EVIDENCE-BASED GI
AN ACG PUBLICATION

CRC SCREENING

Quality Indicators for Colonoscopy: New Targets… But Will They Be Measured?

Dr Philip Schoenfeld
Editor-in-Chief

Philip Schoenfeld, MD, MSEd, MSc (Epi)

Chief (Emeritus), Gastroenterology Section, John D. Dingell VA Medical Center, Detroit, MI.

This summary reviews Rex DK, Anderson JC, Butterly LF, et al. Quality Indicators for Colonoscopy. Am J Gastroenterol. 2024;119:1754-80 .

Correspondence to Philip Schoenfeld, MD, MSEd, MSc. Editor-in-Chief. Email: EBGI@gi.org

Keywords: Colonoscopy, colorectal cancer, quality indicators

STRUCTURED ABSTRACT

Question: What numeric indicators improve the efficacy of colonoscopy to decrease colorectal cancer (CRC), are measurable, and are associated with variable performance?

Design: This multi-society (American College of Gastroenterology [ACG] and American Society for Gastrointestinal Endoscopy [ASGE]) position statement updates the 2015 guidance based on new research. Literature searches of Pubmed (MEDLINE) from 2014-2022 were performed to identify relevant literature. For clinically relevant topics that were not amenable to formal evidence-based recommendations, key concepts based on expert consensus were presented.

Patients: Adults (≥ 18 years old) undergoing colonoscopy. While most quality indicators address colonoscopy performed for CRC screening or colon polyp surveillance among individuals ≥ 45 years old, several quality indicators (e.g., frequency of serious adverse events, cecal intubation rate, and adequate bowel

preparation rate) apply to all colonoscopies. New quality indicators for performance of colonoscopy in inflammatory bowel disease patients were added.

Interventions/Exposure: Multiple pre-procedure (e.g., adequate bowel preparation rate), intraprocedure (e.g., adenoma detection rate), and post-procedure (e.g., rate of recommending repeat screening or surveillance colonoscopy consistent with guidelines) were identified.

Outcome: Quality indicators were classified as outcome measures or process measures. Outcome measures impact quality of care but may require large amounts of data and/or long-term follow-up to quantify (e.g., rate of post-colonoscopy CRC). Process measures are usually surrogates for outcome measures that are more easily measured with less data and are recorded after each colonoscopy (e.g., colonoscopy withdrawal time).

Data Analysis: Selection of quality indicators, updates in performance targets, and strength of recommendations for each quality indicator were reached based on consensus among authors after review of relevant literature. An earlier (circa 2002) and more detailed version of grading framework[1] was again adapted to rate strength of recommendation for each quality indicator.

Funding: Supported by the ACG and ASGE.

Results: The 2024 ACG/ASGE Position Statement on Quality Indicators updates multiple definitions and performance targets from the 2015 version[2] (**Table 1**). A simpler definition of adenoma detection rate (ADR) was defined, which encompasses all CRC screening, colon polyp surveillance and diagnostic colonoscopies performed in individuals $\geq$ 45 years old (while excluding individuals undergoing colonoscopy for positive screening tests, IBD surveillance, or with an incomplete colonoscopy). Low sessile serrated lesion detection rate is associated with post-colonoscopy CRC, which is unsurprising since large, flat serrated lesions in the proximal colon may be a frequent source of this. Therefore, sessile serrated lesion detection rate (SSLDR) with a 6% target was added. Among "non-priority" intraprocedural quality indicators, a target ADR of $\geq$ 50% was set for colonoscopies performed for positive screening tests (e.g., fecal immunochemical test or multitarget stool DNA test) and the average withdrawal time in normal colonoscopies without biopsy was increased from $\geq$ 6 minutes to $\geq$ 8 minutes, partly based on randomized controlled trials (RCTs), demonstrating that this increases ADR. Also, based on RCT data demonstrating superior efficacy and safety of cold snare vs hot

snare, a new quality indicator targets 90% adherence with using cold snare to remove 4-9 mm polyps.

