

Colorectal Cancer Screening



Medical Coverage Policy

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Change Summary: Updated Description, Coverage Limitations, Provider Claims Codes

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Description

Colorectal cancer (CRC) is a term used to describe cancer that develops in the colon or rectum. CRC screening refers to the process of looking for cancer in people who have no symptoms of the disease. Screening tests may identify cancers at an early and potentially more treatable stage. Testing may also detect precancerous abnormal growths (eg, polyps) which can be removed before becoming malignant.

CRC screening tests include, but may not be limited to, the following:

Blood-based biomarker panels are tests to assess the expression of genes to purportedly calculate a relative risk of having CRC. An example of this type of test is ColonSentry, which is supposedly believed to increase individual compliance with colonoscopy. The seven genes that are measured in this test include:

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- *ANXA3*
- *CLEC4D*
- *IL2RB*
- *LMNB1*
- *PRRG4*
- *TNFAIP6*
- *VNN1*⁴²

(Refer to Coverage Limitations section)

Colonoscopy allows the physician to examine the lining of the entire large intestine by using a flexible, fiberoptic instrument (colonoscope) that is inserted through the anus. This test may reveal inflamed tissue, abnormal growths, ulcers or early signs of cancer in the colon or rectum. Special instruments can be passed through the colonoscope to remove polyps if needed.

Computed tomographic colonography (CTC), also known as virtual colonoscopy, was developed as a minimally invasive method to examine the colon. This test is used for screening and to detect abnormalities in the colon and rectum (eg, CRC and polyps). Helical computed tomography (CT) and computer generated images are used to produce high-resolution two- and three-dimensional (3D) images of the colon and rectum. Prior to virtual colonoscopy, standard bowel cleansing preparations are needed to evacuate any stool and fluid from the colon. During the procedure, a rectal tube is inserted and the colon is distended using room air or carbon dioxide and images are then taken by a helical CT scanner. The results are interpreted by a radiologist. If suspicious lesions are detected, the individual generally must undergo further testing via conventional colonoscopy.

Double contrast barium enema (DCBE), also called a lower gastrointestinal (GI) exam, is an x-ray examination of the large intestine (colon and rectum). In a DCBE study, the colon is filled with barium, which helps to see the outline of the colon on an x-ray. The barium is then removed, leaving only a thin layer on the wall of the colon, which is then filled with air. This helps to provide a detailed view of the inner surface of the colon, making it easier to see colon polyps and/or other abnormalities (eg, inflammation, strictures). If the test is positive, a colonoscopy will be needed for further evaluation.

Fecal immunochemical test (FIT) is a noninvasive test that identifies intact human

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hemoglobin in stool. The test may be performed on stool collected by individuals at home then submitted to a laboratory. **Multitargeted stool DNA testing (FIT-DNA)** combines FIT with additional testing for altered DNA biomarkers in the stool. Cologuard is an example of a FIT-DNA test. Individuals with a positive FIT/FIT-DNA test must undergo a definitive test for colon cancer, such as a colonoscopy.

Fecal occult blood test (FOBT) is a noninvasive test that detects hidden (occult) blood in the stool. Such blood may come from anywhere along the digestive tract and for that reason additional types of tests may be ordered. Blood in the stool may be the only symptom of early cancer. Colonoscopy will need to be performed if the test is positive.

Flexible sigmoidoscopy enables the physician to look at the inside of the large intestine from the rectum through the last part of the colon, called the sigmoid or descending colon. Using this short, flexible fiberoptic tube that is inserted through the anus, the physician can see abnormal growths, bleeding, inflammation and ulcers in the lower part of the large intestine (colon) and the rectum. If polyps or cancer are found, then a colonoscopy will be necessary to screen for polyps or cancer in the rest of the colon.

