

Does I-Scan Improve Adenoma Detection Rate Compared to High-Definition Colonoscopy? A Systematic Review and Meta-Analysis

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Background and study aims: Recent studies evaluated the impact of i-scan in improving the adenoma detection rate (ADR) compared to high-definition (HD) colonoscopy. We aimed to systematically review and analyze the impact of this technique.

Methods: A thorough search of the following databases was undertaken: PubMed/Medline, EMBASE, Cochrane and Web of Science. Full-text RCTs and cohort studies directly comparing i-scan and HD colonoscopy were deemed eligible for inclusion. Dichotomous outcomes were pooled and compared using random effects model and DerSimonian-Laird approach. For each outcome, relative risk (RR), 95 % confidence interval (CI), and P value was generated. $P < 0.05$ was considered statistically significant.

Results: A total of five studies with six arms were included in this analysis. A total of 2620 patients (mean age 58.6 ± 7.2 years and female proportion 44.8 %) completed the study and were included in our analysis. ADR was significantly higher with any i-scan (RR: 1.20, [CI: 1.06-1.34], $P = 0.003$) compared to HD colonoscopy. Subgroup analysis demonstrated that ADR was significantly higher using i-scan with surface and contrast enhancement Gonly (RR: 1.25, [CI: 1.07-1.47], $P = 0.004$).

Conclusion: I-scan has the potential to increase ADR using the surface and contrast enhancement method. Future studies evaluating other outcomes of interest such as proximal adenomas and serrated lesions are warranted.