

COLORECTAL CANCER

Patient Information Fact Sheet

›What is colorectal cancer?

Colon, or colorectal, cancer is cancer that starts in the large intestine (colon) or the rectum (end of the colon). In 2013 there were 102,480 new cases of colon cancer; 40,340 new cases of rectal cancer; and 50,830 deaths combined in the United States. This makes it one of the most common cancers. But unlike some malignant tumors, colorectal cancer can often be cured by surgery, and new treatments are being introduced to make survival even more likely. The earlier the colorectal cancer is diagnosed, the greater the likelihood of cure.

Throughout our lives, the lining of the bowel constantly renews itself. This lining contains many millions of tiny cells that grow, serve their purpose, and then new cells take their place. Each one of these cells contains genes, which give instructions to the cell on how to behave. When genes behave in a faulty manner, this can cause the cells to grow too quickly, which eventually leads to the formation of a growth that is known as a polyp. This is the first step on the road to cancer.

›What is a polyp?

A polyp, or a more specific type of polyp called an adenoma, starts as a tiny bump on the inside of the bowel. At first, the genes give instructions for the polyp to grow in an orderly manner. Some polyps remain very small throughout their lives while others slowly grow larger. At this stage, the lump is still benign. Most polyps remain benign throughout life but about one in 10 will turn into a cancer. Broadly speaking, the larger the polyp, the more likely it is to become cancerous. It is unusual for a polyp to be malignant if it is less than 1cm in diameter. It is believed that all malignancies of the bowel probably start off as benign polyps. Removing benign polyps can prevent cancer from developing later.

›How does a polyp turn to cancer?

In some polyps, the instructions that the genes give the cell on how to grow become increasingly disordered. When this happens, the cells grow so quickly and in such a strange way that they grow not just on the lining of the bowel but into the wall of the intestines. At that stage, the polyp is no longer benign but has become malignant, or cancerous. As the tumor advances, it grows through the wall of the bowel to invade nearby tissues and can spread more widely throughout the body, particularly to the liver and the lungs. When cancer spreads far away from its primary site (in this case the bowel) to distant parts of the body, it is said to have metastasized.

›What are the symptoms of colorectal cancer?

The development of colorectal cancer from a polyp may take between 5–10 years, and early on there may be no symptoms at all. The most common symptoms are bleeding from the bowel, a change in bowel habit, such as unusual episodes of diarrhea or constipation, or an increase in the amount of mucus in the stool. A colorectal cancer can enlarge so that it partially or completely blocks the bowel leading to abdominal pain, constipation, and bloating. Sometimes tiny amounts of bleeding may go unnoticed, but may result in the development of anemia, which may cause tiredness and a decreased ability to work and exercise.

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Some of these symptoms are similar to those of irritable bowel syndrome and this can sometimes cause difficulty in making a diagnosis. A prolonged change in bowel habit lasting more than two or three months should always be investigated, and rectal bleeding is not a symptom of irritable bowel syndrome.

› **What tests confirm a diagnosis of colorectal cancer?**

Sometimes, the doctor will be able to detect a lump in the abdomen or on rectal examination but usually tests are needed. The most commonly used are:

Barium enema x-ray—after taking laxatives to empty the colon, it is filled with a combination of barium and air to outline its lining.

Flexible sigmoidoscopy—after an enema, a flexible telescope is passed through the anus, into the rectum and this can reach the lowest half of the colon.

Colonoscopy—like a barium enema, this requires laxatives to clear out the bowel. A flexible telescope is passed through the anus into the rectum but the tube is long enough to examine the entire large bowel. The procedure is a little uncomfortable and most patients are offered an injection to ease any discomfort.

CT scanning—this x-ray procedure is a relative newcomer and obviously has the advantage, (which many people appreciate) of not involving a tube being passed through the anus. It is not yet as reliable as colonoscopy but its quality is steadily improving and it seems likely to be used increasingly often.

Both flexible sigmoidoscopy and colonoscopy have the advantage that a small sample or biopsy can be taken to look at under the microscope. The above tests are used in slightly different situations depending upon the symptoms that patients may have and the availability of the investigations.

› **What happens once cancer is diagnosed?**

If you are found to have colorectal cancer, a team of specialists is there to help. You will be advised to have blood tests and scans to determine what is known as the stage (extent) of the cancer. Not only will the size of the primary tumor be assessed thoroughly, but the specialist will also want to know if there is any sign of secondary spread. Armed with all the relevant information they have gathered about the cancer, the specialists will decide how best to advise you on the most appropriate treatment.

