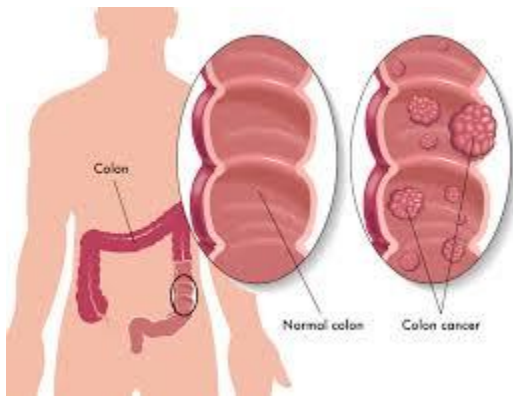


Preventive medicine series: Colonoscopies

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In this country, colon cancer, also known as colorectal cancer, is the second leading cause of cancer death (1). About one in three people who develop the disease die of it. Ninety percent of colon cancer cases are in those over the age of 50, and the risk increases with age.

A simulation model called the MISCAN-Colon inferred that screening accounted for the large reduction in deaths from the cancer: a reduction by over half (2).

Most colorectal cancers arise from polyps, typically adenomatous polyps, or simply, adenomas. These start as small lesions in the colon that become large and then develop into cancer. During a colonoscopy, these polyps are removed, thus preventing their progression to cancer. The time it takes for this type of polyp to turn to cancer is approximately 10 years. This implies that colon cancer is generally a slow-growing cancer and most often is easy to catch early.

The risk of colon cancer goes up in those who are inactive, consume large amounts of red meat, who are obese, smoke, and use excess alcohol.

There is a decreased risk with multivitamins containing folic acid, aspirin use, postmenopausal hormone use, and importantly, consumption of foods high in fiber such as fruits and vegetables.

The American Cancer Society and the United States Task Force on Colorectal Cancer has set guidelines that recommend colon cancer screening starting at age 50, such as with colonoscopy, as well as annual fecal blood testing (eg, digital rectal exam with a check for blood).

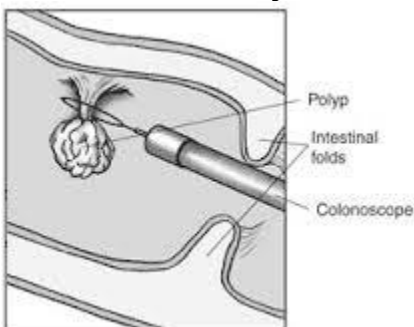
If a patient is at higher risk for colon cancer (eg, first-degree relative with colon cancer), screening should begin earlier. Most colonoscopies, if normal, are repeated in 10-year intervals. But if a patient has polyps or a positive family history, then more frequent surveillance occurs, such as every three to five years.

Most people who have gone through a colonoscopy will share that the procedure itself is not as aggravating as the preparation. The day before the test, one is supposed to drink a liquid which causes watery diarrhea. This cleans out the colon so the doctor, usually a gastroenterologist, can adequately see the lining of the intestine. Usually a clear liquid diet for a day is recommended also.

On the morning of the test, most medications can be taken as usual. The exceptions may include blood thinners, aspirin, arthritis medicine, and short-term insulin.

Prior to the procedure, an IV is started and the patient is set up for monitoring of the heart rhythm, blood pressure, and oxygen level. The patient is given IV medicine to make him sleepy and reduce pain, then laid on his left side. Most people are given just enough medicine so they do not recall details during the test. Others may feel a pressure or bloating sensation or cramping as the colonoscope (also known as simply, the 'scope') is passed through.

The doctor and nurse advance the colonoscope all the way to the right side of the large intestine and once reached, the scope is slowly withdrawn. This is when the lining of the colon is carefully examined using the camera on the end of the scope.



If a polyp or area of concern is noted, a biopsy forceps can be passed through the channel in the colonoscope and a sample of the tissue can be obtained. If the procedure is being done to identify a source of bleeding and that source is found, the area can sometimes be cauterized and controlled during the colonoscopy also. If infection is suspected, a biopsy can also be obtained for culturing of bacteria.

Afterwards, the patient is kept in an observation area until the effects of the anesthesia wear off. Residual bloating is usually alleviated by passing gas. Because of the sedation of the anesthesia, you cannot drive for the rest of the day. Your reflexes and judgement may be impaired for the day. Usually, normal eating patterns can be resumed once home.

A colonoscopy is advantageous because it is highly sensitive as well as specific. The abnormal lesions can be removed immediately and removing polyps actually prevents their progression to cancer.

The disadvantage is that, as an invasive test, it requires sedation and a vigorous bowel preparation. The procedure carries a very small risk of bowel perforation and bleeding in 1 in 1,000 people.

There are other screening tools for colon cancer, each with their own advantages and disadvantages. A stool guaiac test can be done in the office after a digital rectal exam and checks for blood in the stool. This is a quick and inexpensive test but there are several false-positive results, all of which require follow-up, often with a colonoscopy. Fecal immunochemical testing and stool DNA testing (also known as Cologuard) is available to check for biomarkers indicating cancer.

Barium enemas are used, sometimes in those who are a poor candidate for a colonoscopy, to visualize the large bowel and are relatively safe.

With each of these other tests, if there are abnormalities seen, the patient usually requires a colonoscopy to directly visualize the site in question and obtain a biopsy. So, in thinking about initial noninvasive screening tests, one must also consider that these other screening tools often are followed by a colonoscopy regardless, and thus, two tests are then done instead of just the one.

Similar to a colonoscopy, a flexible sigmoidoscopy is entered into the colon and can directly visualize polyps and masses and often requires less patient preparation. But it only advances to half the large intestine and does not visualize the first part of it. So, if there is a cancerous lesion or problem source in the beginning part of the large intestine, it can be missed.

Colorectal cancer screening entails an ongoing program of appropriate testing and follow-up. One-time testing with a colonoscopy, for example, is insufficient as the

incidence of the disease continues to rise with age. Moreover, patients who may be at first screened with other tests must keep in mind that he or she may then require a colonoscopic evaluation of polyps or other abnormal results.

REFERENCES:

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- 2. Edwards BK, Ward E, Kohler BA, et al. Annual report to the nation on the status of cancer, 1975-2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening, and treatment) to reduce future rates. Cancer 2010; 116:544.*

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