Colorectal cancer screening

What’s stopping you?

If someone told you that colon and rectal cancers — collectively known as colorectal cancer — can be prevented before the disease starts, would you believe it? The truth is that colorectal cancer, which is the second-leading cause of cancer death in the United States, can generally be diagnosed at the polyp stage before it has turned into cancerous growths. Also, chances for a cure are reduced with advanced colorectal cancer.

Over the last two decades, the death rate due to colorectal cancer has been dropping. Among the likely reasons for the decline is the use and growing awareness of screening methods that allow precancerous tissue changes in the colon to be removed before they can turn into cancerous growths.

Considering that fewer than four in 10 eligible people undergo regular colorectal screening, it’s not hard to imagine that the death rate due to colorectal cancer could drop substantially if all people eligible for screening opted to be checked.

Unchecked changes

The large intestine — which is the colon and rectum — is a muscular tube at the end of your digestive tract. Cancer can occur anywhere in the colon, so it’s important to have screening tests that examine the entire colon. Here, the percentages represent the incidence of colon cancer in the various parts of the colon.
The colon roughly makes up about four feet of the large intestine, and the rectum accounts for about one foot at the end. The inside lining of the colon and rectum is usually smooth, but with age, precancerous clumps of cells (polyps) may sprout up from the lining.

Polyps may be mushroom-like on a stalk or they may be flat or even recessed into the colon or rectum wall. Large and flat polyps are more likely to become cancerous.

Although most polyps don’t become cancerous, some may, usually over a number of years. Left unchecked, these cancerous cells may spread (metastasize) beyond the large intestine’s walls to nearby lymph nodes or other organs.

The two most common types of polyps are:

- **Hyperplastic polyps** — Often less than 5 millimeters (mm) in size, these polyps — whose cells generally look different from but act similar to normal cells — will rarely become cancerous.

- **Adenomatous polyps** — Adenomas — whose cells typically look and act differently from normal cells — can become cancerous as they grow. After an adenomatous polyp grows beyond the size of a pencil eraser — about 5 mm — it has a small but increasing chance of becoming cancerous. This is especially true when a polyp’s diameter exceeds 10 mm.

Signs and symptoms of colorectal cancer often don’t show up until the disease is advanced. These may include:

- Bowel-habit changes, such as persistent diarrhea or constipation
- Rectal bleeding or blood in your stool
- Persistent abdominal discomfort, such as gas, cramps or pain
- The sensation that your bowel doesn’t empty completely
- Unexplained loss of weight or appetite

With advanced colorectal cancer, chances for a cure are reduced.

**What’s your risk?**

Numerous factors determine your risk of colorectal cancer. By knowing what factors are part of your health profile, you can better decide with the help of your doctor when and how best to be screened for colorectal cancer. Risk factors that you can’t control include:

- **Age** — Although the disease can occur in younger people, nine out of 10 who have colorectal cancer are older than 50.

- **Personal history of colorectal cancer or polyps** — Once you’ve had either, your future risk of colorectal cancer or polyps increases.

- **Family history of colorectal cancer or polyps** — Disease risk is increased if a close family member — parent, sibling or child — has had either. Your risk is even greater if more than one family member has had colorectal cancer or polyps.

- **Personal history of inflammatory bowel disease (IBD)** — IBD, such as ulcerative colitis or Crohn’s disease, increases the risk of colorectal cancer.

- **Race and ethnicity** — Blacks are more likely to develop colorectal cancer, as are Jews of Eastern European (Ashkenazi) descent.

Other risk factors include having diabetes or having a genetic syndrome associated with colorectal cancer. These syndromes include familial adenomatous polyposis (FAP) and hereditary nonpolyposis colorectal cancer (HNPPC). Both are associated with an extremely high risk of colorectal cancer, but they’re uncommon and are responsible for only about 5 percent of colorectal cancers.

On the other hand, several important risk factors are within your control. Dietary choices influence colorectal cancer risk. A diet high in fat or red meat may be associated with increased risk of the disease, whereas a diet high in vegetables and fruits may be associated with lower risk. A sedentary lifestyle is associated with a greater risk. People who are obese are at increased risk of colorectal cancer and of dying of it. Smoking and excessive alcohol use are each factors that increase colorectal cancer risk.

