



## Clinical Policy Title: Colorectal cancer screening

Clinical Policy Number: CCP.1319

**Effective Date:** April 1, 2017  
**Initial Review Date:** March 15, 2017  
**Most Recent Review Date:** June 5, 2018  
**Next Review Date:** June 2019

### Related policies:

**CCP.1269** Virtual colonoscopy (CT colonography)

### Policy contains:

- Colonoscopy and flexible sigmoidoscopy.
- Fecal occult blood test.
- Fecal immunochemical test.
- Multi-targeted stool deoxyribonucleic acid testing.
- Virtual colonoscopy/computed

**ABOUT THIS POLICY:** AmeriHealth Caritas has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas' clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by AmeriHealth Caritas when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas' clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas' clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas will update its clinical policies as necessary. AmeriHealth Caritas' clinical policies are not guarantees of payment.

### Coverage policy

AmeriHealth Caritas considers the use of any one of the following services for colorectal cancer screening for average-risk persons (asymptomatic, with no personal or family history of colon cancer, adenomatous polyposis, Crohn's disease, or ulcerative colitis) ages 45 to 75 to be clinically proven and, therefore, medically necessary (National Cancer Comprehensive Network, 2018; Wolf, 2018; U.S. Preventive Services Task Force, 2017):

1. Colonoscopy every 10 years.
2. Flexible sigmoidoscopy every five years.
3. Fecal immunochemical test every year.
4. Flexible sigmoidoscopy every 10 years plus fecal immunochemical test every year.
5. Fecal immunochemical test with multi-targeted stool deoxyribonucleic acid testing every three years.
6. High-sensitivity guaiac-based fecal occult blood test every year.

AmeriHealth Caritas considers the use of virtual colonoscopy/computed tomography colonography every 5 years to be clinically proven and, therefore, medically necessary when any of the following criteria are met (Wolf, 2018; U.S. Preventive Services Task Force, 2017):

1. A conventional colonoscopy is contraindicated due to presence of lower gastrointestinal bleeding, colonic stenosis, colonic obstructions, diverticulosis, or diverticulitis.
2. The patient had complications with a prior colonoscopy.
3. The patient is taking anti-coagulation medicine or is otherwise at risk for a bleeding disorder.
4. The patient has an elevated risk from sedation during a colonoscopy, from conditions such as chronic obstructive pulmonary disease, hypotension from sedation, a recent acute myocardial infarction, recent colonic surgery, or a previous adverse reaction to anesthesia.
5. The patient has obstructive colorectal cancer.

AmeriHealth Caritas considers the use of any screening method for colorectal cancer listed above to be clinically proven and, therefore, medically necessary at any age (unless specified below) as often as every two years (or otherwise specified below) in a member with any of the following risk factors (Levin, 2008):

1. A personal history of colorectal cancer or adenomatous polyps (as often as every year).
2. A personal history of inflammatory bowel disease, e.g., ulcerative colitis or Crohn's disease.
3. A first-degree relative (sibling, parent, child) who has had colorectal cancer or adenomatous polyps diagnosed before age 60 (or two first-degree relatives diagnosed at any age); screening may start at age 40 and be repeated every five years.
4. A known family history of a hereditary colorectal cancer syndrome, e.g., familial adenomatous polyposis or hereditary non-polyposis colon cancer; screening may start at age 40.
5. African American ancestry; screening may begin at age 45.

#### **Limitations:**

AmeriHealth Caritas considers the use of magnetic resonance imaging, wireless colon capsule endoscopy, and *SEPT9* DNA (Epi proColon, Epigenomics, Germantown, Maryland) for colorectal cancer screening to be investigational and, therefore, not medically necessary (Wolf, 2018; U.S. Preventive Services Task Force, 2017).

Screening between the ages of 75 and 84 is a physician-patient decision dependent on the patient's risk status (Wolf, 2018; U.S. Preventive Services Task Force, 2017).

Screening over age 85 is not recommended (Wolf, 2018; U.S. Preventive Services Task Force, 2017).

#### **Alternative covered services:**

None.

