



2008 ACS, USMSTF, ACR Consensus Guidelines on the Early Detection of Colorectal Cancer and Adenomatous Polyps

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Organizations

- American Cancer Society
- American College of Radiology
- U. S. Multi-Society Task Force on Colorectal Cancer
 - American Gastroenterological Association
 - American College of Gastroenterology
 - American Society of Gastrointestinal Endoscopists
 - American College of Physicians



Methodology

- Beginning in 1980, the ACS first issued formal guidelines for CRC screening in average-risk adults.
 - Guidelines for CRC screening have been updated periodically since then
- USMSTF guidelines were first published in 1997, and updated in 2003
- ACR has had Appropriateness Criteria corresponding to DCBE & CTC

History of ACS CRC Screening Guidelines

Year

Guideline

1977

Men and women aged 40+

Annual sigmoidoscopy gFOBT and digital exam during periodic health checkup

(Flexible sigmoidoscopy is too expensive and too specialized to be used for early detection)

1980

Men and women aged 40+: Annual DRE

Men and women aged 50+: Annual DRE and gFOBT, and Sigmoidoscopy every 3-5 years, after two consecutive normal annual exams

1992

Men and women aged 50+

Annual gFOBT

Sigmoidoscopy (preferably flexible) every 3-5 years

(Barium enema viewed as an emerging technology for screening)

History of ACS CRC Screening Guidelines

Year

Guideline

1997

Men and women aged 50+: One of the following
Annual gFOBT and flexible sigmoidoscopy every 5 years
DCBE every 5-10 years
Colonoscopy every 10 years
(Guidelines for increased and high risk groups also specified)

2001

Men and women aged 50+: One of the following
Annual gFOBT
Flexible sigmoidoscopy every 5 years
Annual gFOBT and flexible sigmoidoscopy every 5 years;
DCBE every 5 years
Colonoscopy every 10 years

2003

(Technology update)

FIT added to the list of options
Stool DNA and CT colonography judged as promising, but insufficient evidence to recommend as options at that time

Methodology

- Guidelines methodology process described in 2000:
 - Smith RA, Mettlin CJ, Davis KJ, Eyre H. American Cancer Society guidelines for the early detection of cancer. *CA Cancer J Clin.* 2000;50:34-49.
- Expert panel is assembled, including ACS advisory committee and designated observers (USPSTF, CDC, NCI, AAFP, etc.)





Methodology (continued)

- Literature related to CRC screening and specific to individual tests published between **January 2002 and March 2007** was identified using MEDLINE (National Library of Medicine) and bibliographies of identified articles
- Expert panel members also provided several unpublished abstracts and manuscripts
- Where evidence was insufficient or lacking to provide a clear, evidence-based conclusion, final recommendations were based on expert opinion and are so indicated.



Methodology

- **Literature was assembled and evaluated within test groups, and catalogued by:**
 - Study design
 - Population
 - Post-test colonoscopy
 - Endpoints for both cancer and advanced lesions (sensitivity, specificity, PPV, harms, etc.)
- **Additional considerations included:**
 - Limitations in evidence
 - Quality assurance issues
 - Test performance in expert vs. community settings
 - Acceptability among providers and adults
 - Costs
 - Access & availability



Methodology

- The guidelines update process was divided into 2 phases:
 - The first phase focused on the stool tests, including gFOBT, FIT, and sDNA.
 - The second phase of the guidelines update process focused on the structural exams, including FSIG, colonoscopy, DCBE, and CTC.



Methodology (continued)

- Experimental evidence has shown that CRC screening with gFOBT is associated with reduced CRC incidence and mortality
- Information supporting the use of the other colorectal screening tests is based on observational and inferential evidence.



Methodology (continued)

- **Validation:** In this review, priority was placed on studies of asymptomatic average-risk or higher-risk populations that were followed by testing with colonoscopy in all or nearly all study participants as a validation measure.
- **Sensitivity:** Due to the absence of systems to insure regular screening, emphasis was placed on test sensitivity rather than program sensitivity. **A threshold was set requiring evidence in the scientific literature that the test detects a majority of the prevalent CRC in an asymptomatic population.**
- **Prevention:** It was the strong opinion of the expert panel that ***colon cancer prevention*** should be the primary goal of CRC screening.



Agency for Healthcare Research and Quality

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United States Preventive Services Task Force Recommendation on Colorectal Cancer Screening

Mary Barton, MD, MPP
Scientific Director, USPSTF

History - USPSTF

- Congressionally mandated non-Federal expert body
- Makes recommendations on clinical preventive services
- Supported by the Agency for Healthcare Research and Quality
- A standing rotating panel since 2002



USPSTF Methods -1

- Transparent methods (Procedure Manual on AHRQ website)
- Standard sequence
 - TF/AHRQ work with Evidence-Based Practice Center (EPC) to establish scope for Systematic Evidence Review
 - EPC uses explicit search criteria, comprehensive approach to the literature
 - EPC presents data to USPSTF who assess quality of sum of evidence and net benefit for the service



USPSTF Methods- 2

- USPSTF CRC recommendation based on
 - Systematic evidence review (focus on test sensitivities, harms) by Whitlock et al.
 - Decision model by Zauber et al.
 - Program impact over time
 - Comparison of specific strategies
 - Ages to start and stop