› **How are cancers of the colon and rectum treated?**

Once tests have confirmed that the cancer has not spread anywhere else, most colon cancers are treated by surgery. This will usually involve removing the cancer together with the lymph glands along the blood vessels supplying that section of the bowel. In most cases, the two ends of the bowel are joined together again (anastomosis) but if the cancer has led to an emergency, it may not be possible to join the bowel together right away. Once the colorectal cancer and surrounding tissue have been removed they will be examined under the microscope and only then will it be possible to fully determine the stage of the cancer. If the cancer is confined to the bowel wall, then surgical

removal alone may be all that is needed. If there is any sign of spread to the local lymph glands a course of chemotherapy postoperatively may well be advised.

Unless they are very small and can be removed by a local operation, most cancers of the rectum need to be very carefully checked preoperatively by various scans. This will help decide whether or not the cancer should be treated by radiation therapy. Cancers in the lower part of the rectum will be removed together with the immediately surrounding tissue called the mesorectum. This operation which aims to cure the cancer is called total mesorectal excision (often abbreviated to TME).

›Will a colostomy be necessary?

A cancer of the rectum very near the anal canal will be difficult to remove completely and in this situation it may be necessary to remove the rectum and the anus, and make a permanent stoma (opening of the colon) into the skin of the abdomen—this is called a colostomy. Fortunately, modern surgical techniques have made the need for a stoma to be much less likely than it used to be in the past.

›What happens after surgery?

While you are recovering, the specialist team will meet to consider whether further treatment is advisable. Such decisions are based largely on the information we have about how advanced the primary cancer was. After the operation, the treatment options will be explained and if there is a need for further treatment—such as chemotherapy—this will be arranged. The specialist team will wish to see you again in the months and years after surgery to check on how you are doing. Very often, you will be offered blood tests, scans or follow-up colonoscopy to detect whether the cancer has come back. If it does recur, that is obviously bad news but there are still options for cure even if the tumor has come back.

›What protects against colorectal cancer?

A diet rich in fresh vegetables and fruit and low in red meat seems to help protect against colorectal cancer. A high calcium intake may be protective as may be the regular ingestion of some anti-inflammatory medicines such as aspirin although at the moment these are not used routinely.

›Does early diagnosis make a difference?

Achieving a complete cure of colorectal cancer depends on early detection. The larger the growth and the more deeply and widely it has spread, the less likely it is to be curable. If people wait too long before reporting symptoms, the opportunity to completely remove the cancer may be lost. An early diagnosis can also be made in the absence of symptoms by screening.

›What is advanced colorectal cancer?

This is when the cancer has spread from the colon itself to other sites in the body. This may have already happened when the cancer is first diagnosed or may occur at a later date. The most common site for the cancer to spread is to the liver. Chemotherapy in this situation can be effective in controlling symptoms and prolonging life. Chemotherapy does not cure the disease and treatment is selected to provide a balance between the side effects and the benefits gained from treatment.

› **Are there any implications for my family?**

If a person is young (40–50 years of age) when bowel cancer is diagnosed or if cancer is very common in the family, it may be that there is an inherited genetic abnormality. In such circumstances, brothers, sisters, and children may be referred to a specialist for advice. If the risk of inherited disease is high enough, some relatives may be advised to undergo a regular colonoscopy. There are uncommon and inherited conditions including familial adenomatous polyposis (FAP) in which numerous polyps develop throughout the bowel and the cancer risk is greatly increased. The family of these patients has to be carefully screened.

› **Is there any screening for colorectal cancer?**

Mass screening of the population for bowel cancer is not yet available but clinical trials are in progress. Because polyps may bleed, one of the screening methods involves testing the stools chemically for traces of blood, then carrying out further investigations of the bowel if the test is positive. Another technique of screening is to examine the lower part of the bowel with a flexible sigmoidoscope in people between the ages of 55 and 65. Trials of using these techniques on individuals who have no bowel symptoms have shown that more early cancers are being diagnosed and that early detection improves your chance of survival. The government will introduce mass screening within the next few years.

› **Further information**

National Cancer Institute: www.cancer.gov/cancertopics/types/colon-and-rectal

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