Strang Cancer Prevention Institute
Dedicated to Promote Cure by Early Detection and Research to Prevent Cancer since 1933

Prevention

National Colon Cancer Awareness Month March 2016

COLON CANCER

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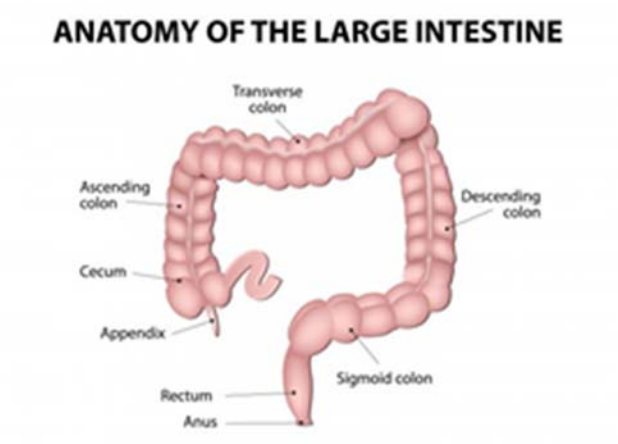
Colon cancer is cancer of the large intestine (colon), the lower part of the digestive system. Rectal cancer is cancer of the last several inches of the colon. Together they are often referred to as **Colorectal Cancers.**



Most cases of colon cancer begin as small, noncancerous (benign) clumps of cells called adenomatous polyps. Over time some of these polyps become colon cancers.

Polyps may be small and produce few, if any, symptoms. For this reason, doctors recommend regular screening tests to help prevent colon cancer by identifying and removing polyps before they become colon cancer.

Excluding skin cancers, colorectal cancer is the third most common cancer diagnosed in both men and women in the United States.

The American Cancer Society's estimates for the number of colorectal cancer cases in the United States for 2016 to be 134,490 of which 95,270 are new cases of colon cancer and 39,220 are new cases of rectal cancer.

Lifetime Risk of Colorectal Cancer

Overall, the lifetime risk of developing colorectal cancer is: about 1 in 21 (4.7%) for men and 1 in 23 (4.4%) for women. This risk is slightly lower in women than in men.

DEATHS FROM COLORECTAL CANCER

Colorectal cancer is the third leading cause of cancer-related deaths in the United States when men and women are considered separately, and the second leading cause when both sexes are combined. It is expected to cause about 49,190 deaths during 2016.

The death rate (the number of deaths per 100,000 people per year) from colorectal cancer has been dropping in both men and women for several decades.

There are a number of likely reasons for this. One is that colorectal polyps are now being found more often by screening and removed before they can develop into cancers or are being found earlier when the disease is easier to treat. In addition, treatment for colorectal cancer has improved over the last few decades. As a result, there are now more than 1 million survivors of colorectal cancer in the United States

Colorectal Cancer Risk Factors

A risk factor is anything that affects the chance of getting a disease such as cancer.

Different cancers have different risk factors.
Some risk factors, like smoking, can be changed. Others, like a person's age or family history, cannot be changed.
But having a risk factor, or even many, does not mean that the disease will occur.
Some individuals who get the disease may not have any known risk factors.

For further information on cancer risk factors and screening visit: www.strang.org

Sources: American Cancer Society and Mayo Clinic

Colorectal Cancer Risk Factors You Cannot Change

Age

Younger adults can develop colorectal cancer, but your chances increase markedly after age 50.

A Personal History of Colorectal Polyps or Colorectal Cancer

A history of adenomatous polyps (adenomas), increases the risk of developing colorectal cancer. This is especially true if the polyps are large or if there are many of them.

A history of having had colorectal cancer, even though it has been completely removed, increases the risk of developing new cancers in other areas of the colon and rectum. The chances of this happening are greater if colorectal cancer occurred at a younger age.

Personal History of Inflammatory Bowel Disease

Inflammatory bowel disease (IBD), including either ulcerative colitis or Crohn's disease, increases the risk of colorectal cancer.IBD is a condition in which the colon is inflamed over a long period of time. Individuals who have had IBD for many years often develop dysplasia. Dysplasia is a term used to describe cells in the lining of the colon or rectum that look abnormal (but not like true cancer cells) when seen with a microscope. These cells can change into cancer over time.Individuals with IBD need to start being screened for colorectal cancer when they are younger and be screened more frequently.

