CLINICAL GUIDELINE

ACP American College of Physicians Guidance Statements

Screening for Colorectal Cancer: A Guidance Statement From the American College of Physicians

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Description: Colorectal cancer is the second leading cause of cancer-related deaths for men and women in the United States. The American College of Physicians (ACP) developed this guidance statement for clinicians by assessing the current guidelines developed by other organizations on screening for colorectal cancer. When multiple guidelines are available on a topic or when existing guidelines conflict, ACP believes that it is more valuable to provide clinicians with a rigorous review of the available guidelines rather than develop a new guideline on the same topic.

Methods: The authors searched the National Guideline Clearinghouse to identify guidelines developed in the United States. Four guidelines met the inclusion criteria: a joint guideline developed by the American Cancer Society, the U.S. Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology and individual guidelines developed by the Institute for Clinical Systems Improvement, the U.S. Preventive Services Task Force, and the American College of Radiology.

Guidance Statement 1: ACP recommends that clinicians perform individualized assessment of risk for colorectal cancer in all adults.

Guidance Statement 2: ACP recommends that clinicians screen for colorectal cancer in average-risk adults starting at the age of 50 years and in high-risk adults starting at the age of 40 years or 10 years younger than the age at which the youngest affected relative was diagnosed with colorectal cancer.

Guidance Statement 3: ACP recommends using a stool-based test, flexible sigmoidoscopy, or optical colonoscopy as a screening test in patients who are at average risk. ACP recommends using optical colonoscopy as a screening test in patients who are at high risk. Clinicians should select the test based on the benefits and harms of the screening test, availability of the screening test, and patient preferences.

Guidance Statement 4: ACP recommends that clinicians stop screening for colorectal cancer in adults over the age of 75 years or in adults with a life expectancy of less than 10 years.

Ann Intern Med. 2012;156:378-386. www.annals.org

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Colorectal cancer is the second leading cause of cancer-related deaths among both men and women in the United States (1). The incidence of colorectal cancer was 102 900 people in 2010, and prevalence was 1 110 077 people in 2008, including 542 127 men and 567 950 women (2, 3). Americans have a 5% lifetime risk for colorectal cancer (2), and approximately 51 370 Americans die of the disease each year (3). However, the incidence of colorectal cancer has been declining in the United States by 2% to 3% per year over the past 15 years (4). Colorectal cancer is rare before age 40 years in both men and women, with 90% of cases occurring after age 50 years (2).

See also:

Print

Summary for Patients. I-30

Web-Only

CME quiz (preview on page I-20)

Conversion of graphics into slides

The usual pathogenesis of colorectal cancer is an adenomatous polyp that slowly increases in size, followed by dysplasia and finally cancer. Screening for colorectal cancer is valuable because early detection and removal of premalignant adenomas or localized cancer can prevent cancer or cancer-related deaths. Good evidence shows that screening reduces mortality from colorectal cancer (5). Several methods are currently available for colorectal cancer screening. They fall under 2 categories: stool-based tests, including guaiac-based fecal occult blood test (gFOBT), immunochemical-based fecal occult blood test (iFOBT), and stool DNA panel (sDNA); and endoscopic and radiologic tests, including flexible sigmoidoscopy, optical colonoscopy, double-contrast barium enema (DCBE), and computed tomography colonography (CTC) (virtual colonoscopy). Of these screening methods, only gFOBT and flexible sigmoidoscopy have been evaluated in randomized, controlled trials that showed that they are associated with decreased colorectal cancer–related mortality.

The purpose of this guidance statement is to critically review available guidelines to help internists and other cli-

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nicians in making decisions about screening for colorectal cancer. The target patient population for this guideline is all men and women. This statement is derived from an evaluation of current guidelines in the United States on screening for colorectal cancer.

Methods

The Clinical Guidelines Committee of the American College of Physicians (ACP) developed this guidance statement for clinicians, according to methods published previously (6), by assessing current guidelines from other organizations on screening for colorectal cancer. When multiple guidelines are available on a topic or when existing guidelines conflict, ACP believes that providing clinicians with a rigorous review of the available guidelines is more useful than developing a new guideline on the same topic.

