

## For those with breast cancer, risk of other cancers in relatives increased

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Close relatives of women diagnosed with breast cancer before the age of 35 years are at an increased risk of developing other cancers, according to a University of Melbourne led study, published in the *British Journal of Cancer* today.

Professor John Hopper, Director of Research from the Centre for Molecular, Environmental, Genetic and Analytic Epidemiology at the University of Melbourne, a lead investigator in the study, said these are surprising and novel findings which could be pointing to the existence of a new cancer genetic syndrome.

“The results suggest there could possibly be undiscovered genes causing [breast cancer](#) in these young women, and perhaps other cancers in their families,” Professor Hopper said.

Every year in Australia, more than 300 women are diagnosed with breast cancer before the age of 35 years. This is approximately one in 40 of all breast cancers.

In the largest population based study of its kind, scientists studied 2200 parents and siblings of 500 women diagnosed with breast cancer before the age of 35 from across three countries, Australia, Canada and the United States.

After excluding families with mutations in BRCA1 and BRCA2, the two known major breast cancer susceptibility genes, they found that close

relatives were at increased risk of not only breast cancer, but also of cancers of the prostate, lung, brain and urinary tract.

The results showed:

- Fathers and brothers had a 5-fold increased risk of [prostate cancer](#).
- Mothers and sisters had a 2-fold increased risk of [ovarian cancer](#) as well as a 4-fold increased risk of breast cancer
- Close relatives also had a 3-fold increased risk for [brain cancer](#), an 8-fold increased risk for [lung cancer](#), and a 4-fold increased risk for urinary tract cancers.

“We wanted to find out what caused the early onset of breast cancer in these women and found some results we weren’t expecting regarding their relatives,” Professor Hopper said.

“The results of this study could help scientists discover new cancer susceptibility genes that explain the risk of early-onset and other cancers within some families,” he said.

“Our next step is to conduct larger studies to further clarify these results.”

Provided by University of Melbourne

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