**The latest guidelines**

Men and women at average risk of developing colon cancer should be screened beginning at age 50. Earlier screening may be recommended for those at higher risk.

Several colorectal cancer screening options are recommended in guidelines developed in 2008 by the American Cancer Society, the American College of Radiology and the U.S. Multisociety Task Force on Colorectal Cancer. Of the many poss...
possible options, colonoscopy is considered the screening tool of choice. This procedure screens the entire large intestine and requires colon cleansing in advance.

During a colonoscopy, a flexible, slender tube (colonoscope) equipped with a tiny camera is used to view the entire length of the colon. The instrument also allows your doctor to remove polyps during the exam or to take tissue samples (biopsies) if needed. The test usually takes about 15 to 30 minutes and may require use of a mild sedative for comfort. Generally, colonoscopy is recommended every 10 years for those at average risk.

If you can’t or choose not to have a colonoscopy, one of the following colorectal cancer screening options may be appropriate for you:

- **Flexible sigmoidoscopy** — This test is similar to colonoscopy, except it is limited because it uses a shorter scope and visualizes only the last two feet of the large intestine (rectum and sigmoid). It, too, requires colon cleansing. This partial screening method generally takes about 15 minutes and is recommended every five years.

- **Barium enema (colon X-ray)** — This test visualizes the entire large intestine using X-ray. It requires colon cleansing, and it doesn’t permit polyps or questionable tissue to be removed. If that’s necessary, a colonoscopy may be recommended. Colon X-ray may take 10 to 30 minutes and is recommended every five years.

- **Virtual colonoscopy** — Computed tomography (CT) colonography uses a CT scanner to create hundreds of images of the colon without use of a colonoscope. It requires colon cleansing. This test is more accurate than is barium enema X-ray, but it, too, doesn’t allow for polyp removal or biopsies. Like a barium enema, it involves radiation exposure. It generally takes 20 to 30 minutes and is recommended every five years.

- **Stool DNA testing** — This new test requires a single stool sample, which is then tested for several DNA markers typically shed into the stool by cancers or polyps. There are no diet or medication restrictions. It’s unclear how frequently this test should be done. The test isn’t covered by Medicare or by most insurance providers. Commercial availability of the test is limited as well. More sophisticated tests, which will hopefully be more accurate and sensitive, are likely to become available over time.

- **Fecal occult blood test (FOBT)** — Three stool samples per screening are evaluated for the presence of blood. Before testing, red meat and aspirin-type arthritis drugs are often restricted. Because polyps and cancer may bleed intermittently or not at all, FOBT is considered a less reliable test. Some guidelines suggest it be done annually, but many Mayo experts believe the limitations of the test make it less useful.

**Don’t wait for a sign**

When colorectal cancer is caught in its earliest stage, the treatment success rate is greater than 90 percent. Unfortunately, because many people don’t get screening tests, only about a third of all colorectal cancers are diagnosed early on, meaning generally long before any signs and symptoms of colon cancer are otherwise evident.

What’s stopping you from being screened? Is it the colon-cleansing preparation, or fear of discomfort during the test itself? Whatever the roadblock, it’s worth discussing your concerns with your doctor.

Colorectal cancer is a preventable disease if you get ahead of it. Consider what your risks are and then talk with your doctor about an appropriate plan and time for colorectal cancer screening.

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### Health tips

**Lighting for low vision**

If you have an eye disease, or are losing visual acuity due to normal aging, you’ll likely need improved lighting to navigate your living space and for close-up tasks such as reading.

**Around the house:**

- **Reduce differences in brightness** — Equalize indoor and outdoor light sources by keeping some house lights on during bright, sunny days.

- **Reduce glare** — If possible, choose furnishings with a flat or matte finish. Cover shiny surfaces, such as a polished table, with a cloth. Using a dark-colored place mat can help at mealtime.

