



X-Plain™ *Colon Cancer*

Reference Summary

Colon cancer is fairly common. About 1 in 15 people develop colon cancer.

Colon cancer can be a life threatening condition that affects the large intestine. However, if it is found early, it is a highly curable form of cancer.

This reference summary will help you better understand what colon cancer is and what treatment options are available.

Anatomy

The colon makes up the last 5 feet of the intestines.

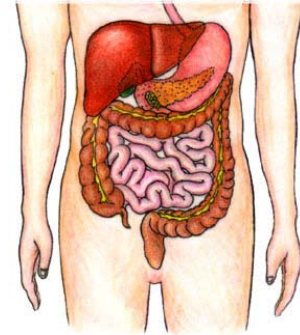
Swallowed food first goes through the esophagus, which is the feeding tube.

Next, food passes through the stomach, where it is digested.

Digested food goes from the stomach to the small intestines, where nutrients are digested and partially absorbed.

Fibers and digested food finally reach the colon. In the colon, the rest of the nutrients get absorbed and stools are formed.

Stools are then stored in the last part of the colon, the sigmoid and the rectum, before being excreted.



Arteries provide blood to the colon, and veins take the blood back toward the heart.

Lymphatic tissue and lymph nodes drain excess fluid into the blood stream.

Lymph nodes help fight colon infections and cancer before it spreads to the rest of the body.

The colon has several components:

- The ascending colon
- The transverse colon
- The descending colon
- The sigmoid colon
- The rectum and the anus

Cancer And Its Causes

The body is made up of very small cells.

Normal cells in the body grow and die in a controlled way.

Sometimes cells keep dividing and growing in an uncontrolled way, causing an abnormal growth called a tumor.

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If the tumor does not invade nearby tissues and body parts, it is called a benign tumor, or non-cancerous growth. Benign tumors are almost never life threatening.

Cancers, such as colon cancer, usually start as an overgrowth of normal cells, called a polyp. Cells in polyps may continue to grow even more out of control. If left unchecked, they can become cancerous. The earlier polyps are discovered and taken out, the better are the chances of avoiding or curing cancer.

If a tumor does invade and destroy nearby cells, it is called a malignant tumor, or cancer. Cancer can be life threatening.

Cancerous cells may spread to different parts of the body through blood vessels and lymph channels.

Cancer treatments are used to kill or control abnormally growing cancerous cells.

Cancers in the body are given names, depending on where the cancer started. Cancer that begins in the colon will always be called colon cancer, even if it spreads to other places.

Although doctors can locate where a cancer started, the *cause* of cancer cannot usually be identified.

Colon cancer tends to run in families, so people with close relatives that have colon cancer should be examined regularly for any sign of it.

Cells contain hereditary, or genetic, materials called chromosomes. This genetic material controls the growth of the cell.

Cancer always develops from changes that occur in the chromosomes. When the genetic material in a cell becomes abnormal, it can lose the ability to control its growth.

Sudden changes in genetic material can occur for a variety of reasons. This tendency may be inherited. Changes in genetic materials may also occur

because of exposure to infections, drugs, tobacco, chemicals, or other factors.

Continuous inflammation of the colon, known as colitis, can increase the chances of developing colon cancer. People with colitis should have regular examinations by their doctor in case any signs of colon cancer begin to appear.

Studies have shown that people who are on a high fiber and low fat diet have less chance of developing colon cancer than people who eat lots of fat and very little fiber. Other studies suggest that people who take aspirin regularly are less likely to have colon cancer

Symptoms And Causes

The best way to treat colon cancer is by finding it very early, even before it causes any symptoms.

Since colon cancer can be treated best when it is found early, yearly physical exams are very important.

How extensive a colon exam must be depends on:

- Your age
- Your family history
- Your previous medical history.

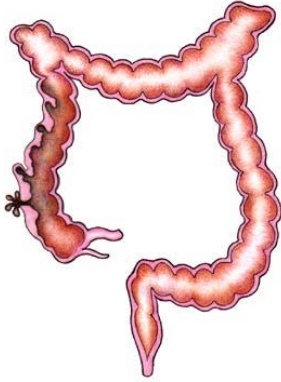
In patients with diseases of the colon or with family members who have similar problems, colon exams should be done more often. If not discovered during a routine exam or testing, colon cancer can show up in various ways.

The blood vessels of cancer are usually more fragile and tend to bleed easier than normal blood vessels. Therefore, colon cancer can lead to internal bleeding in the colon. The blood then mixes with the stools.

