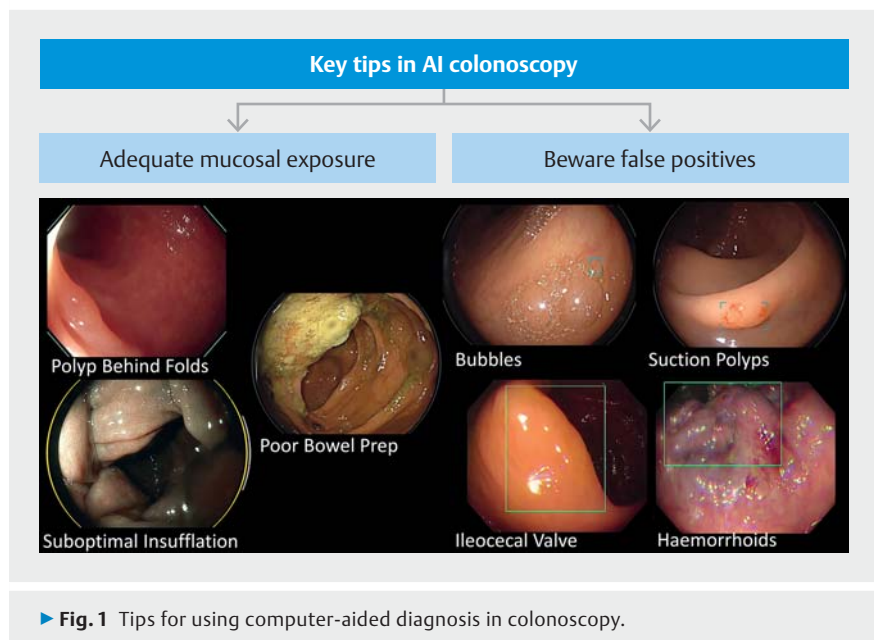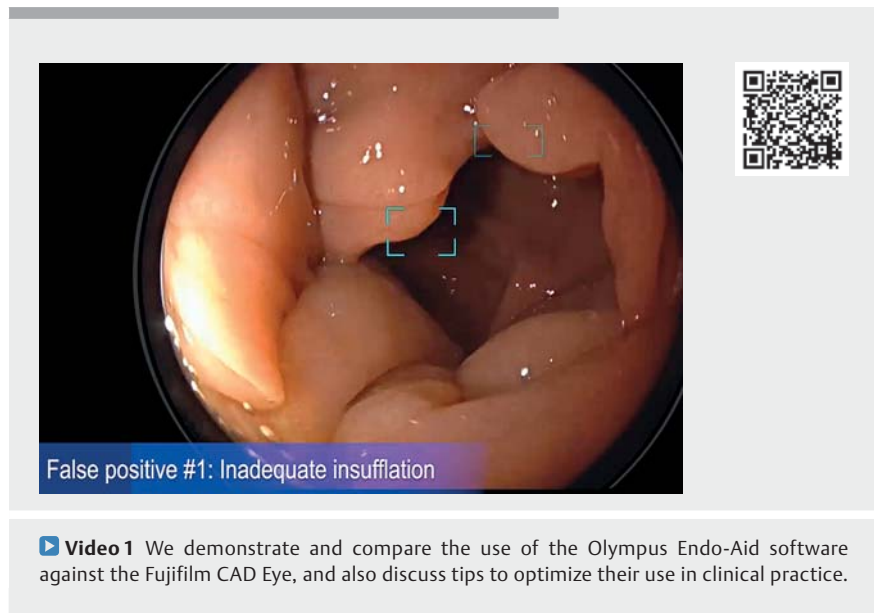# Key tips for using computer-aided diagnosis in colonoscopy – observations from two different platforms

There is an artificial intelligence (AI) revolution in the field of endoscopy. The use of computer-aided detection (CADe) and diagnosis (CADx) to replicate expert-level interpretation of colon polyps makes AI an attractive tool for both novice and experienced endoscopists to have in their armamentarium. Its clinical utility is further supported by two systematic reviews demonstrating a consistent increase in adenoma detection rate compared to conventional colonoscopy [1, 2]. Several large prospective studies have also shown that CADx may also be used in a "diagnose-and-leave" strategy for benign hyperplastic polyps which could save both time and money [3].

There are now multiple commercially available systems that allow for CADe and CADx during colonoscopy, including Olympus's Endo-Aid, and Fujifilm's CAD Eye. We demonstrate the performance of the AI of both platforms for detection and characterization of colon polyps. In addition, we also discuss tips and caveats that clinicians should be aware of to optimize the pick-up and diagnostic rate (▶ Video 1; ▶ Fig. 1).

Just as in standard colonoscopy, care must be taken for adequate insufflation to stretch out colonic folds and allow for adequate inspection, as collapsed mucosal folds may be mistaken for polyps by the AI platforms. Similarly, good bowel preparation is key, as stool residue can also be mistaken for polyps. Light reflections and bubbles may also be falsely identified as positive findings. Additionally, suction polyps can easily be misinterpreted by the AI – differentiation will depend on careful observation of the surface pattern. Anatomical landmarks such as the ileocecal valve, the villi in the terminal ileum, and hemorrhoids may also mistakenly trigger the AI algorithm.

False positive #1: Inadequate insufflation

▶ **Video 1** We demonstrate and compare the use of the Olympus Endo-Aid software against the Fujifilm CAD Eye, and also discuss tips to optimize their use in clinical practice.

Key tips in AI colonoscopy

Adequate mucosal exposure   Beware false positives

Polyp Behind Folds — Poor Bowel Prep — Suboptimal Insufflation — Bubbles — Suction Polyps — Ileocecal Valve — Haemorrhoids

▶ **Fig. 1** Tips for using computer-aided diagnosis in colonoscopy.

While AI is helpful, it does not replace good colonoscopy technique and adequate mucosal exposure. Endoscopists who utilize these programs should be aware of the possible limitations in order to use them to their full potential.

Endoscopy_UCTN_Code_CCL_1AD_2AB

Competing interests

The authors declare that they have no conflict of interest.

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