

# Accuracy, Safety of CT Colonography Examined

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ORLANDO, FLA. — Important issues remain unresolved regarding the accuracy of CT colonography, or virtual colonoscopy, and how it might influence the use of conventional colonoscopy in clinical practice, Douglas K. Rex, M.D., said at the annual meeting of the American College of Gastroenterology.

Clinical studies of CT colonography have had mixed results. Only one of the four major published studies has reported that CT colonography has sensitivity and specificity similar to that of colonoscopy (N. Engl. J. Med. 2003;349:2191-200). It is



Insurance providers do not cover colorectal cancer screening with CT colonography.

DR. REX

essentially "impossible" to assess why that study obtained better results than the other three, because the researchers in each of the studies used substantially different methods to perform CT colonography. Participating doctors in the studies also had different levels of experience in using the screening technique, noted Dr. Rex, outgoing president of the American College of Gastroenterology (ACG).

Other factors related to CT colonography may drive some patients away from choosing the screening test. Some patients may not like CT colonography because lesions detected during the procedure cannot be removed at the time they are discovered, unlike with colonoscopy.

Radiation may pose too high a risk to patients if CT colonography becomes the primary screening test. In fact, a poster abstract presented by Douglas O. Faigel, M.D., at the meeting estimated that if CT colonography were to become the primary screening test, 25 patients per 100,000 screened would die from radiation, compared with no patients per 100,000 if colonoscopy was the primary screening test.

The high up-front costs for CT colonography machinery and software also present a barrier to increased use of the screening modality.

Currently, patients who undergo CT colonography receive a thorough bowel preparation comparable with that of colonoscopy. As long as bowel preparation is necessary for CT colonography, some patients will choose CT colonography while many others still will choose colonoscopy, said Dr. Rex, director of endoscopy at Indiana University Hospital, Indianapolis.

But any effect that improves the relative acceptability of CT colonography to people also might affect adherence to screening recommendations and replace the current standard of colonoscopy. A recent study showed that CT colonography is sensitive and specific in detecting colorec-

tal polyps when patients ingest an iodinated contrast agent that tags feces so that physicians can later subtract stool from the image without any special bowel preparation (Gastroenterology 2004; 127:1300-11). Improvements such as this "could drive patient preferences" for CT colonography, Dr. Rex said.

Several questions about CT colonography remain unanswered:

► Will it increase adherence to colorectal cancer screening recommendations?

Currently, about 40% of the U.S. population eligible to receive colorectal cancer screening follows screening recommendations. If about two-thirds of the population eligible to receive colorectal cancer screening chose to be screened with CT colonography instead of colonoscopy, the number of all colonoscopies performed in the United States would decrease by 20%, according to a recently published model presented at the 2004 Digestive Diseases Week (Gastroenterology 2004;127:1312-

21). It suggested that the current level of adherence to colorectal cancer screening recommendations would have to increase by 77% to maintain the current number of colonoscopies performed in the United States.

But another study showed that patients do not differ in their adherence to screening recommendations when they can undergo only colonoscopy or CT colonography, or when they are offered a choice between CT colonography and

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colonoscopy (Am. J. Gastroenterol. 2004;99:1145-51).

► What cutoff size for polyps detected by CT colonography should be used to refer patients for polypectomy during colonoscopy?

Some endoscopists have proposed a cutoff size of 1 cm for polyps even though a minority of sporadic colorectal adenomas will progress to invasive cancer.

The ACG has stated that patients with polyps 6 mm or larger or who have three or more adenomas of any size should be offered colonoscopy. This recommendation came from data on the histology of these polyps in older studies, wherein 1%

of polyps 6-9 mm had invasive cancer and 4% had high-grade dysplasia. No recent studies have examined the histology of small polyps.

Little is known about the natural history of small polyps when they are left for observation.

In a study of 116 polyps, those 6-9 mm changed little in size during a 3-year observation period before they were removed, Dr. Rex said.

The paucity of data on the natural history of small polyps makes it hard for endoscopists to believe that "without histology, people are going to accept that they have a normal exam," Dr. Rex said. These

patients are actually more likely to undergo additional testing that imparts more cancer and radiation risks and the costs associated with them.

About 30%-40% of patients with three or more adenomas detected by CT colonography may be referred for a colonoscopy, compared with about 10% of patients who have a 1-cm or larger polyp detected by CT colonography, Dr. Rex said.

If CT colonography becomes well established as a result of additional studies that prove its effectiveness, gastroenterologists will be well-suited to read the 3-D fly-throughs of the colon created dur-

ing CT colonography; many internal medicine subspecialists read their own radiology or ultrasound tests, Dr. Rex added.

Colorectal cancer screening with CT colonography currently must be performed with a high volume of patients to offset the major capital investments in CT colonography equipment. Insurance providers do not cover colorectal cancer screening with CT colonography, since no permanent CPT code exists yet for the test. Most parts of the country don't have a large enough population to make CT colonography screening feasible at the moment, he said. ■

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