

Colonoscopies Fail to Reduce Colorectal-Related Deaths

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✓ Fact Checked

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STORY AT-A-GLANCE

- › A landmark study published in The New England Journal of Medicine found the “benefits” of colonoscopies are not as great as they’re made out to be
- › After 10 years, those who were invited to get colonoscopies had an 18% lower risk of colorectal cancer than the unscreened group
- › There was no statistically significant reduction in the risk of death from colorectal cancer in the group invited to screening compared to those who were not screened
- › Colonoscopy may, in practice, reduce colorectal cancer risk similarly to other less expensive, and less invasive, screenings, including fecal testing
- › Colonoscopies can cause serious adverse events, including death, bleeding after removal of a precancerous polyp and perforation

The U.S. Preventive Services Task Force recommends adults between the ages of 45 and 75 be screened for colorectal cancer every 10 years.¹ As a result, about 15 million colonoscopies are performed every year in the U.S.² The procedure, which involves extensive preparation and comes with considerable risks — include the risk of death — is touted as a key way to prevent colorectal cancer deaths.

However, as noted in a landmark study published in The New England Journal of Medicine, “Although colonoscopy is widely used as a screening test to detect colorectal cancer, its effect on the risks of colorectal cancer and related death is unclear.”³ The

researchers set out to determine if the benefits of colonoscopies are as great as they're made out to be — and found that they're far from it.

Even study author Dr. Michael Bretthauer, a gastroenterologist with the University of Oslo in Norway, stated, “[W]e may have oversold the message for the last 10 years or so, and we have to wind it back a little.”

Study: Colonoscopies Don't Reduce Cancer Deaths

The Northern-European Initiative on Colon Cancer (NordICC) study — a randomized trial involving 84,585 adults between 55 and 64 years of age — assigned participants in a 1-to-2 ratio to receive an invitation to undergo a colonoscopy or to receive no invitation or screening. None of the participants had gotten a colonoscopy previously.

After 10 years, those who were invited to get colonoscopies had an 18% lower risk of colorectal cancer than the unscreened group.⁴ However, there was no statistically significant reduction in the risk of death from colorectal cancer in the group invited to screening. The researchers intend to follow the participants for another five years to see if anything changes, but according to the study:⁵

“The risk of death from colorectal cancer was 0.28% in the invited group and 0.31% in the usual-care group ... The number needed to invite to undergo screening to prevent one case of colorectal cancer was 455 ... The risk of death from any cause was 11.03% in the invited group and 11.04% in the usual-care group.”

There were some limitations to the study, including a low uptake rate for those invited to get a colonoscopy. Only 42% of those invited to do the procedure actually did so. When the researchers analyzed the results based only on those who received colonoscopies, the procedure reduced the risk of colorectal cancer by 31% and reduced the risk of dying from colorectal cancer by 50%.⁶

Still, speaking with STAT News, Dr. Samir Gupta, a gastroenterologist who was not involved with the study, noted, “This is a landmark study. It's the first randomized trial

showing outcomes of exposing people to colonoscopy screening versus no colonoscopy. And I think we were all expecting colonoscopy to do better. Maybe colonoscopy isn't as good as we always thought it is."⁷

Colonoscopy 'Not the Magic Bullet We Thought It Was'

According to the American Cancer Society, in 2022 there will be 106,180 new cases of colon cancer diagnosed and 44,850 new cases of rectal cancer.⁸ The two types are grouped together – collectively known as colorectal cancer – since they have many of the same characteristics.

The rate of people being diagnosed with either colon or rectal cancers has gone down since the 1980s. The American Cancer Society (ACS) attributes this to changes in lifestyle as well as more people getting screened.⁹ The death rate from colorectal cancer has also decreased over several decades – a decline that ACS again attributes to screening, as well as colorectal cancer treatments.

"One reason is that colorectal polyps are now being found more often by screening and removed before they can develop into cancers," ACS notes.¹⁰ However, the featured study makes it clear that colonoscopies' benefits may have been overstated. Bretthauer told STAT News:¹¹

"It's not the magic bullet we thought it was. I think we may have oversold colonoscopy. If you look at what the gastroenterology societies say, and I'm one myself so these are my people, we talked about 70, 80, or even 90% reduction in colon cancer if everyone went for colonoscopy. That's not what these data show."

Bretthauer suggested colonoscopy may, in practice, reduce colorectal cancer risk by 20% or 30%, which is close to reductions offered by other less expensive, and less invasive, screenings, including fecal testing. Bretthauer told STAT News:¹²

"That raises an important point for policymakers ... Colonoscopy is more expensive, more time-intensive, and more unpleasant in preparation for

patients. Many European countries balked at putting public health dollars towards a large, expensive program, he said, when the fecal testing was cheaper, easier, and had greater uptake in certain studies.

'Now, the European approach makes much more sense. It's not only cheaper, but maybe equally effective.'"

Do the Benefits Outweigh the Risks?

In 2019, the BMJ published clinical practice guidelines¹³ for colorectal cancer screening using a stool test – known as the fecal immunochemical test (FIT) – a single colonoscopy or a single sigmoidoscopy. A sigmoidoscopy is similar to a colonoscopy but less extensive and less invasive. During a colonoscopy, your entire large intestine is examined, while a sigmoidoscopy only checks the lower part of your colon.