In vivo analysis can be described as real time additional imaging that has been suggested for use as an adjunct to endoscopic procedures. The methods include, but may not be limited to, chromoendoscopy, confocal microscopy, fiberoptic analysis and narrow band imaging. These techniques are utilized during the endoscopic procedures and purportedly improve analysis of the lesions in the colon. An example of a confocal microscopy device is the Cellvizio system. **(Refer to Coverage Limitations section)**

Septin9 (SEPT9) DNA methylated assay for the early detection of colorectal cancer (eg, Epi proColon, ColoVantage) is a plasma based test that detects methylated Septin9 DNA, which is purportedly a marker of the presence of colorectal cancer. It is designed for those who have avoided established CRC screening methods such as colonoscopy, FOBT or fecal immunochemical test (FIT). This test is not intended to replace established CRC tests. **(Refer to Coverage Limitations section)**

Other technologies to assist in CRC screening include, but may not be limited to, the following:

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Computer-aided detection (CAD) has been suggested for use by radiologists to assist in the interpretation and identification of suspicious findings. CAD is not intended to be used in place of a radiologist, but is intended as a “second set of eyes” when examining the images. **(Refer to Coverage Limitations section)**

Magnetic resonance (MR) colonography is a diagnostic test generally performed by a radiologist and is purported to be utilized to detect colorectal polyps and CRC. This outpatient procedure also requires standard bowel cleansing preparations. The colon is then distended with a contrast medium that has been placed via a rectal tube. Magnetic resonance imaging (MRI) data reportedly creates a 3D image of the interior surface of the colon. **(Refer to Coverage Limitations section)**

Retrograde imaging/illumination (eg, Third Eye Retroscope, Third Eye Panoramic Auxiliary Endoscopy System) are imaging devices that have been suggested to provide illumination and continuous retrograde views of the colon. Examples of these devices include, but may not be limited to, are the Third Eye Retroscope, which involves the use of a J-shaped catheter that contains an imaging device that can be inserted into endoscopic working channel. It is intended for single use and is disposable. Another example of these devices is the Third Eye Panoramic device, which can be attached to the distal end of the colonoscope with a flexible clip and provides continuous left-side and right-side views of the colon and are displayed simultaneously on three monitors.⁸⁸ **(Refer to Coverage Limitations section)**

Urine-based testing (eg, PolypDx) is suggested to detect adenomatous polyps as a precursor to colorectal cancer in individuals at average to moderate risk. This test purportedly assesses an individual's urine for three metabolites: ascorbic acid, succinic acid and carnitine. **(Refer to Coverage Limitations section)**

For information regarding **genetic testing for colorectal cancer**, such as familial adenomatous polyposis (FAP), Lynch syndrome (hereditary nonpolyposis colorectal cancer [HNPCC]), mutY homolog (MYH)-associated polyposis and Peutz-Jeghers syndrome, please refer to [Genetic Testing for Colorectal Cancer Susceptibility](#) Medical Coverage Policy.

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**Coverage
Determination**

Humana members may be eligible under the Plan for **CRC screening tests** for average risk individuals* age 50 years and older:

- **Colonoscopy** – Recommended every ten years; **OR**
- **CTC (screening)** – Recommended every five years as an alternative to traditional colonoscopy (all positive tests should be followed up with colonoscopy); **OR**
- **FIT** – Recommended every year (all positive tests should be followed up with colonoscopy); **OR**
- **FIT-DNA** (eg, Cologuard) – Recommended every three years (all positive tests should be followed up with colonoscopy); **OR**
- **Flexible sigmoidoscopy** – Recommended every five years (all positive tests should be followed up with colonoscopy); **OR**
- **Flexible sigmoidoscopy with FIT** – Flexible sigmoidoscopy recommended every ten years plus FIT every year (all positive tests should be followed up with colonoscopy); **OR**
- **FOBT**– Recommended every year (all positive tests should be followed up with colonoscopy)

***Average risk individuals** include those without a personal history of the following:

- Colon polyps; **OR**
- CRC (personal or family history); **OR**
- High-risk genetic syndromes (eg, HNPCC, FAP); **OR**
- Inflammatory bowel disease