We searched the National Guideline Clearinghouse (NGC) to identify all discrete guidelines on screening for colorectal cancer developed in the United States. After reviewing the titles and abstracts of each identified document, we excluded articles that simply restated guidelines from other organizations. The NGC included 4 U.S. guidelines on screening for colorectal cancer: the joint guideline developed by the American Cancer Society (ACS), the U.S. Multi-Society Task Force on Colorectal Cancer (USMSTF), and the American College of Radiology (ACR) (7) and individual guidelines developed by the Institute for Clinical Systems Improvement (ICSI) (8), the U.S. Preventive Services Task Force (USPSTF) (9), and the ACR (10). The 7 co-authors reviewed these guidelines independently by using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) appraisal instrument (11), which asks 23 questions in 6 domains: scope and purpose, stakeholder involvement, rigor of development, clarity and presentation, applicability, and editorial independence. We selected 1 guideline to calibrate our scores on the 6 domains of the AGREE II instrument, scored each guideline independently, and then compared the scores. Although total quantitative scores varied somewhat, the qualitative assessment of guideline quality was consistent among the 7 reviewers; indeed, the overall rankings of the quality of the guidelines were similar (**Table 1**).

Of note, the American College of Gastroenterology (ACG) published a 2008 update to its colorectal cancer screening guideline (12), but this guideline is not currently included in the NGC database. Because many clinicians involved in decision making about colorectal cancer screening consult the ACG guidelines, we chose to summarize this guideline despite its absence from the NGC. However, we did not formally evaluate it by using the AGREE II instrument because our predefined methods were to rate guidelines available in the NGC. In addition, the ACG was a contributor to the joint ACS/USMSTF/ACR guideline.

Summary and Evaluation of Reviewed Guidelines

ACS/USMSTF/ACR (2008)

> ACS/USMSTF/ACR recommends screening average-risk adults starting at age 50 years.
>
> ACS/USMSTF/ACR recommends that individuals should have an opportunity to make an informed decision when choosing one the following screening tests: flexible sigmoidoscopy every 5 years, colonoscopy every 10 years, double-contrast barium enema every 5 years, CT colonography every 5 years, annual gFOBT with high test sensitivity for cancer or annual fecal immunochemical testing with high test sensitivity for cancer, and/or fecal sDNA with high test sensitivity for cancer at an unspecified interval.
>
> ACS/USMSTF/ACR recommends that tests that are designed to detect both early cancer and adenomatous polyps should be encouraged if resources are available and patients are willing to undergo an invasive test.

Comments

The stated purpose of the ACS/USMSTF/ACR guideline is to assess the data and comparative evidence for various screening tests for colorectal cancer and to assess when to screen adults who are at average risk for colorectal cancer. The guideline divides screening methods into tests that can detect adenomatous polyps and cancer and can therefore be considered preventive (flexible sigmoidoscopy, colonoscopy, DCBE, and CTC) and tests that primarily detect cancer (gFOBT, fecal immunochemical test [FIT], and sDNA). The ACS/USMSTF/ACR encourages using, when possible, the structural methods that are considered preventive techniques. The guideline presents a very clear rationale for the starting age of screening and acknowledges that none of the currently available screening tests is perfect for detecting cancer or adenomas. The guideline acknowledges the limitations of evidence related to sensitivity and specificity of various screening tests and relies on the judgment of the expert panel that developed the guideline. It presents information on the advantages, cost-effectiveness, limitations, and risks of each test. The strengths of this guideline include a collaborative effort; a good discussion on the benefits, harms, and limitations of various screening tests; and a discussion of the issues related to shared and informed decision making with patients. Limitations include that it did not use a systematic literature review of evidence and, in many situations, used expert opinion. In addition, the evidence that was presented did not include evaluation of the quality.

ICSI (2010)

> ICSI recommends routine colorectal cancer screening for all average-risk patients 50 years of age and older—age 45 and older for African Americans or American Indians. Patients with average risk for colorectal cancer

Table 1. **Mean Guideline Scores and Scaled Domain Scores Across Domains of the AGREE II Instrument***

