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## Patient education: Colon polyps (Beyond the Basics)

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**Literature review current through:** Dec 2016. | **This topic last updated:** Sep 16, 2015.

**COLON POLYPS OVERVIEW** — The finding of polyps in the colon or rectum often raises questions for patients and their family. What is the significance of finding a polyp? Does this mean that I have, or will develop, colon or rectal (colorectal) cancer? Will a polyp require surgery?

Some types of polyps (called adenomas) have the potential to become cancerous, while others (hyperplastic or inflammatory polyps) have virtually no chance of becoming cancerous.

When discussing colon polyps, the following points should be considered:

- Polyps are common (they occur in 30 to 50 percent of adults)
- Not all polyps will become cancer
- It takes many years for a polyp to become cancerous
- Polyps can be completely and safely removed

The best course of action when a polyp is found depends upon the number, type, size, and location of the polyp. People who have an adenoma removed will require a follow-up examination; new polyps may develop over time that need to be removed.

**COLON POLYP CAUSES** — Polyps are very common in men and women of all races who live in industrialized countries, suggesting that dietary and environmental factors play a role in their development.

**Lifestyle** — Although the exact causes are not completely understood, lifestyle risk factors include the following:

- A high-fat diet
- A diet high in red meat
- A low-fiber diet

- Cigarette smoking
- Obesity

On the other hand, use of [aspirin](#) and other nonsteroidal anti-inflammatory drugs and a high-calcium diet may protect against the development of colon cancer. (See "[Patient education: Colon and rectal cancer screening \(Beyond the Basics\)](#)".)

**Aging** — Colorectal cancer and polyps are uncommon before age 40. Ninety percent of cases occur after age 50, with men somewhat more likely to develop polyps than women; therefore, colon cancer screening is usually recommended starting at age 50 for both sexes. It takes approximately 10 years for a small polyp to develop into cancer.

**Family history and genetics** — Polyps and colon cancer tend to run in families, suggesting that genetic factors are important in their development.

Any history of colon polyps or colon cancer in the family should be discussed with a healthcare provider, particularly if cancer developed at an early age, in close relatives, or in multiple family members. As a general rule, screening for colon cancer begins at an earlier age in people with a family history of cancer or polyps.

Rare genetic diseases can cause high rates of colorectal cancer relatively early in adult life. Familial adenomatous polyposis and *MUTYH*-associated polyposis cause multiple colon polyps. Another, hereditary nonpolyposis colon cancer or Lynch syndrome, increases the risk of colon cancer, but does not cause a large number of polyps. Testing for these genes may be recommended for families with high rates of cancer, but is not generally recommended for other groups.

**TYPES OF COLON POLYPS** — The most common types of polyps are hyperplastic and adenomatous polyps. Other types of polyps can also be found in the colon, although these are far less common and are not discussed here.

**Hyperplastic polyps** — Hyperplastic polyps are usually small, located in the end-portion of the colon (the rectum and sigmoid colon), have **no** potential to become malignant, and are not worrisome ([figure 1](#)). It is not always possible to distinguish a hyperplastic polyp from an adenomatous polyp based upon appearance during colonoscopy, which means that hyperplastic polyps are often removed or biopsied to allow microscopic examination.

**Adenomatous polyps** — Two-thirds of colon polyps are adenomas. Most of these polyps do not develop into cancer, although they have the potential to become cancerous. Adenomas are classified by their size, general appearance, and their specific features as seen under the microscope.

As a general rule, the larger the adenoma, the more likely it is to eventually become a cancer. As a result, large polyps (larger than 5 millimeters, approximately 3/8 inch) are usually removed completely to prevent cancer and for microscopic examination to guide follow-up testing.

**Malignant polyps** — Polyps that contain cancerous cells are known as malignant polyps. The optimal treatment for malignant polyps depends upon the extent of the cancer (when examined with a microscope) and other individual factors. (See "[Approach to the patient with colonic polyps](#)".)