Humana members may be eligible under the Plan for **more intensive CRC screening** for those individuals considered to be at increased or high risk, which includes:

Increased Risk – Individuals with a history of polyps on prior colonoscopy

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- Individuals with small rectal hyperplastic polyps – Colonoscopy recommended or other screening options at regular intervals as those for average risk (age 50 years and older); **OR**
- Individuals with one or two small (less than 1 cm) tubular adenomas with low grade dysplasia – Colonoscopy recommended five to ten years after polyp removal. Time between tests should be based on other factors such as prior colonoscopy findings, family history and individual and physician preferences; **OR**
- Individuals with three to 10 adenomas, or a large (greater than 1 cm) adenoma or any adenomas with high grade dysplasia or villous features – Colonoscopy recommended within three years after the initial polypectomy. Adenomas must have been completely removed. If colonoscopy is normal or shows only one or two small tubular adenomas with low grade dysplasia, future colonoscopies can be done every five years; **OR**
- Individuals with three to 10 sessile serrated adenomas – Colonoscopy recommended within three years; **OR**
- Individuals with three to 10 sessile serrated polyps – Colonoscopy recommended within three years; **OR**
- Individuals with more than 10 adenomas on a single exam – Colonoscopy recommended within one year after the polyps are removed; **OR**
- Individuals with sessile adenomas that are removed in pieces – Colonoscopy recommended two to six months after adenoma removal. If entire adenoma has been removed, further testing should be based on the physician's judgment; **OR**

Increased Risk – Individuals with CRC

- Individuals diagnosed with colon or rectal cancer – Colonoscopy recommended to view entire colon and remove all polyps at the time of colorectal surgery. Colonoscopy recommended three to six months after cancer resection, if no unresectable metastases are found during surgery; **OR**
- Individuals undergoing curative resection for colon or rectal cancer – Colonoscopy

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recommended within one year after cancer resection (or one year after colonoscopy to ensure the rest of the colon/rectum was clear). If normal, repeat exam in three years. If again normal, repeat exam every five years. Time between tests may be shorter if polyps are found or there is reason to suspect HNPCC. After low anterior resection for rectal cancer, colonoscopies may be done every three to six months for the first two to three years to look for signs of recurrence; **OR**

Increased Risk – Individuals with inflammatory bowel disease (IBD)

- Chronic ulcerative colitis, Crohn's disease or other forms of IBD – Colonoscopy recommended every one to two years; **OR**
- IBD with primary sclerosing cholangitis (PSC) – Colonoscopy every year beginning at time of PSC diagnosis

Increased Risk – Individuals based on positive family history

- CRC or adenomatous polyps, in first-degree relative age 50-60 years – Colonoscopy recommended every five years beginning at age 40 years; **OR**
- CRC or adenomatous polyps, in first-degree relative less than age 50 years – Colonoscopy recommended every three to five years depending on other family history beginning at age 40 years or ten years before the earliest diagnosis of CRC in the family, whichever is earlier; **OR**
- CRC or adenomatous polyps, in first-degree relative at least 60 years of age or older – Colonoscopy recommended every five years beginning at age 50 years; **OR**
- CRC or adenomatous polyps in two related first-degree relatives at any age – Colonoscopy recommended every three to five years beginning at age 40 years, or ten years before the earliest diagnosis of CRC in the family, whichever is earlier; **OR**
- CRC or adenomatous polyps, in two related second-degree relatives at any age – Colonoscopy recommended every five years beginning at age 50 years; **OR**
- CRC or adenomatous polyps in one second-degree relative, any third-degree relative(s) or first-degree relative with nonadvanced adenoma(s) – Treat as average

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risk individuals; colonoscopy is preferred screening

Note: First-, second- and third-degree relatives are an individual's close blood family members and are defined as the following:

- First-degree relative – Parents, full-siblings or children
- Second-degree relative – Aunts, uncles, grandparents, grandchildren, nieces, nephews or half-siblings
- Third-degree relative – Great-grandparents, great-aunts, great-uncles or first cousins

