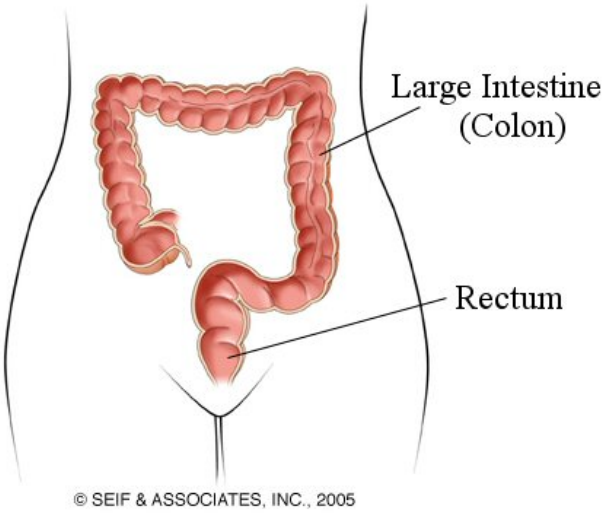
Virtual Colonoscopy

Virtual colonoscopy (VC) uses x rays and computers. They produce two and three dimensional images of the large intestine (*colon*) from the lowest part, the rectum, all the way to the lower end of the small intestine and display them on a screen. The procedure is used to diagnose colon and bowel disease, including polyps, diverticulosis, and cancer. VC can be performed with computed tomography (CT), sometimes called a CAT scan. Or it can be done with magnetic resonance imaging (MRI). Both of these are specialized forms of x-rays.



VC PROCEDURE

Preparations for VC vary. But you will usually be asked to take laxatives or other oral agents at home the day before the procedure. This is to clear stool from your colon. You may also be asked to use a suppository. This is to cleanse your rectum of any remaining fecal matter.

VC takes place in the radiology department of a hospital or medical center. The exam takes about 10 minutes and does not require sedatives.

During the procedure

- The doctor will ask you to lie on your back on a table.
- A thin tube will be inserted into your rectum. Air will be pumped through the tube to inflate the colon for better viewing.
- The table moves through the scanner to produce a series of two-dimensional cross-sections along the length of the colon. A computer program puts these images together to create a three-dimensional picture that can be viewed on the video screen.
- You will be asked to hold your breath during the scan to avoid distortion on the images.
- The scanning procedure is then repeated with you lying on your stomach.
- After the examination, the information from the scanner must be processed to create the computer picture or image of your colon. A radiologist evaluates the results to identify any abnormalities.
- You may resume normal activity after the procedure. But your caregiver may ask you to wait while the test results are analyzed. If abnormalities are found and you need a conventional colonoscopy, it may be performed the same day.

CONVENTIONAL COLONOSCOPY

In a conventional colonoscopy, the health care professional uses a colonoscope. This is a long, flexible, lighted tube (something like a flexible telescope). It is inserted into the patient's rectum. He/she slowly guides it up through the colon. Pain medication and a mild sedative help the patient stay relaxed and comfortable during the 30- to 60-minute procedure. A tiny camera in the scope transmits an image of the lining of the colon. The doctor can examine it on a video *monitor* (like a television screen). If an abnormality is detected, he/she can remove it. Or the caregiver may take tissue samples (a *biopsy*) using tiny instruments passed through the scope.

ADVANTAGES OF VC

VC is more comfortable than conventional colonoscopy for some people. This is because it does not use a colonoscope. No sedation is needed. You can go home and return to your usual activities after the procedure without the aid of another person. VC provides clearer, more detailed images than a conventional x ray using a barium enema. This is sometimes called a lower gastrointestinal (GI) series. VC also takes less time than either of the other tests.

DISADVANTAGES OF VC

The doctor cannot take tissue samples or remove polyps during VC. So a conventional colonoscopy must be performed if abnormalities are found. Also, VC does not show as much detail as a conventional colonoscopy. So abnormal growths (*polyps*) smaller than 10 millimeters in diameter may not show up on the images.

FOR MORE INFORMATION

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