# A SYSTEMATIC REVIEW AND META-ANALYSIS OF CONVOLUTIONAL NEURAL NETWORK IN THE DIAGNOSIS OF COLORECTAL POLYPS AND CANCER

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**A systematic review and meta-analysis of 24 studies found that convolutional neural network models demonstrated acceptable diagnostic accuracy for detecting colorectal polyps and colorectal cancer.**

## KEY POINTS

- The analysis included 24 primary studies selected from 3368 searched records across MEDLINE, SCOPUS, Web of Science, and other databases.
- For colorectal polyp prediction, CNN model sensitivity ranged from 84.7-91.6% (worst scenario) to 86.0-93.8% (best scenario), with area under the ROC curve between 0.92 and 0.97.
- For colorectal cancer prediction, CNN model sensitivity ranged from 93.2-94.1% (worst scenario) to 94.6-97.7% (best scenario), with area under the ROC curve between 0.98 and 0.99.
- Diagnostic odds ratios ranged from 36-162 for colorectal polyp detection and 239.63-677.47 for colorectal cancer detection across worst and best scenarios.
- The full paper was published in the Turkish Journal of Gastroenterology and may interest clinicians evaluating artificial intelligence tools for colonoscopy.

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