

I COLORECTAL CANCER

1. What is colorectal cancer?

Colorectal cancer is a disease in which cells in the colon or rectum become abnormal and divide without control or order, forming a mass called a tumor. Most tumors begin as small non cancerous (benign) clumps of cells called polyps. Over time some of these polyps become cancerous. Cancer cells cause disease by either invading and destroying the tissue around them, or by breaking away from the original tumor (primary tumor) and spreading to form new tumors in other parts of the body (metastases.)

Colorectal cancer, which includes cancer of both the colon and the rectum, is the 4th most common type of cancer and the second leading cause of cancer deaths in the United States. Each year approximately 150,000 Americans are diagnosed with colorectal cancer and approximately 50,000 will die.

2. Risk factors for colorectal cancer.

The exact causes of colorectal cancer are not known. However, many studies show that certain factors increase a person's chance of developing colorectal cancer;

- Age – as a patient gets older the risk of colorectal cancer increases. Although the disease can occur at any age, about 90% of people with the disease, are older than 50. The risk generally starts to increase around the age of 40 and the average age of diagnosis is 62. No one is too young to develop colorectal cancer and cases rarely can develop in men and women in their 30s or younger.
- Polyps – polyps are benign (non cancerous) growths that protrude from the inner wall of the colon or rectum. They are very common in people over the age of 50. Experts believe that most colorectal cancers develop in polyps and for years there has been an emphasis on finding polyps and removing them as a way to help prevent colorectal cancer.
- Inflammatory intestinal conditions – Inflammatory conditions of the colon such as ulcerative colitis and Crohn's disease increase the risks of colorectal cancer. It is felt that the longer the patient has these diseases (sometimes even without symptoms) the more likely it is that cancer will develop.
- Personal history – a person who has had a history of colorectal polyps or cancer is at increased risk for developing a second lesion. In addition, research has shown that if there is a personal history of other cancers such as ovarian or breast cancer, there is a higher than average chance of developing colorectal cancer.
- Family history – you are more likely to develop colorectal cancer if you have had parents, siblings, or a child with the disease. If there are numerous family members with the disease, the risk is even greater.
- Sex and race – in the United States men are at a higher risk of developing colon cancer than are women, and Blacks have a greater risk than other racial groups. It is uncertain if these are hereditary differences or rather reflect environmental factors.
- Diet - A diet high in fats especially the saturated fats found in red meat, butter, dairy foods, etc., seem to increase the risk of colon cancer (as well as the risk of heart disease).

- Smoking and Alcohol – smoking tends to increase the risk of colon cancer and drinking alcohol in excess may do the same. The theory is that these habits increase the risk of polyp development which subsequently increases the risks for the cancer.
- Sedentary lifestyle

3. Symptoms of colorectal cancer.

The hope is that any pre-cancerous or early cancer lesion is found very early when no symptoms are present. However, if symptoms are present, they could include the following;

- A change in bowel habits including new diarrhea or constipation or a change in the stool's shape
- A feeling that the bowel does not empty completely
- Blood in the stool persistently (often bright red blood on the tissue paper will develop from benign hemorrhoids, but it usually would not be persistent.)
- General abdominal discomfort
- Weight loss with no known reason
- Constant fatigue or tiredness
- Vomiting
- Other

4. Lowering your risk for colorectal cancer.

Although you cannot change hereditary factors, there are steps to reduce your risks of colorectal cancer;

- Stop smoking and limit alcohol
- Exercise regularly and control weight. (Regular exercise has been shown to cut the risk of colon cancer by up to one-half.)
- Healthy diet. A diet high in fiber has been shown to decrease the risk of colorectal cancer. Research on populations world wide confirm that people whose diet includes plenty of fiber, such as fresh fruits and vegetables, have less cancer than those whose diets do not include these foods. It is likely that those food groups contain factors, in addition to fiber, that help protect against colon cancer.
- Medication. There is evidence that hormone replacement therapy in post menopausal women will help reduce the risk of colorectal cancer. There is also evidence that anti-inflammatory medication and certain vitamins such as folic acid may decrease your risk. At this time there is no general recommendation about taking these medications for this purpose
- Know your full family history and have regular physician examinations (that includes polyp removal when appropriate.)

