

# Do you really need a colonoscopy? Other tests may be just as good

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(Medical Xpress) -- Screening for colorectal cancer—that is, cancers of the colon (large intestine) and rectum—is a proven lifesaver. This is partly due to the fact that this is one cancer which screening can actually prevent, since it can lead to the detection and removal of polyps, some of which may progress to cancer.

So why are anywhere from one-third to one-half of Americans over 50 not getting the recommended tests for colorectal [cancer](#)? One reason this screening rate lags behind those for some other cancers may be an overemphasis on [colonoscopy](#) as the screening test of choice in this country.

For years many experts, organizations and media spokespeople (such as Katie Couric) have promoted colonoscopy as the best colorectal screening test. As a result, it has become the most frequently used screening test for colorectal cancer in the U.S. Most doctors today do not even discuss alternatives with their patients.

Offering only colonoscopies discourages some people from getting tested, since they may dread the bowel-cleansing prep (clear liquid diet, strong laxatives and high fluid intake), are scared or embarrassed about the procedure itself, worry about potential complications and/or can't afford its high price. Medicare and private insurance cover colonoscopy (and other screening tests), but that leaves out uninsured people, who are only half as likely to be screened for colorectal cancer as the insured.

Colonoscopy is a good test, though not perfect. You should know your other screening options as well. “Much more screening will be carried out if primary-care providers and the American public are not made to feel that screening tests other than colonoscopy are ineffective,” says Dr. James Allison, professor emeritus of medicine at the University of California, San Francisco, and a leading expert on colorectal cancer screening.

## **Colonoscopy: strengths and weaknesses**

Colonoscopy examines the colon via a flexible scope that transmits the images to a video screen while the patient is sedated. The claim that it is the best screening option has been based on assumptions and expectations about what it can do—allow a doctor to examine the entire colon and rectum and remove [polyps](#) during the procedure. But colonoscopy’s superiority has never been proven in randomized controlled trials (the “gold standard”) comparing its effectiveness to other tests.

Other kinds of studies have suggested that colonoscopy (typically done every ten years if no cancer or polyps are found) doesn’t save more lives than sigmoidoscopy, which examines only the lower part of the colon and is usually done every five years. In some studies, sigmoidoscopy was combined with stool tests (see below). Two large randomized controlled studies comparing colonoscopy with stool tests are underway, but results won’t be available for years.

[Note: In February, a major study on colonoscopy was published in the *New England Journal of Medicine*. It confirmed that colonoscopy, by detecting and removing polyps, can prevent cancer and save lives. In fact, it cut the death rate from the disease by half. But the study was not a randomized controlled study, did not look at colonoscopy as a screening test for the general public, and didn’t compare it to stool tests

or sigmoidoscopy. It included only people with polyps, some of which were detected by these other tests.]

One problem with colonoscopy is that it's less effective in detecting polyps and cancer in the right side of the colon (the upper portion, including the ascending colon and cecum) than the left side. This is because many polyps and cancers in the right side are flat, pale and difficult to identify and remove completely. Also, bowel cleansing may be less complete in the right side of the colon, making detection more difficult there.

Other factors can also reduce colonoscopy's accuracy. For instance, it tends to be less accurate when done comparatively quickly, by less experienced doctors (typically those who are not gastroenterologists) and/or when patients don't prep adequately to empty the colon.

In addition, though colorectal cancer starts in certain adenomas and other polyps, the vast majority of polyps detected and removed (including most adenomas) are harmless. It's estimated that 30 to 50 percent of Americans over 50 have or will develop adenomas, and that between 1 and 10 percent of these polyps will progress to cancer in 5 to 10 years.

Finally, colonoscopy poses a small—but not insignificant—risk of serious complications such as bleeding or colon perforation.

Sigmoidoscopy has some advantages over colonoscopy. It costs only a fraction as much, is quicker and can be done well by primary-care doctors. The prep is simpler, and sedation is usually not needed. But it too misses some cancers, especially since it can't examine the upper portion of the colon. And if suspicious polyps are found, you'll need a colonoscopy to remove them and check the upper colon.

## **Starting with stool**

Not too long ago, annual stool tests were the primary way to screen for colorectal cancer in the U.S. In most countries they still are. Called fecal occult blood tests (FOBT), they detect hidden (“occult”) blood in stool, a possible sign of colorectal cancer. Your doctor gives you a kit to take home; you then provide one to three stool samples to be analyzed, depending on the type of FOBT. You’ll be referred for a colonoscopy if blood is detected.

The standard stool tests are called guaiac tests, named for the compound used on the test cards. The early versions have increasingly been replaced by more sensitive guaiac tests. However, they still often produce false-positive results because of blood that comes from something besides polyps or cancer; certain foods or medications (even vitamin C) can also throw off the results. And they miss some advanced polyps and cancers, especially those that don’t bleed or do so intermittently. That’s why screening should be done every year—repeated testing provides multiple opportunities to identify advanced polyps before they become malignant and early cancers before they become life-threatening.