Among pre- and post-procedural quality indicators, the performance target for achieving adequate bowel preparation was increased from 85% to 90% and the definition was expanded to include providing an appropriate indication for timing of repeat screening or surveillance colonoscopy plus stating that bowel preparation was adequate. Use of Boston Bowel Preparation Scale (BBPS), which has been validated, provides visualization scores for proximal, transverse, and distal colon, and assesses quality of bowel preparation after intra-procedural washing and suctioning, is preferred vs the Aronchick scale (poor, fair, good, excellent). Finally, frequency of recommending an appropriate interval for next screening or surveillance colonoscopy remains at 90%. Although recent database studies suggest that endoscopists are improving their performance with this, the 90% threshold is frequently not attained.

	Performance Target
Adenoma Detection Rate*	≥ 35%
Sessile Serrated Lesion Detection Rate*	≥ 6%
Rate of Using Recommended Screening and Surveillance Intervals	≥ 90%
Bowel Preparation Adequacy Rate**	≥90%
Cecal Intubation Rate with Photo Landmarks	≥ 95%

Table 1. Priority quality indicators for colonoscopy.

*ADR and SSLDR are calculated based on colonoscopies with at least one adenoma in individuals ≥ 45 years old for CRC screening, colon polyp surveillance, or diagnostic indication, while excluding patients undergoing colonoscopy for positive screening tests (e.g., FIT), IBD surveillance, or with an incomplete colonoscopy.

**Percentage of patients with adequate bowel preparation PLUS receiving recommended screening or surveillance interval for next colonoscopy.

ADR, adenoma detection rate; FIT, fecal immunochemical test; IBD, inflammatory bowel disease; SSLDR, sessile serrated lesion detection rate.

COMMENTARY

Why Is This Important?

This updated position statement makes substantial changes based upon a plethora of new research. This work identifies interventions to reduce post-colonoscopy CRC while minimizing adverse events. Many of these seminal studies, which were published in *JAMA, Annals of Internal Medicine*, and *The Lancet*, have been summarized in *Evidence-Based GI*, including research about simplifying the ADR calculation[3], the impact of higher ADRs on reducing post-colonoscopy CRC[4], a higher target ADR in FIT+ patients[5], the impact of low sessile serrated lesion detection rates on increasing post-colonoscopy CRC[6], the benefits of extending withdrawal time to increase ADR[7], the reduction in post-polypectomy bleeding when small adenomas are removed with cold snare instead of hot snare,[8] support for 10-year intervals after normal screening colonoscopy[9] and 7-10 year intervals after finding 1-2 small adenomas after high-quality colonoscopy,[10] while confirming that many endoscopists are not adherent with following those guideline recommendations.[11]

Ultimately, measuring quality indicators and providing feedback to endoscopists can be time-consuming. Therefore, the authors of the position statement identified "priority quality indicators" (**Table 1**), which are most clinically relevant to the efficacy and efficiency of colonoscopy to reduce CRC, are relatively easy to measure, and are subject to variable performance by individual endoscopists.

Key Study Findings

Priority quality indicators are ADR $\geq$ 35% among individuals $\geq$ 45 years old getting colonoscopy for CRC screening, colon polyp surveillance or diagnostic indications. Sessile serrated lesion detection rate should also be monitored in the same group and be $\geq$ 6%. Bowel preparation should be adequate and accompanied by an appropriate recommendation for repeat screening or surveillance colonoscopy in $\geq$ 90% of individuals.

Caution

Although an early, modified version of the GRADE framework[1] was adapted to rate strength of recommendation for each quality indicator, the authors' subjective opinions may influence assessments about the strength of recommendations and quality of evidence. A GRADE methodologist was not used to help produce this position statement, which might have been helpful and could be used in the future.

My Practice

In my VA practice, our report cards provide feedback on all of the priority quality indicators except for sessile ser-

rated lesion detection rate. In the past, this report card was done manually and based on a sample of colonoscopies as opposed to my entire colonoscopy volume since its time-consuming. The VA has instituted the Veterans Affairs Endoscopy Quality Improvement Program (VA-EQuIP), a large ongoing national quality assurance program in the VA health care system, which utilizes informatics and natural language processing to automatically measure and report colonoscopy quality. Hopefully, this will simplify the process, and other large health systems are instituting similar programs.