- **Light up dark spots** — Install lighting in dark areas, such as under cupboards or inside closets. Keeping a pocket flashlight handy also can help you light up dark areas.

**For better close-up vision:**

- **Use bright direct lighting** — Position an adjustable lamp about four to eight inches from your reading material or close-up task. Keep the lamp slightly to one side to reduce glare. Position the light over the shoulder on the side of your better seeing eye.

- **Use daylight** — Position yourself so that windows are to your side or behind you, to take advantage of natural light.

- **Use a dark background** — When reading, reduce glare by using a piece of dark construction paper to cover the areas of text that you’re not actively reading.
**Old grains, new tastes**

**Go beyond the ordinary**

In the span of just a thousand years, the human population worldwide has gone from about 300 million people to over 6.5 billion. Fueling this population explosion has required tremendous amounts of calories, and the majority of those calories have come from a single type of food — grain.

The many varieties of grains belong to the grass family. A number of grain-like products — such as flaxseed and buckwheat — are often lumped into the grain category, even though they come from broadleaf plants, not grasses.

In modern America, the grain products consumed typically come from corn, wheat, rice and oats. But numerous other grains are cultivated and incorporated into the diets of people around the globe. Increasingly, these “alternative” grains are showing up on supermarket shelves and are making their way into commercial products.

**Why try something new?**

There’s nothing wrong with the taste and nutrition of grains that are more commonly used in the United States. When you eat wheat, rice and oat products that aren’t refined or are only minimally processed, you’re tapping into the nutritional powerhouse of whole grains.

Many refined grain products — such as white bread, white rice and enriched pasta — are fortified and enriched, and are actually quite high in certain vitamins and minerals.

But whole-grain products contain more soluble and insoluble fiber, protein, and a wider array of vitamins and minerals — especially phytochemicals — which are the
As a grain, flour or commercial product, give some of these a try

**Amaranth** — This grain-like seed is native to Central America. Amaranth has a peppery, faintly corn-like taste and has more iron, calcium and protein than wheat. It’s rich in the building blocks of protein (amino acids) typically lacking in grains. **Nutrients per cooked 1/2-cup serving:**
- Protein — 4.67 grams
- Fiber — 2.6 grams
- Gluten-free

**Barley** — Barley is on par with oats as a great source of fiber and is also a good source of protein and B vitamins. Whole hulled barley is the least processed type of barley, but it also takes a lot more time to cook and may be somewhat coarse to the American palate. Pearl barley is the more processed form of barley, but is still a great source of fiber and is much quicker cooking. Barley flakes, which can be made from whole hulled or pearl barley, are crushed barley and can be used just as you might use oatmeal. **Nutrients per cooked 1/2-cup serving of pearl barley:**
- Protein — 1.77 grams
- Fiber — 3.0 grams
- Contains gluten

**Quinoa (KEEN-wah)** — Cultivated by the Inca civilization of South America, this is a fruit of a plant in the beet family. Like amaranth, quinoa has more protein and a more evenly balanced array of amino acids than do other grains. It’s also higher than most grains in minerals, such as calcium, magnesium, potassium, zinc and iron. Quinoa has a delicate texture and cooks in about 10 to 15 minutes. Rinse quinoa seeds before cooking to remove the bitter-tasting resin that covers the seeds. **Nutrients per cooked 1/2-cup serving:**
- Protein — 4.07 grams
- Fiber — 2.6 grams
- Gluten-free

**Millet** — This staple of India and Africa has many varieties. Commonly used as bird and animal feed in the United States, it can be eaten by humans, as well. It’s a mild-flavored grain. Nutritionally, it’s high in thiamin, niacin, folic acid and zinc, and also provides a fair amount of iron. **Nutrients per cooked 1/2-cup serving whole millet:**
- Protein — 3.05 grams
- Fiber — 3.0 grams
- Gluten-free

Make it easy, whatever the grain

**Hot cereal**
Try cooking 1/4 cup amaranth, quinoa, millet or crushed barley until soft. Top with whatever you’d top oatmeal with.