AGREE II Domain	ACS/USMSTF/ACR	ICSI	USPSTF	ACR
Scope and purpose				
1. The overall objective(s) of the guideline is (are) specifically described.	6	5	6	4
2. The health question(s) covered by the guideline is (are) specifically described.	6	6	6	4
3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.	6	6	6	4
Domain score	17	17	18	12
Scaled domain score, %	79	77	84	48
Stakeholder involvement				
4. The guideline development group includes individuals from all relevant professional groups.	4	4	6	3
5. The views and preferences of the target population (patients, public, etc.) have been sought.	2	2	3	1
6. The target users of the guideline are clearly defined.	4	5	4	3
Domain score	10	12	13	7
Scaled domain score, %	40	49	48	20
Rigor of development				
7. Systematic methods were used to search for evidence.	4	4	6	2
8. The criteria for selecting the evidence are clearly described.	3	2	6	2
9. The strengths and limitations of the body of evidence are clearly described.	4	3	5	2
10. The methods for formulating the recommendations are clearly described.	3	3	4	2
11. The health benefits, side effects, and risks have been considered in formulating the recommendations.	5	4	6	3
12. There is an explicit link between the recommendations and the supporting evidence.	4	3	6	3
13. The guideline has been externally reviewed by experts prior to its publication.	3	4	6	2
14. A procedure for updating the guideline is provided.	2	4	3	1
Domain score	28	27	42	17
Scaled domain score, %	41	38	71	17
Clarity of presentation				
15. The recommendations are specific and unambiguous.	5	5	6	5
16. The different options for management of the condition or health issue are clearly presented.	6	6	6	4
17. Key recommendations are easily identifiable.	5	6	6	5
Domain score	16	17	18	13
Scaled domain score, %	71	77	83	56
Applicability				
18. The guideline describes facilitators and barriers to its application.	3	3	2	2
19. The guideline provides advice and/or tools on how the recommendations can be put into practice.	2	3	2	2
20. The potential resource implications of applying the recommendations have been considered.	3	2	2	2
21. The guideline presents monitoring and/or auditing criteria.	2	5	2	1
Domain score	11	14	8	6
Scaled domain score, %	29	40	18	10
Editorial independence				
22. The views of the funding body have not influenced the content of the guideline.	4	4	5	3
23. Competing interests of guideline development group members have been recorded and addressed.	4	5	4	2
Domain score	8	9	9	5
Scaled domain score, %	49	58	61	21
Overall guideline assessment				
1. Rate the overall quality of this guideline.	4	4	6	2
2. I would recommend this guideline for use (please respond: yes, yes with modifications, or no).	4 yes 2 yes with modifications 1 no	2 yes 3 yes with modifications 2 no	7 yes	7 no

ACR = American College of Radiology; ACS = American Cancer Society; AGREE II = Appraisal of Guidelines for Research and Evaluation II; ICSI = Institute for Clinical Systems Improvement; USMSTF = U.S. Multi-Society Task Force on Colorectal Cancer; USPSTF = U.S. Preventive Services Task Force.

* Each question was rated on a Likert scale with a maximum of 7 points. The scores were averaged for each of the 7 reviewers. The scaled domain score is calculated as follows: (obtained score minus minimum possible score)/(maximum possible score minus minimum possible score).

are defined by: 50 years or older, or if African American or American Indian, 45 years or older with no personal history of polyps, colorectal cancer, or inflammatory bowel disease; no family history of colorectal cancer in: one first-degree relative diagnosed before age 60, or two first-degree relatives diagnosed at any age; and no family history of adenomatous polyps in one first-degree relative diagnosed before age 60.

ICSI recommends the following methods for colorectal cancer screening of average-risk patients based on joint decision making by patient and provider: stool testing: gFOBT annually or FIT annually; 60-cm flexible sigmoidoscopy every five years with or without stool test for occult blood annually; CT colonography every five years; or colonoscopy every 10 years.

ICSI considers the following for patients at increased risk of colorectal cancer and recommends different screening for these patients:

One first-degree relative with either colorectal cancer or adenomatous polyps diagnosed before age 60 years or two or more first-degree relatives diagnosed at any age: colonoscopy every five years beginning at age 40 or 10 years before the age of the youngest case in the immediate family.

Inflammatory bowel disease (chronic ulcerative colitis and Crohn's disease): colonoscopy every one to two years starting eight years after the onset of pancolitis or 12 to 15 years after the onset of left-sided colitis.

Genetic diagnosis of familial adenomatous polyposis (FAP) or suspected FAP without genetic testing evidence: annual flexible sigmoidoscopy beginning at age 10 to 12 years, along with genetic counseling.

Genetic or clinical diagnosis of hereditary nonpolyposis colorectal cancer (HNPCC): colonoscopy every one to two years beginning at age 20 to 25 years or 10 years before the age of the youngest case in the immediate family.