## **Background**

Colorectal cancer is one of the most commonly diagnosed cancers in the United States, with 95,520 new cases estimated in 2017, more than any other cancer except lung/bronchus, breast, and prostate (American Cancer Society, 2017a). The five- and 10-year survival rates for colorectal cancer following diagnosis are 65 percent and 58 percent, respectively. Survival for those cancers considered localized is 90 percent, and declines to 71 percent with regional metastasis and 14 percent for those with distant metastases, illustrating the importance of early detection. The risk of colorectal cancer rises sharply at middle age, but since the mid-1980s, the overall age-adjusted incidence and mortality rates have declined. These encouraging results are attributed to greater numbers of pre-cancerous polyps being detected and removed after screening, although racial, gender, and geographic disparities persist (American Cancer Society, 2017a).

Despite considerable educational efforts by health officials, 35 percent of adults ages 50 to 75 have not been tested for colorectal cancer as of 2012 (Centers for Disease Control and Prevention, 2013). Because blood in the stool is often the only symptom of colorectal cancer, screening can play a useful role in early detection and treatment.

## **Searches**

AmeriHealth Caritas searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality's National Guideline Clearinghouse and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services.

We conducted searches on April 11, 2018. Search terms were: "Colorectal Neoplasms" (MeSH), "Early Detection of Cancer" (MeSH), and free text terms "colorectal cancer screening," "colonoscopy," "sigmoidoscopy," "computed tomography colonography," "fecal DNA," "fecal occult blood test," "fecal immunochemical test," and "double contrast barium enema."

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews.**
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

## **Findings**

This policy relies heavily on U.S. Preventive Services Task Force screening recommendations. Several U.S. professional societies have developed guidelines for colorectal cancer screening, some by themselves and some as part of a joint effort; they generally align with U.S. Preventive Services Task Force recommendations but may offer preferences for testing based on sensitivity and risk stratification. These organizations include: the American Cancer Society (2017b); American College of Physicians (Qaseem, 2012); National Comprehensive Cancer Network (2017); and the U.S. Multi-Society Task Force on Colorectal Cancer, which consists of the American College of Gastroenterology, American Gastroenterological Association, and American Society for Gastrointestinal Endoscopy (Rex, 2017); American Society of Colon and Rectal Surgeons (2008).

There is consensus that screening reduces the incidence and mortality of colorectal cancer. Because the risk of colorectal cancer increases sharply in middle age, guidelines agree that screening should occur between the ages of 50 and 74 for persons at average risk, which is defined as asymptomatic individuals who have no personal or family history of colorectal cancer. Screening between the ages of 75 and 84 is a physician-patient decision dependent on the patient's risk status, and screening over age 85 is not recommended. Screening is considered appropriate starting at an earlier age if the patient has a risk factor such as personal or family history of colorectal cancer, and screening should begin at age 45 for African Americans, who have an elevated risk for the disease compared to other racial and ethnic groups.

Colonoscopy is considered the most efficacious means of diagnosing colorectal cancer, pre-cancerous polyps, or adenomas. A 5 percent sample of Medicare beneficiaries found that 2.3 percent were diagnosed with colorectal cancer within 10 years of a negative colonoscopy, resulting in 97.7 percent specificity (Singh, 2011). The colonoscopy "miss rate" (false negatives) for other disorders of the colon and rectum include polyps of all sizes (28 percent), adenomas (20 percent), polyps greater than five millimeters in diameter (9 percent), and advanced adenomas (11 percent) (Heresbah, 2008).

Colonoscopy offers the most thorough means of examining the lower intestine; allows the provider to remove any polyps during the same procedure; and, in persons testing negative who show no subsequent symptoms, needs only to be repeated every 10 years. Limits of colonoscopy include the extensive preparation required, the chance of a puncture, sedation risk, disqualification of some patients for medical reasons, surgical risk (including perforation of the colon) for four to eight per 10,000 colonoscopy patients, and patient unwillingness factor (Lin, 2016).