High Risk – African American individuals

- African American individuals experience higher rates of colorectal cancer; therefore, screening recommended to begin at age 45; **AND**
- Due to the higher incidence of right-sided colon cancers and polyps; colonoscopy is the recommended screening method³
 - If initial colonoscopy negative – repeat screening every ten years; **OR**
 - If initial colonoscopy positive for CRC or polyps – follow criteria listed in sections above

High Risk – Lynch syndrome/HNPCC and polyposis syndromes

- AFAP, based on family history:
 - Genetic test is negative – Average risk screening; **OR**
 - Genetic test is positive or not tested/inconclusive test – Colonoscopy beginning in late teens, then every two to three years; **OR**
- AFAP, based on personal history – Colonoscopy every one to two years for surveillance; **OR**

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- FAP, based on family history:
 - Genetic test is negative – Average risk screening; **OR**
 - Genetic test is positive – Flexible sigmoidoscopy or colonoscopy every 12 months beginning at age 10 to 15 years old; **OR**
 - Not tested/inconclusive test – Flexible sigmoidoscopy or colonoscopy beginning at age 10 to 15 years old, every 12 months until age 24 years, then every two years until age 34 years, then every three years until age 44 years, then every three to five years thereafter. Consider substituting colonoscopy every five years beginning at age 20 years; **OR**
- FAP, based on personal history (postcolectomy) – Sigmoidoscopy every year for surveillance; **OR**
- Genetic or clinical diagnosis of Lynch syndrome/HNPCC or individuals at an increased risk of Lynch syndrome/HNPCC based on family history with or without genetic testing – Colonoscopy recommended every one to two years beginning at age 20 to 25 years, or 10 years before the youngest case in the immediate family. Counseling to consider genetic testing is recommended; **OR**
- Hyperplastic polyposis syndrome – Colonoscopy every one to three years; **OR**
- Juvenile polyposis syndrome – Colonoscopy, beginning at age 15 years and then every year, if polyps are found; every two to three years if no polyps are found; **OR**
- MYH-Associated Polyposis (MAP), based on family history, mutation status known or unknown – Begin colonoscopy at age 25-30 years and every two – three years if negative (consider shorter intervals with advancing age); **OR**
- MAP, based on personal history – Colonoscopy every one to two years; **OR**
- Peutz-Jeghers syndrome, mutation status known or unknown – Colonoscopy every two to three years, beginning in late teens

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Note: For **genetic testing criteria**, please refer to [Genetic Testing for Colorectal Cancer Susceptibility](#) Medical Coverage Policy.

Note: These criteria for **CRC screening** are not consistent with the Medicare National Coverage Policy, and therefore may not be applicable to Medicare members. Refer to the [CMS Website](#) for additional information.

Diagnostic CTC

Humana members may be eligible under the Plan for diagnostic **CTC** as an alternative to traditional colonoscopy **ONLY** when the following criteria are met:

- Colonoscopy cannot be performed due to documented presence of an obstruction;
OR
- Individual is on chronic anticoagulant therapy that cannot be discontinued

Note: The criteria for **CTC** are not consistent with the Medicare National Coverage Policy, and therefore may not be applicable to Medicare members. Refer to the [CMS website](#) for additional information.

Double contrast barium enema (DCBE)

Humana members may be eligible under the Plan for **DCBE** as an alternative to traditional colonoscopy **ONLY** when the individual is unable to undergo colonoscopy or when colonoscopy is technically incomplete.

Coverage Limitations

Humana members may **NOT** be eligible under the Plan for **CRC screening** for any indications other than those listed above. All other indications are considered not medically necessary as defined in the member's individual certificate. Please refer to the member's individual certificate for the specific definition.

