COLORECTAL CANCER SCREENING

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1. What is colorectal cancer?

Colorectal (large bowel) cancer is a disease in which malignant (cancer) cells form in the inner lining of the colon or rectum. Together, the colon and rectum make up the large bowel or large intestine. The large intestine is the last segment of the digestive system (the esophagus, stomach, and small intestine are the first three sections). The large bowel's main job is to reabsorb water from the contents of the intestine so that solid waste can be expelled into the toilet. The first several feet of the large intestine is the colon and the last 6 inches is the rectum.

Most colon and rectal cancers originate from benign wart-like growths on the inner lining of the colon or rectum called polyps. Not all polyps have the potential to transform into cancer. Those that do have the potential are called adenomas. It takes more than 10 years in most cases for an adenoma to develop into cancer. This is why some colon cancer prevention tests are effective even if done at 10-year intervals. This 10-year interval is too long, in some cases, such as in persons with ulcerative colitis or Crohn's colitis, and in persons with a strong family history of colorectal cancer or adenomas.

2. How common is colorectal cancer?

Colorectal cancer is the second most common cancer killer overall and third most common cause of cancer-related death in the United States in both males and females. Lung and prostate cancers are more common in men and lung and breast in women. In 2003, there will be 147,000 new cases and 57,100 deaths from colorectal cancer.

3. What is screening for colorectal cancer?

Screening means looking for cancer or polyps when patients have no symptoms. Finding colorectal cancer before symptoms develop dramatically improves the chance of survival. Identifying and removing polyps before they become cancerous actually prevents the development of colorectal cancer.

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4. Who is at risk for colorectal cancer?

- *Everyone age 50 and older.*
  The average age to develop colorectal cancer is 70 years, and 93% of cases occur in persons 50 years of age or older. Current recommendations are to begin screening at age 50 if there are no risk factors other than age for colorectal cancers. A person whose only risk factor is their age is said to be at average risk.
- *Men and women*
  Men tend to get colorectal cancer at an earlier age than women, but women live longer so they 'catch up' with men and thus the total number of cases in men and women is equal.
- *Anyone with a family history of colorectal cancer.*
  If a person has a history of two or more first-degree relatives (parent, sibling, or child) with colorectal cancer, or any first-degree relatives diagnosed under age 60, the overall colorectal cancer risk is three to six times higher than that of the general population. For those with one first-degree relative diagnosed with colorectal cancer at age 60 or older, there is an approximate two times greater risk of colon cancer than that observed in the general population. Special screening programs are used for those with a family history of colorectal cancer. A well-documented family history of adenomas is also an important risk factor.
- *Anyone with a personal history of colorectal cancer or adenomas at any age, or cancer of endometrium (uterus) or ovary diagnosed before age 50.*
  Persons who have had colorectal cancer or adenomas removed are at increased risk of developing additional adenomas or cancers. Women diagnosed with uterine or ovarian cancer before age 50 are at increased risk of colorectal cancer. These groups should be checked by colonoscopy at regular intervals, usually every 3 to 5 years. Woman with a personal history of breast cancer have only a very slight increase in risk of colorectal cancer.

4. What are the symptoms of colorectal cancer?

Symptoms of colorectal cancer vary depending on the location of the cancer within the colon or rectum, though there may be no symptoms at all. The prognosis tends to be worse in symptomatic as compared to asymptomatic individuals. The most common presenting symptom of colorectal cancer is rectal bleeding. Cancers arising from the left side of the colon generally cause bleeding, or in their late stages may cause constipation, abdominal pain, and obstructive symptoms. On the other hand, right-sided colon lesions may produce vague abdominal aching, but are unlikely to present with obstruction or altered bowel habit. Other symptoms such as weakness, weight loss, or anemia resulting from chronic blood loss may accompany cancer of the right side of the colon. You should promptly see your doctor when you experience any of these symptoms.

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5. Why should you get checked for colorectal cancer even if you have no symptoms?

Adenomas can grow for years and transform into cancer without producing any symptoms. By the time symptoms develop, it is often too late to cure the cancer, because it may have spread. Screening identifies cancers earlier and actually results in cancer prevention when it leads to removal of adenomas (pre-cancerous polyps).