Comments

The purpose of the ICSI guideline is to address the appropriate screening method for patients at average and increased risk for colorectal cancer. The guideline provides clear recommendations, discusses the benefits and harms of various tests, and presents various implementation strategies. However, the details regarding the development process are not very clear in the guideline or in the available information on the ICSI Web site. Although the evidence is graded, the scoring system does not adequately differentiate between the high-quality and low-quality randomized, controlled trials. The guideline does not provide an upper age limit to stop screening but recognizes that comorbid conditions may influence the decision.

USPSTF (2008 Update)

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.

USPSTF recommends against routine screening for colorectal cancer in adults 76 to 85 years of age. There may be considerations that support colorectal cancer screening in an individual patient.

USPSTF recommends against screening for colorectal cancer in adults older than age 85 years.

USPSTF concludes that the evidence is insufficient to assess the benefits and harms of CT colonography and fecal DNA testing as screening modalities for colorectal cancer.

Comments

The purpose of the USPSTF guideline is to update its 2002 guideline and present the evidence on the benefits and harms of screening technologies as well as a decision analytic model to compare the expected health outcomes and resource requirements of available screening methods. The strengths of this guideline include the use of rigorous methods, evaluation of evidence through a systematic literature review, and linkages between the evidence and recommendations. Recommendations have a very clear age specification for the purpose of screening. The USPSTF guideline is the only guideline we reviewed that does not recommend CTC as an option for colorectal cancer screening. It does not discuss specific patient populations, such as high-risk populations, or differences based on race, such as African American. In addition, the guideline did not discuss implementation-related issues, such as information on shared decision making with the patient.

ACR (2010)

ACR recommends CT colonography every 5 years after a negative CTC screen or X-ray colon barium enema double-contrast every 5 years after negative screen for average risk patients (age >50 years) and those with moderate risk (personal history of adenoma or carcinoma or first-degree family history of cancer or adenoma).

ACR recommends CT colonography or X-ray colon barium enema double-contrast for average risk patients following positive fecal occult blood test and for patients with average, moderate or high risk after incomplete colonoscopy.

ACR recommends colonoscopy for high risk patients with ulcerative colitis or Crohn's colitis and those with HNPCC.

Comments

The ACR guideline evaluates the evidence on whom and how to screen for colorectal cancer and focuses only on imaging tests. The guideline has a narrow focus and presents only information on radiologic tests. No information on the starting age for high-risk individuals, the upper age limit to stop screening, and whether this guideline supersedes the joint ACS/USMSTF/ACR guideline recommendations was included. The guideline is not based on a systematic literature review, does not account for harms, and demonstrates no clear linkage between the presented evidence and the recommendations. The guideline also does not include any information about conflicts of interests.

ACG (2009 Update)

The ACG published an update to its colorectal cancer screening guideline in 2009. It recommends screening beginning at age 50 years in average-risk adults, age 45 years for African Americans, and age 40 years (or 10 years younger than the age at diagnosis of the youngest affected relative) in adults with a first-degree relative with colorectal cancer or advanced adenoma (an adenoma ≥1 cm in size, high-grade dysplasia, or villous elements) diagnosed at less than 60 years of age or 2 first-degree relatives with colorectal cancer or advanced adenoma.

The ACG recommends colonoscopy as the preferred colorectal cancer prevention test every 10 years in average-risk and 5 years in high-risk adults. In the event that colonoscopy is unavailable or if patients prefer an alternative test, they should be presented with the following options: colorectal cancer prevention tests (flexible sigmoidoscopy every 5 to 10 years, CTC every 5 years) or cancer detection test (FIT).

Comments

The purpose of the ACG guideline is to address the appropriate screening method for patients at average risk and increased risk for colorectal cancer. The guideline provides clear recommendations but lacks a discussion on the benefits and harms of various tests. In addition, the details regarding the development process or systematic literature review are not clearly presented. The evidence is not presented sufficiently in the tables to adequately differentiate between the high-quality and low-quality randomized, controlled trials.