Humana members may **NOT** be eligible under the Plan for the following tests for CRC screening:

- Blood based biomarker panels (eg, ColonSentry); **OR**

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- MR colonography; **OR**
- Urine-based testing (eg, PolypDx); **OR**
- Septin 9 (SEPT9) DNA methylation assay (eg, ColoVantage, Epi proColon)

These are considered experimental/investigational as they are not identified as widely used and generally accepted for any other proposed uses as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for **CAD for CRC screening**. This is considered not medically necessary as defined in the member's individual certificate. Please refer to the member's individual certificate for the specific definition.

In Vivo Analysis

In vivo analysis is considered **integral** to the primary procedure and not separately reimbursable, which includes, but may not be limited to:

- Chromoendoscopy; **OR**
- Confocal endomicroscopy; **OR**
- Fiberoptic analysis; **OR**
- Narrow band imaging

Retrograde Imaging/Illumination

Retrograde imaging/illumination (eg, Third Eye Panoramic Auxiliary Endoscopy System, Third Eye Retroscope) is considered integral to the primary procedure and not separately reimbursable.

Background

Additional information about **CRC** may be found from the following websites:

- [American Cancer Society](#)
- [National Comprehensive Cancer Network](#)
- [National Library of Medicine](#)

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Medical Alternatives Physician consultation is advised to make an informed decision based on an individual's health needs.

Provider Claims Codes Any CPT, HCPCS or ICD codes listed on this medical coverage policy are for informational purposes only. Do not rely on the accuracy and inclusion of specific codes. Inclusion of a code does not guarantee coverage and or reimbursement for a service or procedure.

CPT® Code(s)	Description	Comments
44799	Unlisted procedure, small intestine	In vivo analysis for CRC screening is considered integral to the primary procedure
45330	Sigmoidoscopy, flexible; diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)	
45331	Sigmoidoscopy, flexible; with biopsy, single or multiple	
45332	Sigmoidoscopy, flexible; with removal of foreign body(s)	
45333	Sigmoidoscopy, flexible; with removal of tumor(s), polyp(s), or other lesion(s) by hot biopsy forceps	
45334	Sigmoidoscopy, flexible; with control of bleeding, any method	
45335	Sigmoidoscopy, flexible; with directed submucosal injection(s), any substance	
45337	Sigmoidoscopy, flexible; with decompression (for pathologic distention) (eg, volvulus, megacolon), including placement of decompression tube, when performed	
45338	Sigmoidoscopy, flexible; with removal of tumor(s), polyp(s), or other lesion(s) by snare technique	
45340	Sigmoidoscopy, flexible; with transendoscopic balloon dilation	
45341	Sigmoidoscopy, flexible; with endoscopic ultrasound examination	
45342	Sigmoidoscopy, flexible; with transendoscopic ultrasound guided intramural or transmural fine needle aspiration/biopsy(s)	

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45378	Colonoscopy, flexible; diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)	
45379	Colonoscopy, flexible; with removal of foreign body(s)	
45380	Colonoscopy, flexible; with biopsy, single or multiple	
45381	Colonoscopy, flexible; with directed submucosal injection(s), any substance	
45382	Colonoscopy, flexible; with control of bleeding, any method	
45384	Colonoscopy, flexible; with removal of tumor(s), polyp(s), or other lesion(s) by hot biopsy forceps	
45385	Colonoscopy, flexible; with removal of tumor(s), polyp(s), or other lesion(s) by snare technique	
45386	Colonoscopy, flexible; with transendoscopic balloon dilation	
45391	Colonoscopy, flexible; with endoscopic ultrasound examination limited to the rectum, sigmoid, descending, transverse, or ascending colon and cecum, and adjacent structures	
45392	Colonoscopy, flexible; with transendoscopic ultrasound guided intramural or transmural fine needle aspiration/biopsy(s), includes endoscopic ultrasound examination limited to the rectum, sigmoid, descending, transverse, or ascending colon and cecum, and adjacent structures	
45999	Unlisted procedure, rectum	In vivo analysis for CRC screening is considered integral to the primary procedure
74261	Computed tomographic (CT) colonography, diagnostic, including image postprocessing; without contrast material	
74262	Computed tomographic (CT) colonography, diagnostic, including image postprocessing; with contrast material(s) including non-contrast images, if performed	
74263	Computed tomographic (CT) colonography, screening, including image postprocessing	
74270	Radiologic examination, colon; contrast (eg, barium) enema, with or without KUB	