Colonoscopy is also recommended three to six months after colon cancer surgery, for endoscopically resected Stage I, surgically resected Stages II and III, and Stage IV cancers. If this examination is normal, another colonoscopy should be performed in one year to detect metachronous lesions, based on reports of a high incidence of these second cancers. If this examination is normal, the interval before the next examination should be three years (Kahi, 2016).

Flexible sigmoidoscopy has demonstrated effectiveness in detecting colorectal cancer and polyps and reducing mortality. Screening with the procedure every five to 10 years resulted in one fewer colorectal cancer death per 5,000 persons screened in 4.3 years (Tang, 2015), and reduced colorectal cancer mortality by 27 percent (Lin, 2016), compared to no screening. Screening every five years lowered colorectal cancer incidence by 22 percent and mortality by 28 percent (Shroff, 2014). The procedure also reduced distal colorectal cancer incidence by 64 percent and mortality by 66 percent, with no reduction in proximal colorectal cancer incidence (Brenner, 2014).

Sigmoidoscopy is able to detect 81.0 percent to 84.4 percent of the colorectal cancer cases that colonoscopy does (Schoen, 2012), and when combined with fecal immunochemical test, has reduced colorectal cancer mortality more than sigmoidoscopy alone (Holme, 2014). Colonoscopy reduced colorectal cancer-related mortality 29 percent more than sigmoidoscopy, but reduction from sigmoidoscopy was 26 percent greater than fecal occult blood test (Elmunzer, 2015).

Endoscopic approaches like colonoscopy and sigmoidoscopy show a higher detection rate of advanced colorectal neoplasia than do fecal tests (relative risk [RR] = 3.21) and are useful in reducing colorectal cancer (Hassan, 2012). They also have a lower rate of participation (RR = 0.67), require extensive preparation, and have associated surgical and anesthetic risks, although surgical risk for sigmoidoscopy is lower than that of colonoscopy preparation (flexible sigmoidoscopy and computed tomography colonography require similar preparation).

Non-endoscopic types of colorectal cancer screening offer certain benefits. Except for virtual colonography, all tests require less extensive preparation, pose no surgical or anesthetic risk, do not disqualify patients due to medical conditions, do not create unwillingness among patients, and cost less. Conversely, non-endoscopic procedures must be performed more frequently, fail to detect as many polyps and cancers as colonoscopy, may involve radiation exposure (virtual colonoscopy/computed tomography colonography), and require a separate colonoscopy if polyps are detected.

Sensitivity and specificity estimates of various non-endoscopic screening methods for detecting colorectal cancer are:

- Fecal immunochemical test alone (Lin, 2016; Imperiale, 2014) — Sensitivity 74 percent ( $P = .002$ ).
- Fecal immunochemical test-deoxyribonucleic acid (Cologuard®, Exact Sciences, Madison, Wisconsin) (Lin, 2016; Imperiale, 2014) — Sensitivity 92 percent ( $P = .002$ ); specificity 84 percent.
- Computed tomography colonography (Pickhardt, 2011) — Sensitivity 96 percent.
- High-sensitivity guaiac-based fecal occult blood test (Lin, 2016) — Sensitivity 62 to 79 percent; specificity 87 to 96 percent.
- Screening stool deoxyribonucleic acid testing (Yang, 2013) — Sensitivity 76 percent; specificity 88 percent.

- Wireless colon capsule endoscopy for detecting polyps > 10 mm in diameter (Spada, 2016):
  - First generation — Sensitivity 95 percent; specificity 97 percent;
  - Second generation — Sensitivity 87 percent; specificity 54 percent.

The ability of these screening modalities to detect non-cancerous lesions varies significantly. Fecal immunochemical test appears to be effective in detecting colorectal cancer, with a diagnostic accuracy of 95 percent (Lee, 2014), but is less efficacious for identifying adenomas (Niedermaier, 2016). Fecal immunochemical test is able to detect adenomas greater than six mm in diameter 73 percent to 88 percent of the time; adding multi-target deoxyribonucleic acid screening to fecal immunochemical test raises this figure to 92 percent (Lin, 2016) and a lower proportion of false positives (Imperiale, 2014).

