How Often Does Colonoscopy Fail To Detect Polyps?

Cancer of the large intestine or rectum is called colorectal cancer. It is the second leading cause of death from cancer in the United States. Polyps (outgrowths of the wall of the colon) precede most cases of colorectal cancer. Screening procedures can detect and remove polyps before they become cancerous and can also detect cancer early so that it may be cured with surgery. Doctors often use a long flexible tube with a tiny camera on its tip (optical colonoscopy or OC) to look for and remove polyps and early tumors. The OC procedure requires patient sedation and may miss some growths that are hidden behind folds in the colon. Doctors might also use a newer procedure called virtual colonoscopy (VC) to find polyps and early tumors. Virtual colonoscopy uses x-rays and computers to produce 3-dimensional images of the inside of the colon. It takes about 10 minutes and does not require sedation. Recently, researchers have used VC to study how often OC misses polyps.

Why did the researchers do this particular study?
To see how often OC misses colorectal polyps.

Who was studied?
1233 adults without any symptoms who participated in a colorectal cancer screening trial.

How was the study done?
Participants at 3 medical centers had same-day VC and OC procedures. Trained radiologists interpreted the VC images. Highly experienced doctors then performed OC. After examining a section of the colon, doctors were told the VC results. If VC identified a polyp that was not seen with OC, the doctors reexamined that section of the colon closely. The researchers then assessed how often the initial OC examination missed polyps that were seen at reexamination after the doctors knew the VC results. They specifically looked for “missed” polyps that were more likely to become cancerous (adenomas > 6 mm).

What did the researchers find?
Optical colonoscopy done without knowledge of VC findings missed 55 of 511 polyps. Optical colonoscopy missed 12% of the adenomas that measured 10 mm or larger. Twenty-one of these adenomas measured 6 mm or larger. Adenomas missed by OC were usually behind a fold or near the inside edge of the anus. Also, VC missed 14% of the adenomas that measured 6 mm or larger that were detected by OC.

What were the limitations of the study?
The doctors who did the procedures were very experienced, and the VC technology was sophisticated. Less experienced examiners and different VC techniques might miss more polyps.

What are the implications of the study?
Neither OC nor VC is a perfect test for detecting precancerous lesions in the colon, but these 2 examinations are complementary for detection. Each test misses 10% to 14% of adenomas that measure 6 mm or larger.