



PrevaHealth  
WELLNESS DIAGNOSTIC CENTER

## Understanding Virtual Colonoscopy

The colon, with the stomach, comprises the body's major organs of digestion by which food is transformed into products the body can use to sustain itself. The gastrointestinal tract is one of the largest organs in the body, often extending over 30 feet from the stomach to the rectum. By virtue of its size and function, the colon is particularly susceptible to various diseases that, if not detected early, can be debilitating and often fatal.

When initiated in its early stages, the success of colon cancer treatments is very promising. Until recently, however, the most common diagnostic tool has been colonoscopy which involves the rectal insertion of an endoscope. The patient is subjected to a severe and unpleasant diet, ingests an unpleasant 'milkshake' and is sedated during the procedure. This process presents risks attendant to the sedation as well as the small possibility of perforation of the bowel. These risks are usually justified in the case of the high-risk patient. For the patient in the intermediate risk category, however, the procedure is sufficiently unpleasant that only about 20-30% of individuals who should have colon screening actually have it performed.

### Identifying the Problem

Colon cancer is the most common cause of cancer-related death in non-smoking Americans and the second most common cause of cancer-related deaths in smokers (behind lung cancer). The American Cancer Society estimates that this year there will be about 98,200 new cases and 48,100 deaths from colon cancer and 37,200 new cases and 8,600 deaths from rectal cancer.

Symptoms of colon cancer (rectal bleeding, abdominal pain, constipation, diarrhea, and weight loss) are usually apparent only in advanced stages of the disease. Survival can be improved if the disease is detected in its earliest stages although most people that have early colon cancer have no symptoms and feel fine. Precursor lesions, commonly colon polyps or small adenomas, generally precede the development of cancer by several years to a decade or more. Because 75% of the incidence of colon cancer is found in those at "average" risk, and age is the most important risk factor, most physicians recommend commencing screening at least by age 50 and even at an earlier age if there is a family history of premature colon cancer.

### Who is at risk?

Individual risk factors for developing colon cancer include: a family history of colorectal cancer, a personal history of colon polyps or inflammatory bowel disease, age over 50 (75% of colorectal cancers occur in those with no family or personal history and age is considered the most important risk factor), consistent diet high in fat (especially from animal sources), physical inactivity and obesity, and smoking (30%-40% more likely than non-smokers).

Survival rates from colorectal cancers are dictated by the pathologic stage of the disease when found. Survival is greater than 90% when cancers are limited to the bowel wall at the time of diagnosis. Once the cancer has spread to other organs or to the lymph nodes, the 5-year survival rate goes down to 65%. For individuals in whom the colorectal cancer has spread to distant sites such as the liver or lungs, the 5-year survival rate is dismal at about 8%. Quite simply, early detection is vital.

## **What can be done?**

“Virtual” colonoscopy (VC) using the EBT e-Speed™\* scanner exclusively available in Ohio at the PrevaHealth Wellness Diagnostic Center, is rapidly emerging as the screening tool of choice for the early detection of colon polyps and cancers. The test preparation is gentler than standard colonoscopy, no sedation or drugs are needed and the patient can return to home or work immediately after completion of the study. Moreover, there is no risk of perforation of the bowel or reaction to the anesthetic.

Virtual Colonography is a non-invasive imaging method involving multiple, thin x-ray sections through a CO<sub>2</sub> distended colon. It requires two sets of images, each done in about 30 seconds. Radiation exposure using EBT is on the order of 20% that of standard CT. Specialized computer software constructs 2-dimensional and 3-dimensional “endo-luminal” views of the colon for review by a specially trained radiologist or endoscopist. Compared with direct colonoscopy using the flexible endoscope, Virtual Colonoscopy is considered by many as equally effective, offering 90-95% sensitivity for 10 mm or greater polyps and 90% sensitive for 6-9 mm or larger adenomas. More important, however, is that because it is gentler to the patient, more are likely to have this life saving test.

*At PrevaHealth we use the innovative EBT e-Speed™ technology for our unique high resolution, low radiation Virtual Colonography. This information serves as the starting point for working with you and your doctor to design a personalized “HealthPATH” specifically for you.*

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\* \* The EBT e-Speed™, was developed by General Electric, the world leader in medical imaging and is exclusively available In Ohio and it’s surrounding states at the PrevaHealth Wellness Diagnostic Center