

10-Year Intervals After Normal Screening Colonoscopy: It's Not Too Long with High-Quality Colonoscopy



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This summary reviews Heisser T, Kretschmann J, Hagen B et al. Prevalence of Colorectal Neoplasia 10 or More Years After a Negative Screening Colonoscopy in 120,000 Repeated Screening Colonoscopies. *JAMA Intern Med* 2023; 183: 183-90.

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STRUCTURED ABSTRACT

Question: Is a 10-year interval after a negative screening colonoscopy adequate, and could screening intervals be further extended beyond 10 years?

Setting: This was a cross-sectional study using screening colonoscopy data between January 1, 2013, and December 31, 2019, reported to the German screening colonoscopy registry. Certification for performing screening colonoscopy in Germany is tightly regulated and requires performance of at least 200 colonoscopies per year with the quality and completeness demonstrated by photo or video documentation.

Participants: The analyses were conducted on aggregated data obtained from repeat screening colonoscopies offered to the German general population 65 years and older. In Germany, eligibility for initial screening colonoscopy was lowered for men from 55 years to 50 years in April 2019. For women, eligibility for initial screening starts at 55 years. Per

protocol, individuals in screening colonoscopy registry are average-risk and asymptomatic.

Intervention/Exposure: The investigators identified a subgroup of individuals (65 years or older) with repeat colonoscopies performed 10 or more years after an initial screening colonoscopy. The results of the repeat screening colonoscopies were compared with “all” screening colonoscopies conducted at 65 years or older during the study period, which were mostly first screening colonoscopies. Diagnostic colonoscopies were excluded.

Outcomes: The main outcomes were prevalence of colorectal cancer (CRC), any colorectal neoplasia (any adenoma or CRC), or advanced colorectal neoplasia (any adenoma > 1cm, villous adenoma, or CRC) on repeat screening colonoscopy after having a negative initial screening colonoscopy ≥ 10 years ago.

Data Analysis: The outcomes of interest were stratified by participant age and sex. The observed number of advanced colorectal neoplasia and CRCs in repeat screening colonoscopies were compared with the number of cases expected if the same prevalence rates were observed in this group as in all screening colonoscopy participants and reported as standardized prevalence ratios (also by age and sex) along with 95% confidence intervals.

Funding: German Federal Ministry of Education and Research.

Results: Of the 565,864 men and 688,264 women screened in the study period, an analysis cohort of 120,298 individuals with a repeat screening colonoscopy was created, consisting of 47,949 (39.9%) men and 72,349 (60.1%) women. In this cohort, 49% (n=58,978) had their second screening at 10 years, 28.9% (n=34,762) at 11 years, 12% (n=14,427) at 12 years, and about 10% at 13 years or more.

Among patients who had undergone a repeat screening colonoscopy, the prevalence of advanced colonic neoplasia ranged from 5.2-6.6% in men, much lower than rates in all screening colonoscopy users (11.6%) (**Figure 1**). Advanced colorectal neoplasia prevalence rates were even lower (3.6-4.9%) among women undergoing repeat screening colonoscopies compared to all women undergoing screening colonoscopies (7.1%) (**Figure 1**). By comparing observed rates of CRC in the repeat screening patients to expected rates in

all screening patients, the authors reported 62-74% lower rates of CRC among women and 77-82% lower rates among men with screening intervals of more than 10 years. They also showed 38-39% lower rates of advanced colorectal neoplasia among women and 44-50% lower rates in men with screening intervals of more than 10 years compared to all screenings.

