

# Use of a retroflexion technique during colonoscopy in the right side of the colon improves polyp detection

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A new study from researchers in Indiana reports that use of a retroflexion technique in the right side of the colon during colonoscopy is safe and results in the detection of additional adenomatous (precancerous) polyps in approximately four percent of patients. This result is comparable to that expected from a second colonoscopy in the forward view. The study appears in the August issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the American Society for Gastrointestinal Endoscopy (ASGE).

Several recent studies have shown that [colonoscopy](#) is less effective in preventing colorectal cancer in the proximal colon (right side of the colon) compared with the distal colon (left side of the colon). Several possible explanations for this apparent disparity include relatively poor bowel preparation and a higher prevalence of lesions that have a subtle endoscopic appearance, including serrated lesions and flat and depressed lesions. Special measures may be warranted to improve the effectiveness of colonoscopy in the proximal colon. Retroflexion during colonoscopy is commonly used to improve detection of neoplasia (polyps) in the distal rectum, part of the left colon. Retroflexion describes a technique where the colonoscope bends backwards to examine the colon.

"This is the first study to examine the yield and safety of the systematic use of retroflexion in the proximal colon for the purpose of neoplasia detection," said study lead author David G. Hewett, MBBS, MSc, PhD,

FRACP, Indiana University School of Medicine, University Hospital, Indianapolis, who collaborated on this study with Douglas K. Rex, MD, FASGE. "We found that proximal colon retroflexion is safe and achievable in 95 percent of patients. It resulted in the detection of additional [adenomatous polyps](#) in approximately four percent of patients. Finding additional polyps on retroflexion was associated with older age, male sex, and the detection of polyps in the forward view during colonoscopy. Of those with no polyp detected in the forward view, 2.2 percent had an adenomatous polyp detected on retroflexion."

## Methods

This was a prospective cohort study of proximal colon retroflexion in patients undergoing colonoscopy at the Indiana University Hospital and its affiliated ambulatory surgery center. Patients who were scheduled for screening or surveillance colonoscopy were eligible for enrollment. Colonoscopies were performed by two experienced endoscopists with inspection for polyps performed primarily on withdrawal of the colonoscope. Split-dose bowel preparation was used in all patients.

After complete insertion of the colonoscope, the cecum and ascending colon were inspected in forward view, with an emphasis on meticulous examination, including the proximal sides of folds, flexures and valves of the colon. All visualized polyps were removed and sent for histological examination. Once the proximal colon had been cleared of polyps in the forward view, the colonoscope was reinserted to the cecum (the beginning of the colon) and retroflexion was performed. The endoscopist manipulated the controls of the colonoscope to bend backward to view the proximal colon. When the colonoscope was in retroflexion, it was slowly withdrawn and polyps identified were removed and sent for histological examination.

## Results

A total of 1,000 consecutive eligible patients underwent colonoscopy during an 8-month period. Retroflexion was successful in 94.4 percent of patients. Colonoscopy in the forward view identified 634 proximal colon polyps and 497 adenomatous polyps. Retroflexion identified an additional 68 polyps and 54 adenomatous polyps. This represented a per-adenomatous polyp miss rate of 9.8 percent and an intention-to-treat, per-patient adenomatous polyp miss rate of 4.4 percent. Older age, male sex, and polyps seen on the forward view predicted polyps seen on retroflexion. There were no adverse events.

The researchers noted limitations of the study, which included that it was an uncontrolled, single center study with only two endoscopists. The researchers strongly caution against considering this study an endorsement of right-sided colon retroflexion as a critical part of right-sided colon examination because the study was not controlled. Rather, the study is a description of the success rate, yield and safety of right colon retroflexion. Although the yield was substantial relative to the yield of retroflexion in the rectum, the data are uncontrolled and previous studies suggest that a second examination in the forward view would likely have identified as many or more additional [polyps](#). The researchers stated that additional study by other examiners and in higher-risk populations may help determine whether right-sided colon anatomy is such that retroflexion occasionally identifies large lesions that are invisible on forward viewing.

In an accompanying editorial, Ashwin N. Ananthakrishnan, MD, MPH, and Andrew T. Chan, MD, MPH, both of the Massachusetts General Hospital, Harvard Medical School, Boston, Mass., state, "Although an increase in the adenoma detection rate of less than five percent may initially seem modest, these results are promising given the relative ease with which the technique described by Hewett and Rex could be adopted

by most gastroenterologists." They also noted that "this technique may, at least in the short term, have the potential for a greater population-wide public health impact than more technologically complex advances."

Provided by American Society for Gastrointestinal Endoscopy

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