Screening colonoscopies save lives. A bold statement, certainly, but one borne out of extensive research and well-established data and one that we gastroenterologists believe is the main reason why we do colonoscopies each day. Studies demonstrate a significant decrease in the risk of developing as well as dying from colorectal cancer (CRC) in average-risk patients who undergo screening colonoscopy (1,2). The benefit of colonoscopy on CRC development and mortality comes from the ability to remove adenomatous polyps and, hence, has arisen the importance of and focus on adenoma detection. Adenoma detection rate (ADR) is currently a quality measure for colonoscopy due its demonstrated inverse association with the development of CRC and mortality (3-6). Corley et al. demonstrated that each 1% increase in ADR is associated with a 3% decrease in the risk for CRC (7). This direct correlation has prompted study into how to improve an endoscopist’s ADR and what characteristics are associated with an endoscopists’ ADR. Feedback provided to endoscopists as well as periodic monitoring have resulted in improved ADR, especially in those endoscopists who, at baseline, were considered ‘low detectors’ (ADR ≤25%) (8-12).

Despite the observed benefit in ADR after various quality interventions, there has been little to demonstrate that the outcome of these interventions has had a measurable, longterm benefit in terms of reducing risk for interval colon cancer and mortality. Kaminski et al. (13) needs again to be congratulated by their effort to point out once again that the quality indicator of ADR is a moving target aimed at improving the outcomes of our patients. They performed a prospective cohort study evaluating approximately 1 million person-years of follow-up in Poland between 2004–2008. A component of Poland’s National Colorectal Cancer Screening Program includes feedback with benchmarking as part of a commitment to quality assurance. The initiation of these quality controls has resulted in an improvement of 1.5% annually in the overall ADR (14). The objective of Kaminski’s current study was to assess whether these improvements correlated with a decrease in incidence of interval CRC and mortality from CRC (13). Two hundred and ninety-four endoscopists were divided into 5 quintiles based on their ADR and each endoscopist had an annual ADR calculated which either improved or declined from or maintained their baseline ADR. Endoscopists in the lowest quintile had an ADR of ≤11.2% whereas endoscopists in the highest quintile had an ADR >24.5%. Improvement was measured by comparing their current ADR to their baseline ADR and improvement was defined as an increase by at least one ADR category or maintenance of position in the highest category whereas no improvement was defined as a decrease in ADR category or maintenance of their category (apart from the highest category). Over the study period nearly 75% of endoscopists increased their annual ADR and improvement was defined as an increase by at least one ADR category or maintenance of position in the highest category whereas no improvement was defined as a decrease in ADR category or maintenance of their category (apart from the highest category). Over the study period nearly 75% of endoscopists increased their annual ADR and, most impressively, the proportion of endoscopists occupying the lowest quintile decreased from 31% to 10% over the duration of the study.

For patients undergoing colonoscopy by an endoscopist whose ADR improved from lower quintiles to the highest

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quintile (ADR >24.5%), the adjusted hazard ratio for interval CRC was 0.27 (95% CI, 0.12–0.63 P=0.003) which translates into a reduction in the rate of interval cancer from 25.3 cases per 100,000 patient-years to 7.1 cases per 100,000 patient-years (13). Interestingly, and notably, the risk for interval CRC appears to be most improved when endoscopists’ ADR rose to the highest quintile whereas there is only a negligible effect when ADR improved to/maintained within the third quintile (ADR 15.1–19.2%).

It is noted that the ADR quintiles in Kaminski’s study represent lower ADRs than the benchmark values currently accepted in the United States which are an overall ADR of 25% with an average for males of 30% and an average ADR for females of 20% (4). Given this discrepancy it is possible that a similar study reproduced in the United States would not produce quite as dramatic results, however, the data demonstrates quite clearly the benefit not only that higher endoscopist ADRs convey to decrease risk of interval CRC but also the effectiveness of regular feedback on ADR.

Multiple studies have shown that it is possible to affect ADR by regular feedback and monitoring (9,11,15) and Kaminski’s study takes this one, important, step further to show the clinically relevant benefit this feedback has on our patients by decreasing the risk of interval colon cancer and death (13). Still uncertain remains the question of the most effective method to improve ADR: is it written feedback, direct observation by ‘high detectors’ of their ‘low detector’ colleagues, innovative technologies to assist in ADR such as alternate-view scopes, supplemental colonoscope attachments, chromoendoscopy, computer aided programs? More research is needed to compare techniques and perhaps tailor the most appropriate intervention to the needs and learning style of the endoscopist.

This study should provide its readers with an optimistic view of the future of both colonoscopy as well as quality improvement. Quality improvement takes on many roles and occupies a significant amount of manpower and energy. Quality projects and initiatives can often become a source of frustration and anxiety for providers especially when they do not see a direct improvement in their practice, patient care or work environment as a result. Kaminski’s study, however, has shown us that putting in the time and effort to provide feedback to endoscopists with the goal of improving their ADR has a direct and important benefit to our patients and is a most worthwhile exercise. It is absolutely possible to ‘teach an old dog new tricks’ and improve an endoscopist’s ADR through regular monitoring and feedback. Endoscopists are not static ‘low detectors’ and this study demonstrates their remarkable ability to improve which, in turn, improves the care and health of our patients.

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Footnote

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References


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