

For Immediate Release

Hormone Therapy Safe and Effective in Reducing Breast Cancer Risk for Women with BRCA1 Mutation

Canadian-led study shows 42 per cent reduction of breast cancer risk with use of hormone replacement therapy in postmenopausal women with BRCA1 gene mutation

Toronto, September 23, 2008 – New Canadian-led research published today in the *Journal of the National Cancer Institute* suggests hormone replacement therapy is associated with a 42 per cent reduced risk of breast cancer in postmenopausal women with a BRCA1 gene mutation.

In Canada, it is estimated 6000 women carry a BRCA mutation, which means they have an 80 per cent chance of developing breast cancer in their lifetime.^{i,ii} However, this risk is greatly reduced by surgically removing the ovaries before menopauseⁱⁱⁱ, because ovary removal significantly decreases the amount of estrogen and progesterone circulating in the body (breast cancers need these hormones to grow.)

This preventive surgery (ovary removal) has become the standard of care in North America and Western Europe for preventing both breast and ovarian cancer for women with BRCA1 mutations, but only 54 per cent of women in Canada with the gene mutation have this surgery performed.^{iv} The reluctance is because hormone therapy is perceived to increase the risk of breast cancer, even though it is used to alleviate the effects of surgical menopause.

“The results of the study should be reassuring for women with a BRCA1 mutation who want to remove their ovaries before menopause to reduce their risk of developing breast and ovarian cancer, but are concerned about the effects of the hormone replacement therapy,” said Steven Narod, M.D., Canada Research Chair in Breast Cancer & Program Director of the Familial Breast Cancer Research Unit at the Women’s College Research Institute and professor of Public Health Sciences at the University of Toronto. “This new information can provide some reassurance to women when they are making this tough decision about reducing their risk.”

The study observed a total of 472 postmenopausal women with a BRCA1 mutation. They came from 55 cancer research centres in nine countries. Half of the women were diagnosed with breast cancer. They were then matched and compared to a similar group of women with a BRCA1 mutation, but with no breast cancer diagnosis. Current age, age at menopause onset and the type and length of hormone therapy treatment were all considered in the analysis. Women without breast cancer were found to have used hormone replacement therapy more often than women with cancer.

About Women's College Hospital

For the past 100 years, Women's College Hospital has been dedicated to groundbreaking advances in women's health. Women's College Hospital collaborated in the invention of the Pap test, opened Ontario's first regional Sexual Assault Care Centre and was the first hospital in the province to use mammography. Today Women's College Hospital is Ontario's first and only ambulatory care centre and is a teaching hospital affiliated with the University of Toronto focused on state-of-the-art care, research and education in women's health.

About Women's College Research Institute

The Women's College Research Institute (WCRI) is Canada's largest research institute dedicated solely to women's health and is part of Women's College Hospital. WCRI is grounded in three principles: increasing knowledge in women's health, advancing women's health by connecting researchers, students and clinicians, and sharing knowledge with health care providers, policy-makers and the public. In the 10 years since its creation, WCRI has been leading breakthrough research in key areas of women's health, including genetics and cancer, obstetrics, osteoporosis and more.

For more information about Women's College Hospital or the Research Institute, visit www.womenscollegehospital.ca

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ⁱ Ford D, Easton DF, Stratton DF, Narod S, Goldgar D, Devilee P. Generic heterogeneity and penetrance analysis of the BRCA1 and BRCA2 genes in breast cancer families. The Breast Cancer Linkage Consortium. *Am J Hum Genet.* 1998;62:676-689.

ⁱⁱ Antoniou A, Pharoah PD, Narod S, et al. Average risks of breast and ovarian cancer associated with BRCA1 or BRCA 2 mutations detecting in case series unselected for family history; a combined analysis of 22 studies. *Am J Hum Genet.* 2003;72:1117-1130.

ⁱⁱⁱ Eisen A, Luninski J, Klijn J, et al. Breast cancer risk following bilateral oophorectomy in BRCA1 and BRCA2 mutation carriers: an international case-control study. *J Clin Oncol.* 2005;23:7491-7496.

^{iv} Metcalfe KA, Lubinski J, et al. International variations in rates of uptake of preventive options in BRCA1 and BRCA2 mutation carriers. *Int J Cancer.* 2008;122:2017-2022.