

Featured Doctor



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What is New?

DIGESTIVE CARE

physicians are among the first nationwide to attest for CMS's Meaningful Use which speaks to the Group's commitment to utilizing technology as a means for providing excellent care to our patients in a streamlined and cost effective manner.

Use of an electronic medical record (EMR) is intended to streamline the process of care among practitioners, disciplines and specialties. [Digestive CARE](#) has been utilizing an EMR for over four (4) years and continues to make improvements to the system such as most recently opening a patient portal where patients can view their medical record and communicate directly with their physician and physician's office for a variety of tasks.

Screening for Colon Cancer

Ronen Arai, M.D.

COLON CANCER strikes almost 150,000 individuals in the USA every year. It is the 3rd most common cause of cancer death in this country in both men and women. National efforts aimed at colon cancer prevention have focused on modifiable personal risk factors – obesity, diets rich in fats and red meat, and smoking have all been found to be highly associated with an increased risk of developing colon cancer. Non-modifiable individual risk factors include a family history of colon cancer or polyps and a personal history of inflammatory diseases of the bowel (Crohn's disease and ulcerative colitis). Over the past 30 years, in an effort to limit the number of new cases of colon cancer, screening of the population for this disease was initiated. As a result of these efforts, the number of new cases of colon cancer per year has started to drop. The focus of this article will be the various methods currently available for colon cancer screening.

The development of colon cancer is generally a slow process whereby small pre-cancerous growths (polyps) in the lining of the colon enlarge over several years before becoming cancerous and invading through the colon to other organs. Within the guidelines for colon cancer screening are options available both for the *prevention* of cancer by screening for pre-cancerous polyps in the colon and for the *detection* of colon cancer in its early stages when it is localized and most curable. Unlike the case in lung, prostate, and breast cancer where the focus is on early *detection* of cancer to reduce mortality, the prime strategy in colon cancer screening is *prevention* via the detection and removal of the pre-cancerous polyps to reduce the future development of cancer.

National guidelines formulated by the American Cancer Society and the US Preventive Services Task Force specify who needs to be screened for colon cancer. Current guidelines recommend that all adults age 50 and over be screened. Colon cancer affects both males and females equally. Some studies also suggest that African-Americans should begin screening at age 45 due to concerns of faster polyp progression to invasive cancer in that population. Other individuals who should also initiate screening at younger ages include those with a significant family history of colon cancer, those with inherited colon polyp syndromes, and those with Crohn's disease of the colon or ulcerative colitis.

The various methods available for colon cancer screening can be divided into groups based on their invasiveness and effectiveness. The least invasive tests include checking the stool for occult (minute traces of) blood and for abnormal DNA. These tests have generally been done on a yearly basis (although the recommended interval in the case of stool DNA is uncertain). Although these tests are easy to perform, their effectiveness is limited to the *detection* of colon cancer. Their ability to diagnose polyps prior to their development into cancer is very low and thus they are not recommended for patients primarily concerned about colon cancer *prevention*.

The invasive screening exams for colon cancer include the radiologic procedures barium enema and CT colonography (also known as virtual colonoscopy), and the endoscopic procedures flexible sigmoidoscopy and standard colonoscopy. Barium enema, which has been available for many decades, is performed by a radiologist and involves the instillation of barium contrast into the rectum to outline the colon followed by x-ray pictures to look for abnormalities in the lining of the colon. In current guidelines, barium enema is recommended as a colon cancer *prevention* test every 5 years. Although fairly accurate at detecting colon cancers, barium enema has fallen...

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out of favor due to the discomfort associated with it (sedation is not used), and its low accuracy in detecting small cancers and most polyps. CT colonography (virtual colonoscopy) is a relative newcomer to the field of colon cancer screening with most studies being conducted in the past 10 years. This procedure also involves the instillation of barium contrast into the rectum (sedation is not used) and is followed by a CT scan that allows for a more accurate 3-dimensional reconstruction of the colon that is reviewed by a radiologist. In some pivotal research studies, CT colonography demonstrated accuracy for detecting polyps and colon cancer that rivaled that of standard colonoscopy. As a result, CT colonography received approval in the most recent screening guidelines as a colon cancer *prevention* test to be performed every 5 years. However, significant issues and controversies with this technology have kept it from widespread use: These include a wide variation in polyp and cancer detection depending on the experience of the radiologist interpreting the exam, the concern for excessive radiation exposure, the tendency for radiologists to ignore very small polyps, the need for a subsequent procedure (standard colonoscopy) to remove any polyps detected, and the current lack of coverage for this test for screening by Medicare and most insurance plans.

The endoscopic options available for colon cancer screening include flexible sigmoidoscopy and standard colonoscopy. Flexible sigmoidoscopy uses an endoscope to visually examine the lower 1/3 on the colon to detect polyps and cancer. Sedation is generally not used, but a bowel prep to remove stool from the lower colon is necessary before the exam. The excellent results from studies in the 1980's with sigmoidoscopy in detecting and removing even small polyps led to its approval as a colon cancer *prevention* test to be performed every 5 years. Subsequently, studies in the 1990's focused on extending those results and visually examining the entire colon via a longer colonoscope. Colonoscopy requires a more thorough pre-exam prep to completely clean the colon of stool. Sedation is used due to the potential discomfort associated with advancement of the endoscope to visualize the colon. There is a very small (under 1 in 1,000) risk for perforation of the colon with this procedure. Colonoscopy is the only screening option available that allows for a simultaneous diagnostic examination of the entire colon and the therapeutic removal of any detected polyps. Colonoscopy also allows for biopsy of any colon cancer that is detected. These benefits of colonoscopy have led to it becoming the colon cancer screening exam of choice for most individuals and it is recommended as a colon cancer *prevention* test to be performed every 10 years for most individuals at average risk for colon cancer.

In summary, there are several testing options available for colon cancer screening. The simpler, less invasive tests function better in cancer detection and are less effective in prevention. The more accurate preventive tests are also more complex. Each individual should consider the options available, discuss their relative pros and cons with his/her physician, then make a decision regarding the test most appropriate for him/her. The important concept to keep in mind is to get screened, as screening for colon cancer is proven to be an effective strategy to lower the risk of developing this potentially deadly disease.

Recommended Online References

<http://www.cancer.org/Cancer/ColonandRectumCancer/MoreInformation/index>

<http://www.cdc.gov/cancer/colorectal/statistics/index.htm>

<http://www.acg.gi.org/patients/patientinfo/coloncancer.asp>

<http://www.gastro.org/patient-center/digestive-conditions/colorectal-cancer>



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