



Princess Margaret Hospital
University Health Network

NEWS RELEASE

Study identifies breast density as the #1 risk factor for breast cancer Definitive long term study in 3 Canadian screening populations

(Toronto – January 17, 2007) – Scientists at The Campbell Family Institute for Breast Cancer Research at Princess Margaret Hospital have established that extensive dense tissue in the breast is a major risk factor for breast cancer.

The risk of breast cancer was about five times greater in women with extensive dense tissue in the breast compared to those with little or no dense tissue. Risk was increased both for women with breast cancer detected by screening, and in those with cancers found between screening examinations. Risk of breast cancer in women with dense breasts remained high over a period of eight years, both at screening, and between screens. These results show that in addition to increasing risk of breast cancer, dense breast tissue also makes cancers more difficult to see in a mammogram.

“This study establishes that breast density is an extremely important risk factor for developing breast cancer,” says the study’s principal investigator, Dr. Norman Boyd, a principal investigator in The Campbell Family Institute for Breast Cancer Research at Princess Margaret Hospital and a professor at the University of Toronto. He is also the Lee K. and Margaret Lau Chair in Breast Cancer Research, Ontario Cancer Institute, Princess Margaret Hospital.

“Depending on a woman’s age, between 16-30 per cent of breast cancers can be attributed to extensive density,” says Dr. Boyd. “Other risk factors, including family history and the known genes, account for a much smaller proportion of the disease.”

The paper will be published January 18, 2007 in *The New England Journal of Medicine*.

For several decades medical literature has pointed to breast density as one of several risk factors for breast cancer. This study is the largest to date to be based on modern mammography, and to focus on how cancers were found.

The researchers compared different breast densities with the risk of breast cancer in more than 1,000 women with breast cancer and 1,000 who did not have the disease, who were screened in the National Breast Screening Study, The Ontario Breast Screening Program and the Screening Mammography Program of British Columbia.

Breast tissue is made up of fat, supporting tissue (stroma), and the epithelium that forms ducts and lobules. These tissues affect the passage of X-rays differently. As a result, fat appears dark on a mammogram while denser tissues such as stroma, and epithelium, appear light. Density decreases with age and on average, women lose about one per cent of their breast density each year.

This research is supported by grants from the National Cancer Institute of Canada and the Canadian Breast Cancer Research Alliance.



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The Campbell Family Institute for Breast Cancer Research at Princess Margaret Hospital brings together an elite team of cancer researchers, scientists, clinicians and staff dedicated to the ultimate goal of conquering breast cancer by leveraging basic, translational and clinical research into dramatic breast cancer breakthroughs. For more information, go to www.campbellfamilyinstitute.com.

Princess Margaret Hospital and its research arm, Ontario Cancer Institute, have achieved an international reputation as global leaders in the fight against cancer. Princess Margaret Hospital is a member of the University Health Network, which also includes Toronto General Hospital and Toronto Western Hospital. All three are research hospitals affiliated with the University of Toronto. For more information, go to www.uhn.ca

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