**COLON POLYP DIAGNOSIS** — Polyps usually do not cause symptoms but may be detected during a colon cancer screening examination (such as flexible sigmoidoscopy or colonoscopy) ([picture 1](#)) or after a positive fecal occult blood test. Polyps can also be detected on a [barium](#) enema x-ray, although small polyps are more difficult to see with x-ray.

Colonoscopy is the best way to evaluate the colon because it allows the clinician to see the entire lining of the colon and remove most polyps that are found (occasionally, large polyps need to be removed during a separate procedure). During colonoscopy, a clinician inserts a very thin, flexible tube with a light source and small camera into the anus. The tube is advanced through the entire length of the large intestine (colon). (See "[Patient education: Colonoscopy \(Beyond the Basics\)](#)".)

The inside of the colon is a tube-like structure with a flat surface with curved folds. A polyp appears as a lump that protrudes into the inside of the colon ([picture 1](#)). The tissue covering a polyp may look the same as normal colon tissue, or, there may be tissue changes ranging from subtle color changes to ulceration and bleeding. Some polyps are flat ("sessile") and others extend out on a stalk ("pedunculated").

Colonoscopy is the best test for the follow-up examination of polyps. Virtual colonoscopy using computed tomography technology is another test used to detect polyps.

**COLON POLYP REMOVAL** — Colorectal cancer is preventable if precancerous polyps (ie, adenomas) are detected and removed before they become malignant (cancerous). Over time, small polyps can change their structure and become cancerous. Polyps are usually removed when they are found on colonoscopy, which eliminates the chance for that polyp to become cancerous.

**Procedure** — The medical term for removing polyps is polypectomy. Most polypectomies can be performed through a colonoscope. Small polyps can be removed with an instrument that is inserted through the colonoscope and snips off small pieces of tissue. Larger polyps are usually removed by placing a noose, or snare, around the polyp base and burning through it with electric cautery ([figure 2](#)). The cautery also helps to stop bleeding after the polyp is removed.

Polyp removal is not painful because the lining of the colon does not have the ability to feel pain. In addition, a sedative medication is given before the colonoscopy to prevent pain caused by stretching of the colon. Rarely, a polyp will be too large to remove during colonoscopy, which means that a surgical procedure will be needed at a later time.

**Complications** — Polypectomy is safe although it has a few potential risks and complications. The most common complications are bleeding and perforation (creating a hole in the colon). Fortunately, this occurs infrequently (one in 1000 patients having colonoscopy). Bleeding can usually be controlled during colonoscopy by cauterizing (applying heat) to the bleeding site; surgery is sometimes required for perforation.

**Medication use** — Nonsteroidal anti-inflammatory drugs including [aspirin](#), [ibuprofen](#) (sample brand names: Advil, Motrin), and [naproxen](#) (sample brand name: Aleve) can usually be continued before your colonoscopy. [Acetaminophen](#) (sample brand name: Tylenol) is safe to take. People who require anti-clotting medications such as [warfarin](#) (sample brand name: Coumadin) should discuss how and when to stop and resume this medication with their clinician.

## COLON CANCER PREVENTION

**Follow-up colonoscopy** — Patients should discuss the results of the tissue analysis when they are available, within a few weeks after the procedure, to decide if and when a follow-up examination is needed. People with adenomatous polyps have an increased risk of developing more polyps, which are likely to be adenomatous. There is a 25 to 30 percent chance that adenomas will be present on a repeat colonoscopy done three years after the initial polypectomy. Some of these polyps may have been present during the original examination, but were too small to detect. Other new polyps may also have developed.