Summary

The success of any screening program, especially colorectal cancer screening, depends on the appropriate testing and follow-up of patients with abnormal screening results as well as following up with patients for repeated testing at designated intervals. Colorectal cancer is a common disease with high incidence, prevalence, and mortality. Although the effectiveness of screening in reducing mortality is supported by the available evidence, only 60.8% of adults aged 50 years or older get screened in the United States (13). All of the guidelines evaluated in this guidance statement recommend screening average-risk adults starting between 40 and 50 years of age depending on ethnicity. The choice of screening method, however, varies among the guidelines we evaluated. The joint ACS/USMSTF/ACR guideline and the ICSI guideline encourage a shared decision-making approach with the patient when selecting a screening method. The USPSTF and ACR guidelines present the evidence on various screening tests but do not make any specific recommendations on selecting the appropriate screening test. For screening interval, the joint ACS/USMSTF/ACR guideline, the ICSI guideline, and the ACR guideline make specific recommendations, whereas the USPSTF guideline does not offer any recommendation.

Guidance Statements

On the basis of the review of the available guidelines, ACP concludes:

Guidance Statement 1: ACP recommends that clinicians perform individualized assessment of risk for colorectal cancer in all adults.

Clinicians should perform individualized assessment of colorectal cancer risk in all adults to help in deciding when to begin screening. Risks for colorectal cancer include age, race, and family history (for example, diagnosis of colorectal cancer, hereditary nonpolyposis, or familial adenomatous polyposis). Diagnosis of colorectal cancer in a first-degree relative, especially before age 50 years, increases the probability of colorectal cancer in all adults; a thorough family history, including the age of diagnosis of colorectal cancer for primary and secondary relatives, is important for assessing this risk. African Americans have the highest incidence of colorectal cancer compared with other races.

Guidance Statement 2: ACP recommends that clinicians screen for colorectal cancer in average-risk adults starting at the age of 50 years and in high-risk adults starting at the age of 40 years or 10 years younger than the age at which the youngest affected relative was diagnosed with colorectal cancer.

The evidence in the reviewed guidelines shows that colorectal cancer screening helps to identify undiagnosed premalignant lesions and reduces mortality with the provision of timely treatment. The benefit of reduced mortality outweighs the harms of screening for colorectal cancer in average-risk adults starting at age 50 years and high-risk adults starting at age 40 years or 10 years younger than the age at which the youngest affected relative was diagnosed.

Guidance Statement 3: ACP recommends using a stool-based test, flexible sigmoidoscopy, or optical colonoscopy as a screening test in patients who are at average risk. ACP recommends using optical colonoscopy as a screening test in patients who are at high risk. Clinicians should select the test based on the benefits and harms of the screening test, availability of the screening test, and patient preferences.

Shared decision making is important when selecting a screening test because the currently available colorectal cancer screening tests are believed to be similarly efficacious. Clinicians should discuss the benefits, harms, effectiveness, safety, and costs of the options available to screen for colorectal cancer. The sensitivity, specificity, costs, benefits, harms, and screening intervals for the tests are described in **Table 2**. The test quality also varies on the basis of the skill of the person performing the test (for example, ensuring correct stool preparation or having an experienced professional perform a colonoscopy), and stool-based test quality can also depend on the samples collected by the patient. Harms of endoscopic and radiologic screening tests include perforation and major bleeding with endoscopic tests and exposure to radiation with radiologic tests. Although few studies have evaluated the harms of stool-based tests, the probability of major harms is probably very small. The choice of test may also need to be made on the basis of the local availability of screening methods. For example, accessibility to endoscopic tests varies by region in the United States.

The screening interval for average-risk adults older than 50 years is 10 years for colonoscopy; 5 years for flexible sigmoidoscopy, DCBE, and CTC; annually for gFOBT and iFOBT; and uncertain for sDNA.

Although optical colonoscopy is generally regarded as the gold standard, it has limitations, including a false-negative rate of 10% to 20% (7, 14, 15). Also, evidence is not clear on the optimal frequency of screening using colonoscopy, but in average-risk patients, 10 years is usually regarded as a safe interval. Colonoscopy should be used as a follow-up for positive test results regardless of the noncolonoscopic screening test used. In patients who are at high risk because of family history, the ACG recommends screening every 5 years (7).

Computed tomography colonography is an option for screening in average-risk patients older than 50 years and is supported by some guidelines (7, 8, 10). However, the USPSTF found that the evidence is insufficient to assess the benefits and harms of CTC.

Guidance Statement 4: ACP recommends that clinicians stop screening for colorectal cancer in adults over the age of 75 years or in adults with a life expectancy of less than 10 years.

