



Colorectal Cancer Screening for Average-Risk Adults: 2018 Guideline Update From the American Cancer Society

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Screening of colorectal cancer

CRC screening presents a unique challenge and opportunity, as there are multiple screening tests with variability in supporting evidence of effectiveness, risk of harm, prevention potential, and patient burden.

The American Cancer Society (ACS) guideline for early detection of cancer of the colon and rectum

This guideline is intended to provide guidance to:

- ▶ adults at average risk of CRC,
- ▶ clinicians who counsel and refer patients to CRC screening,
- ▶ health care systems to support best practices in the early detection and prevention of CRC.

Adults at average risk of CRC

Persons:

- ▶ without a history of adenomatous polyps or CRC,
- ▶ not at increased risk for CRC due to a family history of CRC (such as familial adenomatous polyposis or Lynch syndrome),
- ▶ without a personal history of abdominal or pelvic radiation for a previous cancer,
- ▶ without a personal history of inflammatory bowel disease.

ACS's updates on CRC screening

- ❑ **1980:** first evidence-based recommendations
- ❑ **2008:** evidence-based consensus that included:
 - **US Multi- Society Task Force (USMSTF)**
 - American College of Gastroenterology
 - American Gastroenterological Association
 - American Society for Gastrointestinal Endoscopy
 - **American College of Radiology**
- ❑ **2018**

The ACS's 2018 update

The 2018 guideline update is based on:

- **An assessment of the underlying burden of disease;**
- **The strength of evidence and the balance of benefits and harms for available screening tests;**
- **Consideration of patient values and preferences, including the importance of choice in the selection of screening test options.**

Elements included in the ACS's 2018 update

- ▶ life-years gained & CRC deaths averted vs. burden and harms (number of colonoscopies required for a given strategy),
- ▶ the impact on health equity,
- ▶ feasibility,
- ▶ Acceptability,
- ▶ The ACS **does not apply** cost and resource use as a decision making criterion for recommendations

Definitions

- ▶ **Strong recommendation:** the benefits of adherence to a screening method outweigh the undesirable effects and that most patients would choose the method.
- ▶ **Qualified recommendation:**
 - ▶ there is clear evidence of benefit (or harm)
 - ▶ less certainty either about: the balance of benefits vs. harms or about patients' values and preferences, which could lead to different individual decisions.

Screening Age for CRC Screening

- **The ACS's strong recommendation:** regular CRC screening in adults aged **50 years** and older.
- **The ACS's qualified recommendation:** regular CRC screening in adults aged **45 years** and older.

Why reevaluating the age to initiate screening in US adults?

- Persistence of a trend of increasing CRC incidence in adults younger than 50 yrs.
- Higher than average incidence before age 50 years in some racial subgroups (blacks, Alaska Natives, and American Indian vs. whites, Hispanics, and Asian Americans)
- A 51% increase in CRC among younger than 50 years since 1994 particularly notable for rectal cancer

Fig1. Trends in CRC Incidence in men and women >50 yrs, US, 1975 to 2014.

