

# Correlation of Preprocedure Digital Rectal Examination and Rectal Retroflexion During Colonoscopy of Asymptomatic Patients

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**Abstract:** ***Aim:*** Correlate the findings of digital rectal examination and routine retroflexion in the rectum during screening colonoscopy of asymptomatic patients. ***Methods:*** Single-practice review of the records of asymptomatic patients undergoing screening colonoscopy comparing the findings of digital rectal examination and colonoscopic retroflexion in the rectum. ***Results:*** In the 562 asymptomatic patients included in this study, the physical findings of digital rectal examination correlated with the findings on retroflexion, though digital rectal examination did not predict the pathologic nature of masses or nodules. ***Conclusion:*** In asymptomatic patients with unremarkable preprocedure digital rectal examination findings, colonoscopic rectal retroflexion is unlikely to yield significant findings and, therefore, may be unnecessary in the setting of a normal, thorough preprocedure digital rectal examination performed by an experienced examiner and a normal forward examination of the anorectum at the time of colonoscopy.

**R**etroflexion in the rectum at the time of colonoscopy remains controversial, as its yield and safety have been questioned. Although a thorough rectal examination and retroflexion during colonoscopy may be appropriate in symptomatic patients, it is not known whether unremarkable digital rectal examination should obviate the need for rectal colonoscopic retroflexion in asymptomatic patients referred for screening colonoscopy.

## Patients and Methods

The records of 823 patients who were referred for colonoscopy over a 2-year period in a single practice were reviewed. The inclusion criteria consisted of asymptomatic patients who were referred for colonoscopy and underwent digital rectal examination either within 2 weeks prior to colonoscopy or immediately prior to insertion of the colonoscope at the time of the procedure. Among these patients, 261 were excluded because of the following reasons:

## Keywords

Colonoscopy, sigmoidoscopy, retroflexion, digital rectal examination

**Table 1.** Findings on Precolonoscopy Digital Rectal Examination, Retroflexion, and Related Pathologic Examination

Number of findings on precolonoscopy digital rectal examination	Number of findings on retroflexion	Number and pathology of findings on retroflexion
515 normal findings (with or without hemorrhoids)	301 normal findings 211 hemorrhoids 3 hemorrhoids + diminutive polyps	NA NA 3 chronic inflammation
19 anorectal/rectal nodularities	8 hypertrophic papillae + hemorrhoids 6 tiny anorectal/rectal nodules 5 diminutive polyps	NA 6 chronic inflammation 3 hyperplastic changes 2 chronic inflammation
7 mass lesions	7 mass lesions	1 squamous cell carcinoma of the anus 3 adenocarcinoma of the rectum 3 large adenomatous polyps, all extending to within 5 cm from the anal verge
21 other findings: enlarged prostate	9 normal findings 12 hemorrhoids	NA

NA=not applicable.

in 57 patients, retroflexion was not performed; in 112 patients, there was no documentation of digital rectal examination findings within the 2-week period prior to colonoscopy; and although 92 patients were referred for screening colonoscopy, they exhibited 1 or more symptoms referable to colorectal disease within the 6-month period prior to the referral (eg, change in bowel habit, bleeding, abdominal or rectal pain, tenesmus, weight loss, incontinence). In 562 patients (age, 50–85 years; 292 men and 270 women), the findings of a digital rectal examination were documented at the time of the preprocedure office visit within 2 weeks before the date of the scheduled procedure or immediately prior to insertion of the colonoscope at the time of the colonoscopy. In 334 patients, a colonoscopy was performed under deep sedation (propofol-based), whereas in 228 patients, conscious sedation was used.

## Results

A total of 562 patient records were included in this study. In 515 patients, digital rectal examination predicted the findings on retroflexion visualization of the rectal vault, documenting a normal examination with or without hemorrhoids (Table 1). In 3 patients with hemorrhoids identified on digital rectal examination, diminutive polyps in the rectal vault were also reported, and in all 3 of these patients, pathology revealed chronic inflammation.

In 26 patients, abnormal digital rectal examination predicted abnormal findings on retroflexion. In 7 patients, significant mass lesions palpated on digital rectal examination were confirmed on retroflexion, and in all 7 of these patients, the lesions were also seen on forward view. In the remaining 19 patients, although the abnormalities appreciated on digital rectal examination were confirmed on retroflexion view, no significant pathology was documented on the examinations of the biopsied lesions.

