WHAT ARE COLORECTAL POLYPS?

A colorectal polyp is a small clump of cells that form on the inner lining of the colon (large intestine) or rectum. Most colorectal polyps are non-cancerous but may develop into colorectal cancer over time. They arise from genetic changes in the cells of the colorectal lining called mutations. Mutations result in an abnormal growth of cells. They are random and can be caused by many factors such as diet, lifestyle, and environmental toxins. Even though anyone can develop colorectal polyps, the risk for polyps increases in ages 45 and older or if there is family history of colorectal polyps and colorectal cancer.

Illustration of Colon Polyps

Courtesy of: National Institute of Diabetes and Digestive and Kidney Diseases
Image Source: https://www.niddk.nih.gov/health-information/digestive-diseases/colon-polyps
HOW DO I KNOW IF I HAVE COLORECTAL POLYPS?

Typically, colorectal polyps do not show symptoms in the early stages of colorectal cancer. To detect colorectal polyps early it is important to have regular screening tests such as colonoscopy, sigmoidoscopy, CT scans and fecal immunochemical tests. Early detection of polyps can usually be removed safely and completely. Colorectal cancer screening tests and the removal of colorectal polyps will decrease the risks of developing colorectal cancer.

**Colonoscopy**

Colonoscopy is a procedure where a thin, tube-like instrument called a colonoscope is inserted through the rectum into the colon to look for polyps, abnormal areas, or cancer. A colonoscope contains a light and lens that is used for viewing on a screen. Some colonoscopes may have a special tool to remove polyps or tissue samples, which can be checked under a microscope for signs of cancer.

**Sigmoidoscopy**

Similar to colonoscopy, a sigmoidoscopy is a procedure where a thin, tube-like instrument called a sigmoidoscope is inserted through the rectum into the sigmoid colon to look for polyps, abnormal areas, or cancer. A sigmoidoscope just like a colonoscope contains a light and lens used for viewing and may contain a special tool to remove polyps or tissue samples, which can be checked under a microscope for signs of cancer.

Illustration of Colonoscopy and Sigmoidoscopy

*Courtesy of: National Cancer Institute*

**CT Scan (Computed Tomography)**

A CT scan is a procedure where an x-ray machine takes detailed images from different angles of areas inside the body such as the abdomen or pelvis. The x-ray machine is connected to a computer where cross-sectional images of the bones, blood vessels, and soft tissues inside the body will be displayed. A dye may be injected into a vein or swallowed to help the organs or tissues show up more clearly in the images. Abnormalities in the large intestines (colon or rectum) such as polyps will be visible and detected.

Illustration of CT scan

 Courtesy of: Mayo Clinic

**Fecal Immunochemical Test (FIT)**

FIT are stool-based tests that will check the stool (feces) for signs of cancer. Stool-based tests can be done at home. They are less invasive and easier to complete, but they need to be done more frequently. If the result of a stool-based test is positive or abnormal, a further test such as a colonoscopy would need to be performed to confirm and investigate the results.

The FIT checks for occult (hidden) blood in the stool from the lower intestines. The purpose of a FIT is that the blood vessels in larger colorectal polyps are often fragile and can be easily damaged by the passage of stool. The damaged vessels will end up bleeding into the colon or rectum, but not enough blood is present in the stool to be seen with the naked eye.
Inside a FIT package will include everything needed to conduct the test. You are given stool collection paper, a plastic bag with absorbent material, FIT tube, and a return envelope to send your sample so it can be tested. The package also comes with instructions and a letter with information on the screening process.

Courtesy of: Cancer Care Ontario

TYPES OF COLON POLYPS

Colon polyps can be categorized by shape and/or type.

**Polyp Shapes**

There are two different polyp shapes: pedunculated and sessile. **Pedunculated polyps** mushroom-like growths that are attached to the colon or rectal lining also known as the mucous membrane by a long, thin stalk called a peduncle. **Sessile polyps** are flat and slightly raised. Without the stalk, sessile polyps lie flat against the colon’s mucous membrane. Sessile polyps are harder to detect in colorectal cancer screening due to the flatness of the polyp. Both polyp shapes have the ability to become cancerous.
Polyp Types

Hyperplastic polyps are small (less than 0.5 cm) with low to no risk of developing into cancerous cells. They are found in the rectum.

Adenomatous polyps make up approximately 70% of all polyps and can develop into cancerous cells. These polyps can be further categorized based on their growth pattern viewed under a microscope by a pathologist.

- **Tubular Adenoma** are the most common type of adenoma polyp and can be found anywhere in the colon. This growth pattern is commonly seen in smaller adenomas (less than ½ inch) and grow in a tube shape.

- **Villous Adenoma** are the most serious adenoma polyps and are most likely to be cancerous. The risk increases as the poly gets larger and can be found anywhere in the colon or rectum. This growth pattern is commonly seen in larger adenomas and grow in a shaggy, cauliflower-like shape. They can also resemble a sessile (flat) shape making it harder to remove.

- **Tubulovillous Adenoma** can be found anywhere in the colon or rectum and the risk of these polyps becoming cancerous are higher than Tubular Adenomas. This growth pattern is a mixture of both tubular and villous adenomas.

- **Sessile Serrated Adenoma** can be found on the colon and rectum. This growth pattern is commonly seen as sessile (flat) with a jagged appearance. These polyps are pre-cancerous (they can turn into cancerous cells) and can become cancerous if left untreated or unremoved.
Inflammatory polyps are typically seen in individuals who have ulcerative colitis (UC), Crohn’s disease, or inflammatory bowel diseases (IBD). These polyps are referred to as pseudopolyps since they are not true polyps. Pseudopolyps develop as a reaction to chronic inflammation of the colon wall. There is little risk of pseudopolyps developing into cancerous cells.

When inflammatory polyps are seen in the colon or rectum, they appear mostly in the rectum and sigmoid colon.

Hamartomatous polyps has a mixture of normal tissue have a markedly distorted architecture. These polyps are typically found in individuals with polyposis syndrome (Peutz Jaeghers, Cowden’s, or Junvenille Polyposis) and have a high risk of developing into cancerous cells. These polyps form a bumpy ball that is attached to the mucous membrane by a smooth stalk.
COLON POLYPS DEVELOPING INTO COLORECTAL CANCER

The risk of polyps becoming **malignant** (the ability of cancerous cells spreading to other tissues and organs) increases as the polyp size and degree of villous component increases. The villous component refers to the finger-like projections on the mucous membrane.

Benign polyps are non-cancerous cells but can grow through some or all the tissue layers of the colon and/or rectum becoming malignant. The malignant cells will eventually break away from the tumour and travel through the blood to invade other tissues in the body.

**Illustration of the Stages of a Growing Polyp**

![Illustration of the Stages of a Growing Polyp](https://www.health.harvard.edu/diseases-and-conditions/they-found-colon-polyps-now-what)

*Courtesy of: Harvard Health*