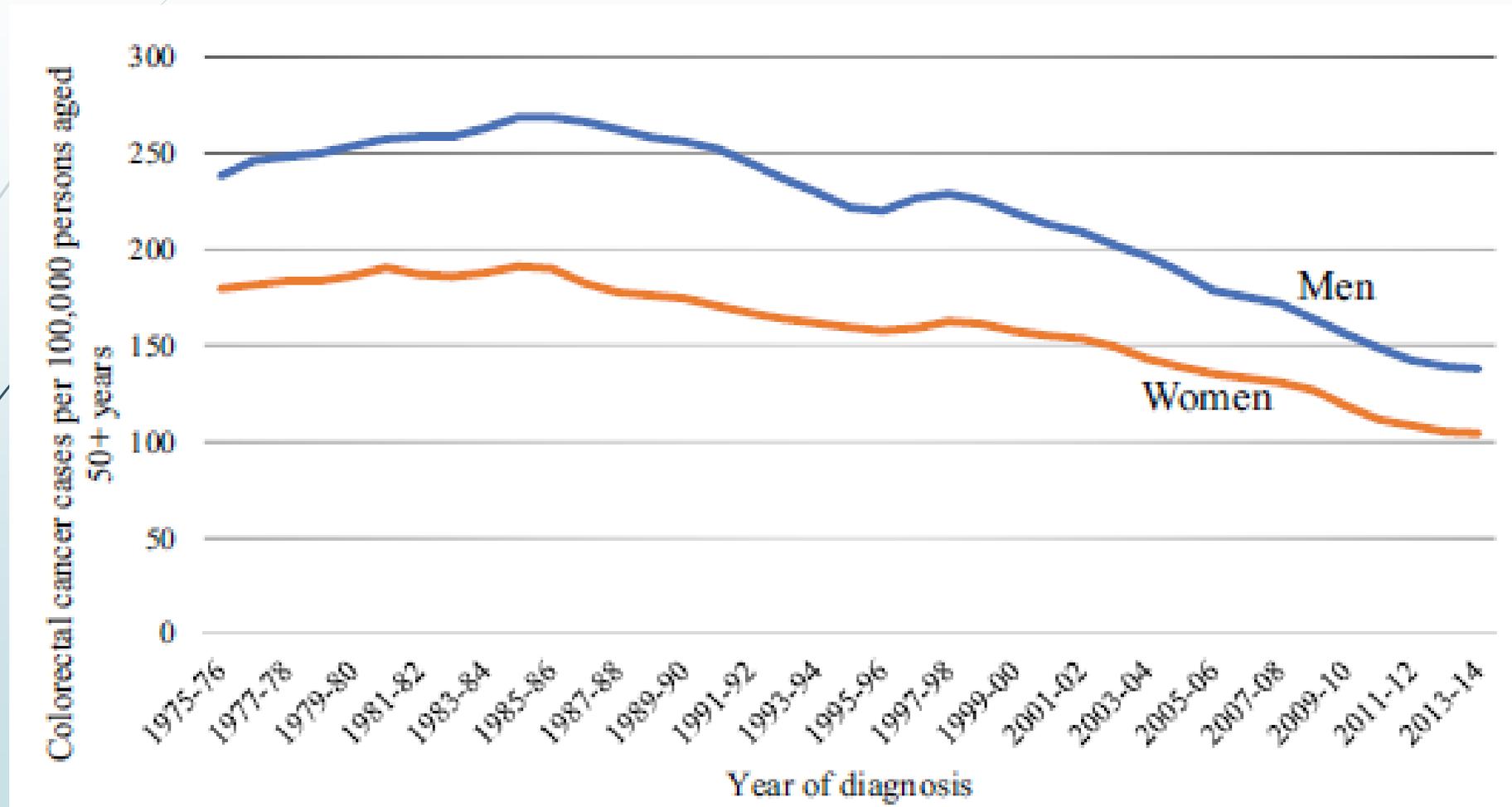
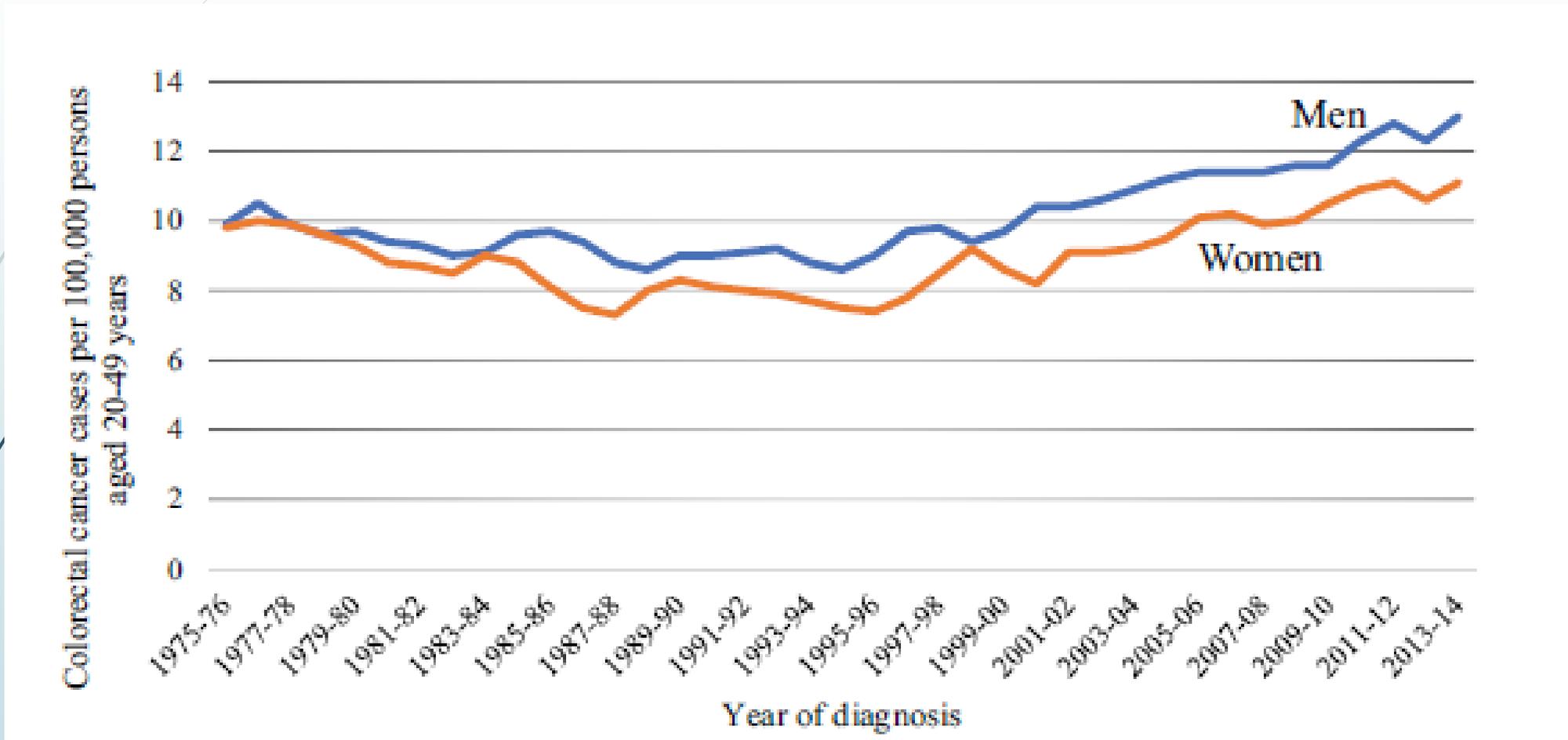


Fig2. Trends in CRC Incidence in men and women 20-49 yr in the US, 1975 to 2014.



Data source: Surveillance, Epidemiology, and End Results program, National Cancer Institute, 2017.

The ACS's Options for CRC screening

- ▶ **Stool-based tests**
 - ▶ Fecal immunochemical test every y
 - ▶ High-sensitivity, guaiac-based fecal occult blood test (HSgFOBT) every y
 - ▶ Multitarget stool DNA test every 3 y
- ▶ **Structural examinations**
 - ▶ Colonoscopy every 10 y
 - ▶ CT colonography every 5 y
 - ▶ Flexible sigmoidoscopy every 5 y

The ACS's qualified recommendation

- ▶ **Adults aged 45 years and older with an average risk of CRC undergo regular screening with either a high-sensitivity stool-based test or a visual examination, depending on patient preference and test availability.**
- ▶ **Clinicians individualize CRC screening decisions for individuals aged 76-85 y based on patient preferences, life expectancy, health status, and prior screening history.**
- ▶ **Clinicians discourage individuals over age 85 y from continuing CRC screening.**

Multi target stool DNA test

- ▶ **Currently, there is only one mt-sDNA test marketed in the United States.**
- ▶ **Combines an immunochemical assay for hemoglobin, and assays for aberrantly methylated BMP3, NDRG, and NDRG4, mutated K-ras, and b-Actin in cells exfoliated from colonic neoplasms.**

mt-s DNA test: advantages & disadvantages

► **Advantages vs. FIT:**

- Higher sensitivity for CRC & advanced adenomas
- higher detection rate of serrated sessile polyps >1 cm.

