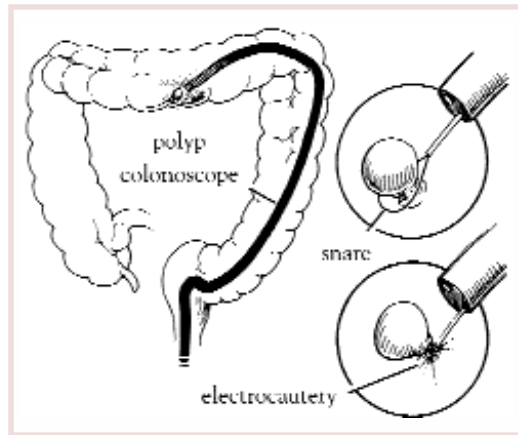


1. Medical history - The patient's medical history will identify the presence of risk factors for colon polyps and cancer.
2. Stool exams to detect occult or hidden blood - Colon cancers and large polyps may release minute quantities of blood; therefore, examination of the stool for occult blood is important.
3. Colonoscopy - This procedure is considered the gold standard or the best examination for colon polyps or cancer. It allows not only the examination of the entire colon, but also for the removal of any polyps or early cancers. Colonoscopy is indicated when the physician detects blood in the stool or there is a family history. In addition, current recommendations from the federal government suggest that all individuals at age 50 receive a colonoscopy screening exam, and if negative, another exam should be performed at age 60. The exam is usually done under sedation, following a bowel preparation the day prior.
4. Barium Enema - This x-ray is an older exam. Barium flows into the colon and x-rays are taken which outline the shadows of polyps and cancer. Polyps cannot be removed by this technique. It is no longer considered the best test for colon cancer or polyps.
5. Virtual Colonoscopy: This is another x-ray test during which water is used to fill the colon, after which images are taken using either a CT or MRI machine. The use of this technique is still considered experimental. The technique will frequently miss small cancers and polyps, which when found, cannot be removed.
6. Genetic Blood Tests: It is possible to perform blood tests that identify those individuals in families who have polyposis syndromes. The use is usually restricted to those individuals who have family members with multiple, large numbers of polyps.

How are Polyps Removed?

The removal of colon polyps reduces the risk of the subsequent development of cancer of the colon. Polyps are usually removed using a colonoscope, which allows the physician to visualize the inside of the colon. Biopsy equipment and snares or wire loops are passed through the endoscope. Then once the polyp is trapped, electrical current is used to remove the polyps and small tumors and seal the surface of the colon to prevent bleeding. The polyps are then analyzed under a microscope. This procedure is performed in the outpatient setting under sedation.



Summary

Cancer of the colon is a serious but readily detectable malignancy. Early detection promises a very high chance for survival. Most colon cancers start as polyps, which can usually be removed through a colonoscopic exam. Today, there is much that can be done to prevent and cure this cancer. The essential first step involves action by the patient.

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COLON POLYPS AND CANCER



Endoscopic
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Colon Polyps and Cancer

Colon cancer is a major cause of death in the western world. It is the leading form of cancer among men and the second most common cancer in women. More importantly, colon cancer is also one of the most readily detectible and curable forms of cancer, if discovered early. When detected early, more than 90 percent of patients may be cured.

This disease arises out of the cells that form the lining of the colon. There is strong medical evidence that the tendency to develop colon cancer or colon polyps may be hereditary. It is defective genes that allow cancer to develop, which may be passed from parent to child. The inherited genetic defect causes certain cells in the lining to produce polyps, which may then grow into cancers. Colon cancer may also develop when there is chronic inflammation of the colon lining present such as in the diseases of ulcerative colitis or Crohn's disease.

Colon Polyps - The Stage Before Cancer

A colon polyp is a growth that begins in the lining of the colon. Other types of polyps may be found in the small intestine or stomach. These growths are small abnormal fleshy tumors that sit on the surface of the lining of the colon, and may be shaped like a mushroom, a dome, or a coin or a dome-like button. Polyps may be as tiny as the head of a pin or larger than a tennis ball. It is important to note that colon polyps start out as benign tumors, and as they grow, some polyps may become malignant or cancerous. Normally, the larger the polyp, the more likely it is to contain cancer cells. In most cases, it is a specific type of a polyp called an adenoma that develops into colon cancer. The goal is to find and remove these polyps before they can turn into cancers.

What are the Risk Factors For Developing Colon Polyps and Cancer?

- Family history of colon polyps or colon cancer
- Western civilization and diet
- Being over 40 years of age
- History of uterine, cervical or ovarian cancer
- Ulcerative colitis or Crohn's Disease

Individuals who have either a parent, brother, sister, child, or multiple other family members who have had colon cancer or polyps are at increased risk. In addition, there are certain unusual genetic conditions, such as hereditary polyposis, which lead to colon cancer 100 percent of the time. It is felt that persons living in Western societies may be exposed to certain environmental factors that may damage the bowel and lead to cancer. In addition, the typical Western diet, which is high in fat and low in fiber has been linked to colon cancer development. Women who have had genital cancers are at an increased risk of developing colon cancer. Other chronic inflammatory conditions including Crohn's disease and ulcerative colitis, after many years of disease, may allow the development of colon malignancy.

