

Assessing performance of colonoscopy procedures improves quality

June 21 2013

A new study reports that the use of a quarterly report card is associated with improved colonoscopy quality indicators. Endoscopists at the Roudebush Veterans Affairs Medical Center in Indianapolis, Ind., who participated in the study showed an overall adjusted adenoma (precancerous polyp) detection rate increase from 44.7 percent to 53.9 percent, and a cecal intubation rate increase from 95.6 percent to 98.1 percent. These two metrics are validated measures of colonoscopy performance quality. The study appears in the June issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the American Society for Gastrointestinal Endoscopy (ASGE).

Colonoscopy examines the lining of the lower intestinal tract called the colon or [large intestine](#). When used as a [colon cancer](#) prevention method, colonoscopy can find potentially [precancerous growths](#) called polyps and remove them before they turn into cancer. Studies assessing the effect of interventions to improve colonoscopy quality have shown inconsistent results. Since 2009, endoscopists (physicians specially-trained in [endoscopic procedures](#) such as colonoscopy) at the Indiana University-affiliated Roudebush Veterans Affairs Medical Center have received a quarterly "report card" summarizing individual colonoscopy quality indicators as part of an ongoing quality assurance program. The aim of this study was to determine the effect of the quality report card intervention on the quality of colonoscopy performance.

"Our study differs from previous research in several aspects. First, our report card initiative is based in an academic setting and involves a

relatively small group of endoscopists. It includes 'hard' quality indicators such as adenoma detection rate and cecal intubation, but also information regarding documentation of bowel preparation quality, patient assessment before the procedure, and withdrawal time. Second, there were no [financial incentives](#) or penalties for achieving or not achieving preset targets. Third, the report cards are blinded to individual endoscopists, with minimal feedback administered confidentially as needed. Fourth, the intervention is administered regularly and relatively frequently, at 3-month intervals," said study lead author Charles J. Kahi, MD, MSCR, Indiana University School of Medicine and Roudebush Veterans Affairs Medical Center, Indianapolis. "We speculate that a combination of these factors led to the observed global improvement in the adenoma detection and cecal intubation rates, rather than a defined and measurable change in one discrete variable."

Methods

The American Society for [Gastrointestinal Endoscopy](#) introduced a quality recognition program in 2008 that recognizes endoscopy units that have implemented quality improvement and monitoring processes as an integral part of their operations. In 2009, the Roudebush Veterans Affairs Medical Center GI endoscopy unit in Indianapolis, was one of the first to receive this distinction. The transition to the new quality monitoring program occurred during the first three months of 2009. Subsequently, physicians who performed endoscopic procedures at the Medical Center started to receive quarterly "report cards," which provided data regarding colonoscopy quality indicators including documentation of bowel preparation quality, before-procedure patient assessment, cecal intubation, withdrawal time, and adenoma detection rate (ADR).

Data from six endoscopists were included. Patients were average-risk, aged 50 years or older, undergoing their first screening colonoscopy. The

study time frame was July 1, 2008 to December 31, 2008 (before intervention) and April 1, 2009 to March 31, 2011 (intervention). The report card quality initiative was implemented gradually during the first few weeks of 2009. The primary outcomes were cecal intubation or the visualization of the cecum (the first part of the large intestine or colon), and adenoma detection rates, adjusted for physician, patient age, and sex. Multivariable logistic regression was performed to determine factors associated with adenoma detection. The procedures were performed by six board certified gastroenterologists or colorectal surgeons, or by GI fellows under direct supervision of these attendings.

Results

A total of 928 patients (male 93 percent, white 78 percent) were included (pre-intervention 336; post-intervention 592). There were no significant differences in patient age, sex, smoking status, body mass index, bowel preparation quality, colonoscope model, and proportion of colonoscopies performed with a trainee between the pre-intervention and post-intervention phases. In the post-intervention phase, the adjusted adenoma detection rate and cecal intubation rates were significantly higher: 53.9 percent versus 44.7 percent and 98.1 percent versus 95.6 percent, respectively. A higher trend in ADR detection in the intervention phase was found for five of the six physicians. The increment in ADR was due mostly to increased detection of proximal adenomas. These are polyps on the right side of the colon which are often more difficult to detect and have been implicated as an important factor in the efficacy of colonoscopy for colon cancer screening. There were no significant changes in serrated polyp detection, advanced neoplasm detection, number of adenomas detected per colonoscopy, and mean size of adenomas after implementation of the intervention. The report card intervention remained significantly associated with higher ADRs after adjustment for patient age, sex and physician.

The researchers concluded that a quarterly report card was associated with improved colonoscopy quality indicators. They stated that this intervention is practical to generate and implement, and it may serve as a model for quality improvement programs in different patient and physician groups. Additional work is needed to determine whether this intervention is effective in different practice settings and its beneficial effects sustained.

Provided by American Society for Gastrointestinal Endoscopy

Citation: Assessing performance of colonoscopy procedures improves quality (2013, June 21)
retrieved 27 December 2022 from

<https://medicalxpress.com/news/2013-06-colonoscopy-procedures-quality.html>

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