



# Artificial intelligence and colorectal polyp detection

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Colorectal cancer (CRC) is the second leading cause of cancer death, and is a significant cause of morbidity and mortality. This is a growing topic discussed on public media networks due to the worldwide rise in CRC incidence among people under 50 years of age and recent American Cancer Society recommendations for earlier CRC screening. Colonoscopy remains the most effective method of detection and removal of neoplastic polyps. There is an expanding body of literature describing the imperfections of colonoscopy with regard to polyp detection, primarily due to missed lesions and subsequent interval development of CRC. This occurs even with ideal bowel preparation and adherence to national and societal based guidelines for surveillance exams. Higher adenoma detection rate (ADR) is associated with a decrease in interval CRC rate, thus much of the focus for improving clinical outcomes is centered on improving detection of neoplastic lesions during colonoscopy.

Artificial intelligence (AI) and computer aided detection (CAD) in colonoscopy is a rapidly evolving field, with much of the excitement surrounding technology with potential to be used efficiently in real-time for busy endoscopy practices to improve ADR. Possible improvements over standard white light endoscopy would include detecting missed lesions in the endoscopic field of view, identifying unexamined mucosal folds and alerting the endoscopist to areas not adequately visualized on withdrawal. Dr. Omer F. Ahmad of University College London, United Kingdom, is a gastroenterologist on the forefront of this exciting field, with expertise in the role of machine learning and convolutional neural networks for CAD with colonoscopy. He will discuss the current status of CAD in colonoscopy and polyp detection and explore the potential hurdles facing widespread clinical adoption in the future.

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