

## **Teaching Handout For Colonoscopy**

This patient education handout is intended to help patients and their families learn more about their medical conditions, the options available to them and the possible consequences of their decisions. This information is not intended to be used for diagnosis, or treatment, of any specific individual. Please consult with your physician regarding your particular circumstances.

### **Your Colon:**

Let's begin by learning a few things about your colon. The colon is a hollow tube made of muscle that is the last part of your body's digestive tract. A mixture of undigested food and drink enters the colon from the small intestine for processing. In the colon, water and minerals are absorbed leaving solid waste called stool. The rectum stores the stool until it is passed through the anus during a bowel movement. The colon can only feel pain in the form of stretching or inflammation.

### **Benefits of the Procedure:**

Undergoing a colonoscopy has several benefits for you and your continued good health. First, Some of the reasons for colonoscopy include: evaluation of abdominal pain, rectal bleeding, change in bowel habits, blood in the stool, and follow-up of polyps found before. Colonoscopy provides a way for your doctor to see the entire colon and take samples called biopsies, during the examination. Many physicians view colonoscopy as the "gold standard" for colon cancer screening as well as the detection and removal of precancerous colon polyps. Colonoscopy is well tolerated and better at finding smaller polyps than barium enema. Plus, it allows removal of the abnormal tissue immediately and does not have any radiation exposure associated with it.

### **Risks of the Procedure:**

Like any specialized procedure, colonoscopy has associated risks. Your colonoscopy team is highly trained, and fortunately, problems are rare. If you have any questions, please write them down and discuss them with your doctor. The two most serious complications are bleeding and perforation of the colon, but these happen in less than two percent of all colonoscopies performed. Bleeding may occur following any colonoscopy, but is more common if a biopsy is done or a polyp is removed. A small amount of blood after a bowel movement is not unusual, but a larger amount may signify a more serious problem. Bleeding may require another colonoscopy, surgery, or other procedure to control it. Problems associated with the sedating medications may also rarely occur.

### **Pre-Procedure Preparation:**

A preoperative evaluation is necessary prior to colonoscopy. We'll also provide you with detailed information regarding the procedure, make sure that the necessary paperwork is completed, and answer any questions or concerns you might have. If you're taking medications, please review them with your doctor to ask if you should take them before or after the procedure. You'll be placed on a clear liquid diet for a brief time before your colonoscopy. Your doctor will order a specific "prep" for you to begin the day before. Don't eat or drink anything after midnight the night before your procedure.

## **Sedation:**

Sedation is done by giving you medications through an IV which will make you drowsy and decrease any pain. Prior to receiving any medications for the procedure it's important that you tell your doctor about any medical conditions you have or allergies to any medications. Your colonoscopy team will do everything they can to make the procedure comfortable for you within the safe limits of the medications.

## **The Procedure:**

Once you are sedated, assistants will closely monitor you and record your vital signs. Your colonoscopy will be accomplished using specialized instruments. A colonoscope is a long, flexible tube with a light and lens at the tip. By moving dials on the handset, your doctor can turn and twist the colonoscope easily as it's guided through the colon. If abnormal tissue is found during inspection, small samples called biopsies can be taken with a special instrument passed through the scope. Also, if an abnormal growth or polyp is found in the colon it can be removed using other specialized equipment. The doctor will carefully inspect your colon lining and remove any abnormal tissues at this time. The examination generally takes between 30 and 60 minutes to complete.

## **Findings**

During your examination, your physician may identify a variety of findings that vary in their importance. Based on your age, certain endoscopic findings are so common that they are almost expected and may be of no significance. We must all keep in mind that what your physician sees during your procedure must be put in perspective with your overall health to determine the importance and relevance of any endoscopic finding to you as a patient. Endoscopic findings during your colonoscopy can be broken down into four main categories: Growths/Tumors, Inflammation, Abnormal Blood Vessels, and Alterations of Normal Anatomy.

### 1. Growths/Tumors

One of the most common indications for colonoscopy is to evaluate for growths known as *polyps*. A polyp is a growth of tissue that protrudes into the interior of the colon. The vast majority of polyps do not cause symptoms, but large polyps can occasionally cause obstruction or bleeding. Of greatest concern is the potential cancer risk associated with certain types of polyps since not all polyps are the same. Most physicians will subdivide polyps into two main subgroups: neoplastic and non-neoplastic. Both of these types of polyps are benign, meaning that they are not cancerous. However, neoplasia refers to the potential for a polyp to become a cancer; thus, neoplastic polyps represent the precancerous lesions of the colon and have a characteristic appearance that can be identified when examined under the microscope by a pathologist.

The most common neoplastic polyp is referred to as an *adenomatous* polyp, or simply, an adenoma. By identifying and removing adenomas, your physician is reducing your risk for developing colon cancer. A good analogy is that the adenoma is the seed that cancers grow from, and by removing the seeds, we don't give cancer a chance to develop. Unfortunately, it is difficult for your physician to determine a neoplastic (precancerous) polyp from a non-neoplastic polyp just by looking at it with the endoscope. Therefore, it is customary to remove all polyps identified and have them sent to a pathologist for final diagnosis.