Depending on how far the cancer is from the rectum, blood in the stool can either be bright red or can discolor the stools, giving them a dark maroon or coal black color.

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Blood in the stool does not always mean a patient has colon cancer; other conditions such as ulcers, hemorrhoids, and inflammation can also cause bleeding in the colon or intestines. Bowel habit changes, such as diarrhea or constipation, can also be caused by colon cancer.



If colon cancer becomes very big, it can cause a bowel obstruction. The patient will have severe pain in the abdomen area, with nausea, sometimes vomiting, and the inability to pass gas or stools. This can be a surgical and medical emergency.

Diagnosis

Colon cancer is suspected if a stool exam shows blood in the stools. A routine and simple test is now available to detect blood in the stools.

If blood in the stools goes unnoticed for some time, the patient may lose a fair amount of blood; this is called anemia. The signs of anemia include dizziness, light-headedness, and a feeling of being tired all the time.

Routine digital rectal examinations can detect a growing lesion in the anal or rectal areas. A doctor may also be able to find a polyp or a cancerous lesion during a scope exam of the colon.

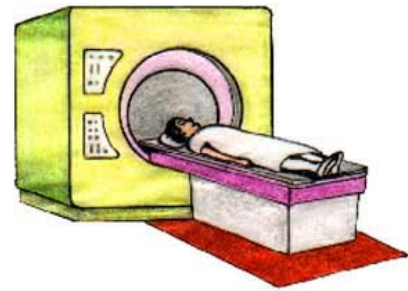
There are 2 types of scope exams that are commonly performed. One type is called a “sigmoidoscopy.” The doctor inserts a rigid scope into the rectum and sigmoid, the lowest part of the colon. Once the scope is inserted, the doctor is able to look inside for abnormalities.

The other type of scope exam is called a “colonoscopy.” For this procedure, the doctor inserts a longer, more flexible scope that goes in through the rectum and reaches the first part of the colon called the ascending colon. This test is more thorough than a sigmoidoscopy.

Depending on your age, personal history and family history, one of these tests may need to be done on a regular basis. If unexplained blood is found in the stools, these tests become necessary.

It is usually possible to remove a small piece of abnormal tissue or polyps found during a scope exam; this is known as a biopsy. This small piece of tissue is then given to a pathologist, a specialist who is trained to find cancer in tissues by looking at them under a microscope.

If the abnormality appears to be a cancer, then treatment is needed. Other tests may also be done to diagnose colon cancer. One such test is called a CAT scan.



A CAT scan is short for Computed Axial Tomography scan. For this test, the patient is placed in a doughnut-shaped machine with a big hole. As the body is moved through the hole, x-rays are taken to see the inside of the abdomen.

A barium enema is another test that helps diagnose colon cancer. For this test, a chalky white liquid called barium is released into the colon using an enema. X-rays are then done to help see how far the cancer has spread.

Treatment Options

Most patients with colon cancer have surgery to take as much of the tumor as is safely possible.

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During the surgery, some of the lymph nodes in the abdomen are also taken out and checked for cancer.

If the cancer has obviously spread to other organs in the abdomen, some of that cancer may also be taken out.

Depending on where the cancer is in the colon, the surgeon may have to reroute the colon to the outside. This is called a colostomy. Sometimes a colostomy can be closed surgically months later.

Depending on how fast the cancer is growing, and whether it has spread to other organs, further treatment may or may not be necessary after surgery. If further treatment is necessary, then your oncologist may recommend radiation therapy or chemotherapy.

Radiation therapy is often used in patients where the cancer has mostly affected the rectum. Sometimes it is given before surgery. Radiation therapy is a series of high-energy radiation treatments to the area that has cancer. It is usually given once a day during weekdays and it usually takes a few weeks to complete.

Chemotherapy is given either by mouth or into the blood stream through intravenous lines. It treats the cancer using very strong chemicals. These chemicals can sometimes cause nausea, vomiting, and hair loss.

Patients with colon cancer have the best chance of surviving if the cancer is found very early and treated surgically.

Summary

Colon cancer is a common condition that affects about 7% of the population.

Surgery is usually recommended to remove colon cancer and is usually successful. Radiation and chemotherapy can also help to decrease the chance of the cancer spreading.

The earlier colon cancer is found, the better the chance for survival is. Therefore, regular check-ups are very important to help detect cancer early and remove it from the body.

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