The harms of screening for colorectal cancer seem to outweigh the benefits in most adults older than 75 years or in adults who have a life expectancy of less than 10 years. Therefore, clinicians should not screen adults older than 75 years or those with substantial comorbid conditions (for example, diabetes, cardiopulmonary diseases, and stroke) with a life expectancy of less than 10 years.

Figure 1 summarizes the guidance statements and clinical considerations for colorectal cancer screening.

ACP Best Practice Advice

The goal of this best practice advice from the Clinical Guidelines Committee is to discuss the appropriate screening for colorectal cancer and to highlight how clinicians can contribute to delivering high-value, cost-conscious health care. Currently, no evidence shows that screening more frequently than recommended improves patient outcomes or reduces cancer-related deaths. On the other hand, screening more frequently than recommended can contribute substantially to avoidable health care costs. The benefit of screening is reduced mortality and possibly reduced incidence, whereas the harms include perforation and major

Table 2. **Screening Tests for Colorectal Cancer**

Screening Test	Sensitivity	Specificity	Cost	Interval	Patient Information
gFOBT	Variable	Variable	Low	Annual	Two samples from 3 consecutive stools at home Low risk Positive result requires follow-up colonoscopy
iFOBT	Variable	Variable	Medium	Annual	Stool sample Low risk Positive result requires follow-up colonoscopy
sDNA	Variable	High	High	Uncertain	Adequate stool sample (30-g minimum) Low risk Positive result requires follow-up colonoscopy
DCBE	Low	Low	Low	5 y	Complete bowel preparation Risks include perforation and bleeding Positive result requires follow-up colonoscopy
Flexible sigmoidoscopy	Medium	Medium	High	5 y	Complete bowel preparation Low risk Positive result requires follow-up colonoscopy
Colonoscopy	High	High	High	10 y	Complete bowel preparation Risks include perforation and bleeding
CTC	Medium	Medium	High	5 y	Complete bowel preparation Low risk Polyps require follow-up colonoscopy

CTC = computed tomography colonography; DCBE = double-contrast barium enema; gFOBT = guaiac-based fecal occult blood test; iFOBT = immunochemical-based fecal occult blood test; sDNA = stool DNA panel.

Figure 1. **The American College of Physicians Guidance Statement on screening for colorectal cancer.**

ACP
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Guidance Statements

Summary of the American College of Physicians Guidance Statement on Screening for Colorectal Cancer

Disease or condition	Colorectal cancer
Target audience	Internists, family physicians, other clinicians
Target patient population	All adults
Screening tests	Stool-based tests: Guaiac-based fecal occult blood test (gFOBT) Immunochemical-based fecal occult blood test (iFOBT) Stool DNA panel (sDNA) Endoscopic and radiologic tests: Flexible sigmoidoscopy (FS) Optical colonoscopy Double-contrast barium enema (DCBE) Computed tomography colonography (CTC)
Interventions	Strategies to manage colorectal cancer
Outcomes	Mortality and morbidity
Recommendations	*Guidance Statement 1: ACP recommends that clinicians perform individualized assessment of risk for colorectal cancer in all adults.* *Guidance Statement 2: ACP recommends that clinicians screen for colorectal cancer in average-risk adults starting at the age of 50 years and in high-risk adults starting at the age of 40 years or 10 years younger than the age at which the youngest affected relative was diagnosed with colorectal cancer.* *Guidance Statement 3: ACP recommends using a stool-based test, flexible sigmoidoscopy, or optical colonoscopy as a screening test in patients who are at average risk. ACP recommends using optical colonoscopy as a screening test in patients who are at high risk. Clinicians should select the test based on the benefits and harms of the screening test, availability of the screening test, and patient preferences.* *Guidance Statement 4: ACP recommends that clinicians stop screening for colorectal cancer in adults over the age of 75 years or in adults with a life expectancy of less than 10 years.*
Clinical considerations	• Risks for colorectal cancer include age, race, and family history. The risk for colorectal cancer increases with age. African American persons have the highest incidence of colorectal cancer compared with other races. A family history of colorectal cancer in a first-degree relative especially before age 50 y increases the probability of colorectal cancer in all adults. • The screening interval for average-risk adults older than 50 y is 10 y for optical colonoscopy; 5 y for FS, DCBE, and CTC; annually for gFOBT and iFOBT; and uncertain for sDNA. • Follow-up is important in patients who have had an abnormal screening result for repeated testing. • Physicians need to discuss bowel preparation with their patients because it is critical for ensuring the quality and success of colonoscopy. • Physicians need to keep patients' personal, cultural, and religious preferences in mind when selecting a screening test. For example, an annual fecal examination is not a good screening strategy for patients who may be unwilling or unlikely to follow-up yearly. Also, some women would prefer a female endoscopist, and colonoscopy by a male endoscopist should be recommended only after further discussion and consent of the patient.