For a range of adenomas and sessile polyps, adding multi-targeted fecal deoxyribonucleic acid to fecal immunochemical test significantly improved detection rates over fecal immunochemical test alone (Imperiale, 2014):

- Advanced precancerous lesions, 42.4 percent versus 23.8 percent ( $P < 0.001$ ), respectively.
- Polyps with high-grade dysplasia, 69.2 percent versus 46.2 percent ( $P = 0.004$ ).
- Serrated sessile polyps measuring at least one centimeter, 42.4 percent and 5.1 percent ( $P < 0.001$ ).

Among participants with nonadvanced or negative findings, specificities with deoxyribonucleic acid testing and fecal immunochemical test were 86.6 percent and 94.9 percent, respectively, ( $P < 0.001$ ), and among those with negative results on colonoscopy, specificities were 89.8 percent and 96.4 percent, respectively ( $P < 0.001$ ). The numbers of persons who would need to be screened to detect one cancer were 154 with colonoscopy, 166 with deoxyribonucleic acid testing, and 208 with fecal immunochemical test (Imperiale, 2014). For advanced adenocarcinoma in high-risk groups, the sensitivity and specificity of screening stool deoxyribonucleic acid testing were 68 percent and 92 percent, respectively; corresponding numbers were lower for average-risk persons (Yang, 2013).

Evidence indicates fecal immunochemical test is superior to fecal occult blood test for screening colorectal cancer (Rabeneck, 2012). A meta-analysis of average-risk patients in 11 randomized and cohort trials found that fecal immunochemical test detected two to three times more advanced colorectal neoplasms than fecal occult blood test (Zhu, 2010). Fecal immunochemical test had a 16 percent greater adherence to screening, and approximately double the rate of detection of advanced neoplasia (RR = 2.28) and cancer (RR = 1.96) than did fecal occult blood test (Hassan, 2012).

Biennial fecal occult blood test tests have been associated with a 22 percent reduced risk of colorectal cancer 30-year mortality (Lin, 2016). Biennial fecal occult blood test was associated with a 14 percent reduction in colorectal cancer mortality in 10 years, but no further change in years 11 through 16 (Heresbach, 2006). A Cochrane study found that fecal occult blood test reduced colorectal cancer mortality 16 percent, but did not change all-cause mortality (Hewitson, 2008). Compared to controls, fecal occult blood test reduced colorectal cancer mortality 18 percent, less than the 26 percent

reduction for those undergoing sigmoidoscopy (Fitzpatrick-Lewis, 2016). Among types of fecal occult blood test products, OC-Sensor® (Somagen™ Diagnostics, Edmonton, Alberta, Canada) has greater sensitivity and specificity (87 percent and 93 percent, respectively) than does hemoccult (47 percent and 93 percent, respectively) (Launois, 2014).

In a review of 20 studies, screening stool deoxyribonucleic acid sensitivity and specificity were 76 percent and 88 percent for colorectal cancer, and 68 percent and 92 percent for advanced adenocarcinoma in high-risk groups, respectively; corresponding numbers were lower for non-risk persons screened (Yang, 2013). Fecal deoxyribonucleic acid testing alone has proven cost effective versus no screening, but not cost-effective versus all other screening alternatives (Skally, 2013). However, the cost-effectiveness may be more favorable if fecal deoxyribonucleic acid testing can capture more of the eligible population and improve adherence to colorectal cancer screening.

The sensitivity and specificity of wireless colon capsule endoscopy varies for first-generation (95 percent and 97 percent, respectively) and second-generation (87 percent and 54 percent, respectively) types to detect polyps more than 10 mm in diameter (Spada, 2016).

In persons over age 55 with symptoms suggestive of colorectal cancer, barium enema detected colorectal cancer in 5.6 percent of persons screened, significantly lower than the 7.3 percent mark for computed tomography colonography. The 2.2 percent detection rate of barium enema to detect large polyps was also lower than the 3.6 percent figure for computed tomography colonography (Halligan, 2015).