**Soup**
Instead of rice or pasta in soups and stews, substitute pearl barley or quinoa. Amaranth and millet work, too, but expect a creamier result.

**Rice substitute**
Use pearl barley or quinoa mixed with — or substituted for — rice in a stir-fry, pilaf or casserole. Amaranth and millet also work well, but the grain will be stickier.

**Baked goods**
Flour from amaranth, barley, millet and quinoa can be combined with white flour in most recipes. They’re also made into tortillas, pizza crust and crackers. These are found in health food stores or in the health food section of supermarkets. Many alternative grains and products can be ordered online. You might also inquire at bakeries in your area to see if they have any products containing these grains.

**Salads**
Add 1/4 cup cooked quinoa or pearl barley to a salad. Or substitute them for bulgur wheat in a tabbouleh recipe.

naturally occurring chemicals in plant foods that appear to defend against disease.

No two whole grains have the same nutritional profile. Each brings its own mix of nutrients to the table. Plus, for those sensitive to gluten and limited in the grains they can eat, some are gluten-free.
Traveler’s diarrhea

Preventing a vacation wrecker

Inspired by your sister’s vacation to Africa, you’ve decided to make the trek yourself. But you’d also like to avoid the least pleasant part of her trip — the bout of diarrhea that kept her cooped up in her hotel room for several days.

If you travel to a developing country, there’s about a 20 to 50 percent chance that you’ll experience a bout of traveler’s diarrhea.

Usually not serious

Traveler’s diarrhea is usually caused by food or water that contains bacteria, viruses or parasites that your body isn’t accustomed to dealing with. It generally lasts about three to five days. Signs and symptoms include the fairly abrupt onset of loose stools and abdominal cramps, possibly accompanied by fever or vomiting. Fortunately, traveler’s diarrhea usually isn’t a serious health threat, but it can cause you to feel miserable and weak, even after the diarrhea stops.

However, about 5 to 10 percent of these cases are more serious and include bloody stools, persistent vomiting, severe abdominal pain or a temperature greater than 102 degrees Fahrenheit. Diarrhea may persist for longer than five days.

Do’s and don’ts

In countries where traveler’s diarrhea is a risk, be careful about what you drink and eat. With drinking, don’t consume untreated water from the local supply.

Avoid:

- Food from street vendors
- Raw vegetables and fruits without a peel
- Moist food at room temperature, such as sauces, salads and buffet offerings
- Raw or undercooked meats

Using bottled water to brush your teeth
Drinking only factory-bottled beverages

Local water sources can typically be purified by boiling the water for about three to five minutes or by using water purification products, such as chlorine- or iodine-based drops or tablets.

When eating, stick to foods that are packaged or freshly cooked and served steaming hot. In addition, wash your hands with soap and water before eating or preparing food. If clean water and soap aren’t available, use a hand sanitizer such as Purell or Germ-X.

Rehydrating yourself is important to recovery. Try pasteurized juices, broths, soups or soft drinks. You may also want to look for rehydration solutions labeled “WHO-ORS,” for World Health Organization oral rehydration salt solution. These are widely available in most developing countries.

Prevention with medication

There’s no ideal medication to prevent traveler’s diarrhea. Taking bismuth subsalicylate (Pepto-Bismol) throughout your trip may reduce the risk of traveler’s diarrhea by up to 60 percent. But you’ve got to take many doses daily and side effects are possible. People taking blood thinners or who have an aspirin allergy, kidney problems or gout shouldn’t take this medication. In addition, check with your doctor or pharmacist to see if any drugs you’re taking prohibit you from taking bismuth subsalicylate.

A few small studies have suggested that taking the probiotic supplement lactobacillus may have a preventive effect similar to bismuth subsalicylate, without the side effects. However, probiotic use is more controversial and less well proved to provide benefit.

Antibiotics are known to help prevent traveler’s diarrhea, but most experts advise against using antibiotics for this reason in healthy adults, because widespread antibiotic use leads to the development of antibiotic-resistant bacteria.

One exception is the antibiotic rifaximin (Xifaxan). This has an antibiotic effect in the gastrointestinal tract, but it’s only minimally absorbed into the rest of the body and isn’t thought to lead to antibiotic resistance. It appears to reduce the risk of traveler’s diarrhea by around 70 percent. The downside? Depending on the dosing schedule your doctor prescribes, it will cost between about $60 and $110 for a week’s supply.
Cutting drug costs

Brand names go generic

After paying for a costly new heart medication, you can’t help wondering if “sticker shock” should be listed as a side effect.

Brand-name prescription drugs can be expensive. But over time, prices generally drop once the drug’s patent expires and equivalent generic drugs reach the market. When that happens, consumers benefit.

Although generics may have different fillers or coloring agents, the active ingredient is closely regulated by the Food and Drug Administration (FDA) to be within a small percentage of the brand-name drug.

A complex process

It can take decades for a brand-name drug to become available as a generic. Although the initial patent life is 20 years, research and development time typically eat up a decade of patent life before the FDA approves a brand-name drug for use. Beyond that, there may be patent extensions for follow-on drugs. These are brand-name drugs with slight changes in formulation — such as extended-release versions. When a brand-name drug company introduces the follow-on drug, it carves out more time — sometimes years — as the exclusive seller.

The FDA frequently grants a single generic manufacturer a six-month period of exclusive marketing rights to the first generic of a brand-name drug. Typically, the price of that first generic drops only slightly. But if that initial generic is widely used, chances are good that several other generic manufacturers will enter the arena and the price usually drops substantially. Generic equivalents of brand-name prescription drugs can cost 30 to even 90 percent less. It’s estimated that generic drug purchases in place of brand-name products save consumers up to $10 billion annually.

Savings ahead

In the past two and a half years, a number of commonly used prescription medications have gone generic, as the chart below indicates. In 2007, the FDA approved a record number of generic drug applications — up more than 30 percent from the previous year.

It’s anticipated that many more brand-name drugs will lose their protective patents in the next two years. Among those to watch for in this category are the migraine drug Imitrex (sumatriptan), the glaucoma drug Cosopt (timolol/dorzolamide), the antiseizure drug Topamax (topiramate), and the herpes antiviral drug Valtrex (valacyclovir).

Talk to your doctor or pharmacist if you have questions about whether there’s a less expensive equivalent drug that might work for you. Not all brand-name medications have generic equivalents, but it’s reasonable to ask if similar members of a brand-name product’s drug class might be a less expensive and effective option for you.

When brand-name drugs become available as generics, you stand to save $$$$$$

Over the last two and a half years, numerous brand-name drugs have gone off patent, allowing for the release of generic drugs and a substantial cost savings for consumers. Among those off patent are:

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic name</th>
<th>Generic available</th>
<th>Common uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altace</td>
<td>ramipril</td>
<td>December 2007</td>
<td>blood pressure, heart failure</td>
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<tr>
<td>Ambien</td>
<td>zolpidem</td>
<td>April 2007</td>
<td>sleep aid</td>
</tr>
<tr>
<td>Coreg</td>
<td>carvedilol</td>
<td>September 2007</td>
<td>heart failure</td>
</tr>
<tr>
<td>Depakote</td>
<td>divalproex</td>
<td>July 2008</td>
<td>anti-seizure, migraine, bipolar disorder</td>
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<tr>
<td>Ditropan XL</td>
<td>oxybutynin</td>
<td>November 2006</td>
<td>overactive bladder</td>
</tr>
<tr>
<td>Effexor*</td>
<td>venlafaxine</td>
<td>August 2006</td>
<td>depression</td>
</tr>
<tr>
<td>Fosamax</td>
<td>alendronate</td>
<td>February 2008</td>
<td>osteoporosis</td>
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<tr>
<td>Kytril</td>
<td>granisetron</td>
<td>December 2007</td>
<td>nausea, vomiting</td>
</tr>
<tr>
<td>Norvasc</td>
<td>amlodipine</td>
<td>April 2007</td>
<td>blood pressure, angina</td>
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<tr>
<td>Requip</td>
<td>ropinirole</td>
<td>May 2008</td>
<td>restless legs syndrome</td>
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<tr>
<td>Risperdal</td>
<td>risperidone</td>
<td>June 2008</td>
<td>antipsychotic</td>
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<tr>
<td>Sonata</td>
<td>zaleplon</td>
<td>June 2008</td>
<td>short-acting sleep aid</td>
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<td>Toprol-XL</td>
<td>metoprolol succinate</td>
<td>May 2007</td>
<td>blood pressure, heart failure, angina</td>
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<tr>
<td>Zofran</td>
<td>ondansetron</td>
<td>December 2006</td>
<td>nausea, vomiting</td>
</tr>
<tr>
<td>Zyrtec-D**</td>
<td>cetirizine/pseudoephedrine</td>
<td>December 2007</td>
<td>allergies, nasal decongestant</td>
</tr>
</tbody>
</table>