II SCREENING FOR COLORECTAL CANCER

1. What is screening and why is it important?

Screening means to check for health problems before they cause symptoms. Screening for some cancers can allow them to be detected at a very early stage before they cause significant problems or spread to other parts of the body. Colorectal cancer screening is used to detect cancer, polyps that may eventually become cancer, or other abnormal conditions. If the screening test does detect an abnormality the specific diagnosis will be made and treatment can be decided upon.

2. Who should get screened?

The recommendations for screening parallel the risk factors and they include the following;

- Patients without risk factors for colon cancer – Colon cancer screening should begin at age 50. A less intense screening with “stool cards” to check for the presence of unseen blood, and sigmoidoscopy is recommended. More complete colon evaluations at approximately ten year intervals, are recommended by some
- Patients with risk factors for colon cancer, (such as: personal history of pre -cancerous polyps, inflammatory bowel disease, or family history of colorectal cancer) – Colon cancer screening should begin earlier. The exact recommendation about when to start screening in these situations vary. There is a general recommendation that the entire colon be screened in these cases more frequently.

3. Methods used to screen people for colorectal cancer.

Several tests are available to help in the screening process and they include;

- Fecal occult blood test.
This is a test that checks for hidden blood in the stool. It is often performed in the physician’s office, but also it is commonly done at home after several days of a special diet. Unfortunately, cancers do not always bleed and those that do often bleed intermittently. In addition, most polyps do not bleed. This can, therefore, lead to a negative test result even though there may be a significant lesion present. Conversely, often blood will develop from a benign condition which further limits the usefulness of fecal occult blood tests.
- Digital rectal exam.
This is a simple office examination performed by the physician. It is safe and usually painless but it is limited to the very lower end of the rectum and not thought to be an adequate test for colorectal cancer.
- Flexible sigmoidoscopy.
This is an examination of the lower portion of the colon using a slender lighted tube to look for pre-cancerous or cancerous growths. Approximately 50% of all colon cancer cancers are found in this area of the colon. Studies have shown that regularly performing sigmoidoscopy after the age of 50 can reduce the number of the deaths from colorectal cancer. The test can be somewhat uncomfortable and there is a slight risk of perforating the colon wall. The major limitation, however, is that a large portion of the colon is not evaluated.
- Barium enema.
In this test, barium which is a contrast dye, is placed into the bowel in an enema form. Usually air is also added. The barium fills and coats the lining of the bowel creating a picture of the colon when x-rays are taken. The test takes about 30 minutes and can be uncomfortable. There is a small risk for perforating the colon wall. Research has shown that the barium enema is more effective at detecting larger growths than smaller ones and certain lesions could therefore be missed.

- Colonoscopy.
This is an examination of the entire rectum and colon using a lighted instrument called a colonoscope. Colonoscopy is similar to flexible sigmoid but the instrument used allows the physician to view the entire colon and rectum. If any polyps or unusual areas are found, then often a biopsy of these areas or removal of the abnormal areas can be accomplished during the test. At this time it is the most sensitive test for detection of colon cancer and polyps. There is some risk in the procedure from the sedation that is given. Other risks to the procedure include bleeding and perforation of the colon wall.
- Genetic testing.
Studies are ongoing to help determine which genetic blood test can help determine the risks of colon and rectal cancer. At this time, the testing is not done regularly and more information is needed.
- Virtual Colonoscopy
Virtual Colonoscopy is a new and very exciting procedure that is starting to be used for colorectal screening. This test will be described in the next section.

III VIRTUAL COLONOSCOPY

1. What is Virtual Colonoscopy?

Virtual Colonoscopy is a recently developed minimally invasive technique for detecting polyps and cancer in a patient's colon. The Virtual Colonoscopy uses a CT scanner and computer virtual reality software to look inside the colon without having to insert a long tube into the colon, or to insert barium into the colon. There is much excitement for this technique as a tool for colorectal cancer screening and for following lesions in the colon. Several studies have shown that Virtual Colonoscopy can find signs of polyps and colon cancer almost as effectively as conventional colonoscopy. In a study published in the New England Journal of Medicine in November of 1999, it was concluded that in a group of patients at high risk for colorectal cancer Virtual and conventional colonoscopy had similar efficacy for the detection of polyps that were 6 mm or more in diameter. The National Cancer Institute Imaging expert, Daniel Sullivan, M.D. said "There is a lot of interest and excitement in the field about Virtual Colonoscopy".