bleeding with endoscopic tests and exposure to radiation with radiologic tests. A recent study suggests that colonoscopy is overused in elderly patients, including repeated screening at less than 10-year intervals and routine screening of patients older than 80 years (16). Overuse of colonoscopy in younger age groups is also a concern. Although the evidence is not clear to determine the optimal frequency of screening with colonoscopy, 10 years is usually regarded as a safe interval. Also, the repeated screening interval after normal results is 5 years for flexible sigmoidoscopy and DCBE, annually for gFOBT and iFOBT, and uncertain for sDNA. Screening should be reserved for

Figure 2. **The American College of Physicians Best Practice Advice on screening for colorectal cancer.**

ACP
American College of Physicians
Best Practice Advice

The American College of Physicians Best Practice Advice: Screening for Colorectal Cancer

Indications for screening	Average-risk adults starting at age 50 y High-risk adults starting at age 40 y or 10 y younger than the age at which the youngest affected relative was diagnosed with colorectal cancer African American adults starting at age 40 y Repeated imaging is 10 y for optical colonoscopy; 5 y for FS, DCBE, and CTC; annually for gFOBT and iFOBT; and uncertain for sDNA
Harms of unnecessary screening	Endoscopic and radiologic tests Optical colonoscopy: Costly and limited availability (facilities and practitioners) Postpolypectomy bleeding Perforation/bleeding Cardiopulmonary complications Diverticulitis Severe abdominal pain Death False-negative results/false reassurance FS: Perforation/bleeding False-negative results/false reassurance DCBE: Perforation/bleeding (low rate with this test) False-positive results False-negative results/false reassurance CTC: Low-dose radiation exposure Additional diagnostic testing and procedures for lesions that might not be clinically significant False-negative results/false reassurance Stool-based tests Few known harms besides false-positive results False-negative results/false reassurance
High-value, cost-conscious care	• Harms of screening for colorectal cancer seem to outweigh the benefits in most adults aged >75 y or who have a life expectancy of <10 y. • 10 y is usually regarded as a safe interval and optimal frequency of screening using optical colonoscopy. • Clinicians should not screen adults aged >75 y or those with substantial comorbid conditions (e.g., diabetes, cardiopulmonary diseases, stroke) with a life expectancy of <10 y.

average-risk adults starting at age 50 years and for high-risk adults starting at age 40 years or younger depending on their risk profile (**Figure 2**). Clinicians should not screen adults older than 75 years or those with substantial comorbid conditions (for example, diabetes, cardiopulmonary diseases, and stroke) and a life expectancy of less than 10 years.

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Financial Support: Financial support for the development of this guidance statement comes exclusively from the ACP operating budget.

Potential Conflicts of Interest: Any financial and nonfinancial conflicts of interest of the group members were declared, discussed, and resolved. A record of conflicts of interest is kept for each Clinical Guidelines

Committee meeting and conference call and can be viewed at www.acponline.org/clinical_information/guidelines/guidelines/conflicts_cgc.htm. Drs. Denberg, Hopkins, and Humphrey: *Support for travel to meetings for the study or other purposes:* ACP. Dr. Hopkins: *Board membership:* National Foundation for Infectious Diseases; *Consultancy:* Qualchoice of Arkansas, MedStudy Corporation; *Payment for lectures including service on speakers bureaus:* VEMCO MedEd Corp. Dr. Shekelle: *Consultancy:* ECRI; *Employment:* VA; *Grants/grants pending (money to institution):* AHRQ, VA, CMS, NINR-NIH, DHHS; *Royalties:* UpToDate. Disclosures can also be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M11-3122.

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Correction: Screening for Colorectal Cancer

In a recent guideline (1), the ≥ symbol that appears twice in the "High-Value, Cost-Conscious Care" row of Figure 2 should be >. The last sentence of the guideline should read, "Clinicians should not screen adults older than 75 years or those with substantial comorbid conditions . . ."

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