The practice guidelines recommend physicians use a tool to estimate an individual's potential risk for developing colorectal cancer in the next 15 years. The team recommends that only those who have a risk of 3% or greater should undergo screening tests, choosing from one of four screening options.

This included a FIT done every year or a FIT done every two years depending on risk factors. Patients may also choose a single sigmoidoscopy or, the weakest recommendation from the team, a single colonoscopy.

However, the team determined that the risks associated with colorectal cancer screening outweighed the benefits in many cases. For instance, the risk of death from a colonoscopy from one source was 1 in 16,318 procedures evaluated.¹⁴

In the same analysis, the researchers also found 82 suffered serious complications. Another analysis found a death rate of 3 per 100,000 colonoscopies, along with serious adverse events in 44 per 10,000, "with a number needed to harm of 225."¹⁵

Colonoscopies Carry Significant Risks

For any medical procedure, the benefits must outweigh the risks to the patient. But depending on your risk factors, it's possible that colonoscopy could cause more harm than good. Aside from the risk of death, additional concerning risks include perforation and bleeding after removal of a precancerous polyp.

A systematic review and meta-analysis found the risk of perforation after colonoscopy was about 6 per 10,000 while the risk of bleeding was about 24 per 10,000 procedures.¹⁶ However, the risks can vary significantly depending on where the procedure is performed.

The risk of perforation at Baylor University Medical Center, according to one study, was 0.57 per 1,000 procedures or 1 in 1750 colonoscopies.¹⁷ In a report published in Baylor University Medical Center Proceedings, it's explained:¹⁸

"The frequency of complications is dependent on the skill of physicians doing the procedure, on safeguards that are in place within the laboratory where the procedure is carried out, and whether colonoscopy is done for screening or for diagnostic or therapeutic indications.

Major complications include adverse sedation or anesthetic events including aspiration pneumonia, post-polypectomy bleeding, diverticulitis, intraperitoneal hemorrhage, and colonic perforation."

Improper Equipment Sterilization Is Dangerous

Another risk factor that varies from clinic to clinic has to do with how well the equipment is sterilized. David Lewis, Ph.D., and I discuss this in the short video above. One issue is the inability to thoroughly clean the inside of the scope.

One common issue is that, during the examination, the physician may be unable to see through the scope and is unsuccessful in the attempt to flush it using the air/water channel as it is clogged with human tissue from a past exam. The scope must be retracted and another one used. Since endoscopes have sensitive equipment attached, they cannot be heat sterilized.

Unfortunately, manufacturers have not been made to produce a scope with the ability to be heat sterilized. As Lewis points out in the video, "We can put a Rover on Mars, surely we can build a flexible endoscope that we can put in an autoclave." These expensive tools are not disposable but require sterilization between each patient.

Lewis reports that up to 80% of hospitals are sterilizing the flexible endoscopes with glutaraldehyde (Cidex). On testing, he finds this has complicated the process as it does not dissolve tissue in the endoscope but rather preserves it.

When sharp biopsy tools are run through the tube, patient material from past testing is scraped off and potentially carried into your body. This is why it's important to find a clinic or hospital that uses peracetic acid to thoroughly sterilize the equipment by dissolving proteins found in the flexible endoscopes. Before scheduling any endoscopic examination call to ask how the equipment is sterilized between patients.

Most Colorectal Cancer Cases Are Related to Diet

Aside from skin cancer, colorectal cancer is the third most common type of cancer in the U.S., as well as the third leading cause of cancer-related deaths.¹⁹ It's wise to take steps to reduce your risk, and lifestyle changes can be quite effective. In fact, lifestyle factors, including dietary choices, play a major role in the occurrence and progression of colorectal cancer,²⁰ with only an estimated 20% of cases caused by genetic factors with the remainder due to environmental factors.

Up to 70% of colorectal cancer (CRC) cases are believed to be related to diet, leading researchers with the University of South Carolina School of Medicine to state:²¹

"As such, bioactive food components offer exciting possibilities for chemoprevention due to their potential to target many factors associated with the development and progression of CRC. Furthermore, the ability of bioactive food components to elicit tumoricidal effects without displaying the high toxicity exhibited by standard pharmacological interventions may translate to improved quality of life and survival in patients with cancer."

For instance, emodin, which is found in Chinese rhubarb as well as in aloe vera, giant knotweed, the herb *Polygonum multiflorum* (tuber fleeceflower) and *Polygonum cuspidatum* (Japanese knotweed), may help prevent colorectal disease due to impressive therapeutic effects, including anti-inflammatory and antitumor properties.²²

Fermented foods are also gaining recognition as an important dietary anticancer adjunct. The beneficial bacteria found in fermented foods have been shown particularly effective for suppressing colon cancer. For example, butyrate, a short-chain fatty acid created when microbes ferment dietary fiber in your gut, has been shown to induce programmed cell death of colon cancer cells.²³

Other strategies to help prevent colorectal cancer include eating more fiber, optimizing vitamin D, avoiding processed meat, maintaining a normal weight and controlling belly fat. In a larger sense, researchers have demonstrated that cancer is likely a metabolic disease controlled in part by dysfunctional mitochondria.

You can optimize your mitochondrial health through cyclical nutritional ketosis, calorie restriction, meal timing, exercise and normalizing your iron level. All of these lifestyle factors play a role in keeping your body healthy and disease-free.

Sources and References

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