

Suboptimal Adherence to Guidelines When Recommending Timing of Repeat Colonoscopy



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This summary reviews Shapiro JA, Holub JL, Dominitz JA R, et al. Colonoscopy quality measures and adherence to follow-up guidelines among endoscopists participating in a U.S. endoscopy registry. *Gastrointest Endosc.* 2024 Aug 5:S0016-5107(24)03404-7

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STRUCTURED ABSTRACT

Question: To what extent are endoscopists in the United States meeting performance targets for colonoscopy quality?

Design: Retrospective, cross-sectional study using a national registry database.

Setting: The United States.

Population: Outpatient screening colonoscopies between 2016-2019, in average-risk adults aged 50 to 75 years in the GI Quality Improvement Consortium (GIQuIC) database. Included colonoscopies were performed by an endoscopist with at least 100 colonoscopies in the GIQuIC dataset meeting the inclusion criteria. If a patient had multiple eligible colonoscopies during the study period, only

the first colonoscopy was included.

Interventions/Exposure: To estimate the proportion of patients who received follow-up recommendations consistent with guidelines, patient-level analyses were used. Endoscopist-level analyses were used to identify the proportion of endoscopists with at least 90% adherence to use of guideline-based surveillance intervals. Follow-up intervals issued by the US Multi-Society Task Force (USMSTF) on colorectal cancer (CRC) in 2012 were used to assess endoscopist adherence to recommended intervals.

Outcomes: Colonoscopy quality measures based on targets established by the American Society for Gastrointestinal Endoscopy (ASGE) and American College of Gastroenterology (ACG) in 2015, including cecal intubation rate ($\geq 95\%$ in CRC screening colonoscopies), adequacy of bowel preparation ($\geq 85\%$ in CRC screening colonoscopies), adenoma detection rate (ADR) of $\geq 20\%$ in women and $\geq 30\%$ of men, and endoscopist's recommended follow-up interval to the next colonoscopy, which included recommending surveillance colonoscopy in 5 years after finding 1-2 small adenomas (as opposed to the 2020 guidance recommending interval of 7-10 years after finding 1-2 small adenomas).

Data Analysis: Descriptive statistics and 95% confidence intervals (CIs) were obtained for all included quality measures. Chi-square tests for heterogeneity were used to compare quality measures by endoscopist specialty, endoscopist sex, and region. Statistical significance was defined as P -value < 0.05 . Both patient-level and endoscopist-level analyses of the recommended follow-up interval were performed. Analyses for the other quality measures were performed only at the endoscopist level.

Funding: The Division of Cancer Prevention and Control, Centers for Disease Control and Prevention, provided financial support through a contract with GI Quality Improvement Consortium, Ltd.

Results: This study included 2,588,860 patients/colonoscopies performed by 3,735 endoscopists. Of the patient cohort, 54.7% were ages 50-59 years, 53.5% were female, and 58.6% were White. Most colonoscopies (79.9%) were performed in an ambulatory surgery/endoscopy center. Endoscopists were predominantly male (83.8%), gastroenterologists (88.5%), and located in the southern US (42.0%) or northeastern US (22.3%).

At least 90% of endoscopists met performance targets for cecal intubation rate, adequate bowel preparation, and ADR in male and female patients. ADR of at least 20% for female patients was achieved in 90% of endoscopists, and at least 30% for male patients achieved in 91.2% of endoscopists. ADR was higher among gastroenterologists vs non-gastroenterologists and among female endoscopists vs. male endoscopists.

Adherence to guideline-based surveillance recommendations varied based on colonoscopy/pathology finding. For colonoscopies without any findings, 64.7% (95% CI 62.8%-66.5%) of endoscopists met the target of at least 90% adherence to guideline recommendation, whereas only 14.5% (10.4%-19.8%) of endoscopists met the adherence target after a finding of an advanced adenoma and 14.7% (10.0%-21.0%) of endoscopists met the adherence target after a finding of a sessile serrated polyp <10 mm without dysplasia.