Adenomatous polyps generally require regular endoscopic follow up every 3 - 5 years to ensure they were completely removed and that no new adenomas have formed.

The most common non-neoplastic polyp is referred to as a *hyperplastic* polyp. These lesions are usually small and found in 20-30% of people over age 50. They do not have any cancer potential nor do they require any specific endoscopic follow up.

**Cancers** are generally much larger growths than polyps although large adenomas may have a focus of cancer already developing in it. Cancers can form anywhere in the colon and may be present for years before any symptoms appear. Cancerous growths come in many sizes and shapes but can usually be identified because they tend to be large, irregularly shaped, firm, and bleed easily when touched. However, some cancers are less easily identified and may be inconspicuous flat lesions that require a keen eye and good bowel preparation in order to be discovered.

Your physician can remove almost all polyps and occasionally some cancers during your procedure. Techniques employed to remove these lesions depend on their size, shape, and location in the colon. If there are a lot of large polyps, you can expect your physician to be going in and out as many times as needed to clear all the polyps.

## 2. Inflammation

The lining of the colon can become inflamed from a variety of causes and is referred to as *colitis*. Inflammatory processes can usually be grouped under one of three main categories: Infectious, Ischemic, or Idiopathic. Most inflammatory processes that affect the colon appear similar during colonoscopy. The lining of the colon is usually red and irritated, swollen, and bleeds easily when touched. Ulcers may be apparent and may range from very small, shallow ulcers to large, deep ulcers. The appearance and distribution of the inflammation may give your physician some clues as to what is causing it, but this is usually non-specific and needs to be put in perspective with the rest of your clinical scenario. Infectious colitis in adults is predominantly due to bacterial organisms. Ischemic colitis occurs whenever there is poor blood flow to the colon lining and may be caused from atherosclerosis, medications, or rarely, inflammation and narrowing of the blood vessels. Idiopathic colitis is a term that physicians use to refer to a group of processes for which medical science has no definite explanation for what is causing the inflammation.

## 3. Abnormal Blood Vessels

One very common finding during colonoscopy is **hemorrhoids**, or “piles.” Hemorrhoids are masses of veins in the anal canal that arise from congestion and stagnation of blood flow in the normal veins of the anus. Bleeding, pain and irritation, and protrusion from the anus are common symptoms of hemorrhoids. Most hemorrhoids may be treated with high fiber diets, stool softeners, and avoiding prolonged sitting on the toilet. If they are particularly problematic, they may require surgical treatment. Another common vascular abnormality encountered during colonoscopy is **angiodyplasia**. These are usually small abnormal veins in the lining of the colon that are seen with increasing frequency in older patients. Angiodyplasias are benign lesions that are usually asymptomatic but can cause both acute and chronic bleeding. Treatment is only warranted if they are proven to be the cause of bleeding resulting in anemia or if recurrent bleeding requires blood transfusions. Treatment most commonly involves endoscopic cauterization of the abnormal blood vessels, but rarely may require surgery.

#### 4. Alterations of Normal Anatomy

Probably the most common acquired deformity of the colon is *diverticulosis*. The basic abnormality in diverticulosis is small outpouchings of the lining of the colon through the bowel wall. Diverticulosis is extremely common in the Western world and is seen with higher frequency in older patients. It is not reversible but fortunately only about 20% will develop any significant symptoms. Diverticulosis can be a cause of significant intestinal bleeding and also may become infected leading to abscess formation, bowel obstruction, and even peritonitis. Diets low in fiber are thought to be one of the leading predisposing factors to the development of diverticulosis; thus, increasing dietary fiber is one of the mainstays of therapy.

*Strictures* represent a fixed, focal narrowing of the colon and may be the result of cancers or other growths, scarring from inflammation or ischemia, or external compression from something outside the colon. Strictures may impede the flow of stool and result in abdominal pain, bloating, and alterations in bowel movements. Treatment may consist of dilating the narrowing with instruments passed through the endoscope or by surgery.

*Anal fissures* are small tears in the lining of the anal canal. Most anal fissures result from the trauma of passing a large firm stool and can usually be avoided by consuming a high fiber diet. Fissures are usually painful (burning or tearing), especially during bowel movements, and may also be a cause of anal/rectal bleeding. Fissures can often be managed by dietary fiber (bulking) agents, sitz baths, and a tincture of time. Rarely, surgery is required for chronic fissures.

#### **Post-Procedure Care**

After your procedure has been completed, your vital signs will be monitored until you are awake and fully recovered. Expect to pass a lot of gas. You will stay in the recovery area until you are awake and stable. The doctor will then review with you any findings that were noted. You should discuss when to resume taking any medications you might have. After being discharged, take it easy that day and don't do anything strenuous. Don't expect to return to work that day. Continue drinking plenty of water and avoid caffeine products or anything that will produce more gas or cramping. Otherwise resume your normal diet.

If you experience any of the following, seek medical attention.

- An elevated temperature
- Abdominal swelling or firmness
- Excessive pain or bleeding

Thank you for taking the time to learn more about colonoscopy.

Remember, YOU are the most important member of your health care team!