Optimal Colorectal Cancer Screening

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Purpose Statement

- This document is intended to be a reference guide that presents the evidence-based guidelines on optimal Colorectal Cancer screening

- According to The American Cancer Society, the overall lifetime risk of developing colorectal cancer is about 1 in 23 for men and 1 in 25 for women.

- Highmark recommends providers perform colorectal cancer screenings for patients of average risk beginning at age 50
  - Effective January 1, 2022, there will be an age change from 50 to 45 years old based on the recommendations of the United States Preventive Services Task Force

- The US Multi-Society Task Force on Colorectal Cancer recommends colonoscopy every 10 years OR annual FIT as the Tier-1 screening modalities

- This document presents important considerations when choosing between screening modalities recommended by the US Multi-Society Task Force

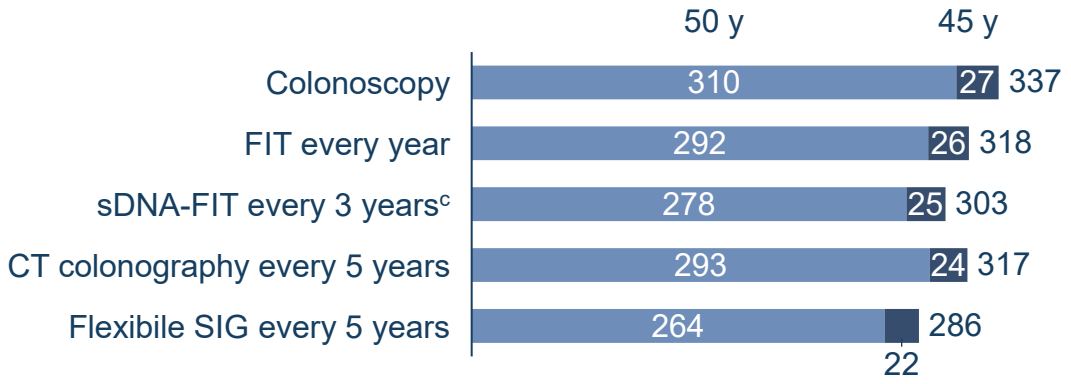
It Matters – the colorectal cancer screening method you choose makes a difference

The US Multi-Society Task Force on Colorectal Cancer[1] classifies colorectal cancer screening into tiers based on performance and effectiveness

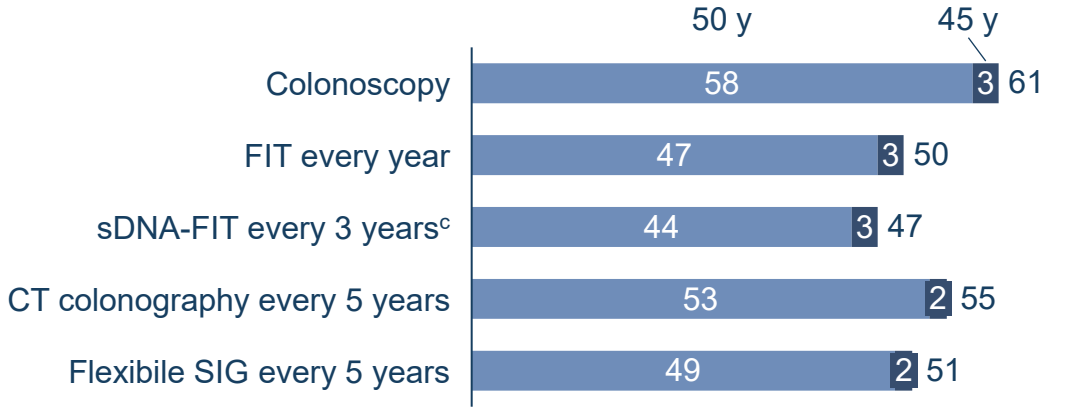
- **Tier-1:** Colonoscopies every 10-years OR annual fecal immunochemical test (FIT)
- A sequential approach is recommended, with colonoscopy offered first and FIT offered for those who decline colonoscopy
- **Tier-2:** CT colonography every 5 years, sDNA-FIT every 3 years, or flexible sigmoidoscopy every 5-10 years
- **Tier-3:** Capsule colonoscopy every 5 years