## Discussion

As new and more advanced technological developments are becoming available in the standard diagnostic armamentarium of the modern gastroenterologist, less emphasis is being placed on routine bedside maneuvers and techniques due to greater reliance on technology-based diagnosis, including video endoscopy and imaging. Digital rectal examination is a time-honored integral component of general and abdominal examination for assessing the function of the anal sphincters and the anorectum for masses, bleeding, or points of swelling or tenderness. When digital rectal examination is performed properly by a skilled clinician, significant information may be instantaneously learned regarding the anorectum and beyond, with minimal or no discomfort.<sup>1</sup>

For more than three decades, retroflexion in the rectum has been considered by many gastroenterolo-

gists as a component of a complete colonoscopic or sigmoidoscopic examination for inspection of the rectal vault and anorectum.<sup>2-7</sup> The utility, safety, and efficacy of this maneuver has, however, been challenged as being unnecessary, uncomfortable (in many patients), unsafe (on occasion), and producing a low yield.<sup>8-12</sup> Retroflexion in the rectum during colonoscopy is often associated with undue discomfort, particularly when performed in unsedated sigmoidoscopy or even colonoscopy under conscious sedation. Additionally, cases of rectal perforation have been linked to this maneuver during colonoscopy or sigmoidoscopy.<sup>9,10</sup>

Although retroflexion may still shed valuable information in patients presenting with symptoms referable to the lower gastrointestinal tract, its value and, therefore, necessity as part of a colonoscopy in asymptomatic patients has not been examined in the context of routine precolonoscopy digital rectal examination.

In this study, I compared the findings of digital rectal examination prior to the insertion of the colonoscope with the findings of retroflexion in 562 asymptomatic patients referred for screening colonoscopy in a single practice. The most common finding was normal examination with or without hemorrhoids. Three of the patients with hemorrhoids on digital rectal examination were also found to have diminutive polyps on retroflexion, and the pathology of these lesions was consistent with chronic inflammation. It should be noted that the diagnosis of internal hemorrhoids is not made by digital rectal examination; yet with experience, this impression is made in the setting of intermediate or large prolapsed internal hemorrhoids and in association with external hemorrhoids. Since the finding of hemorrhoids of any size is not considered clinically relevant in the asymptomatic patient, as it may not change the patient's management, these findings in this study of asymptomatic patients have been considered nonrelevant. As will be further discussed later on, any suspicion of abnormality (eg, fullness, irregularities, nodularities) on digital rectal examination should prompt a thorough examination on retroflexion.

In 7 patients, significant findings were documented on both digital rectal examination and retroflexion, and the lesions were also noted on forward view. In 19 patients, findings on digital rectal examination were interpreted as internal anorectal or rectal nodularities, and on retroflexion, 5 patients were found to have diminutive polyps with hyperplastic changes or chronic inflammation on pathologic examination and no adenomas. The significance of diminutive rectal polyps being associated with proximal colonic polyps is not relevant in patients undergoing full colonoscopy.

In this study, relevant findings (adenoma or tumors) on digital rectal examination predicted those of retro-

flexion. Additionally, these lesions were also spotted on forward view either at the time of insertion or withdrawal of the colonoscope.

Although it is well established that retroflexion during colonoscopy adds additional diagnostic value and that when this maneuver is performed by a skilled clinician, it is relatively safe, these results suggest that in asymptomatic patients undergoing screening colonoscopy, the decision to perform retroflexion may need to take into account the findings of digital rectal examination. This is particularly significant in the setting of colonoscopy under conscious sedation, knowing that any perceived or experienced discomfort during the procedure is an important predictor of nonadherence to screening colonoscopy advice<sup>11</sup> and relatively lower-than-expected rates for screening or surveillance colonoscopy in some communities. This may be particularly important when follow-up or surveillance colonoscopy is necessary for the same patient.

Additionally, the results of this study also suggest that a careful examination on forward view may likely reduce the need for retroflexion in this subset of patients.

An important point that should be mentioned relates to the detection of adenoma on retroflexion. Although I found no specific data on the adenoma miss rate without retroflexion, this maneuver should conceivably increase the detection of such lesions. However, in this study, the emphasis is on a thorough preprocedure digital rectal examination coupled with a careful forward view of the anorectum in asymptomatic patients.

Clearly, any symptom referable to the distal part of the colon and anorectum, any abnormality on digital rectal examination, or any inadequate forward view should prompt a thorough evaluation of the anorectum and rectal vault including retroflexion. Under these circumstances, retroflexion is necessary to complete the examination. Although the size of this study is relatively small, its 0% miss rate in 562 patients supports the point that the decision to perform retroflexion in this subset of patients should take into account the findings on precolonoscopy digital rectal examination and a thorough forward view during the procedure.

Lastly, although the study is limited by its retrospective nature, the fact that the patients are from a single practice rather than from multiple practices with variable experiences is of relevance and helps support the conclusion.

## Summary

In asymptomatic patients referred for screening colonoscopy and no significant findings on a thorough preprocedure digital rectal examination or on anorectal forward view, colonoscopic retroflexion in the rectum is unlikely to yield significant pathologic findings that

will change the patient's management. In this subset of patients, the decision to perform retroflexion should be based upon the findings of a routinely performed precolonoscopy digital rectal examination performed by an experienced examiner and a careful forward view of the anorectum at the time of colonoscopy. A larger and prospective study may further address and clarify these issues.

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