general surgeons, each with more than 2,000 colonoscopies. Canvas block: 5. People and skills. Also 4. Operations and process.

Business challenge

The challenge. Numerous trials had shown that AI assistance raises adenoma detection in colonoscopy. The authors say little was known about how continuous AI use affects endoscopist skills, with suggestions it could be positive, by training clinicians, or negative, by reducing skills.

How it was addressed. The centres introduced AI computer-aided detection at the end of 2021, after which colonoscopies were randomly assigned to be done with or without AI by examination date. The study compared non-AI colonoscopies in the three months before and the three months after AI was introduced. The primary outcome was the change in adenoma detection rate in those non-AI colonoscopies. [1] [2] [3] [4]

Who implemented it

Olympus (Equipment or robot maker): Supplied the ENDO-AID CADe system used at the participating centres, per the American College of Gastroenterology summary..
University of Oslo (University or research lab): Leads the OperA project and the ACCEPT trial within which the study was nested..
Academy of Silesia (University or research lab): Home institution of lead author Marcin Romańczyk and co-author Krzysztof Budzyń, per the University of Oslo and ASCO Post pages..
Who deployed the system at each centre and under what contract: Not reported.

Technology (SEAM pillar E)

SEAM types: T2 Embedded AI in existing software, T8 Predictive / ML models. Deployment: Not reported. Vendors and products: Olympus, ENDO-AID CADe (OIP-1).

Where it was built in: Computer-aided detection used during live colonoscopy at four endoscopy centres in Poland. After introduction in late 2021, colonoscopies were assigned to be done with or without AI by examination date.

What changed

Before: adenoma detection in non-AI colonoscopy was 28.4% (226 of 795). After AI exposure: 22.4% (145 of 648), a relative fall of about 20%, by the authors' account. AI-assisted colonoscopies in the same period detected adenomas at 25.3% (186 of 734). The authors conclude that continuous exposure to AI might reduce detection in standard colonoscopy. [1] [2] [3] [4]

What it cost

Not reported

What it saved

Not reported. The study measures detection rates, not cost or time. [1] [2] [3] [4]

Governance and control

The study is retrospective and observational. Its authors and an independent reviewer list confounding, a small endoscopist group and unreported withdrawal time as limits. The American Gastroenterological Association's 2025 guideline made no recommendation on AI-assisted colonoscopy, per the American College of Gastroenterology summary. Accountable owner and training for AI use: Not reported.

S2 · Accountable owner · Not reported
Not reported.

A1 · Safe use · Not reported
Not reported.

A2 · Human in the loop · Claimed
The endoscopist performs the colonoscopy with or without AI; how clinicians were trained to use the prompts is not reported. [2]

A3 · Monitoring and assurance · Evidenced
The authors compared adenoma detection rates before and after AI introduction and reported the change; the American College of Gastroenterology summary notes that its own unit's colonoscopy quality programme tracks endoscopist detection rates and withdrawal times. [1] [2]

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
Not reported.

A6 · Standards and regulation · Outside scrutiny (a regulator, court, auditor or similar body acted)
The American College of Gastroenterology summary says the American Gastroenterological Association's 2025 living guideline made no recommendation on AI-assisted colonoscopy, because of very low certainty about long-term outcomes. [2]

What worked, what did not, what is unproven

WORKED

– Adenoma detection in AI-assisted colonoscopies was 25.3% (186 of 734) in the same period.

DID NOT

– Adenoma detection in non-AI colonoscopies fell from 28.4% to 22.4% after AI exposure (odds ratio 0.69, 95% CI 0.53 to 0.89).

– One author says it is the first study to suggest a negative effect of regular AI use on health professionals' ability to complete a patient-relevant task in medicine, and call the result concerning.

– Secondary outcomes did not show a significant decline: adenomas per colonoscopy 0.54 before and 0.43 after (p=0.071) and advanced adenomas per colonoscopy 0.062 and 0.063 (p=0.92).