► **Disadvantages:**

- A new test, with limited data on screening outcomes
- its performance needs to be monitored over time
- Higher false-positive rate than FIT
- More expensive than other stool-based tests
- uncertainty in management of positive results followed by a negative colonoscopy: may be caused by failure to detect a visible lesion, neoplastic changes that are not yet visible, or the presence of noncolonic aerodigestive or supracolonc neoplasms.
- Patients with positive mt-sDNA results and a negative follow-up colonoscopy may undergo more aggressive short-term surveillance because of heightened concerns related to unresolved false-positive findings.

Stool tests

- ▶ stool should be collected at home.
- ▶ 1 sample strategy is recommended
- ▶ Nonoffice-based strategies, including “outreach” strategies whereby patients receive invitations to screening via mail, is recommended
- ▶ a single sample of stool collected during digital rectal examination fails to detect up to 90% of cancers.
- ▶ CRC screening guidelines recommend against in-office testing with stool collected during digital rectal examination.

Follow-up of positive noncolonoscopy screening tests

- All positive results on noncolonoscopy screening tests should be followed up with timely colonoscopy.
- The follow-up colonoscopy should not be considered a “diagnostic” colonoscopy but, rather, an integral part of the screening process, which is not complete until the colonoscopy is performed.
- Repeating a positive stool-based test to determine whether to proceed to colonoscopy is not an appropriate screening strategy.
- The proportion of patients receiving timely colonoscopy follow-up of positive stool blood test results is fair to poor in many settings.

Recommendations on FIT for CRC screening: a consensus statement by the US Multi-Society Task Force

- FIT completion rate to those offered testing of $\geq 60\%$;
- Proportion returning FIT that cannot be processed by the laboratory of $< 5\%$;
- Colonoscopy completion rate for those with a positive FIT of $\geq 80\%$
- Adenoma detection rate $> 45\%$ in men and 35% in women on follow-up colonoscopy after a FIT-positive test that uses a Hb $\leq 20 \mu\text{g/g}$.

Complications of colonoscopy

- risk of perforation is approximately 4 per 10,000 colonoscopies,
- risk of major bleeding is approximately 8 events per 10,000 colonoscopies.
- Cardiorespiratory arrest
- The complication rate of colonoscopies performed to follow up positive noncolonoscopy screening tests is significantly higher than that for primary screening colonoscopies.

Patient Preferences, Choice, and Adherence

- There is no consistent, direct evidence that adults prefer any one CRC screening tool or strategy over others, supporting a strategy of offering choice
- The ACS is committed to increasing utilization to achieve the benefits of CRC screening by recommending that patients be given an opportunity to choose a testing strategy, thus increasing the likelihood of adherence.
- The choice of test must be predicated on high-quality screening test options that are accessible to the patient, and there must be access to follow-up colonoscopy if needed.
- the best CRC screening test is the one that gets done, and done well
- ACS recommends that patients initiating screening or previously non-adherent with screening be offered a choice of tests based on availability of high-quality options.

Requirements for offering a choice

- ▶ **Choice of screening test may be limited by: the local availability of high-quality test options, patient access to tests based on cost or other factors.**
- ▶ **Not offering tests that are not readily available and accessible.**
- ▶ **Clinicians should be prepared to describe/offer options that are available and introduce additional options if the patient reject the tests initially presented**

Factors influencing Individual preferences and adherence

- ▶ patient education about screening,
- ▶ clinician recommendation
- ▶ screening frequency,
- ▶ screening location (home vs medical facility),
- ▶ need for dietary and/or bowel preparation,
- ▶ need for sedation,
- ▶ time and transportation required,
- ▶ relative ability to prevent versus detect CRC,
- ▶ out-of-pocket cost,
- ▶ risk of complications,
- ▶ test accuracy.

Thank you!