Follow-up intervals shorter than the interval based on guidelines were recommended in 30.7% of colonoscopies with small sessile serrated lesions without dysplasia, 22.9% of colonoscopies with advanced adenomas, and 16.2% of colonoscopies with advanced serrated lesions. For colonoscopies with no findings or colonoscopies with 1-2 small tubular adenomas, the recommended surveillance interval was shorter than the guideline-based recommendation in 12.0% and 13.5% of colonoscopies, respectively. On the other hand, some patients with higher risk findings received a follow-up interval recommendation longer than that recommended in guidelines, including 18.2% of patients with advanced serrated lesions and 6.3% of patients with advanced adenomas.

COMMENTARY

Why Is This Important?

Recently, the ACG/ASGE published new guidelines for quality indicators for colonoscopy, including a goal performance target of at least 90% adherence to appropriate screening/surveillance intervals.³ This recommendation remains unchanged from the 2015 ACG/ASGE guidelines.⁴ Whereas this and other studies have suggested overall good adherence to quality indicators such as

ADR, bowel preparation, and cecal intubation rate, adherence to recommended surveillance intervals remains limited. A 2019 systematic review/meta-analysis found adherence to recommended surveillance intervals in 48.8% (95% CI 37.3%-60.4%) of colonoscopies, lower after detection of low-risk lesions (44.7%) compared to high-risk lesions (54.6%).¹

Adherence to the revised 2020 USMSTF guidelines appears to be similarly limited. In a retrospective analysis of first-time average-risk colonoscopies performed at a tertiary care center from 2021-2022, Dong et al evaluated 532 colonoscopies, finding that overall adherence was 48.9% but varied widely with pathology: 8.3% for low-risk adenomas, 88.3% for high-risk adenomas, and 63.1% for sessile serrated polyps.² They did find that adherence to guidelines improved with increasing time from release of the guideline (i.e., later date of colonoscopy), which suggests that increased time for awareness/education about recommendations could potentially improve adherence.

This study by Shapiro et al. highlights the sub-optimal adherence to guideline-based colonoscopy surveillance intervals in the United States. Interestingly, in contrast to some prior studies, this study demonstrates worse adherence in patients with more advanced pathology. Most discordant follow-up intervals after a colonoscopy with advanced pathology were attributed to shorter than recommended follow-up intervals; however, longer than recommended intervals were also noted in these patients, particularly after a finding of an advanced sessile serrated lesion.

This study's strengths include utilization of a large national database from the GIQuIC registry, which represents about one-third of US gastroenterologists. It also included more comprehen-

sive pathology compared to some prior studies, as it includes pathology for both adenomas and sessile serrated polyps.

Key Study Findings

Endoscopist adherence to guideline-based surveillance intervals after screening colonoscopy was low in this study using the GIQuIC database.

Only 15%-65% of endoscopists adhered to guideline-based intervals over 90% of the time depending on pathology results, with 12%-31% of recommendations being shorter than the recommended interval.

Caution

This study included endoscopists within the GIQuIC database. GIQuIC participation is at the discretion of endoscopy centers. Thus, generalizability of these findings to endoscopists not included in the database may be limited, as colonoscopies not captured in GIQuIC may potentially be of lower quality than those included in the database. Nevertheless, over 33% of US gastroenterologists engaged in clinical care actively participate in GIQuIC.

My Practice

At my institution, our recommendation regarding colonoscopy surveillance intervals is delivered using a standardized colonoscopy pathology letter which outlines the number of polyps removed, the pathology of the polyps removed,

and the recommended surveillance interval based on the findings, which includes auto-populated options based on intervals from the USMSTF guidelines. This letter is sent to the patient and his/her primary care doctor. I find this workflow facilitates adherence to guideline-based recommendations as it provides a structure to review pathology findings.

In the future, adherence to guideline-recommended intervals for surveillance colonoscopy may be calculated and reported back to individual endoscopists. This may facilitate improved adherence. Alternatively, artificial intelligence programs have demonstrated $\geq 95\%$ adherence to guideline recommendations in pilot studies. If suboptimal adherence to guideline recommendations continue, then this option may get more attention.

For Future Research

Qualitative research to identify the reasons why physicians may vary their recommended surveillance intervals is needed to understand factors contributing to poor adherence to guideline recommendations. In addition, research to identify risk factors for worse adherence to recommended follow-up intervals will be needed to guide interventions to improve adherence to guidelines. Additional research may clarify the role of artificial intelligence programs to automate the process for notifying patients about pathology results and recommended timing of repeat colonoscopy.

Conflicts of Interest

Dr. Zhou reports no potential conflicts of interest.

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