UNPROVEN

– Whether AI exposure caused the fall: the authors say factors other than AI use may have influenced the findings.

– Whether the finding holds for less experienced endoscopists; the authors say further studies are needed.

– Effect on patient outcomes such as cancer incidence: not measured.

– Whether the ACCEPT randomised trial will show the same effect. Its coordinator says the sub-study population is different and there is no supporting evidence of the same effect in the main trial population. Preliminary results were expected in late 2025; the sources opened do not report them.

Timeline

2021 Four endoscopy centres in Poland, taking part in the ACCEPT trial, introduce AI polyp-detection tools at the end of the year; colonoscopies are then randomly assigned to be done with or without AI by date of examination [1]

Aug 2025 Study published in The Lancet Gastroenterology & Hepatology with a linked commentary by Omer Ahmad of University College London [3]

Sept 2025 American College of Gastroenterology's Evidence-Based GI summary notes confounding, 19 endoscopists and unreported withdrawal time [2]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: D, Task support. Proof: Partly proved. Level of change: Task support.

Task support (Level 1, band D). AI is used as an assistant for individual endoscopists, and the study examines a possible side effect on skill. It is not graded F: no harm to patients, withdrawal of the tool or sanction is reported, and the cause of the fall in detection is not established.

The SEAM view and lessons learnt

This is a rare piece of clinical evidence on the cost of relying on an assistant: performance without the tool may change after routine use. It is observational and the sources list real limits, so it is a signal to test, not a settled result. For a larger organisation using AI in skilled work, the transferable point is to keep measuring unassisted performance, to keep quality monitoring that tracks individuals, and to plan how skills are maintained.

1. Measure unassisted performance as well as assisted performance.
2. Keep individual quality monitoring in place after introducing an assistant.
3. Treat skill loss as a risk to test with a controlled study.

Evidence

Score 2 of 4. Independent, with limits: peer-reviewed observational study in The Lancet Gastroenterology & Hepatology (2025), with a linked independent commentary. Retrospective, 19 endoscopists, differences between before and after groups.

Evaluation method. Peer-reviewed retrospective observational study at four centres (nested within the ACCEPT trial), comparing non-AI colonoscopies three months before and three months after AI introduction.

Sources disagree. The authors' reading is that AI exposure may have reduced detection. The American College of Gastroenterology reviewer says the groups differed (more female patients and less sedation after AI, p=0.005 and p=0.02), residual confounding is likely, and withdrawal time was not reported. The reviewer's own unit saw no significant detection difference with or without AI in a three-month trial (40.1% against 41.8%) and did not continue with the system.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/colonoscopy-ai-endoscopist-deskilling

[1] The Lancet Gastroenterology & Hepatology: Endoscopist deskilling risk after exposure to artificial intelligence in colonoscopy, a multicentre, observational study (record via Europe PMC)
https://www.ebi.ac.uk/europepmc/webservices/rest/search?query=EXT_ID:40816301%20AND%20SRC:MED&resultType=core&format=json

[2] American College of Gastroenterology, Evidence-Based GI: Artificial intelligence in colonoscopy, could it be making us worse?
https://gi.org/journals-publications/ebgi/zhou_sep2025/

[3] The ASCO Post: Routine AI Assistance May Lead to Loss of Skills in Endoscopists, Study Shows
https://ascopost.com/news/august-2025/routine-ai-assistance-may-lead-to-loss-of-skills-in-endoscopists-study-shows/

[4] University of Oslo, Institute of Health and Society: Continuous exposure to AI might reduce the skills of the endoscopist
https://www.med.uio.no/helsam/english/research/groups/clinical-effectiveness/news/2025/ai-colonoscopy.html

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VERSION HISTORY

v1.1 15 November 2026 Method update: standards and regulation (A6) relabelled "outside scrutiny" because the evidence is a regulator, court, auditor or similar body acting, not the organisation's own compliance.
v1.0 15 November 2026 First published