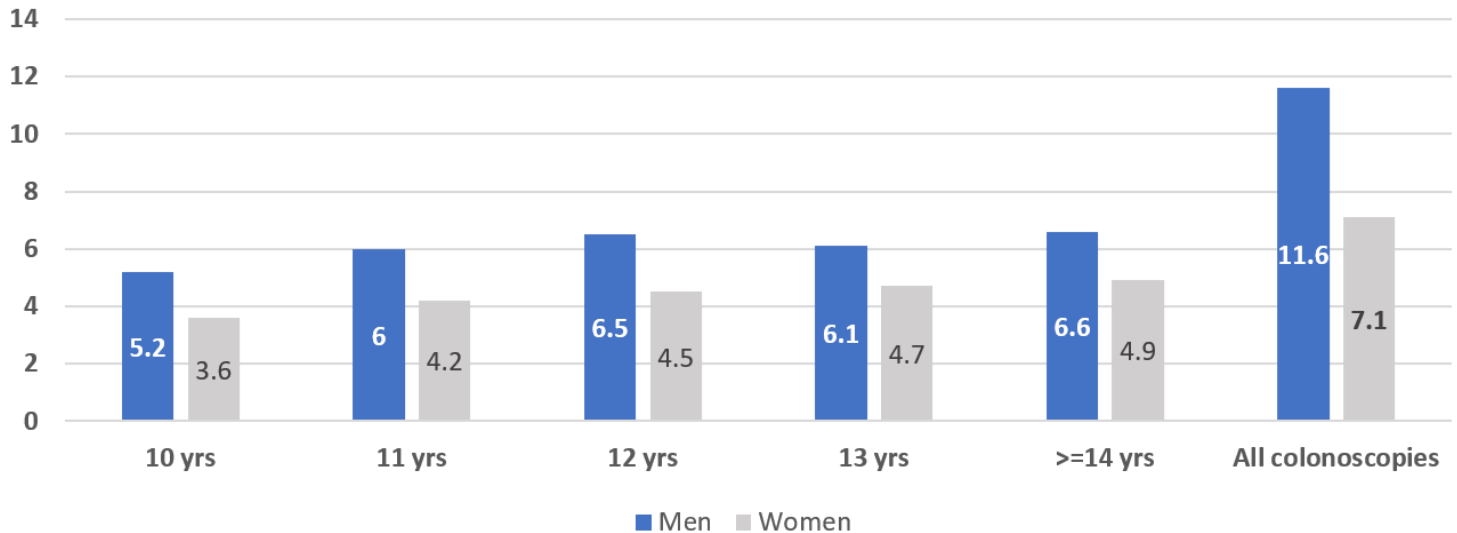


Figure 1. Prevalence of any advanced colorectal neoplasia at repeat screening colonoscopies (%)

COMMENTARY

Why Is This Important?

Following the widespread uptake of CRC screening, a 10-year interval after a negative screening colonoscopy (in average-risk individuals) was recommended by major guidelines based on extrapolations from colonoscopy sensitivity studies and inferences from the adenoma-carcinoma sequence. However, long-term prospective studies and large registry studies were not available to support this recommendation and US endoscopists frequently recommend shorter intervals for repeat screening colonoscopy based on multiple studies.¹

This study by Heisser et al is among the largest and methodologically robust data to support 10-year intervals after a negative screening colonoscopy.

Observational studies outside the United States have suggested that a reduction in CRC incidence and mortality may exist up to 17 years after a negative screening colonoscopy.² Extending the screening interval without compromising outcomes could increase primary care providers' choice of colonoscopy as a screening tool and could also have significant healthcare cost savings from a payer and societal perspective.³ These data from Heisser et al suggest that intervals ≥ 14 years may be acceptable following a negative screening colonoscopy.

Key Study Findings

The prevalence of advanced colonic neoplasia on 10-year repeat screening colonoscopy was significantly lower vs prevalence in all screening colonoscopies (5.2%-6.6% vs 11.6% in men and 3.6-4.9% vs 7.1% in women).

They uniquely report low prevalence rates at 11 years, 12 years, 13 years, and beyond 14 years, which makes a compelling case that extending repeat screening colonoscopy intervals in low-risk individuals could be possible after high-quality index colonoscopy.

Caution

Data on the race/ethnicity of participants was not reported, which may limit generalizability to a more ethnically diverse country like the United States. All patients that had a screening colonoscopy served as the comparator group raising the possibility of healthy participant bias as patients who did not get a repeat screening colonoscopy were not included in the comparator group. Also, they could not exclude participants who might have gotten diagnostic colonoscopies within the screening interval or ascertain interval CRC.

My Practice

The study provides reassurance that existing screening colonoscopy intervals are safe for our patients *as long as a high-quality colonoscopy to the cecum is performed after adequate bowel cleansing by an endoscopist with an acceptable adenoma detection rate!* This is the crucial caveat. The German screening colonoscopy registry does require participating endoscopists to perform at least 200 screening colonoscopies per year and demonstrate appropriate cecal intubation rates confirmed by photo or video documentation. Although a minimum ADR has not been required previously⁴, the average ADR of their endoscopists is appropriate and continues to increase.

Ultimately, these data can also be used to encourage patients to choose colonoscopy over other CRC screening modalities. Colonoscopy is the only CRC prevention tool as well as requiring repeat colonoscopy only every 10 years if no adenomas (or 1-2 small adenomas) are found at initial colonoscopy.

For Future Research

More studies are needed to explore the impact of risk-stratified screening intervals based on sex and age especially the potential benefit of reducing healthcare costs. Similar studies in a more diverse US population would be helpful.

Conflict of Interest

Dr. Philip Okafor reported no potential conflicts of interest.

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