Inflammatory bowel disease is different from irritable bowel syndrome (IBS), which does not increase the risk for colorectal cancer.

A Family History of Colorectal Cancer or Adenomatous Polyps

Individuals with a history of colorectal cancer in a first-degree relative (parent, sibling, or child) are at increased risk. The risk is even higher if that relative was diagnosed with cancer when they were younger than 45, or if more than one first-degree relative is affected.

The reasons for the increased risk are not clear in all cases. Cancers can "run in the family" because of inherited genes, shared environmental factors, or some combination of these.

Most people with colorectal cancer have no family history of colorectal cancer. Still, as many as 1 in 5 people who develop colorectal cancer have other family members who have been affected by this disease.Having family members who have had adenomatous polyps is also linked to a higher risk of colon cancer. (Adenomatous polyps are the kind of polyps that can become cancerous.)

If you have a family history of adenomatous polyps or colorectal cancer, talk with your doctor about the possible need for genetic counseling and to begin screening before age 50. Individuals who have had adenomatous polyps or colorectal cancer should tell their close relatives so that they can pass along that information to their doctors and start screening at the right age.

Having an Inherited Syndrome

About 5% to 10% of people who develop colorectal cancer have inherited gene defects (mutations) that can cause family cancer syndromes and lead to them getting the disease. The most common inherited syndromes linked with colorectal cancers are familial adenomatous polyposis (FAP) and Lynch syndrome (hereditary non-polyposis colorectal cancer, or HNPCC), but other rarer syndromes can also increase colorectal cancer risk.

Familial Adenomatous Polyposis (FAP)

FAP is caused by changes (mutations) in the *APC* gene that a person inherits from his or her parents. About 1% of all colorectal cancers are due to FAP.In the most common type of FAP, hundreds or thousands of polyps develop in a person's colon and rectum, usually in their teens or early adulthood. Cancer usually develops in 1 or more of these polyps as early as age 20. By age 40, almost all people with this disorder will have developed colon cancer if the colon isn't removed first to prevent it. People with FAP are also at increased risk for cancers of the stomach, small intestines, and some other organs.

Attenuated FAP, a subtype of this disorder, patients have fewer polyps (less than 100), and colorectal cancer tends to occur at a later age.

Gardner Syndrome is a type of FAP that also has non-cancerous tumors of the skin, soft tissue, and bones.

Colorectal Cancer Risk Factors You cannot Change

Lynch Syndrome **(hereditary non-polyposis colon cancer, or HNPCC)**

Lynch syndrome accounts for about 2% to 4% of all colorectal cancers. In most cases, this disorder is caused by an inherited defect in either the *MLH1* or *MSH2* gene, but changes in other genes can also cause Lynch syndrome. These genes normally help repair DNA damage.

Individuals with this syndrome develop cancers when they are relatively young, although not as young as in FAP. Those with Lynch syndrome may have polyps, but they tend to only have a few, not hundreds as in FAP. The lifetime risk of colorectal cancer in people with this condition may be as high as 80%, although this depends on which gene is affected. Women with this condition also have a very high risk of developing cancer of the endometrium (lining of the uterus). Other cancers linked with Lynch syndrome include cancer of the ovary, stomach, small intestine, pancreas, kidney, brain, ureters and bile duct.

Turcot Syndrome

This is a rare inherited condition in which people have a higher risk of adenomatous polyps and colorectal cancer, as well as brain tumors. There are actually 2 types of Turcot syndrome: One is caused by gene changes similar to those seen in FAP, in which cases the brain tumors are medulloblastomas. The other is caused by gene changes similar to those seen in Lynch syndrome, in which cases the brain tumors are glioblastomas.

Peutz-Jeghers Syndrome

Individuals with this rare inherited condition tend to have freckles around the mouth (and sometimes on the hands and feet) and a special type of polyp in their digestive tracts (called hamartoma). There is a greatly increased risk for colorectal cancer, as well as several other cancers, which usually appear at a younger than normal age. This syndrome is caused by mutations in the *STK1* gene.

MUTYH-Associated Polyposis

Individuals with this syndrome develop colon polyps which will become cancerous if the colon is not removed. There is an increased risk of cancers of the small intestine, skin, ovary, and bladder. This syndrome is caused by mutations in the *MUTYH* gene.These syndromes often lead to cancer at a younger age than is usual. They are also linked to some other types of cancer. Identifying families with these inherited syndromes is important because it lets doctors recommend specific steps such as screening and other preventive measures when the individual is younger.