After polyps are removed, repeat colonoscopy is recommended, usually three to five years after the initial colonoscopy. However, this time interval depends upon several factors:

- Microscopic characteristics of the polyp.
- Number and size of the polyps.
- Ability to see the colon during the colonoscopy. A bowel preparation is needed before colonoscopy to remove all traces of feces (stool). If the bowel prep was not completed, feces may remain in the colon, making it more difficult to see small to moderate size polyps. In this situation, follow up colonoscopy may be recommended sooner than three to five years later.
- Whether it was possible to examine the entire colon.

Persons who undergo screening (and re-screening) for colon cancer are much less likely to die from colon cancer. Thus, following screening guidelines is important in the prevention of colon cancer.

**Lifestyle measures** — Guidelines issued by one of the major medical societies in the United States (the American College of Gastroenterology) suggest the following:

- Eat a diet that is low in fat and high in fruits, vegetables, and fiber
- Maintain a normal body weight
- Avoid smoking and excessive alcohol use

(See ["Patient education: Diet and health \(Beyond the Basics\)"](#) and ["Patient education: Quitting smoking \(Beyond the Basics\)"](#).)

**IMPLICATIONS FOR THE FAMILY** — First-degree relatives (a parent, brother, sister, or child) of a person who has been diagnosed with an adenomatous polyp (or colorectal cancer) before the age of 60 years have an increased risk of developing adenomatous polyps and colorectal cancer compared to the general population. Thus, family should be made aware if the person is diagnosed with an adenoma or colon cancer.

While screening for polyps and cancer is recommended for everyone (typically beginning at age 50), those at increased risk should begin screening earlier. The best test for screening in people with an increased risk of cancer is not known, although a sensitive test (such as colonoscopy) is usually recommended.

Relatives can be told the following, based on typical guidelines for screening people with a family history of colorectal cancer:

- People who have one first-degree relative (parent, brother, sister, or child) with colorectal cancer or an advanced type of adenomatous polyps at a young age (before the age of 60 years), or two first-degree relatives diagnosed at any age, should begin screening for colon cancer earlier, typically at age 40, or 10 years younger than the earliest diagnosis in their family, whichever comes first. Screening usually involves colonoscopy, which should be repeated every five years. (See "[Patient education: Colon and rectal cancer screening \(Beyond the Basics\)](#)", section on '[Average risk of colorectal cancer](#)'.)
- People with a second-degree relative (grandparent, aunt, or uncle) or third-degree relative (great-grandparent or cousin) with colorectal cancer should be screened for colon cancer similar to a person with an average risk. (See "[Patient education: Colon and rectal cancer screening \(Beyond the Basics\)](#)", section on '[Average risk of colorectal cancer](#)'.)
- Some conditions, such as hereditary nonpolyposis colorectal cancer (Lynch syndrome), familial adenomatous polyposis, *MUTYH*-associated polyposis, and inflammatory bowel disease (eg, ulcerative colitis, Crohn disease) significantly increase the risk of colon polyps or cancer in family members. Colon cancer screening in this group is discussed separately. (See "[Patient education: Colon and rectal cancer screening \(Beyond the Basics\)](#)", section on '[Increased risk of colorectal cancer](#)'.)

**WHERE TO GET MORE INFORMATION** — Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website ([www.uptodate.com/patients](http://www.uptodate.com/patients)). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

**Patient level information** — UpToDate offers two types of patient education materials.

**The Basics** — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: Colon polyps \(The Basics\)](#)

[Patient education: Colon and rectal cancer \(The Basics\)](#)

[Patient education: Colonoscopy \(The Basics\)](#)

[Patient education: Colon and rectal cancer screening \(The Basics\)](#)

[Patient education: Acromegaly \(The Basics\)](#)

[Patient education: Familial adenomatous polyposis \(The Basics\)](#)

**Beyond the Basics** — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient education: Colon and rectal cancer screening \(Beyond the Basics\)](#)

[Patient education: Colonoscopy \(Beyond the Basics\)](#)

[Patient education: Diet and health \(Beyond the Basics\)](#)

[Patient education: Quitting smoking \(Beyond the Basics\)](#)