A 2010 review paper in *Gastroenterology* concluded that annual highly sensitive FOBT is indeed effective at identifying colon cancer and reducing deaths from it. Because it is inexpensive, more people can afford FOBT, so it may save more lives than colonoscopy, according to some analyses. But FOBT is most effective only if people are compliant—take the test annually and do the follow-up tests when necessary.

A more advanced form of FOBT is the fecal immunochemical test (FIT), which is superior in several ways. For one thing, it requires only one stool sample. It is more accurate than standard FOBT because it identifies antigens in blood that may be in the stool, and it can’t be thrown off by food or medication. And it only detects blood originating

in the colon or rectum. What's more, the processing and reading of the test can be automated for quality assurance. Used primarily in Europe, Australia, Japan and Israel, FIT is being used more and more in the U.S., even though it is more expensive than standard stool tests.

## Our advice

Everybody age 50 to 75 should be screened for colorectal cancer, whichever test they use. People at high risk—notably those with a family history, a known genetic risk, inflammatory bowel disease or certain other disorders—should start earlier.

Discuss the screening options with your doctor. Colonoscopy is not the only test—which is fortunate, since there aren't enough skilled practitioners to screen all eligible people. Nor is it necessarily the best. All the tests have strengths and weaknesses, which you and your doctor need to weigh. Here are the options:

- Colonoscopy every 10 years, unless polyps have been found or you are at high risk, in which case more frequent testing will be needed. Despite that standard guideline, many people, especially those over 65, have colonoscopies repeated in less than seven years, even though there is no clear reason for them to repeat the exam that soon, according to a study in the *Archives of Internal Medicine* last year.
- Sigmoidoscopy every five years, along with stool tests (preferably FIT) every three years.
- Annual stool tests. Ask your doctor about FIT, or at least make sure you're getting a highly sensitive FOBT.
- People at elevated risk or with a history of polyps and/or colon cancer should have colonoscopies—and perhaps FIT during the intervals.

Your doctor should consider your personal preferences. For instance, some people want to steer clear of colonoscopy because of its prep, invasiveness and/or cost. Others prefer colonoscopy because it usually needs to be done only once a decade rather than every year like stool tests, and it allows for the removal of polyps, if present. (It's worth noting that some colon-cleansing preps and regimens are easier and still effective—we'll discuss this in an upcoming issue.)

You can stop being screened after 75 if you've always had normal results and have no symptoms, and all screening should stop after age 85, according to federal guidelines. With increasing age, the benefits of screening decline, while the risks from sigmoidoscopy and especially colonoscopy increase.

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### **Accompanying editorial by Dr. John Swartzberg**

You may have heard of “virtual” (or CT) colonoscopy and wondered why we didn't discuss it in our lead article. Many people are attracted to the idea because they dread the invasiveness of being “scoped.” With virtual colonoscopy, no colonoscope is inserted. Instead, the colon is visualized by a CT scan. It may sound like a great alternative, but it really isn't.

Studies on virtual colonoscopy have had some promising results. One in the *New England Journal of Medicine* in 2008, for instance, found that the test is good at identifying larger polyps and cancer in people at average risk.

The advantages of virtual colonoscopy are obvious. No sedation is needed, the test is almost noninvasive (just a short tube is inserted in the rectum to inflate the colon), and there's little or no risk of complications. So more people may be willing to undergo it.

But there are plenty of disadvantages as well. You still have to clean out your colon as you would before a regular colonoscopy. Moreover, the doctor can't take a biopsy or remove polyps during the procedure. If polyps are found, a regular colonoscopy should be done to remove them (usually on another day, requiring another bowel prep). Virtual colonoscopy should be done every five years, rather than ten, because it may be less accurate. In particular, the test often misses smaller polyps. Medicare and most insurance plans won't pay for it unless a conventional colonoscopy can't be done for some reason.

Unlike regular colonoscopy, the virtual test can also detect suspicious growths outside the colon. That's often promoted as a plus, but it probably isn't. The overwhelming majority of such findings, sometimes called "incidentalomas," are not cancer or are small cancers that will never cause harm. But their discovery leads to invasive procedures and, often, unnecessary treatments. And the key fact is, there's no evidence that routine CT screening of other organs saves lives.

Another big drawback: Like any CT scan, virtual colonoscopy exposes you to radiation. That worries me because the test has to be repeated periodically, radiation exposure is cumulative, and Americans are already being exposed to increasing amounts of radiation from medical scans.

For these reasons, the U.S. Preventive Services Task Force, American College of Gastroenterology and American Cancer Society do not recommend virtual colonoscopy. We agree.

Provided by University of California - Berkeley

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