



Article Link: <http://www.webmd.com/breast-cancer/news/20081212/gene-test-better-predicts-breast-cancer-risk>

## Breast Cancer Health Center

### Gene Test Better Predicts Breast Cancer Risk

#### New Tool Looks for Gene Variations linked to Increased Risk

By [Charlene Laino](#)  
WebMD Health News

Reviewed by [Brunilda Nazario, MD](#)

Dec. 12, 2008 (San Antonio) - A new genetic test is much better at predicting [breast cancer](#) risk than the standard model, researchers report.

The new test, known as OncoVue, looks at variations in 19 genes associated with breast [cancer](#) risk, says Kathie Dalessandri, MD, a breast cancer researcher at the University of California, San Francisco.

Currently, doctors use the Gail model to determine a woman's chance of developing breast cancer. It evaluates five personal and family predictors of breast cancer risk -- age, age at [first period](#), number of breast biopsies performed, age at the birth of first child, and number of immediate relatives who have had breast cancer.

"We know the Gail model is good at predicting risk of breast cancer within a population, but on an individual level, it's not much better than a flip of a coin," says Jennifer Eng-Wong, MD, a breast cancer specialist at Georgetown University Hospital. She was not involved with the work.

"One way to improve on the Gail model would be to incorporate an individual's own genetic assessment," she tells WebMD.

#### OncoVue vs. Gail Model

The researchers theorized that the OncoVue model, which incorporates the influence of genetic variation with information evaluated by the Gail model, would better accurately estimate breast cancer risk.

So they put OncoVue to the test in 177 women without breast cancer and 169 women diagnosed with breast cancer between 1997 and 1999 in Marin County, California. Marin County has higher than average breast cancer rates. Cell samples from the mouth were used to examine genetic patterns.

The research was presented at the annual San Antonio Breast Cancer Symposium.

Results showed that OncoVue was 2.4 times more accurate than the Gail model in identifying which women had breast cancer. It identified 56 cases of breast cancer vs. 37 for the Gail model.

"Put another way, OncoVue found 19 additional cases of breast cancer, translating to a 51% improvement over the Gail model," Dalessandri tells WebMD.

So why didn't the test identify even more women with breast cancer? "At this point, no test is going to be 100% accurate as we don't know all the risk factors, all the genes, involved in breast cancer," says Eldon Jupe, PhD, vice president at InterGenetics Inc., which developed the test.

He says the company hopes to gain FDA approval for OncoVue in the near future.

#### Breast Density Predicts Response to Tamoxifen

Also at the meeting, researchers reported that a change in breast density, as determined by [mammography](#), can predict which women will respond to preventive therapy with tamoxifen.

Researchers studied 1,063 women and found that those with at least a 10% reduction in breast density after 12 to 18 months of treatment with tamoxifen had a 66% reduced risk of developing breast cancer.

In contrast, women who did not have a decrease in breast density gained no benefit from tamoxifen.

"For the first time, we have found a biomarker that predicts who will and who will not respond to a preventive therapy for breast cancer," says Jack Cuzick, PhD, of the Centre for Epidemiology, Mathematics and Statistics at Cancer Research UK in London.

While he says he would like to see the findings replicated in other studies, "they suggest that if there is no reduction in breast density after a year or two of tamoxifen, there may be no benefit to continuing treatment," he says.

Tamoxifen, along with [Evista](#), is approved by the FDA for the prevention of breast cancer in high-risk women.

[View Article Sources](#)

© 2008 WebMD, LLC. All rights reserved.

SHARE  
What is this?

Digg

[del.icio.us](#)

[More...](#)

©2005-2007 WebMD, Inc. All rights reserved.  
WebMD does not provide medical advice, diagnosis or treatment.

My Notes: