

# Breast density, no lobular involution increase breast cancer risk

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Women with dense breasts and no lobular involution were at a higher risk for developing breast cancer than those with non-dense breasts and complete involution, according to a study published online in *The Journal of the National Cancer Institute*.

Apart from age, family history, and age at menarche, two additional factors associated with [breast cancer](#) risk include mammographic breast density and extent of lobular involution. Lobular involution is the physiological atrophy of the breast epithelium and is known to increase with increasing age.

To determine whether these two factors are independently associated with breast cancer risk, Karthik Ghosh, M.D., of the Mayo Clinic, and colleagues investigated the factors' association with breast cancer risk in a cohort of 2666 women with benign breast disease, followed for a mean of 13.3 years; 172 (6.5%) women subsequently developed breast cancer.

The researchers took their cohort from the larger Mayo Breast Disease cohort, which included 9376 women between the ages of 18 and 85, with no history of breast cancer, who were diagnosed with benign breast disease between 1967 and the end of 1991.

The researchers found that breast density and extent of lobular involution were independent risk factors for breast cancer, and that combined, they pose an even greater risk. The authors write: "Our findings also reveal that having a combination of dense breasts and no

lobular involution was associated with higher breast cancer risk than having non-dense or fatty breasts and complete involution."

The researchers write that one of the study's strengths is that it was conducted in a large, well-organized cohort of women; however, limitations include the fact that the study population was predominantly white and representative of the upper Midwest, pointing to the need to conduct research in diverse populations.

In an accompanying editorial, Gretchen L. Gierach, Ph.D., of the National Cancer Institute, and colleagues, describe lobular involution and mammographic breast density as factors that "hold promise for improving risk prediction, particularly because they reflect the cumulative interplay of numerous genetic and environmental breast cancer risk factors over time."

Future studies, they write, should include larger numbers of patients from diverse racial and ethnic backgrounds and aim to understand the relationship between involution and epidemiological risk factors such as body mass index. Furthermore, since neither lobular involution nor mammographic [breast density](#) are static processes, evaluating changes over time may improve their predictive value.

Provided by Journal of the National Cancer Institute

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