*Effexor XR predicted to be available as a generic in 2011. **Formerly a prescription drug, now available as a nonprescription drug.
Source: Food and Drug Administration
Questions and our answers

Q: I take calcium supplements for my bones. Should I take magnesium supplements to help my bones absorb the calcium? I’ve heard the two work better together.

A: Save yourself some money. Although magnesium is commonly touted as a mineral necessary for aiding calcium absorption, it’s not clear that magnesium contributes to bone strength in any significant way. Along with other trace elements, magnesium is normally incorporated into bone in very small amounts. In fact, recent studies have shown that large doses of magnesium may actually interfere with calcium absorption if taken at the same time.

It’s unusual for someone to need a magnesium supplement. Magnesium is well absorbed in the intestines. It’s readily available in a healthy diet that includes a variety of whole grains, legumes and vegetables — especially dark green leafy vegetables. Except for people who have gastrointestinal disorders that impair nutrient absorption and those who regularly take high doses of certain diuretics, magnesium deficiency is rarely seen in the United States. In addition, people who have abnormal kidney function may be at risk of too much magnesium if they take supplements.

Q: I’ve heard endorphins can help with pain control and make you feel good. How can I get my body to produce endorphins?

A: You heard correctly. Endorphins are a chemical produced by your brain and spinal cord and are similar to the narcotic drug morphine. Endorphins attach to special receptors in your central nervous system and stop pain messages. They can also impart a sense of euphoria or a sense of calmness and well-being.

Pain and stress are two of the most common triggers of endorphin production. But you don’t have to hurt yourself or get stressed out to get the benefits of endorphin release. For example, endorphin release has been shown to occur with exercise and acupuncture. Endorphins are thought to be responsible for “runner’s high,” which is a sense of satisfaction and well-being associated with running long distances. In addition, exercise can help ease symptoms of anxiety and depression, and endorphins may play a role in this. The amount of exercise effort needed to cause an endorphin release varies from person to person, but is typically more pronounced with prolonged, continuous exercise.

Acupuncture also triggers endorphin production. Other factors that may trigger endorphin production include massage therapy, laughter, sex, meditation, and eating chocolate or chili peppers. This may help explain why these are, for many, enjoyable experiences.

Q: I’ve noticed spots of blood on the front of my underwear when I wake up in the morning. Should I be concerned?

A: These blood spots could potentially be a serious concern.

For a woman, the concern is whether it’s vaginal bleeding or bleeding from the urinary tract. One way to distinguish between the two would be to wear a tampon overnight. If the tampon has blood on it the next morning, the likely source is gynecologic. If there’s no blood, your doctor can evaluate your urinary system, as bleeding can be a sign of bladder or kidney infection, cancer or other problems. In either instance, discuss the situation with your doctor as soon as possible.

For a man, the bleeding is a urinary system concern and could be related to the prostate gland, seminal vesicles, bladder or kidneys. Although some causes wouldn’t be serious, others could potentially be related to cancer.

In any event, spots of blood on the underwear warrant an evaluation by your doctor.

Have a question or comment?

We appreciate every letter sent to Second Opinion but cannot publish an answer to each question or respond to requests for consultation on individual medical conditions. Editorial comments can be directed to:

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