

Low-dose aspirin may lower ovarian cancer risk

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Intermediate magnification micrograph of a low malignant potential (LMP) mucinous ovarian tumour. H&E stain. The micrograph shows: Simple mucinous epithelium (right) and mucinous epithelium that pseudo-stratifies (left - diagnostic of a LMP tumour). Epithelium in a frond-like architecture is seen at the top of image. Credit: Nephron /Wikipedia. CC BY-SA 3.0

Women who reported recent, regular use of low-dose aspirin (100 milligrams or less) had a 23% lower risk of developing ovarian cancer when compared with women who did not regularly take aspirin,

according to new research led by Harvard T.H. Chan School of Public Health. The study also found that long-term heavy use of non-aspirin non-steroidal anti-inflammatory drugs (NSAIDs) may be associated with an increased risk of ovarian cancer.

"What really differentiated this study from prior work was that we were able to analyze low-dose aspirin separately from standard dose aspirin," said Mollie Barnard, a postdoctoral fellow at Huntsman Cancer Institute at the University of Utah, who led this research while a doctoral student at the Harvard Chan School. "Our findings emphasize that research on aspirin use and cancer risk must consider aspirin dose. Our results also highlight the need for ongoing conversations between patients and their doctors on the risks and benefits of taking low-dose aspirin."

The study will be published online October 4, 2018 in *JAMA Oncology*.

Among U.S. women, [ovarian cancer](#) is the fifth most common cause of cancer-related death. A growing body of evidence indicates that inflammation plays a role in the development of ovarian cancer and researchers have noted that localized inflammation that occurs with ovulation could be a contributing factor. It's believed that aspirin lowers ovarian cancer risk by reducing inflammation. While several previous studies have sought to determine if aspirin and other common anti-inflammatory medications influence the risk of ovarian cancer, the findings have been inconsistent.

For this study, Harvard Chan School researchers, along with colleagues from Brigham and Women's Hospital in Boston and Moffitt Cancer Center in Tampa, analyzed data on 205,498 women who were part of the Nurses' Health Study and Nurses' Health Study II. Of those, 1,054 developed ovarian cancer. The researchers looked at the women's use of aspirin, low-dose aspirin, non-aspirin NSAIDs, and acetaminophen, as well as information on the number of tablets used, and the frequency,

timing, and duration of use.

The results showed that recent low-dose aspirin use was associated with a lower risk of ovarian cancer while standard-dose aspirin (325 milligrams) use was not. However, the researchers did not observe an increasingly lower ovarian cancer risk with longer durations of low-dose aspirin use. The analysis also suggested that use of non-aspirin NSAIDs, such as ibuprofen and naproxen, when taken in quantities of at least 10 tablets per week for multiple years may be associated with an increased risk of ovarian cancer.

The findings indicate that recommendations made by the U.S. Preventive Services Task Force in 2016 advising older adults who are at an elevated risk of cardiovascular disease to take low-dose aspirin are unlikely to increase the risk of ovarian cancer, the researchers said.

"Our findings expand on two consortium studies showing that daily aspirin is related to lower ovarian cancer risk. Many people take a low-dose [aspirin](#) daily for heart disease prevention," said senior author Shelley Tworoger, associate center director of population science at Moffitt, who also worked on this study while at Harvard Chan School and Brigham and Women's Hospital. "More research is needed to figure out which women can benefit most from taking [low-dose aspirin](#) to reduce their risk of ovarian [cancer](#)."

More information: "Association of Analgesic Use With Risk of Ovarian Cancer in the Nurses' Health Studies," Mollie E. Barnard, Elizabeth M. Poole, Gary C. Curhan, A. Heather Eliassen, Bernard A. Rosner, Kathryn L. Terry, Shelley S. Tworoger, *JAMA Oncology*, online October 4, 2018, [DOI: 10.1001/jamaoncol.2018.4149](https://doi.org/10.1001/jamaoncol.2018.4149)

Provided by Harvard T.H. Chan School of Public Health

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