

Can Aspirin Improve Colorectal Cancer Outcomes?

One study found that daily low-dose aspirin reduced the risk of colon or rectal cancer recurrence, but another saw no significant survival benefit.

February 3, 2025 By [Liz Highleyman](#)

The link between daily aspirin use and [colorectal cancer](#) (CRC) outcomes remains unclear based on the results of two recent studies. One randomized trial showed that daily low-dose aspirin reduced the risk of recurrence by 55% in people with premetastatic colon or rectal cancer. Another analysis, however, found that taking daily aspirin after colorectal cancer treatment did not significantly delay disease progression or improve survival.

A considerable body of research has looked at the association between aspirin and colorectal cancer. [Many studies](#) have assessed whether regular aspirin use [lowers the risk](#) of developing this malignancy in the first place. [In 2016](#), the U.S. Preventive Services Task Force recommended daily aspirin for older adults to prevent CRC, but it walked back this advice in 2022, stating that the evidence is “[highly variable](#).”

Other studies have looked at the effects of aspirin on disease outcomes. [One study](#), for example, found that long-term aspirin use before a colorectal cancer diagnosis may be associated with lower CRC-specific mortality, perhaps because it helps limit metastasis. But the question remains unresolved.

ALASCCA Trial

In [a study](#) presented at the recent American Society of Clinical Oncology Gastrointestinal Cancers Symposium, Anna Martling, MD, PhD, of the Karolinska Institute in Stockholm, and colleagues asked whether low-dose aspirin affects recurrence of colorectal cancer with PI3K pathway alterations. About 30% of CRC carries this genetic mutation, which promotes cell growth.

The [ALASCCA trial](#) investigators screened more than 3,500 patients with nonmetastatic colorectal cancer in Denmark, Finland, Norway and Sweden. Men and women were about equally represented, most were white and the median age was 66 years.

Within this population, 419 had Stage II or III colon cancer and 207 had Stage I, II or III rectal cancer with PI3K pathway genetic changes. Specifically, Group A had PIK3CA mutations at exon

9/20, while Group B had PIK3CA changes at other locations or PIK3R1 or PTEN gene mutations.

The trial participants were randomly assigned to receive 160 milligrams daily aspirin or a placebo starting within three months after surgery and continuing for three years. (A standard regular-strength aspirin tablet contains 325 mg.) About half received cancer medications before or after surgery.

Daily aspirin reduced the risk of colorectal cancer recurrence, Martling reported. Patients in Group A who took aspirin had a 51% lower risk of relapse than those assigned to the placebo, with recurrence rates of 7.7% versus 14.1%, respectively. In Group B, the risk was 58% lower, with recurrence rates of 7.7% versus 16.8%, respectively. What's more, aspirin recipients had a 39% to 49% improvement in disease-free survival at three years, though the difference was only significant for Group B. Benefits were observed regardless of cancer type, disease stage or specific PI3K mutations.

Adverse events were reported more frequently in the aspirin group compared with the placebo group. Severe adverse events, including bleeding and blood clots, occurred more often in the aspirin group, but were rare overall.

"We have studied and demonstrated the value of a widely used, well-established and cost-effective drug with a low-risk profile for patients with colorectal cancer," Martling said in an [ASCO news release](#). "Aspirin has been shown to effectively reduce recurrence rates and improve disease-free survival in more than one-third of these patients." She added that precision medicine and the use of advanced diagnostics "can enable tailored treatments and the repurposing of existing drugs for new applications."

"It's really clear that this is a practice-changing study," Pamela Kunz, MD, of Yale School of Medicine, said at a conference media briefing. "[Aspirin] checks all of the boxes: It's effective, it's low risk, it's inexpensive and it's easy to administer." However, ASCO chief medical officer Julie Gralow, MD, cautioned that the need for expensive genomic testing to identify which patients might benefit could change the cost-benefit analysis.

ASCOLT Trial

In the second study, reported in [The Lancet Gastroenterology & Hepatology](#), John Chia, MBBS, of National Cancer Centre Singapore, and colleagues evaluated the safety and efficacy of aspirin for secondary prevention of colorectal cancer, meaning prevention of recurrence after treatment.

The Phase III [ASCOLT trial](#) included 1,550 adults treated at more than 60 centers in 11 countries, mostly in Asia. Nearly 60% were men, and the median age was 57 years. They had Dukes B or C colon cancer (67%) or rectal cancer (33%) using an older staging system, roughly corresponding to Stage II or III. People with contraindications to aspirin, familial colorectal cancer, other recent cancers and clinically significant cardiovascular disease or stroke were excluded.

After undergoing surgery and at least three months of adjuvant chemotherapy, they were

randomly assigned to receive 200 mg daily aspirin or a placebo for three years; follow-up continued for five years.

At five years, disease-free survival rates were 77.0% in the aspirin group versus 74.8% in the placebo group. This reflects a 9% lower risk of disease recurrence or death, but the difference was not statistically significant. The five-year overall survival rates were 91.4% versus 88.9%, respectively, but this difference also did not reach the threshold for statistical significance.

The overall frequency of adverse events was similar in both groups. There were three major gastrointestinal bleeds in the aspirin group versus one in the placebo group. Of note, there were no heart attacks or strokes in the aspirin group but two of each in the placebo group.

“In patients with colorectal cancer, aspirin 200 mg daily for three years after completion of standard adjuvant therapy was well tolerated but did not significantly improve disease-free survival,” the study authors concluded.

However, a more modest benefit “could not be excluded,” they noted. “Biomarker studies and a planned prospective meta-analysis with similar ongoing aspirin trials will help to confirm or exclude efficacy. These could be impactful globally given the low cost of aspirin and its tolerability.”

In an [accompanying editorial comment](#), Seohyuk Lee, MD, of Beth Israel Deaconess Medical Center, and Mingyang Song, MBBS, of the Harvard T.H. Chan School of Public Health, noted that the timing, duration and dose of aspirin needed to see a benefit are unknown. This study excluded people who were already taking aspirin at enrollment, but prior research suggests that aspirin use prior to cancer diagnosis might improve outcomes.

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