Each approach to colorectal cancer screening has demonstrated a benefit. The table below lists model-estimated life-years gained per 1,000 persons screened, based on screening individuals between ages 50 and 75, plus appropriate follow-up for the remainder of the patient’s life span (U.S. Preventive Services Task Force, 2017):

<b>Screening method and frequency</b>	<b>Life-years gained per 1,000</b>
Colonoscopy every 10 years	270
Fecal immunochemical test-deoxyribonucleic acid every year	261
Flexible sigmoidoscopy every 10 years plus fecal immunochemical test every year	256
Computed tomography colonography every five years	248
High-sensitivity guaiac-based fecal occult blood test every year	247
Fecal immunochemical test every year	244
Fecal immunochemical test-deoxyribonucleic acid every three years	226
Flexible sigmoidoscopy every five years	221

According to the Centers for Disease Control and Prevention, colorectal cancer screening rates increased from 2000 to 2015, but still fall short of Healthy People 2020 targets (White, 2017). Since the goals of

screening are to maximize the total number of persons who are screened and reduce colorectal cancer deaths, offering choice in colorectal cancer screening strategies may increase screening uptake.

The U.S. Preventive Services Task Force (2017) recommends any of the above tests without preference, acknowledging there is no “one size fits all” approach to colorectal cancer screening. Each testing strategy has varying levels of evidence supporting their effectiveness, and different strengths and limitations. The U.S. Preventive Services Task Force seeks to provide clinicians and patients with the best possible evidence about all screening methods to enable informed, individual decision making. In their 2017 update, they added fecal immunochemical test-deoxyribonucleic acid testing to their list of recommended screening strategies at a testing interval of every one to three years, with follow-up colonoscopy for positive results.

Several professional organizations have revised their guidance for colorectal cancer screening to improve screening rates, particularly where access to screening colonoscopy is limited (American Cancer Society, 2017b; National Comprehensive Cancer Network, 2017; Rex, 2017). All agree that offering multiple screening options may improve screening rates and detection. There is no consensus on whether presenting all options at once or sequentially with colonoscopy as the first choice, or using a risk-stratified approach that further stratifies the average-risk population, should be used (Rex, 2017). Several organizations now include fecal immunochemical test-deoxyribonucleic acid testing every three years as an option for persons of average risk.

#### **Policy updates:**

In 2018, the National Cancer Comprehensive Network updated its guideline on colorectal cancer screening. The use of the fecal immunochemical test is increasing because of its superior test performance relative to the well-established fecal occult blood test, patient preference for a less invasive procedure, and availability of testing alternatives; the higher participation rate associated with fecal immunochemical testing complements the higher advanced neoplasia detection rate of endoscopic strategies (Robertson, 2017). Both the National Cancer Comprehensive Network (2018) and the U.S. Preventive Services Task Force (2017) offer a combined screening strategy of flexible sigmoidoscopy every 10 years plus fecal immunochemical test re every year based on an improved colorectal cancer-specific mortality benefit with combined testing than with flexible sigmoidoscopy alone. The policy was modified with this addition.

Epidemiological trends showing a marked increase in colorectal cancer incidence—particularly rectal cancer— and subsequent premature mortality among individuals below age 50, the age at which screening is typically offered, has prompted the American Cancer Society to update recommendations for screening of average risk individuals (Wolf, 2018). Their analyses included an evidence synthesis and three simulation modeling studies commissioned for the U.S. Preventive Services Task Force guideline (2017) and another simulation modeling study of the potential benefit (life-years gained and colorectal cancer deaths averted) and burden of different screening strategies for black and white women and men.

The new analyses demonstrated a favorable benefit-to-burden balance for initiating screening earlier with an expected reduction in colorectal cancer mortality and incidence (Meester, 2018; Peterse, 2018). Based on these findings, the American Cancer Society recommends that all adults at average risk start colorectal cancer screening at age 45 years using either a high-sensitivity stool based test or a structural (visual) examination, depending on patient preference and test availability (Wolf, 2018). Lowering the starting age is expected to benefit the segments of the population who suffer disproportionately from the disease—blacks, Alaska Natives, and American Indians—as well as those individuals otherwise considered to be at average risk. The policy was modified to reflect this change.

Policy ID changed from CP# 08.01.09 to CCP.1319.

