

# Exercise prior to breast cancer associated with lower risk for heart disease

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Older breast cancer patients who exercised before being diagnosed may be at a lower risk for cardiovascular disease compared to those who did not, according to a study published today in the inaugural issue of *JACC: CardioOncology*.

As advances in screening and treatment have led to greater survival rates among breast cancer patients, they are now at a greater risk for age-related diseases. Cardiovascular [disease](#) is now the leading cause of death in patients with primary breast cancer over 65 years of age.

Researchers examined 4,015 patients with a confirmed [diagnosis](#) of primary breast cancer enrolled in the Women's Health Initiative (WHI), which included postmenopausal women aged 50 to 79 years. Women with cardiovascular disease, a history of any other malignancy prior to enrollment or a body mass index less than or equal to 18.5kg/m<sup>2</sup> were excluded.

In the WHI, exercise history at baseline and follow-up were assessed with a questionnaire where patients reported the frequency, duration and intensity of leisure-time physical activity. In this analysis, researchers examined exercise data that were collected at the visit closest to breast [cancer diagnosis](#) and that was between five years and one month prior to diagnosis. Metabolic equivalent task (MET) values were assigned for levels of physical activity per week and exercise was categorized in quartiles: less than 2.5 MET-hours/week (994 patients); 2.50 to greater than 8.625 (1,008 patients); 8.625 to less than 18 (1,011 patients); and

greater than or equal to 18 (1,002 patients).

During the study, 324 cardiovascular events occurred. The researchers found that exercising prior to a breast cancer diagnosis was associated with a 20 to 37 percent reduction in the risk of first cardiovascular events. The risk of heart attack and [heart failure](#) were not impacted, suggesting that exercise may be associated with a greater risk reduction in other cardiovascular events such as angina, coronary revascularization, peripheral artery disease or stroke. Individuals meeting current physical activity recommendations (9 MET-hours/week), prior to diagnosis had a 46 percent [lower risk](#) of coronary heart disease death compared to those who exercised less than recommended.

"This study is the first to show the exposure to exercise prior to a cancer diagnosis may potentially protect against or mitigate the established adverse cardiovascular consequences observed in [breast cancer patients](#), adding to the growing evidence base supporting the importance of exercise to prevent cardiovascular events in high-risk populations," said Tochi M. Okwuosa, director of the cardio-oncology program at Rush University Medical Center in Chicago and lead author of the paper.

According to the authors, patients who were more physically active prior to breast cancer diagnosis are likely to have a more favorable cardiovascular profile, including higher cardiorespiratory fitness. These patients may have a higher cardiovascular reserve capacity to tolerate the cardiovascular toxic effects that are sometimes experienced as a side effect of cancer treatment. These patients are also more likely to be more active during cancer treatment, which has, in other studies, found to be associated with a lower risk of cardiovascular events.

"As more and more patients survive their breast cancer, [cardiovascular disease](#) is and will continue to become a major risk of morbidity and mortality for survivors," said Lindsay L. Peterson, MD, MSCR, and

Jennifer A. Ligibel, MD, in an editorial comment accompanying the paper. "Finding strategies to help patients engage in recommended amounts of physical activity prior to and after breast cancer diagnosis will be critical to improving outcomes in women with early breast cancer, in particular in the rising number of older adults with [breast cancer](#)."

"This study is important as it provides much needed evidence to support non-pharmacologic strategies to improve upon cardiovascular outcomes in [cancer](#) patients and guidance to the community of health care providers on the importance of [physical activity](#) for our patients," said *JACC: CardioOncology* editor-in-chief Bonnie Ky, MD, MSCE, FACC.

**More information:** Tochi M. Okwuosa et al, Pre-Diagnosis Exercise and Cardiovascular Events in Primary Breast Cancer, *JACC CardioOncology* (2019). [DOI: 10.1016/j.jacc.2019.08.014](https://doi.org/10.1016/j.jacc.2019.08.014)

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