

# Increase in physical activity after breast cancer diagnosis may lower risk of death

6 November 2019



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At least 150 minutes per week of moderate-intensity physical activity, such as brisk walking, post diagnosis is associated with lower all-cause mortality among postmenopausal breast cancer patients, regardless of their levels of physical activity before diagnosis, according to a study published in the open access journal *Breast Cancer Research*.

Although the benefits of pre- and post-[diagnosis](#) physical activity have been recognized, few studies have examined whether changing physical activity levels following [breast cancer diagnosis](#) may impact mortality. Researchers at the German Cancer Research Centre in Heidelberg investigated associations between pre- to postdiagnosis physical activity and prognosis in [postmenopausal women](#) who were diagnosed with a first primary [cancer](#) in Germany.

Audrey Jung, the corresponding author said: "The results of our study suggest that there are merits to leisure-time physical activity in breast cancer patients, and that its associated benefits are not only limited to [women](#) who are physically active

before and after diagnosis. Instead, the benefits appear to extend to women who did not adhere to the recommended levels of physical activity before diagnosis but who did so after diagnosis."

The researchers found that compared to women who were insufficiently active both before and after diagnosis (less than 150 minutes of moderate-intensity physical activity), women who were insufficiently active before, but sufficiently active after diagnosis were at a lower risk of death from any cause (overall mortality). For women who engaged in 150 minutes or less of moderate-intensity leisure-time physical activity per week before diagnosis, increasing their physical activity to 150 minutes or more of moderate-intensity physical activity per week after diagnosis was associated with a 50% reduced risk of overall mortality. For women who had more than 150 minutes of physical activity before and after diagnosis, this was associated with a risk reduction of 30%. Compared with women who did not engage in any leisure-time physical activity pre- and postdiagnosis (0 minutes of moderate-intensity leisure-time physical activity), women who were sufficiently active pre- and postdiagnosis were at 36% reduced risk of breast cancer specific mortality.

The authors analyzed data on 2,042 German breast cancer patients aged 50 to 74 years, who were recruited to the study between 2002 and 2005, followed up once in 2009 and again in June 2015. Out of these 2,042 women, 1,349 (66.1%) participated in at least one physical activity before diagnosis and 1,253 women (61.4%) participated in at least one activity after diagnosis.

Audrey Jung said: "The time we have observed participants in our study (11.6 years after diagnosis) is the longest of any study that similarly evaluated pre- to post diagnosis leisure-time physical activity and prognosis. This allows us to examine the long-term impact of physical activity as

well as changes on cancer outcomes such as overall mortality, breast cancer-specific [mortality](#), and recurrence."

The authors caution that patients at the first follow-up point had already survived approximately six years from breast cancer diagnosis, which restricts the results to long-term survivors of breast cancer. To better understand the [complex relationships](#) between physical activity before and after diagnosis and increased survival in [breast cancer patients](#), large, randomized controlled trials would be needed.

The results, in combination with other studies, suggest that physical activity is important in improving survival following breast cancer diagnosis and should be encouraged especially in women who are less active before diagnosis, according to the authors. The authors recommend that women follow the current global [physical activity](#) guidelines recommended by the World Health Organization.

**More information:** Pre- to postdiagnosis leisure-time physical activity and prognosis in postmenopausal breast cancer survivors participants, *Breast Cancer Research* (2019). [DOI: 10.1186/s13058-019-1206-0](https://doi.org/10.1186/s13058-019-1206-0)

Provided by BioMed Central

APA citation: Increase in physical activity after breast cancer diagnosis may lower risk of death (2019, November 6) retrieved 25 April 2021 from <https://medicalxpress.com/news/2019-11-physical-breast-cancer-diagnosis-death.html>

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