Among the priority quality indicators, achieving adequate bowel preparation frequency of $\geq$ 90% might seem difficult in our patient population, which is an inner-city population with low socioeconomic levels and relatively low literacy levels. Nevertheless, we've achieved this performance target by creating a patient navigation system which provides information through multiple sources (e.g., mail, phone) at multiple times before colonoscopy as well as screening patients at high-risk for an inadequate bowel preparation and prescribing an enhanced bowel preparation that combines bisacodyl with 4 liters of polyethylene glycol.[12]

For Future Research

There is appropriate original research data to support the priority quality indicators and most of the additional quality indicators with their associated performance targets. This is the first step. We need more and better implementation research about getting endoscopists to measure these quality indicators in their own practice as well as identifying interventions to improve the outcomes of poor performers. This will be especially important for adherence to recommended screening and surveillance intervals for repeat colonoscopy, which continues to lag performance targets.[13] Perhaps, simply providing feedback to endoscopists about this quality indicator through an automated system will be sufficient to improve performance, which has worked to improve ADR.[14]

Conflict of Interest

Dr. Schoenfeld reports no relevant conflicts of interest.

REFERENCES

1. Guyatt G, Sinclair J, Cook D, et al. Grading recommendations: A qualitative approach. In: Guyatt G, Rennie D (eds). Users' Guides to the Medical Literature: A Manual for Evidence-based Clinical Practice. Chicago, IL; AMA Press; 2002: 599-608.
2. Rex DK, Schoeneld P, Cohen J, et al. Quality Indicators for Colonoscopy. Am J Gastroenterol 2015; 110: 72-90.
3. Lee J. Time to simplify ADR calculation for colonoscopy quality reporting. Evidence-Based GI. September 2023. https://gi.org/journals-publications/ebgi/lee_sept2023/
4. Lee J. Time to increase adenoma

detection Rate Benchmarks for Screening Colonoscopies. Evidence-Based GI. September 2022. https://gi.org/journals-publications/ebgi/lee_september_2022/.

5. Sleiman J, Schoenfeld P. High adenoma detection rate decreases post-colonoscopy CRC in FIT-based screening program: Quality matters. Evidence-Based GI. October 2022. https://gi.org/journals-publications/ebgi/sleiman_october2022/
6. Patel S. ADR isn't the only game in town: Proximal serrated lesion detection rates predicts interval cancer risk. Evidence-Based GI. August 2022. https://gi.org/journals-publications/ebgi/patel_august_2022/.
7. Kolb J, Shaukat A. Slow-down to speed up quality: Longer withdrawal time of 9 vs 6 minutes increases adenoma detection rate. Evidence-Based GI. January 2022. https://gi.org/journals-publications/ebgi/kolb_shaukat2022/
8. Schoenfeld P. Cold snare decreases post-polypectomy bleeding vs hot snare for small (≤ 10mm) polyps. Evidence-Based GI. March 2023. https://gi.org/journals-publications/ebgi/phil_march2023/.
9. Okafor P. 10-Year intervals after normal screening colonoscopy: it's not too long with high-quality colonoscopy. Evidence-Based GI. March 2023. https://gi.org/journals-publications/ebgi/okafor_march2023/.
10. Patel S. Wait 7-10 years for repeat colonoscopy if you only find 1-2 small adenomas… it's not too long. Evidence-Based GI. May 2022. https://gi.org/journals-publications/ebgi/patel_may/.
11. Schoenfeld P. Colonoscopy for colon polyp surveillance: Avoid recommending early surveillance. Evidence-Based GI. July 2023. https://gi.org/journals-publications/ebgi/schoenfeld_july2023/.
12. Schoenfeld P. It's a bad "prep" even though the patient took it correctly: Consider 15 mg bisacodyl plus 4-liter PEG split prep before next colonoscopy. Evidence-Based GI. March 2022. https://gi.org/journals-publications/ebgi/schoenfeld_february2022/
13. Shapiro J, Holub J, Dominitz JA, et al. Colonoscopy quality measures and adherence to follow-up guidelines among endoscopists participating in a US endoscopy registry. Gastrointest Endosc. 2024;S0016-5107(24)03404-7. Epub ahead of print.
14. Catlow J, Sharp , Wagnild J, et al. Nationally automated colonoscopy performance feedback increases polyp detection: The NED APRIQOT randomized controlled trial. Clin Gastroenterol Hepatol 2024; 22: 1926-1936.