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74280	Radiologic examination, colon; air contrast with specific high density barium, with or without glucagon	
76498	Unlisted magnetic resonance procedure (eg, diagnostic, interventional)	Not Covered if used to report any test outlined in Coverage Limitations section
81275	KRAS (Kirsten rat sarcoma viral oncogene homolog) (eg, carcinoma) gene analysis; variants in exon 2 (eg, codons 12 and 13)	Not Covered if used to report any test outlined in Coverage Limitations section
81315	PML/RARalpha, (t(15;17)), (promyelocytic leukemia/retinoic acid receptor alpha) (eg, promyelocytic leukemia) translocation analysis; common breakpoints (eg, intron 3 and intron 6), qualitative or quantitative	Not Covered if used to report any test outlined in Coverage Limitations section
81327	SEPT9 (Septin9) (eg, colorectal cancer) methylation analysis	Not Covered New Code Effective 01/01/2017
81401	Molecular pathology procedure, Level 2 (eg, 2-10 SNPs, 1 methylated variant, or 1 somatic variant [typically using nonsequencing target variant analysis], or detection of a dynamic mutation disorder/triplet repeat)	Not Covered if used to report any test outlined in Coverage Limitations section
81479	Unlisted molecular pathology procedure	Not Covered if used to report any test outlined in Coverage Limitations section
81528	Oncology (colorectal) screening, quantitative real-time target and signal amplification of 10 DNA markers (KRAS mutations, promoter methylation of NDRG4 and BMP3) and fecal hemoglobin, utilizing stool, algorithm reported as a positive or negative result	

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82270	Blood, occult, by peroxidase activity (eg, guaiac), qualitative; feces, consecutive collected specimens with single determination, for colorectal neoplasm screening (ie, patient was provided 3 cards or single triple card for consecutive collection)	
82274	Blood, occult, by fecal hemoglobin determination by immunoassay, qualitative, feces, 1-3 simultaneous determinations	Not Covered if used to report any test outlined in Coverage Limitations section
84999	Unlisted chemistry procedure	Not Covered if used to report any test outlined in Coverage Limitations section
0002U	Oncology (colorectal), quantitative assessment of three urine metabolites (ascorbic acid, succinic acid and carnitine) by liquid chromatography with tandem mass spectrometry (LC-MS/MS) using multiple reaction monitoring acquisition, algorithm reported as likelihood of adenomatous polyps	Not Covered New Code Effective 02/01/2017
CPT® Category III Code(s)	Description	Comments
No code(s) identified		
HCPCS Code(s)	Description	Comments
C1749	Endoscope, retrograde imaging/illumination colonoscope device (implantable)	Retrograde imaging/illumination used as an adjunct to CRC screening is considered integral to the primary procedure
G0104	Colorectal cancer screening; flexible sigmoidoscopy	
G0105	Colorectal cancer screening; colonoscopy on individual at high risk	

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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	
G0122	Colorectal cancer screening; barium enema	
G0328	Colorectal cancer screening; fecal occult blood test, immunoassay, 1-3 simultaneous	

Click [here](#) to view ICD-10-CM code(s) associated with this medical coverage policy.

Medical Terms **Adenoma** – Benign tumor originating in a secretory gland.

Adenomatous Polyp – Polyp that consists of benign neoplastic tissue derived from glandular epithelium.

Adjunct – Something added to another thing, but not essential to it.

Anesthesia – General or local insensibility, as to pain and other sensation, induced by certain interventions or drugs to permit the performance of surgery or other painful procedures.

Annually – Occurring or happening every year or once a year.

Anticoagulant – A substance that delays or prevents the clotting of blood.