US Preventative Services Task Force[2] recommendations also show Colonoscopy as the gold-standard screening in terms of estimated life-years gained and cancer cases averted, followed by annual FIT as the best-performing, non-invasive alternative (*see figures on right)*

Estimated life-years gained per 1000 individuals screened[a,b]



Estimated No. of CRC cases averted per 1000 individuals screened[a,b]



[a] Outcomes are expressed per 1000 40-year-olds who start screening at age 45 or at age 50

[b] Mean estimates across the 3 Cancer Intervention and Surveillance Modeling Network colorectal cancer models. See modeling report for additional details and model-specific estimates

[c] Compared with other options for stool-based screening, these do not provide an efficient balance of the benefits (life-years gained) vs harms and burden (ie, lifetime number of colonoscopies) of screening

1 Colorectal Cancer Screening: Recommendations for Physicians and Patients From the U.S. Multi-Society Task Force on Colorectal Cancer. AJG 2017;112(7):1016-1030. doi:10.1038/ajg.2017.174

2 Screening for Colorectal Cancer: US Preventative Services Task Force Recommendation Statement. JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238

For patients who opt for stool-based testing, what is the difference between screening modalities?

Fecal Immunochemical Testing (FIT)

- Sensitivity: 0.74 - 0.81
- Specificity: 0.93 - 0.94
- Does not require dietary restrictions, bowel prep or anesthesia
- Can be done with a single stool sample
- Requires good adherence to recommended annual screening interval

USMSTF Tier-1 Recommended

High Sensitivity gFOBT: Hemoccult Sensa

- Sensitivity: 0.50 – 0.75
- Specificity: 0.96 – 0.98
- Requires dietary restrictions and three stool samples
- Does not require bowel prep or anesthesia
- Requires good adherence to recommended annual screening interval
- Uncertainty in precision of test sensitivity estimates; unclear if detection is improved over other stool-based tests[2]

sDNA-FIT (Cologuard)

- Sensitivity: 0.93
- Specificity: 0.85
- Does not require dietary restrictions, bowel prep or anesthesia
- Can be done with a single stool sample
- Requires good to recommended 3-year screening interval
- Modeling suggests screening every 3 years does not provide a favorable balance of benefits and harms compared to other stool-based options[2]
- Higher cost compared to other non-invasive screenings

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Frequently Asked Questions

Please visit the Ask a Doc series with Dr. Katie Farah, chief medical officer of AHN Wexford Hospital, and a practicing gastroenterologist and therapeutic endoscopist for answers to commonly asked colorectal cancer screening questions

What can I tell patients to help educate them on the proper screening methodology?
You should always educate the patient that colonoscopy is the best screening methodology. It is most effective at detecting both precancerous polyps and colorectal cancer and most polyps can be removed during the screening without an additional colonoscopy. Of course, any screening methodology approved by the United States Preventative Services Task Force is better than not screening at all.

Doesn't Cologuard contain a FIT, just with added DNA assay capability? Why is FIT considered a Tier-1 and Cologuard a Tier-2 screening?
Cologuard does contain a FIT. However, it is classified as a Tier-2 screening in the most up-to-date evidence-based recommendations of the American College of Gastroenterology, the American Gastroenterological Association and the American Society for Gastrointestinal Endoscopy. The majority of the sensitivity from Cologuard results from the FIT component. The DNA assays do improve detection of rarer lesions, but they also contribute to a higher false-positive rate, particularly as age increases. For these reasons, FIT is more effective and cost-effective than sDNA-FIT[1]

1 https://cdn.mdedge.com/files/s3fs-public/files/article/im_fp_colorectal_cancer_screeningfinal.pdf

Frequently Asked Questions

Do these recommendations also apply to patients at higher risk for Colorectal Cancer?

No, these recommendations are for screening of patients at average risk. Patients who are higher risk include those with family or personal history of precancerous polyps or colorectal cancer, ulcerative colitis, Crohn's disease, and some rare hereditary colon cancer conditions such as Lynch Syndrome. It is even more important for patients of higher risk to be screened via Colonoscopy, not only due to effectiveness but also the ability to remove most types of polyps identified during the screening.

Source: https://www.uspreventiveservicestaskforce.org/uspstf/document/final-evidence-summary19/colorectal-cancer-screening

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