Racial and Ethnic Background

African Americans have the highest colorectal cancer incidence and mortality rates of all racial groups in the United States. The reasons for this are not yet understood. Jews of Eastern European descent (Ashkenazi Jews) have one of the highest colorectal cancer risks of any ethnic group in the world. Several gene mutations leading to an increased risk of colorectal cancer have been found in this group. The most common of these gene changes, called the *I1307K APC mutation*, is present in about 6% of American Jews.

Type 2 Diabetes

Individuals with type 2 (usually non-insulin dependent) diabetes have an increased risk of colorectal cancer. Both type 2 diabetes and colorectal cancer share some of the same risk factors (such as being overweight or obese). But even after taking these factors into account, those with type 2 diabetes still have an increased risk; they also tend to have a less favorable prognosis (outlook) after diagnosis.

FACTORS with UNCLEAR EFFECTS on COLORECTAL CANCER *RISK*

Night Shift Work

Results of one study suggested working a night shift at least 3 nights a month for at least 15 years may increase the risk of colorectal cancer in women. The study authors suggested this might be due to changes in levels of melatonin (a hormone that responds to changes in light) in the body. More research is needed to confirm or refute this finding.

Previous Treatment for Certain Cancers

Some studies have found that men who survive testicular cancer seem to have a higher rate of colorectal cancer and some other cancers. This might be because of the treatments they have received.

Several studies have suggested that men who had radiation therapy to treat prostate cancer might have a higher risk of rectal cancer because the rectum receives some radiation during treatment. Most of these studies are based on men treated in the 1980's and 1990's when radiation treatments were less precise than they are today. The effect of more modern radiation methods on rectal cancer risk is not clear.

Colorectal Cancer Risk Factors that can be Modified

Several lifestyle-related factors have been linked to colorectal cancer. In fact, the links between diet, weight, and exercise and colorectal cancer risk are some of the strongest for any type of cancer.

Being Overweight or Obese

Overweight or obese (very overweight) increases the risk of developing and dying from colorectal cancer. Being overweight raises the risk of colon cancer in both men and women, but the link seems to be stronger in men.

Physical Inactivity

Physical inactivity increases the chance of developing colorectal cancer. Being more active might help lower the risk.

Certain Types of Diets

A diet that is high in red meats (such as beef, pork, lamb, or liver) and processed meats (such as hot dogs and some luncheon meats) can raise your colorectal cancer risk.

Cooking meats at very high temperatures (frying, broiling, or grilling) creates chemicals that might raise your cancer risk, but it's not clear how much this might increase your colorectal cancer risk.

Diets high in vegetables, fruits, and whole grains have been linked with a lower risk of colorectal cancer, but fiber supplements have not been shown to help.It is not clear if other dietary components (for example, certain types of fats) affect colorectal cancer risk.

Smoking

People who have smoked for a long time are more likely than non-smokers to develop and die from colorectal cancer. Smoking is a well-known cause of lung cancer, but it is also linked to other cancers, like colorectal cancer.

Heavy Use of Alcohol

Colorectal cancer has been linked to heavy alcohol use. Limiting alcohol use to no more than 2 drinks a day for men and 1 drink a day for women could have many health benefits, including a lower risk of colorectal cancer.

The Strang Cancer Prevention Cookbook

Reduce your Risk for Cancer by Eating a Healthy Diet!

Citrus Cranberry Sauce * 10 Servings

3/4 pound fresh cranberries, 1/2 cup packed brown sugar,
1 cup fresh orange juice, grated zest of 1 orange and 1 lime

In a medium saucepan combine all the ingredients. Bring to a boil, then lower the heat to simmer. Cover and cook until the cranberries burst open, about 10 minutes. Let the sauce cool and refrigerate.

Calories 70, Protein 1g, Carbohydrates 17g, Fat 0g, Cholesterol 0 mg, Dietary fiber 2g Saturated fat 1g

Major sources of Potential Cancer fighters:

Phytochemicals: plant polyphenols (flavonoids,phenolic acids),plant sterols,terpenes (carotenoids, limonene).

Recipe by Laura Pensiero, R.D. Owner Gigi Trattoria, Rhinebeck, New York

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