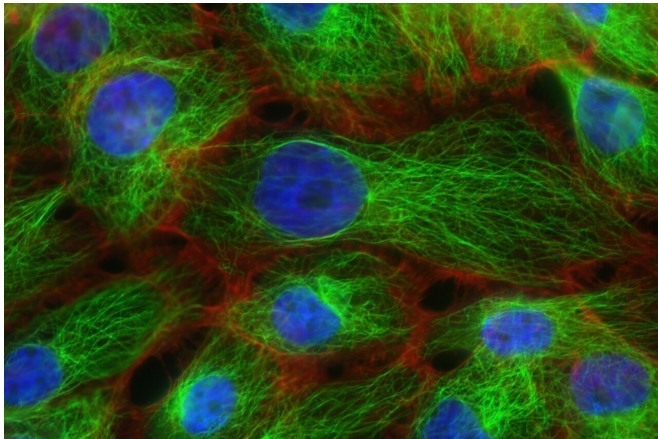


# Weight linked to risk of second cancer after breast cancer

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Breast cancer survivors who are overweight have a statistically significant increased risk of developing second primary cancers, according to results from a study conducted by Kaiser Permanente researchers and published in the *Journal of the National Cancer Institute*.

There are approximately 3.9 million [breast cancer survivors](#) in the United States today and studies have found [women](#) diagnosed with [breast cancer](#) have an 18% increased risk for developing a second cancer compared to the general population. This increased risk is likely due to shared [risk factors](#) between the first and second cancers, genetic susceptibility, and long-term effects of breast cancer treatment.

Obesity is also strongly associated with an increased risk of several types of cancer. In fact, an estimated 55% of all cancers in women occur in those who are overweight or obese. This study sought to examine the association between body weight, as measured by BMI, at initial breast cancer diagnosis and the risk of developing a second cancer among a large cohort of women

diagnosed with invasive breast cancer.

Women diagnosed with an invasive breast cancer were at a small but statistically significant increased risk for second cancers associated with increasing BMI. The association was more pronounced when the analysis was limited to cancers that are "obesity-related," or for second breast cancers, and was strongest for a diagnosis of estrogen receptor-positive second breast cancer. This study was the first to examine the risk of a subsequent ER-positive breast cancer or obesity-related cancers specifically.

"These findings have important public health implications given the number of breast cancer survivors with excess [body weight](#)," said lead author Heather Spencer Feigelson, Ph.D., senior investigator at the Kaiser Permanente Colorado Institute for Health Research. "Our study examined whether cancer survivors are at an increased risk of developing a second cancer and what factors contribute to this [increased risk](#). Our findings truly underscore the need for effective weight loss prevention strategies, including nutrition and physical activity guidelines for breast cancer survivors."

This study involved 6,481 women from Kaiser Permanente in Colorado and Washington, of whom 822 (12.7%) developed a second cancer. The majority of women were overweight (33.4%) or obese (33.8%) at the time of their initial diagnosis. The mean age at initial breast cancer diagnosis was 61 years, and most (82.2%) of the cohort was white. Black women comprised a small percentage of the cases but were more likely to be obese (50.9% of Black women were obese compared to 33.6% of white women). The patients' BMI at the first cancer was extracted from their medical records. The outcomes evaluated included: all second cancers, obesity-related second cancers, any second breast cancer, and ER-positive second breast cancers. Obesity related cancer includes

colorectal, uterine, ovarian and pancreatic cancer.

"This study illustrates that modifying one's BMI may result in significant health and quality of life benefits among [breast cancer](#) survivors," explained Clara Bodelon, Ph.D., MS, Division of Cancer Epidemiology and Genetics at the National Cancer Institute, part of the National Institutes of Health.

**More information:** Heather Spencer Feigelson et al. Body Mass Index and Risk of Second Cancer among Women with Breast Cancer, *JNCI: Journal of the National Cancer Institute* (2021). [DOI: 10.1093/jnci/djab053](#)

Provided by Kaiser Permanente

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