

# Obesity associated with increased breast cancer risk in postmenopausal women

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Mammograms showing a normal breast (left) and a breast with cancer (right).  
Credit: Public Domain

An analysis of extended follow-up data from the Women's Health Initiative clinical trials suggests that postmenopausal women who were overweight and obese had an increased risk of invasive breast cancer compared to women of normal weight, according to an article published online by *JAMA Oncology*.

Obesity is a major public health problem in the United States and obesity has been associated with [breast cancer](#) risk in observational studies, systematic reviews and meta-analyses. However, questions remain.

Marian L. Neuhouser, Ph.D., R.D., of the Fred Hutchison Cancer Research Center in Seattle, and coauthors examined the association between being overweight and obese with the risk of postmenopausal invasive breast cancer. The Women's Health Initiative (WHI) protocol measured height and weight, baseline and annual or biennial mammograms, and breast cancer in 67,142 [postmenopausal women](#) enrolled from 1993 to 1998 with a median of 13 years of follow-up. There were 3,388 invasive breast cancers.

Analysis by the authors found:

- Women who were overweight (body mass index [BMI] 25 to increased risk of invasive breast cancer compared to women of [normal weight](#) (BMI
- The risk was greatest for women with a BMI greater than 35; those women had a 58 percent increased risk of [invasive breast cancer](#) compared with women of normal weight (BMI
- A BMI of 35 or higher was associated with increased risk of estrogen and progesterone receptor-positive breast cancer but not estrogen receptor-negative cancers
- Obesity was associated with markers of poor prognosis; women with a BMI greater than 35 were more likely to have large tumors, evidence of lymph node involvement and poorly differentiated tumors
- Women with a baseline BMI of less than 25 who gained more than 5 percent of body weight during the follow-up period had an increased risk of breast cancer
- Among [women](#) who were already overweight or obese there was

no association of weight change (gain or loss) with breast cancer during follow-up

- There was no effect on the BMI-breast cancer relationship from postmenopausal hormone therapy (HT)

'Obesity is associated with a dose-response increased postmenopausal breast [cancer risk](#), particularly for estrogen receptor- and progesterone receptor-positive disease, but risk does not vary by HT use or race/ethnicity. These clinically meaningful findings support the need for clinical trials evaluating the role of obesity prevention and treatment on [breast cancer risk](#),' the article concludes.

In a related commentary, Clifford Hudis, M.D., of Memorial Sloan Kettering Cancer Center, New York, and Andrew Dannenberg, M.D., of the Weill Cornell Medical College, New York, write: 'Overweight and obesity are a growing global challenge and the increased burden of malignant disease, to which it contributes, is another one. Their report helps focus our thinking and motivates us to pursue a deeper understanding of why overweight and obesity are a problem so that we can plan more effective and thoughtful responses.'

**More information:** *JAMA Oncol.* Published online June 11, 2015.

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