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

- *With thanks to Robert Smith, Ph.D*

Organizations

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

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

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

- 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- Expert panel members also provided several unpublished abstracts and manuscripts.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 focused on the structural exams, including FSIG, colonoscopy, DCBE, and CTC.

Methodology

- Priority was placed on studies of asymptomatic average-risk or higher-risk populations that were followed by testing with colonoscopy as a validation measure.
- 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.**
- It was the strong opinion of the expert panel that ***colon cancer prevention*** should be the primary goal of CRC screening.

2008 ACS/USMSTF/ACR 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

USPSTF Methods

- 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



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.





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 to be 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.



Comparison of Guidelines

CRC Screening in Average Risk Adults: Update 2008

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

CRC Screening in Average Risk Adults: Update 2008

Element	ACS/ USMSTF/ ACR	USPSTF
Prioritization of CRC screening tests	<p>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.</p>	<p>No a priori prioritization of CRC screening tests, although the recommendations acknowledge that direct visualization techniques offer benefit over fecal tests.</p>

CRC Screening in Average Risk Adults: Update 2008

Element	ACS/ USMST/, 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.

 Centers for **Medicare & Medicaid** Services

The Centers for Medicare and Medicaid Services (CMS) made the following decision in May 2009:

*The evidence is inadequate to conclude that CT colonography is an appropriate colorectal cancer screening test under §1861(pp)(1) of the Social Security Act.
CT colonography for colorectal cancer screening remains noncovered.*

COMMENTARY

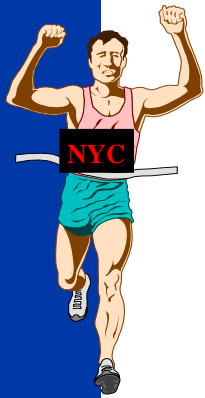
-"We do not know that any one test is better than another for all patients and situations and so continue to offer options when possible. Choice among screening tests is often made on practical grounds. In the USA, practices may find it impossible to offer all options or that referral for colonoscopy every 10 years is more achievable than yearly FOBT. Other countriestypically offer only FOBT.

*Robert H. Fletcher, M.D.
ACP Journal Club, 2008*

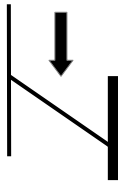
NYC Screening Guidelines

- Men and women age 50 years of age and older should undergo colonoscopy every 10 years.
- Annual high-sensitivity FOBT is recommended for individuals who are unable or unwilling to have a colonoscopy.
- People at high risk for colorectal cancer should begin screening with colonoscopy at age 40 or earlier.

Raising the bar!

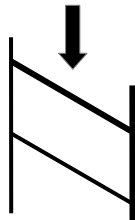


Colon
Cancer
Detection



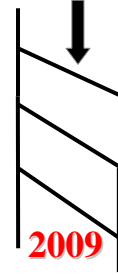
1970's

Colon Cancer
Prevention



1990's

Colon Screening
Quality



2009
and beyond

From: D. Lieberman 2008