**Summary of clinical evidence:**

Citation	Content, Methods, Recommendations
<p>Wolf (2018) for the American Cancer Society</p> <p>Colorectal cancer screening for average-risk adults: 2018 guideline update</p>	<p><b>Key points:</b></p> <ul style="list-style-type: none"> <li>• There is limited direct evidence of screening effectiveness in adults younger than 50 years.</li> <li>• Results from modeling analyses identified potential benefits in early detection and prevention, and reduction in racial disparities in adults aged 45 to 49 years, as well as a favorable impact on colorectal cancer incidence and incidence-based mortality in adults ages 50 to 54 years.</li> <li>• Recommendations: <ul style="list-style-type: none"> <li>– Begin screening at age 45 years (qualified recommendation = clear evidence of benefit (or harm) but less certainty about the balance of benefits and harms or about patients’ values and preferences).</li> <li>– Still supports regular screening in adults aged 50 years and older (strong recommendation = the benefits outweigh the undesirable effects that may result from screening).</li> <li>– Continue colorectal cancer screening through age 75 years for average-risk adults in good health with a life expectancy of &gt; 10 years (qualified recommendation).</li> <li>– Individualize colorectal cancer screening decisions for individuals ages 76 to 85 years based on patient preferences, life expectancy, health status, and prior screening history (qualified recommendation).</li> <li>– Discourage individuals &gt; 85 years from continuing colorectal cancer screening (qualified recommendation).</li> </ul> </li> </ul>
<p>Hofmann (2017)</p> <p>Ethical issues with colorectal cancer screening</p>	<p><b>Key points:</b></p> <ul style="list-style-type: none"> <li>• Systematic review of 114 studies.</li> <li>• Good evidence exists that screening reduces colorectal cancer mortality and potentially the incidence, but not overall mortality.</li> <li>• Potential harms are bleeding, perforation, false test results, overdiagnosis, overtreatment (including unnecessary removal of polyps), and (rarely) death.</li> </ul>

Citation	Content, Methods, Recommendations
	<ul style="list-style-type: none"> <li>Other important issues relate to autonomy and informed choice equity, justice, medicalization, and expanding disease.</li> </ul>
<p>U.S. Preventive Services Task Force (2017)</p> <p>Benefits and harms of colorectal cancer screening</p>	<p><b>Key points:</b></p> <ul style="list-style-type: none"> <li>Guideline concludes evidence shows colorectal cancer screening is an effective (but underused) preventive health strategy in the United States.</li> <li>Recommendation that all asymptomatic persons with no family history every 10 years be screened beginning at age 50 until 75.</li> <li>For patients with no history of abnormal screen, colonoscopy should be performed every 10 years; computed tomography colonography every five years; flexible sigmoidoscopy every five years (every 10 years if fecal immunochemical test is performed every year); fecal immunochemical test-deoxyribonucleic acid every one to three years; fecal immunochemical test alone every year; fecal occult blood test every year.</li> </ul>
<p>Lin (2016) for the U.S. Preventive Services Task Force</p> <p>Evidence report on effectiveness, diagnostic accuracy, and harms of colorectal cancer screening</p>	<p><b>Key points:</b></p> <ul style="list-style-type: none"> <li>Systematic review of colorectal cancer screening, using 2008 – 2014 literature of multiple randomized controlled trials (n = 458,002).</li> <li>Sigmoidoscopy reduced colorectal cancer incidence 27%, compared with no screening.</li> <li>Fecal occult blood test testing reduced colorectal cancer mortality 22% in 30 years.</li> <li>computed tomography colonography vs. colonoscopy had 73% to 98% sensitivity and 89% to 91% specificity to detect adenomas 6 mm in diameter or larger.</li> <li>Colonoscopy had sensitivity of 75% to 93% for detecting adenomas 6 mm or larger.</li> <li>Fecal immunochemical test-deoxyribonucleic acid had better sensitivity than fecal immunochemical test alone (92%) but lower specificity (84%) to detect colorectal cancer.</li> <li>Adverse events from colonoscopy include perforations (four per 10,000 procedures) and major bleeds (eight per 10,000).</li> <li>Computed tomography colonography may have harms from radiation exposure or identification of extracolonic findings.</li> </ul>
<p>Holden (2010)</p> <p>Analyzing overuse, underuse, misuse, and quality of colorectal cancer screening</p>	<p><b>Key points:</b></p> <ul style="list-style-type: none"> <li>Systematic review of appropriateness of colorectal cancer screening.</li> <li>Lower screening rates associated with low income, less education, being uninsured, being of Hispanic or Asian descent, or not being acculturated into the United States.</li> <li>Higher screening rates associated with being insured, having higher income or education, being non-Hispanic white, participating in other cancer screenings, having family history of colorectal cancer, having personal history of other cancer, or having physician recommendation to be screened.</li> <li>No studies tested interventions to reduce overuse or misuse of colorectal cancer screening.</li> <li>No studies assessed monitoring for underuse, overuse, and misuse of colorectal cancer screening.</li> </ul>