Virtual Colonoscopy is minimally uncomfortable, does not require sedation and has no risk of perforation of the colon wall.

2. How is Virtual Colonoscopy done?

Virtual Colonoscopy uses a computed tomography or CT scan of the abdomen that recreates pictures on a computer that looks similar to those of the colon seen by a conventional colonoscopy. At this time the patients need to go through a bowel cleaning preparation prior to the test. (Research is ongoing that may eliminate the need for this preparation.) On the day of the test at the Colonoscopy Center a small flexible tube will be inserted into the rectum so that gas can be introduced. The patients then lie comfortably on their back and then on their stomach. Sedation is not required so the patients can leave the CT suite immediately and do not need a period of observation. They can resume their normal activities without delay.

3. Limitations of the Virtual Colonoscopy.

- Pain - There is no significant pain related to a Virtual Colonoscopy. However, some patients report gassy cramps because of the gas that is infused (this is usually temporary and not limiting.)
- Small lesions – Small (less than 6 mm usually) polyps or lesions are more easily missed with Virtual Colonoscopy. The more significant lesions which are generally thought to be greater than 1 cm are usually found at the same rate as a standard colonoscopy.
- Appearance of polyps - The Virtual Colonoscopy will not distinguish the surface of a polyp as being smooth and benign appearing versus inflamed and more worrisome.
- Cost

4. Preparation

- As opposed to conventional colonoscopies the patient does not need to discontinue aspirin, nonsteroid anti-inflammatory medications or Coumadin prior to having this test. All other medications likewise can be taken as usual.
- Follow this program to prepare for the Virtual Colonoscopy

ON THE DAY BEFORE YOUR VIRTUAL COLONOSCOPY

Drink only clear liquids. A “clear liquid” means that you can see through it, it should not be dark colored and it should not have pulp. Apple juice, white grape juice, water, clear broth or bouillon, black coffee or tea, Gatorade, plain Jell-O, Popsicles are allowed. No solid foods, milk or milk products are to be consumed.

At 3:00 p.m. take 2 Dulcolax laxative tablets with a glass of water. At 6:00 p.m. mix (1) 238 gm bottle of Miralax in 64 oz. of Gatorade. Drink an 8 oz. glass every 15-20 minutes until gone. This should take approximately 1 ½ to 2 hours. At 9:00 p.m. take 2 Dulcolax laxative tablets with the last glass of Gatorade/Miralax mix or a glass of water. You may continue clear fluids until midnight. Take nothing else by mouth after midnight with the exception of high blood pressure and/or heart medication if applicable. Dulcolax laxative tablets and 238 gm Miralax powder can be purchased over the counter with no prescription required.

Note: Individual responses to laxatives vary, this prep may cause multiple bowel movements. It often works within 30 minutes and may take up to three hour. Please remain within easy reach of toilet facilities.

Nothing to eat or drink after midnight except sips of water.

DAY OF VIRTUAL COLONOSCOPY

Please arrive 20 minutes prior to your appointment and report to Troy Internal Medicine Suite 300. Other than sips of water, you are to have nothing to eat or drink until after your procedure.

5. What if there are abnormal findings on the Virtual Colonoscopy?

In the event that abnormalities are detected on the Virtual Colonoscopy further investigation may be necessary. The findings will be reviewed with the patient and formal suggestions made on an individual basis. Larger more complex lesions will need further evaluation and possibly biopsy. Smaller more benign lesions are being studied at this time to determine if they can be followed over time or if immediate evaluation would be necessary.

6. To schedule a Virtual Colonoscopy

- Phone (248)267-5000 and press #8.
- Schedule on-line at TroyInternalMedicine.com under Virtual Colonoscopy

7. Cost of Virtual Colonoscopy

This new technology has been, and is continuing to be, extensively studied. As more formal recommendations for its use are developed insurance companies will be reviewing their payment policies. Many insurance companies do not cover any screening test including a screening test for colon cancer such as Virtual Colonoscopy.

The payment policies for this test at Troy Internal Medicine will evolve as the insurance companies direct us. At this time, we will expect a payment guarantee from each patient. The patients will be requested to sign a form indicating that they understand that their insurance company may not cover this test and that the cost of the test will then be the patient's responsibility.