Anus – Opening at the lower end of the GI tract through which the solid refuse of digestion is secreted.

Asymptomatic – Having no signs or symptoms of illness or disease.

Biopsy – Removal of a piece of tissue from a living body for a diagnostic study.

Cecum – Large blind pouch forming the beginning of the large intestine.

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Chromoendoscopy – Involves the topical application of stains or pigments to improve tissue localization, characterization or diagnosis during endoscopy.

Chronic – Persisting over a long period of time or marked by frequent recurrence.

Colectomy – Removal of all or part of the colon or large intestine.

Colitis – Inflammation of the lining of the large intestine.

Colon – Part of the large intestine extending from the cecum to the rectum.

Colonography – Imaging of the colon by computed tomography (CT) or magnetic resonance imaging (MRI).

Colonoscope – A flexible, lighted, tubular instrument using fiber optics to permit visualization of the colon.

Colonoscopy – Diagnostic procedure in which a thin, flexible tube is introduced into the anus to inspect the entire length of the colon.

Colorectal – Pertaining to or involving the colon and rectum.

Computed Tomography (CT) – Radiography in which a three-dimensional image of a body structure is constructed by computer from a series of cross-sectional scans along a single axis.

Confocal Laser Endomicroscopy – An emerging endoscopic technique that is reported to permit high resolution assessments of gastrointestinal mucosal histology at the cellular level.

Contrast Medium – A radiopaque substance injected into a part of the body, as the stomach or duodenum, to provide a contrasting background for the tissues in an x-ray or fluoroscopic examination.

Crohn's Disease – Chronic inflammatory bowel disease (IBD) that causes scarring and thickening of the intestinal walls and frequently leads to obstruction.

Curative – Tending to overcome disease and promote recovery.

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Deoxyribonucleic Acid (DNA) – The molecule that carries genetic information for a living organism.

Descending Colon – Fourth portion of the large intestine that communicates with the transverse colon in the left upper quadrant of the abdomen and rectum below.

Diagnostic – Test used to determine and identify the presence or cause of an illness or medical condition.

Distend – Increase as in size or volume to expand or dilate out of normal size or shape.

Dysplasia – Abnormal growth or development of cells, tissue, bone or an organ.

Endoscope – A slender, tubular optical instrument used as a viewing system for examining an inner part of the body and, with an attached instrument, for biopsy or surgery.

Endoscopy – Diagnostic procedure in which a thin, flexible tube is introduced through the mouth or rectum to view parts of the digestive tract.

Epithelium – Cellular covering of internal and external body surfaces, including the lining of vessels and small cavities.

Familial Adenomatous Polyposis (FAP) – Genetic disease with numerous precancerous polyps in the colon and rectum.

Fecal – Refers to stool.

Fiberoptics – Science or technology of light transmission through very fine, flexible glass or plastic fibers.

Gastrointestinal (GI) – Pertaining to or affecting the stomach and intestines.

Glandular Epithelium – Epithelium composed of secretory cells.

Guaiaac – Greenish-brown resin obtained from the guaiacum tree that is used in medicine in various tests for the presence of blood (eg, fecal occult blood test).

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Hamartomatous – A benign growth made up of an abnormal mixture of cells and tissues normally found in the area of the body where the growth occurs.

Helical CT Scan – CT scan that involves continuous movement of the individual through the scanner with the ability to scan faster and with higher definition of internal structures.

Hereditary Nonpolyposis Colon Cancer (HNPCC) – Hereditary syndrome that is caused when a person inherits a mutation in one of five different genes; the affected individuals have a higher than normal chance of developing CRC and certain other types of cancer before the age of 50. Also referred to as Lynch syndrome.

High-Resolution – Having or capable of producing an image characterized by fine detail.

Hyperplastic – Abnormal multiplication of cells.

Hyperplastic Polyposis Syndrome – Uncommon condition characterized by the presence of multiple large hyperplastic polyps in the colon.