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### **Centers for Medicare and Medicaid Services National Coverage Determinations:**

201.3 Colorectal cancer screening.

### **Local Coverage Determinations:**

L36355 Colorectal cancer screening.

### **Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

CPT Code	Description	Comments
45330-45350	Sigmoidoscopy, flexible;	
45378-45398	Colonoscopy, flexible;	
74263	Computed tomographic (CT), colonography, screening with image postprocessing	
74280	Radiologic examination, colon; air contrast with specific high density barium enema, with or without glucagon	
82270	Blood, occult, by peroxidase activity (e.g., guaiac), qualitative; feces, consecutive collected specimens with single determination, for colorectal neoplasm screening	
82272	Blood, occult, by peroxidase activity (eg, guaiac), qualitative, feces, 1 - 3 simultaneous determinations, performed for other than colorectal neoplasm screening	
82274	Blood, occult, by fecal hemoglobin determination by immunoassay, qualitative, feces, 1-3 simultaneous determinations	

ICD-10 Code	Description	Comments
C18.0 - C21.8	Malignant neoplasm of colon, rectosigmoid junction, rectum, anus and anal canal	
C7a.020 - C7a.026	Malignant carcinoid tumors of the appendix, large intestine, and rectum	
D12.0 - D12.9	Benign neoplasm of colon, rectum, anus and anal canal	
D3a.020 - D3a.029	Benign carcinoid tumors of the appendix, large intestine, and rectum	
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	
D50.9	Iron deficiency anemia, unspecified	
D62	Acute posthemorrhagic anemia	
K51.00 - K55.9	Noninfective enteritis and colitis	
K57.20 - K57.93	Diverticular disease of intestine	
K62.0 - K62.1	Anal and rectal polyp	
K62.5	Hemorrhage of anus and rectum	
K63.5	Polyp of colon	
K92.1	Melena	
Q85.8	Other phakomatoses, not elsewhere classified [Cowden syndrome]	
R19.5	Other fecal abnormalities	
Z12.10 - Z12.12	Encounter for screening for malignant neoplasm of intestinal tract, colon and rectum	
Z15.09	Genetic susceptibility to other malignant neoplasm	
Z80.0	Family history of malignant neoplasm of digestive organs	

ICD-10 Code	Description	Comments
Z83.71	Family history of colonic polyps	
Z85.038, Z85.048	Personal history of other malignant neoplasm of large intestine, rectum, rectosigmoid junction, and anus	
Z86.010	Personal history of colonic polyps	
Z87.19	Personal history of other diseases of the digestive system	

HCPCS Level II Code	Description	Comments
G0104	Colorectal cancer screening; flexible sigmoidoscopy	
G0105	Colorectal cancer screening; colonoscopy on patient at high risk	
G0106	Colorectal cancer screening; alternative to G0104, screening sigmoidoscopy, barium enema	
G0120	Colorectal cancer screening; alternative to G0105, screening colonoscopy; barium enema	
G0121	Colorectal cancer screening; colonoscopy on individual not meeting criteria for high risk	Report 45378 for non-Medicare.
G0122	Colorectal screening; barium enema	Not covered for Medicare