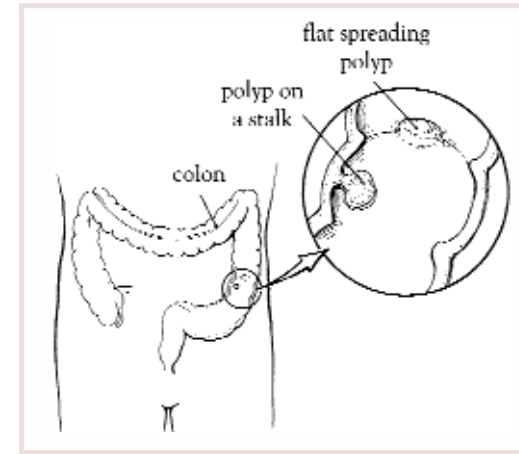
Polyps - Where Do They Come From?

Heredity is clearly a very important factor. Recent scientific evidence suggests that there is an absence of a special controlling mechanism within the colon lining cells. Normally all cells in the body are programmed to grow until a certain time, and then the cells are supposed to undergo a process of controlled death, known as apoptosis. It is the absence of this "time to die" signal that allows the cells to grow uncontrollably and develop into polyps and cancers. Certain medications, which turn on the signal to die within these cells, may reverse this process and cause polyps and some cancers to disappear. Research is ongoing in this area.

There are other known factors. For example, rural residents of developing countries rarely develop colon polyps or cancer. Their diets are high in fiber (up to 60 grams a day!) and low in fats. Diets that are high in fiber and roughage produce bulky stools that may actually serve to scrape off abnormal cells before they have a chance to develop into polyps or cancer. It is also known that animal fats may be broken down by the body's intestinal juices and changed into certain compounds termed carcinogens. These compounds cause colon cancer in laboratory animals. When residents in developing countries eat a Westernized diet of meat, low roughage and refined grains, over time they develop the same incidence of colon polyps and cancer as people living in the Western world. While not the only factor, diet plays one of many important roles in causing and preventing colon cancer.

Polyps - Different Types

There are many different types of polyps. The polyp type is determined by how the cells of the polyps look under the microscope. There are several different names for polyps such as: hyperplastic, adenomatous, juvenile, and hamartomas to name a few. The key point to remember is that it is currently felt that only the adenoma type of polyps can develop into cancers.



1. Hyperplastic Polyps: These polyps are composed of normal colonic lining cells, which are overgrown and form a polyp. It is not felt that this type of polyp can develop into a cancer. If you have this type of polyp, you do not need to be concerned.
2. Adenomatous Polyps: These polyps are composed of glandular tissue from the colon lining. They are called villous, tubular or mixed types. These polyps are felt to be the ones that develop into cancers. Once removed, a cancer cannot develop, which is considered preventative.
3. Cancerous Polyps: These are adenomatous polyps that already have cancer cells. If the cancer is still contained completely inside of the polyp, once removed it is considered cured. If the cancer has already invaded or gone through the polyp into the deeper layers of the colon wall, then surgery to remove a portion of the colon will be necessary.

Polyps - Disease Categories

Physicians generally place patients with polyps in one of three categories.

1. Familial Polyposis Category: Patients within this category have a true hereditary condition in which the entire colon is studded with hundreds or even thousands of polyps. The polyps begin at a very early age in childhood. Virtually everyone with this condition will eventually develop colon cancer. The only known preventative treatment is removal of the entire colon. Medications may play a role in the future. Usually all members of a family are affected. Fortunately, this type of polyp category is very uncommon.
2. Non-familial Polyposis Category: Those in this category develop far fewer polyps. These sporadic polyps occur usually between the ages of 40 and 70. There may be between one and several polyps present. If these polyps go undetected and remain in place, cancer may develop in 5-10 years. There is a hereditary link. This category is the most common.
3. Lynch Syndrome: Described initially by Dr. Lynch, it is more common than familial polyposis and less so than non-familial polyposis. There is a strong tendency for adenoma type polyps to develop in close relatives such as sisters, brothers, aunts, uncles and children. More polyps are usually found and they occur at an earlier age. Polyps and even cancer can occur in 20's and 30's. In some families there is an increased incidence of other cancers such as breast and ovarian cancer. A family history of this type warrants very close surveillance of all direct blood relatives.

Detection

The key to early detection of colon polyps and cancer is the concern and willingness of each person to seek medical attention from a physician. The physician will perform the following: