

October 2022

LIVING WITH CANCER



COLORECTAL CANCER RESEARCH & PRACTICE UPDATES

Colorectal Cancer Canada curates monthly Research & Practice Updates to inform patients and their loved ones of new innovations in colorectal cancer care. The following updates extend from October 1st 2022 to October 31st, 2022 inclusive and are intended for informational purposes only

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Recent study provokes controversy about the effectiveness of colonoscopy as a screening test

October 2022

Over the past week, the [NordICC study](#) has provoked many debates within the medical community about the effectiveness of colonoscopy as a screening test for colorectal cancer. News headlines for this European study included “Colonoscopies have a lower-than-expected benefit in preventing colon cancer (18% reduction), with no reduction in colon cancer mortality”, “Disappointing results on colonoscopy benefits”, “New study suggests benefits of colonoscopies may be overestimated”, creating some confusion about the study as well as what the findings really mean.

The study

The NordICC trial was a randomized controlled trial that included people between the ages of 55-64 years who were asymptomatic (no symptoms) for colorectal cancer (CRC) from Poland, Norway, Sweden and the Netherlands between 2009 and 2014. Participants were randomly assigned to receive either an invitation for a single screening colonoscopy or to not receive any invitation. Among the 28,220 individuals who received an invitation, 42% (11,843) accepted the invitation and underwent screening via colonoscopy.

At 10-year follow-up, the risk for CRC in the “intention-to-screen” population, i.e. those that were sent an invitation to undergo screening, was 0.98% compared to 1.2% in the control arm (participants who did not receive any invitation to undergo screening).

These findings show a significantly lower relative risk (18%) of developing colorectal cancer among participants who received an invitation to undergo a colonoscopy.

The risk for CRC-related death was 0.28% in the intention-to-screen population vs. 0.31% in the control arm. This difference in CRC-related death was not found to be statistically significant, suggesting that the risk for death was similar among participants regardless of whether they received the invitation to screen or not.

The difference in risk of for colorectal cancer-related death was not statistically significant. However, in adjusted analyses to assess the impact of screening among those that actually underwent a colonoscopy, CRC risk decreased by 31% and mortality decreased by 50%. Furthermore, in the study, the endoscopists who performed the colonoscopies had adenoma detection rates (ADR) below the 25% benchmark. Low ADR is linked to a higher risk of post-colonoscopy CRC.

Breaking down the study findings

An important concern among experts in the field is that the actual title of the study is misleading in and of itself: “Effect of Colonoscopy Screening on Risks of Colorectal Cancer and Related Death”, and that’s because the study is not actually looking at the effectiveness of colonoscopy, but rather, how effective an *invitation* to undergo screening by colonoscopy is at reducing the risks of CRC and related death.

The study findings show that invitation to undergo single time screening with a colonoscopy is not very effective – while it did seem to reduce the risk for CRC, it did not decrease CRC-specific or all-cause mortality (death) compared to people who did not receive any invitation. An important factor to consider as well, is that only 42% of participants who received an invitation went forward with a colonoscopy. In other words, less than half of individuals who were invited to get screened did it, which demonstrates that **uptake of colonoscopy at the population-level is low**. This does not mean that colonoscopy is not an effective screening test at reducing the risk of colorectal cancer and related death.

It is also important to remember that colonoscopy can serve as both a screening test and a diagnostic test, for example, it is used as a diagnostic test to determine whether colorectal cancer is present in someone who has a positive FIT or is showing symptoms of the disease. The NordICC study only investigates the effectiveness of colonoscopy as a *screening* modality. **These findings do not reduce the value of colonoscopy as a diagnostic test for colorectal cancer.**

Conclusions

The NordICC study findings suggest that at the population level, colonoscopy screening programs are not very effective in reducing mortality. While sensationalist news headlines may have brought into question the effectiveness of colonoscopy as a screening test, The bottom line is that colonoscopies remain the gold standard for colorectal cancer detection. Though they may not be the optimal primary screening test at the **population level** for **average-risk individuals**, (which is why in Canada the fecal immunochemical test (FIT) is recommended as the first screening test for individuals at average risk), colonoscopy continues to be the most sensitive test for detecting colorectal cancer as a follow-up test or primary screening test for high-risk individuals. In Canada, colorectal cancer screening recommendations for average-risk individuals are as follows:

- Have a stool test (FIT) every 2 years. In the case of a positive stool test, follow-up should be done with a flexible sigmoidoscopy or colonoscopy, or
- Flexible sigmoidoscopy every 10 years

(Canadian Task Force on Preventive Health Care, 2016)

Notice that colonoscopy is not recommended by the Canadian Task Force on Preventive Health Care as a **primary** screening test for CRC:

- There is a lack of direct, high-quality evidence of the efficacy of colonoscopy in comparison to that of other screening tests.
- Colonoscopy has greater potential for harms (e.g., minor bleeding, major bleeding, perforation, and death) than the other available tests.
- Colonoscopy requires more time and expertise to perform and using colonoscopy for screening means that this test will not be as readily available for people with symptomatic disease, such as visible blood in the stool.

Remember: the best screening test is the one that gets done!

READ THE FULL ARTICLE

Diverticular disease associated with increased risk of multiple cancers

October 2022

A recent study published in the *Journal of the National Cancer Institute* found that patients with diverticular disease are more likely compared to the general population to develop a range of cancers, including colorectal cancer.

What is diverticular disease?

Diverticular disease, also called **diverticulosis**, is a condition that affects the wall of the colon (large intestine), causing the inner lining of the large intestine to be pushed out through weak points in the surrounding muscle, causing small pouches or bulges known as **diverticula** (singular: diverticulum) to form. Alone, diverticulosis does not cause any symptoms. Treatment usually is not necessary unless these small pouches become infected and inflamed, causing **diverticulitis**.

Symptoms include:

- Abdominal pain
- Fever
- Nausea
- A change in bowel habits
- Bloating
- Constipation
- Diarrhea
- Gas

Diverticular disease and diverticulitis are diagnosed with a colonoscopy and sometimes a CT scan.

What causes diverticular disease and diverticulitis?

Diverticular disease and diverticulitis appear to be more common in people with a low-fibre diet. Fibre helps to make the stool softer, decreasing pressure on the colon wall. A high-fibre diet helps to decrease constipation, helping stool move through the GI tract more smoothly and easily. The prevalence of diverticular disease increases significantly with age, with about 50% of Canadians over the age of 80 developing the disease (Canadian Digestive Health Foundation, 2009).

The study

In the study, researchers examined data from 75,704 patients from Swedish health registries who received a diagnosis of diverticular disease. They also evaluated data 313,480 matched individuals (i.e. people of similar age, location, sex, just without diverticular disease) from the general population as well as 60,956 siblings of patients with diverticular disease.

At an average follow-up of 6 years, the incidence of any cancer was higher among patients with diverticular disease compared to the general population, who experienced a 33% increased risk of developing any cancer. This risk was similar between men and women.

What are the mechanisms behind the association of diverticular disease and cancer?

The association between diverticular disease and an increased risk for developing cancer could be caused by several factors.

There is a growing body of evidence to link chronic inflammation and gut dysbiosis (imbalances in the populations of gut bacteria and other microorganisms) in the development of diverticular disease. Chronic inflammation is also a known risk factor for the development of cancer, therefore creating a potential link between the two diseases.

There is also a potential link between diverticular disease and cancer through lifestyle factors. Many of the lifestyle factors that are associated with diverticular disease such as low intake of dietary fibre, physical inactivity, obesity and high intake of red meat are all known to also be associated with an increased cancer risk.

Take home message

The study findings show an association between diverticular disease and the increased risk for developing various cancers including colon cancer. Since constipation often contributes to the development of diverticula, it is important to get enough daily fibre (25g/day for women, 38g/day for men) to help minimize constipation. Drinking enough water (about 2L, or 8- 8 ounce glasses of water a day), doing regular exercise, and limiting red meat and processed and refined foods are other recommendations that can help minimize constipation, improve gastrointestinal health and help to lower the risk of developing both diverticular disease and cancer.

[READ THE FULL ARTICLE](#)

Sigmoidoscopy has sustained effect on CRC incidence and mortality

October 2022

A recent study published in the *Annals of Internal Medicine* showed that screening with sigmoidoscopy has a significant and long-lasting effect on colorectal cancer (CRC) incidence and mortality.

What is a sigmoidoscopy?

A sigmoidoscopy is the examination of the last few sections of the large intestine – most of the descending colon, all of the sigmoid colon and the rectum, using a **sigmoidoscope**. A sigmoidoscope is a thin, tube-like instrument with a light and a camera that is inserted into the rectum to examine the lining of the large intestine. It may also have a tool to remove potentially abnormal tissue to be examined in the laboratory (biopsy).

