# 'Virtual' Exam as Effective As Standard Colonoscopy

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A "virtual" colonoscopy, a high-tech computerized X-ray scan, can catch precancerous growths as reliably as conventional exams in which a long tube with a camera is snaked through the colon while the patient is under anesthesia, researchers reported yesterday.

The largest study to directly compare the two tests found that the new technique spots polyps, which can become cancerous, at least as well as colonoscopy, and perhaps better, indicating it would provide a powerful tool to reduce the toll from one of the top cancer killers.

"Colon cancer is a largely preventable disease – we just have to get people through the door to get screened," said Perry J. Pickhardt, an associate professor of radiology at the University of Wisconsin Medical School in Madison, who tested the new approach. "This could help do that. It's an exciting time. We could save countless lives."

Colon cancer strikes about 105,500 Americans each year and kills more than 57,000, making it the second leading cancer killer, after lung cancer. If caught early it is highly curable, so doctors recommend regular colonoscopies beginning at age 50.

Many people, however, avoid the procedure. Only about a third of people who should get a colonoscopy or some other kind of screening for colon cancer do so, and only about 37 percent of colon cancers are diagnosed before they have spread.

Virtual colonoscopy allows people to avoid the invasive exam, which has a small but dangerous risk of piercing the colon. People still have to go through the unpleasant task of purging their digestive systems the night before, but the virtual test requires no anesthesia or sedation. That means patients do not need to take additional time off work or have someone drive them home.

"There's no recovery time. It doesn't require intravenous sedation or analgesia. Patients can basically go back to work right after they have the virtual colonoscopy," Pickhardt said.

A virtual colonoscopy involves a CT scan of the abdominal area. CT, or computed tomography, uses special X-ray equipment to obtain a series of cross-sectional pictures of the inside of the body from different angles. A computer program assembles the images into what looks like a film, moving through the length of the colon.

Doctors can watch the images on a computer screen, looking for signs of a polyp. If one is found, the patient would immediately be referred for a standard colonoscopy, during which the polyp might be removed so it could be examined by a cancer specialist.

In recent years, many radiologists have begun using an earlier version of the new technique. But studies comparing that test with standard colonoscopy have produced mixed results, with the high- tech approach often appearing more likely to miss polyps.

Pickhardt and his colleagues used what they consider to be a superior technique that, among other things, produces images in three dimensions instead of just two.

"It might seem like a minor variation. But it's a paradigm shift," Pickhardt said in a telephone

interview.

When Pickhardt was at the National Naval Medical Center in Bethesda, he and colleagues there and at two other medical centers performed both conventional and virtual colonoscopies on 1,233 adults, most at average risk for polyps.

Overall, the virtual colonoscopy detected more than 90 percent of all significant polyps, performing slightly better than conventional colonoscopy and much better than in previous studies of the virtual technique, the researchers reported in a paper being published in Thursday's issue of the New England Journal of Medicine. It was released early to coincide with a presentation at the annual meeting of the Radiological Society of North America yesterday in Chicago.

For example, virtual colonoscopy detected 92.2 percent of polyps 10 millimeters in diameter and 92.6 percent of those at least 8 millimeters wide. Conventional colonoscopy detected only 88.2 percent and 89.5 percent of such polyps. Virtual colonoscopy caught two malignant polyps, including one that the conventional test missed.

Pickhardt said he hoped the findings would persuade other radiologists to start using the technique, which could easily be adopted with existing equipment. He said he also expected insurance companies to start paying for it. The test costs between $600 and $1,000, compared with about $650 to $850 for a conventional colonoscopy.

"Once this becomes reimbursable by Medicare and other payers, I think you'll see a pretty rapid adoption," Pickhardt said.

Pickhardt and his colleagues have already persuaded insurers in the Madison area to pay for it and are offering it to the general public.

"This may sound . . . dramatic, but to pretty much eradicate colon cancer would be the ultimate goal of widespread screening," he said.

In an editorial accompanying the results in the medical journal, J. Thomas Lamont, chief of gastroenterology at the Beth Israel Deaconess Medical Center in Boston, called the findings "impressive" and said that if the results are confirmed, virtual colonoscopy would be "ready for prime-time."

"I think what we're seeing here is the evolution of a technique and technology that now places it next to regular colonoscopy," he added in a telephone interview. "I'd like to see a big multi-center study to see if doctors in regular practice can come up with the same results."

Douglas K. Rex, president of the American College of Gastroenterology, said the results were encouraging.

"I think it should be verified. One study . . . does not change everything. We've previously seen a very wide range of results. But the bottom line is we should be encouraged. These are good results."