

# Virtual Colonoscopy

*National Digestive Diseases Information Clearinghouse*



National  
Institute of  
Diabetes and  
Digestive  
and Kidney  
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Virtual colonoscopy (VC) uses x rays and computers to produce two- and three-dimensional images of the colon (large intestine) 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 with magnetic resonance imaging (MRI).

## VC Procedure

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

VC takes place in the radiology department of a hospital or medical center. The examination 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, and 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, although your doctor may

## Conventional Colonoscopy

In a conventional colonoscopy, the doctor inserts a colonoscope—a long, flexible, lighted tube—into the patient's rectum and 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, so the doctor can examine it on a video monitor. If an abnormality is detected, the doctor can remove it or take tissue samples using tiny instruments passed through the scope.

For more information about conventional colonoscopy, please see the *Colonoscopy* fact sheet from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).



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ask you to wait while the test results are analyzed. If abnormalities are found and you need conventional colonoscopy, it may be performed the same day.

## Advantages of VC

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

## 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 polyps smaller than 10 millimeters in diameter may not show up on the images.

## For More Information

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The National Digestive Diseases Information Clearinghouse (NDDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health under the U.S. Department of Health and Human Services. Established in 1980, the clearinghouse provides information about digestive diseases to people with digestive disorders and to their families, health care professionals, and the public. NDDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about digestive diseases.

Publications produced by the clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This fact sheet was reviewed by Douglas K. Rex, M.D., Indiana University School of Medicine.

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This fact sheet is also available at [www.digestive.niddk.nih.gov](http://www.digestive.niddk.nih.gov).



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