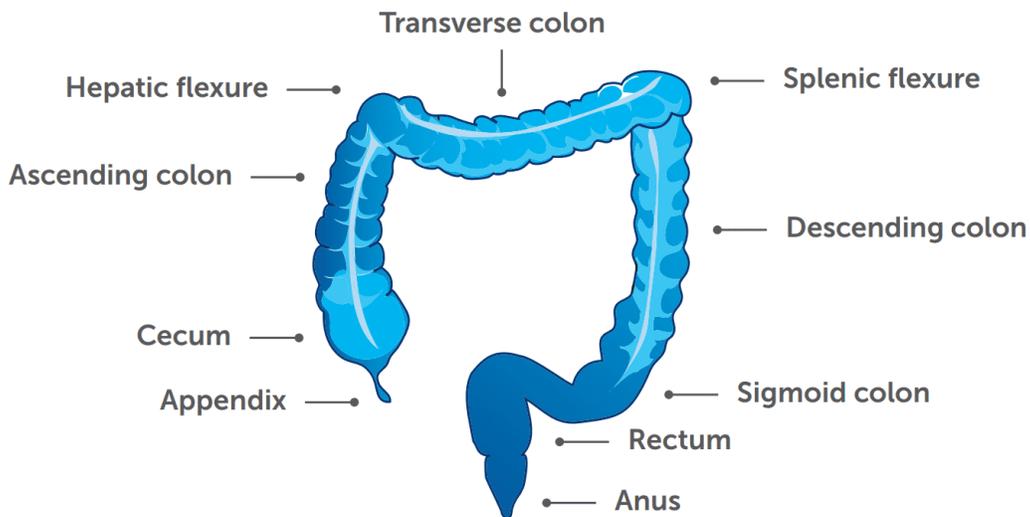


Image source: <https://www.ccalliance.org/colorectal-cancer-information/biomarkers/biomarkers-sidedness>

A sigmoidoscopy is different from a **colonoscopy** in that a colonoscopy visualizes the entire length of the colon or large intestine.

Is sigmoidoscopy as good as a colonoscopy for screening for colorectal cancer?

Test	Benefits	Limitations
Colonoscopy	Can usually look at the entire colon Can biopsy and remove polyps	Can miss small polyps Full bowel prep needed

	<p>Done every 10 years</p> <p>Can help find some other diseases</p>	<p>Costs more on a one-time basis than other forms of testing</p> <p>Sedation is usually needed, in which case you will need someone to drive you home</p> <p>You may miss a day of work</p> <p>Small risk of bleeding, bowel tears, or infection</p>
Sigmoidoscopy	<p>Fairly quick and safe</p> <p>Usually doesn't require full bowel prep</p> <p>Sedation usually not used</p> <p>Does not require a specialist</p> <p>Done every 5 years</p>	<p>Not widely used as a screening test</p> <p>Looks at only about a third of the colon</p> <p>Can miss small polyps</p> <p>Can't remove all polyps</p> <p>May be some discomfort</p> <p>Very small risk of bleeding, infection, or bowel tear</p> <p>Colonoscopy will be needed if abnormal</p>

American Cancer Society, 2020

Since a sigmoidoscopy only looks at about one third of the length of the large intestine, it can miss cancers that develop in the remaining parts of the large intestine. Most often, however, polyps

tend to arise in the left side of the colon, which includes the descending and sigmoid colon and rectum¹.

The study

In the study, the Norwegian research team examined the 15-year effect of sigmoidoscopy screening on the colorectal cancer incidence and mortality of patients between the age of 55 and 64 years. The study included 137,493 individuals in the sigmoidoscopy screening group and 137,459 in the usual-care group.

The pooled analysis of data from 3 large-scale randomized trials from Norway, the United States, the United Kingdom and Italy showed that sigmoidoscopy screening had a significant and long-lasting effect on CRC incidence mortality for 15 years. Women had less benefit from screening than men for CRC incidence and mortality.

Take home message

Among individuals between the age of 55 and 64 years, a single screening examination with sigmoidoscopy is effective in reducing CRC incidence in women and men, though the benefits seem to be lower for women.

[READ THE FULL ARTICLE](#)

¹ <https://fascrs.org/patients/diseases-and-conditions/a-z/polyyps-of-the-colon-and-rectum>