



Virtual Colonoscopy: Frequently Asked Questions about CT Colonography

1. What is CT colonography?

CT colonography, often referred to as “virtual colonoscopy,” is a CT scan x-ray test designed to simulate colonoscopy to look for large colon polyps and cancers. This test has been recommended in people without symptoms to screen for colon polyps and cancers.

2. What happens during a CT colonography?

First, a radiology technician inserts a tube into your rectum and gas is pumped into the colon until it is fully expanded. Then you are asked to hold your breath while lying on your back and a CT scan is performed. You then turn over onto your stomach and again hold your breath while a second CT scan of the abdomen and pelvis is performed.

3. Does it require bowel cleansing (laxatives)?

Yes. The bowel-cleansing regimen is the same as that for colonoscopy. On the day before the procedure, you stay on clear liquids all day and on the evening before and the morning of the procedure, laxatives are taken to flush waste from the colon.

4. Is CT colonography painful?

Because no sedation is used, the expansion of the colon with gas can be painful. In some studies, patients reported more pain and discomfort with CT colonography than with a colonoscopy. Colonoscopy may be more comfortable because sedatives are given during the examination.

5. What happens after the test?

The radiologist will examine the colon and other structures within the pelvis and abdomen and generate a report for the physician who ordered the test. Sometimes information about polyps in the colon is known immediately. If so, some radiology centers and endoscopy units are equipped to perform colonoscopy and remove the polyp on the same day without having to repeat the bowel preparation. If not, colonoscopy will need to be performed another day after the bowel is cleansed.

6. What are the advantages of CT colonography?

CT colonography is less invasive than colonoscopy. It has a lower risk of perforation of the colon. CT colonography is typically performed without sedation, so no driver is needed. CT colonography occasionally identifies an important abnormality outside of the colon, such as a large abdominal aortic aneurysm or a possible cancer.

7. How accurate is CT colonography?

According to the most recent large study performed in the United States, CT colonography is 90% sensitive for the detection of patients with a polyp 1cm or larger in size. These large polyps constitute about 10% of all colorectal polyps and are the most likely to develop into cancer. For polyps less than 1cm in size, the sensitivity of CT colonography falls off rapidly. For polyps 6 to 9mm in size the sensitivity of CT colonography is well below 90%. For polyps 5mm and smaller, which constitute about 80% of all precancerous polyps in the colon, CT colonography is unreliable. Radiologists are currently advised to not attempt interpretation of polyps 5mm and smaller in size. CT colonography also produces a considerable number of “false positives.” This means that if a radiologist finds a polyp on CT colonography, there is a less than 50% chance that a polyp is actually present at the colonoscopy.

8. How often is a colonoscopy needed to remove polyps?

The older the patient, the greater the chance that a polyp will be detected that requires a complete colonoscopy. In the hands of the best CT colonographers, about 12% of patients undergoing CT colonography will require colonoscopy and polypectomy, but in older populations this number increases to 20 to 25%.

9. Is CT colonography paid for by insurance?

Currently, CT colonography is usually paid for if a colonoscopy is unable to be completed, or when cancer is detected by colonoscopy and the cancer blocks passage of the colonoscope. The Center for Medicare and Medicaid Services recently decided to not cover CT colonography for screening for Medicare patients. Some private insurers currently cover CT colonography for screening, so you should check with your insurer.

10. How often should CT colonography be repeated?

CT colonography is currently recommended at 5 year intervals if the study is normal. Colonoscopy is recommended at 10 year intervals. The difference in intervals between the two tests is accounted for CT colonography’s lack of efficacy at detecting small colon polyps, and current uncertainty about how often these polyps will turn into cancer.

11. Are there risks to CT colonography?

The immediate risks of CTC include a small rate of perforation related to gas distension, which is lower than the risk from colonoscopy. Potential long-term risks include missing small polyps that could develop into cancer. The risk from radiation exposure is uncertain. The radiation dose from a CT colonography is equivalent to several hundred chest x-rays. One expert estimated that a 50 year old patient undergoing CT colonography would have a 1 in 714 chance of developing a solid tumor from radiation. This risk is substantially higher than the risk of perforation from colonoscopy. The U.S. Preventative Services Task Force cited radiation risk as one of the factors underlying their decision to not endorse CT colonography as a colorectal cancer screening test. The final risk pertains to findings seen on CT scan outside the colon, which usually are incidental and of no significance. However, they often lead to the significant inconvenience, cost, and risk of additional follow-up x-ray tests to further characterize these incidental findings.