Immunochemistry – The study of the chemical reactions of immunity.

Inflammation – Redness, swelling, pain, tenderness, heat and disturbed function of an area of the body, especially as a reaction to injurious agents.

Inflammatory Bowel Disease (IBD) – Name of a group of disorders that cause the intestines to become inflamed. The inflammation may be difficult to treat and is recurrent. Symptoms include cramping, diarrhea, weight loss and intestinal bleeding.

Juvenile Polyposis Syndrome – Syndrome characterized by the appearance of multiple polyps in the GI tract; age of onset is variable. Juvenile refers to the histological type of the polyps rather than age of onset.

Lynch Syndrome – Also known as hereditary nonpolyposis colorectal cancer (HNPCC), is an inherited disorder that increases the risk of many types of cancer, particularly cancer of the colon and rectum.

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Magnetic Resonance Imaging (MRI) – An imaging procedure that uses strong magnetic fields and radiofrequency energy and may be done with or without contrast (dye), depending on the indication for the study and part of the body to be examined. The magnetic field forces the hydrogen atoms in the body to align and the radiofrequency energy disrupts this alignment. The resulting fluctuations in alignment of the hydrogen atoms cause them to produce faint radiofrequency signals which are then computer generated into images of the body part that is being examined.

Malignant – Characterized by uncontrolled growth; cancerous, invasive or metastatic.

Metastases – The transference of disease producing organisms or of malignant or cancerous cells to other parts of the body by way of the blood or lymphatic vessels or membranous surfaces.

Mutation – A permanent change in the DNA or RNA.

MYH-Associated Polyposis (MAP) – Inherited condition predisposing an individual to multiple colorectal polyps; MYH refers to the gene mutation that occurs, causing this condition.

Neoplasia – A new, often uncontrolled growth of abnormal tissue; tumor.

Noninvasive – Medical procedure or exam that does not penetrate the skin or enter the body in any way.

Peutz-Jeghers Syndrome (PJS) – Hereditary disease characterized by the development of benign hamartomatous polyps in the GI tract.

Plasma – The clear, yellowish fluid portion of blood or lymph in which the red blood cells, white blood cells and platelets are suspended.

Polyp – Growth or mass that protrudes from the mucosal lining of an organ such as the nose, bladder or intestine, often causing obstruction.

Polypectomy – The removal of a tumor that is generally found in parts of the body such as the nose or colon.

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Radiologists – Medical doctors who specialize in diagnosing and treating diseases and injuries using medical imaging techniques, such as x-rays, CT, MRI, nuclear medicine, positron emission tomography (PET) and ultrasound.

Rectum – The terminal portion of the large intestine extending from the sigmoid colon to the anus.

Reflux – Backward flow of liquid such as from the stomach into the esophagus.

Resection – Excision of a portion or all of an organ or other structure.

Retrograde – Moving or bending backwards.

Secretory Cell – Cells, the basic unit of all living things, specialized for the act or process of separating, elaborating and releasing a substance that fulfills some function within the organism.

Sessile – Attached by a base rather than a stalk; a sessile lesion adheres closely to the surface of the mucosa.

Sigmoid Colon – The S-shaped bend in the final portion of the large intestine that leads to the rectum.

Stricture – Abnormal narrowing in a body part.

Three-Dimensional (3D) – Having, or seeming to have, the dimension of depth as well as width and height.

Transverse Colon – The middle portion of the colon, lying across the upper abdominal cavity between the ascending colon on the right and the descending colon on the left.

Two-Dimensional (2D) – Having the dimensions of height and width only.

Ulcer – A break in the skin or mucous membrane with loss of surface tissue, disintegration, necrosis of epithelial tissue and often pus.

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Ulcerative Colitis – Chronic ulceration in the large intestine, characterized by painful abdominal cramps and profuse diarrhea containing blood, mucus and pus.

Villi – One of the minute, wormlike processes on certain membranes, especially on the mucous membrane of the small intestine, where they serve in absorbing nutriment.

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