6. What tests are available for screening?

Several options are available for screening average-risk persons.

- *Fecal occult blood test.*
  One of the presentations of colon cancer is chronic blood loss in the stool. Sometimes, such blood loss is so minimal, it cannot be seen when the stool is inspected in the toilet. Your doctor will ask you to place a small stool sample on a special card which is returned to the doctor or lab to test for occult (hidden) blood. This test is done annually. If the test is positive, colonoscopy should be done.
- *Double contrast barium enema (DCBE).*
  Barium is a white liquid that helps to show the inside image of the colon and rectum on an X-ray. The liquid barium is put into the colon using a rectal tube. Multiple X-rays are taken to look for polyps or cancers. DCBE is less expensive than colonoscopy but also less effective. DCBE has not been established as a reliable colorectal cancer screening test in any rigorous scientific studies. One scientific report, the National Polyp Study, found that DCBE detected only 50% of the larger adenomas (greater than 1 cm), and DCBE is inferior to colonoscopy for detection of colorectal polyps. Because of its limitations, DCBE is not widely used for colorectal cancer screening. If used for screening, it should be done every 5 years. If polyps are found, colonoscopy should be performed. Another X-ray test, single contrast barium enema (SCBE) is generally considered inferior to DCBE for detecting polyps and, thus, SCBE is not recommended for colorectal cancer screening.
- *Sigmoidoscopy.*
  An examination in which a doctor uses a sigmoidoscope (a thin, lighted instrument) to view the inside of the lower colon and rectum (usually about the lower 2 feet) for polyps and cancers. If an adenoma is found, colonoscopy should be performed. Sigmoidoscopy does not examine the entire colon and so is less reliable than colonscopy for detecting polyps. Sedation is usually not used for sigmoidoscopy. Sigmoidoscopy is performed every 5 years, often in conjunction with an annual fecal occult blood test.

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- *Colonoscopy.*
  Your doctor can examine your entire colon and rectum during colonoscopy. The procedure is used to look for early signs of cancer in the colon and rectum where they could not be reached by sigmoidoscopy. Polyps can be removed during colonoscopy. Sedation is usually used for colonoscopy. Colonoscopy is currently the only test recommended for colorectal cancer screening in average-risk persons at 10 year intervals.
- *Computerized topographic (CT) colonography and magnetic resonance (MR) colonography.*
  These tests are sometimes called "Virtual Colonoscopy". These two tests are fairly new methods that allow your doctor to look for colorectal polyps and cancers. Virtual Colonoscopy is a recently developed technique that uses a CT scanner (CT colonography) or Magnetic Resonance scanner (MR colonography) along with computer-assisted software to look inside the body without having to insert a long colonoscope into the colon or without having to fill the colon with liquid barium. These two tests are performed by radiologists. They are still in development, have not been established as reliable screening tests, and have not been endorsed for colorectal cancer screening.

7. What else can I do to prevent the development of colorectal cancer?

- The strategy for reducing colorectal cancer deaths is simple.
- For normal risk individuals, screening tests begin at age 50 and the preferred approach is a screening colonoscopy every 10 years; an alternate strategy consists of annual stool test for blood and a flexible sigmoidoscopic exam every 3 to 5 years.
- Colonoscopic surveillance (also called screening colonoscopy) needs to be available at more frequent intervals for individuals at high risk for colon cancer (for instance, those with a personal history of colorectal cancer or adenomatous polyps; family history of colorectal cancer; non-hereditary polyposis; colorectal cancer; or a pre-disposing condition such as inflammatory bowel disease. (Medicare provides for surveillance colonoscopy no more frequently than once every two years for those at high risk.)
- For both average and high risk individuals, all potential pre-cancerous polyps must be removed.

Recent observations suggest regular use of non-steroidal anti-inflammatory drugs or aspirin, reduce the chances of colorectal cancer death by 30-50%. These drugs also have risks, particularly intestinal bleeding, and patients should consult their physician as to whether regular use of these agents is appropriate. Folate, calcium, and post-menopausal estrogens each have a modest protective benefit against colon cancer. A high fiber (vegetables) and low fat diet, regular exercise, maintenance of normal body weight and cessation of smoking are also beneficial. None of the measures is as effective as or should replace colorectal cancer screening.

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