Prior (2002) USPSTF Recommendation

- The USPSTF strongly recommends that clinicians screen men and women 50 years of age or older for colorectal cancer. **(A Recommendation)**
- USPSTF endorsed several CRC screening options:
 - home fecal occult blood testing (FOBT)
 - flexible sigmoidoscopy (FS)
 - FOBT and FS
 - colonoscopy
 - double-contrast barium enema
- USPSTF found **insufficient evidence** about health outcomes to recommend for or against CT colonography



New ACS, USMSTF, ACR CRC Screening Guidelines

Adults age 50 and older

Tests That Detect Adenomatous Polyps and Cancer

	Flexible sigmoidoscopy (FSIG) every 5 years, or
	Colonoscopy every 10 years, or
	Double contrast barium enema (DCBE) every 5 years, or
	CT colonography (CTC) every 5 years

Tests That Primarily Detect Cancer

	Annual guaiac-based fecal occult blood test (gFOBT) with high test sensitivity for cancer, or
	Annual fecal immunochemical test (FIT) with high test sensitivity for cancer, or
	Stool DNA test (sDNA), with high sensitivity for cancer, interval uncertain

2008 USPSTF Recommendation

- The USPSTF recommends screening for colorectal cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy, in adults, beginning at age 50 years and continuing until age 75 years. The risks and benefits of these screening methods vary.
Grade: [A recommendation](#)
- The USPSTF recommends against routine screening for colorectal cancer in adults age 76 to 85 years. There may be considerations that support colorectal cancer screening in an individual patient.
Grade: [C recommendation](#)
- The USPSTF recommends against screening for colorectal cancer in adults older than age 85 years.
Grade: [D recommendation](#)



2008 USPSTF recommendation

- The USPSTF concludes that the evidence is insufficient to assess the benefits and harms of computed tomographic colonography and fecal DNA testing as screening modalities for colorectal cancer.
Grade: I statement

What to do with Insufficient Evidence :CT Colonography

Potential Preventable Burden. A screening program that incorporates the option of CT colonography could help reduce colorectal cancer mortality in the population if patients who would otherwise refuse screening found it an acceptable alternative.

Potential Harms. The potential harms from evaluation of incidental findings found with CT colonography may be large. The lifetime cumulative radiation risk from use of CT colonography to screen for colorectal cancer should be considered, as well as the growing cumulative radiation exposure from the use of other kinds of diagnostic and screening that involve radiation exposure.



What to do with Insufficient Evidence :CT Colonography

Current Practice. Computed tomographic colonography performed by trained and experienced radiographers may not be currently available in many parts of the United States.

Costs. Patient time and burden to participate in colorectal cancer screening using test strategies that require bowel preparation are substantial. A CT colonography screening strategy that did not involve bowel preparation would decrease the burden of adherence. The cost of CT colonography is high.



What to do with Insufficient Evidence: Fecal DNA

Potential Preventable Burden. Fecal DNA has potential as a highly specific test, and it could reduce harms associated with follow-up of false-positive test results.

Current Practice. Fecal DNA tests are evolving, and no test is widely used.

Costs. Fecal DNA is likely to have a high monetary cost per test.

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
Age to begin and end screening	Begin screening at age 50 End screening at a point where curative therapy would not be offered due to life-limiting co-morbidity	Begin screening at age 50 <i>Routine screening in adults aged 76-85 is not recommended. There may be considerations that support screening in an individual patient. Screening after age 85 is not recommended</i>

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
Prioritization of CRC screening tests	CRC screening tests are grouped into those that (1) primarily are effective at detecting cancer, and (2) those that are effective at detecting cancer and adenomatous polyps. Group 2 is preferred over group 1 due to the greater potential for CRC prevention.	No a priori prioritization of CRC screening tests, although the recommendations acknowledge that direct visualization techniques offer benefit over fecal tests.

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
Stool Testing <ul style="list-style-type: none">• gFOBT• FIT	Annual screening with high sensitivity gFOBT or FIT Low sensitivity gFOBT not recommended	Annual screening with high sensitivity gFOBT or FIT
Stool testing for DNA (sDNA)	sDNA is an acceptable option, although the screening interval is uncertain	Insufficient evidence to recommend for or against sDNA

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
Flexible sigmoidoscopy	Screening every 5 years Screening every 5 years, with annual gFOBT or FIT is an option	Screening every 5 years, with gFOBT/FIT every 3 years
Colonoscopy	Screening every 10 years	Screening every 10 years

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
CT colonography (CTC)	Screening every 5 years	Insufficient evidence to recommend for or against CTC
Double contrast barium enema (DCBE)	Screening every 5 years	Not reviewed

Both groups agree that quality standards for both optical colonoscopy and CTC are crucially important.

CRC Screening in Average Risk Adults: Update 2008

Element	ACS, USMSTF, ACR	USPSTF
CRC screening between ages 76-85	Adults in good health who would be candidates for treatment should continue screening	Recommend against routine screening in adults 76-85. There may be considerations that support screening in an individual patient.
CRC screening in adults over age 85		Screening not recommended in adults > 85 years

Discussion points

- Use of modeling to inform guidelines for practice
- Implications of dealing with small adenomas



Thank You!