**Professional level information** — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Approach to the patient with colonic polyps](#)

[Bleeding after colonic polypectomy](#)

[Clinical manifestations and diagnosis of familial adenomatous polyposis](#)

[Lynch syndrome \(hereditary nonpolyposis colorectal cancer\): Clinical manifestations and diagnosis](#)

[Colorectal cancer: Epidemiology, risk factors, and protective factors](#)

[Endoscopic removal of large colon polyps](#)

[Gardner syndrome](#)

[Peutz-Jeghers syndrome: Epidemiology, clinical manifestations, and diagnosis](#)

[Screening for colorectal cancer: Strategies in patients at average risk](#)

[Screening for colorectal cancer in patients with a family history of colorectal cancer](#)

The following organizations also provide reliable health information.

- National Library of Medicine  
([www.nlm.nih.gov/medlineplus/healthtopics.html](http://www.nlm.nih.gov/medlineplus/healthtopics.html))
- The American Gastroenterological Association  
([www.gastro.org](http://www.gastro.org))
- The American College of Gastroenterology  
([www.acg.gi.org](http://www.acg.gi.org))
- The American Society of Colon and Rectal Surgeon  
([www.fascrs.org](http://www.fascrs.org))

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**ACKNOWLEDGMENT** — The editorial staff at UpToDate would like to acknowledge Robert H. Fletcher, MD, MSc, and Anne Charette, RN, MSN, ANP, who contributed to an earlier version of this topic review.

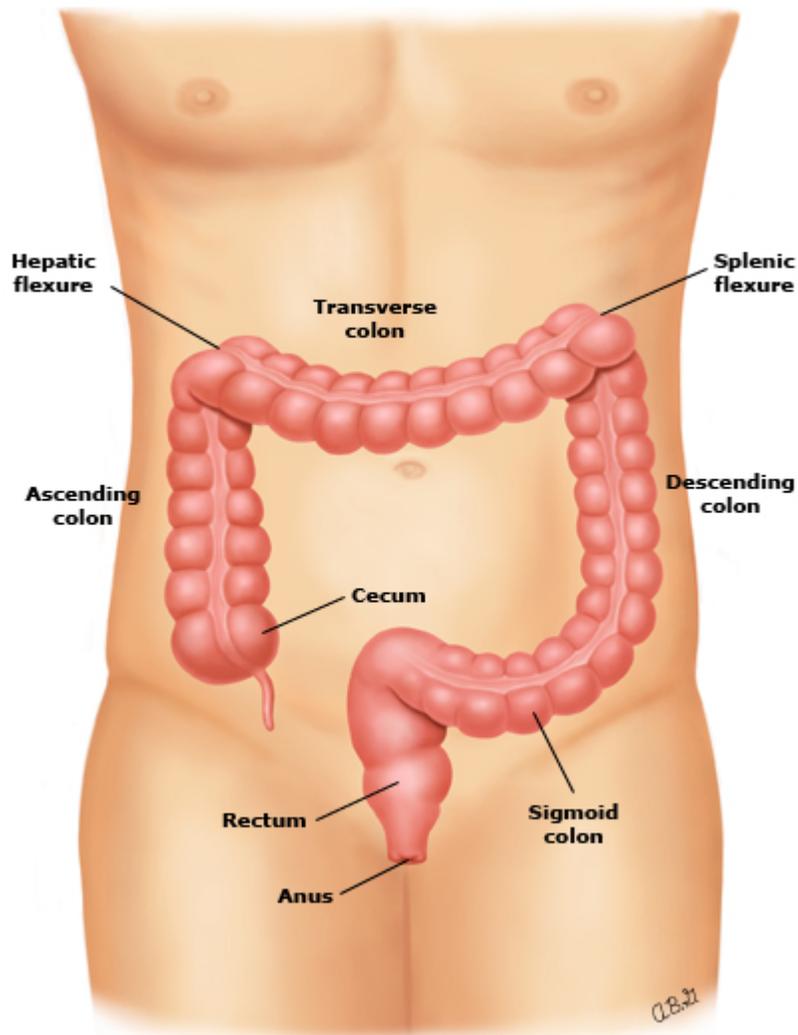
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## GRAPHICS

