

# Only women with Western Swedish breast cancer gene run higher risk of ovarian cancer

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Previous research has shown that women with breast cancer are more likely than other women to develop ovarian cancer, but now researchers from the Sahlgrenska Academy at the University of Gothenburg, Sweden, have shown that actually only women with a known Western Swedish mutation behind hereditary breast cancer run this increased risk of ovarian cancer.

The study, published in the journal *Acta Oncologica*, shows that the increased risk of [ovarian cancer](#) is linked to a known mutation in women with breast cancer in Western Sweden. The research team had previously identified a special mutation in the breast cancer gene BRCA1 originating with some distant forefather on Sweden's West Coast many generations back. The mutation is often seen in families where three or more members develop breast and/or ovarian cancer and where someone under 50 is diagnosed with breast and/or ovarian cancer.

Our previous research showed that Western Swedish women with breast cancer are more likely to develop ovarian cancer than women diagnosed with breast cancer in other parts of the country," says Per Karlsson, associate professor from the Department of [Oncology](#) and leader of the research team at the Cancer Genetics Clinic at Sahlgrenska University Hospital.

Most ovarian tumours are benign, especially in younger women, but more than 700 women in Sweden are diagnosed with ovarian cancer each year, some 30-40 of them as a result of the Western Swedish

BRCA1 mutation. Now the researchers have shown that the increased risk of ovarian cancer among women diagnosed with breast cancer is due solely to this known mutation in the breast cancer gene BRCA1. Their research results reveal that women diagnosed with breast cancer who do not have this mutation do not run an increased risk of ovarian cancer.

"This means that we can focus our investigations and screening on families where many relatives have had breast and ovarian cancer," says Karlsson.

As this elevated risk of ovarian cancer affects only a very small proportion of women with breast cancer, the next step is to provide patients with clearer information about the risks associated with breast cancer when visiting the doctor.

"There is also research under way in the cancer genetics field which may mean that, in future, patients can receive more specific screening, and that cancer patients can expect a more personalised treatment," says Karlsson, who believes that this work could lead to fewer screenings and fewer side-effects from cancer treatments.

Provided by University of Gothenburg

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