### Diagram of the colon and rectum

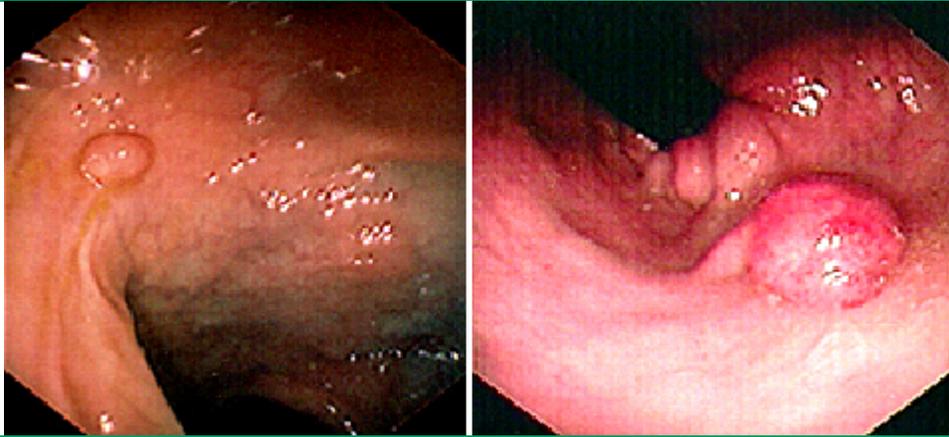
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This figure shows the different parts of the colon (also known as the large intestine), the rectum, and the anus.

Graphic 58531 Version 7.0

## Colonic polyps



Over 95 percent of colonic polyps are hyperplastic or adenomatous. Although these two types have some distinctive features on gross appearance, they cannot be reliably distinguished endoscopically. Left panel: a typical small sessile hyperplastic polyp that is less than 5 mm in size. Right panel: a typical pedunculated adenomatous polyp.

*Courtesy of James B McGee, MD.*

Graphic 66254 Version 1.0

## Normal sigmoid colon



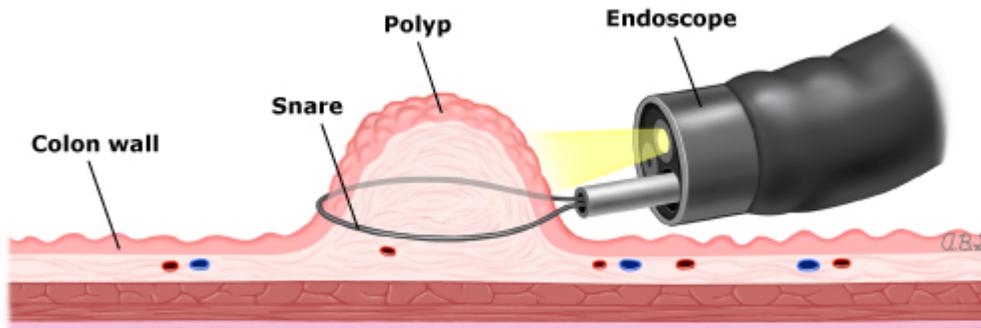
Endoscopic appearance of the normal sigmoid colonic mucosa. The fine vasculature is easily visible, and the surface is shiny and smooth. The folds are of normal thickness.

*Courtesy of James B McGee, MD.*

Graphic 55563 Version 1.0

## Removing a colon polyp

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One way doctors remove colon polyps is to use a noose as a tool. They loop a wire around the polyp and squeeze the loop tight. When the polyp comes off, the doctor sucks it up into the endoscope, so that it can go to the lab for tests.

Graphic 63967 Version 5.0