

**Treating with Tamoxifen:
Genetic Differences Affect Response**

Tamoxifen is an important drug for treating and preventing estrogen receptor positive breast cancer. Women considering using tamoxifen should consider the risks, benefits and side effects of the drug. Recent studies suggest that women and their doctors must also consider how a person will metabolize the drug.

Most drugs are metabolized into other compounds. Tamoxifen is metabolized into several compounds, the most active is endoxifen. Research has revealed that a specific gene, CYP2D6, is responsible for much of the breakdown of tamoxifen to this active form (see figure).

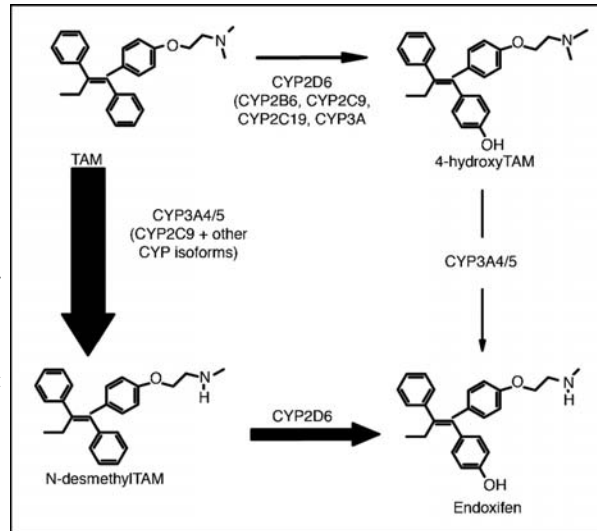
Individuals differ in the way this gene works depending on which variation of the gene they inherit. Some women have CYP2D6 genes that create an enzyme that metabolizes tamoxifen very quickly, while others create an enzyme with an intermediate

ability to metabolize tamoxifen. Still others are not able to metabolize tamoxifen very effectively or at all (poor metabolizers). Recent studies show poor metabolizers have a higher likelihood of tamoxifen being ineffective in treating and preventing breast cancer.

of tamoxifen making it less effective. For women who are normal or intermediate metabolizers of tamoxifen, there is a long list of drugs that they should avoid. Specifically, the class of antidepressants known as selective serotonin reuptake inhibitor (SSRIs). Unfortunately, SSRIs are often prescribed to decrease hot flashes in women who take tamoxifen.

Well, what should women considering tamoxifen do? Women should be aware of the drugs to avoid, specifically SSRIs. Women concerned about whether tamoxifen is the best prevention or treatment option for them should discuss genetic testing with their doctor to determine which variation

of the CYP2D6 gene they have. Women found to be poor metabolizers of tamoxifen may want to consider alternative preventive and treatment options.



Interestingly, one study found that women with the most side effects who discontinued tamoxifen were often good metabolizers and quite likely to benefit from the drug.

It has been found that some drugs affect the metabolism

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Announcement: HRBP Launches Website!

The Vermont Cancer Center now hosts the High Risk Breast Program of Vermont's new website.

The website provides an overview of the program and the research studies that are part of the HRBP. Viewers will also find information about clinical services offered at the Breast Care Center for women with an increased risk of developing breast cancer, information about the Familial Cancer Program, links to our quarterly newsletters, a list of upcoming local events related to breast cancer, and updates on the program.

Check out the HRBP's website at <http://hrbp.vermontcancer.org>

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PROGRAM
OF VERMONT

Winter 2008

Update: HRBP Receives Funding for Vitamin D Study

Dr. Marie Wood, Principal Investigator and founder of the HRBP, has been awarded \$35,000 from the Vermont Cancer Center and the Lake Champlain Cancer Research Organization (VCC/LCCRO).

This grant will fund an analysis of the HRBP's "Clinical and Molecular Markers of Breast Cancer Risk" study, which collects clinical information and blood samples from women at increased risk for breast cancer. The information collected will help to better define risk factors associated with the development of breast cancer.

To date, information has been collected on over 350 women who have enrolled in this study. The VCC/LCCRO money will allow us to analyze vitamin D levels and their association with breast density, a known

risk factor for breast cancer.

Emerging evidence suggests high vitamin D levels may protect against breast cancer, possibly by decreasing breast density. The findings from our analysis of vitamin D levels and breast density will serve as pilot data for a clinical trial being developed. The clinical trial will randomize 100 women to receive a daily vitamin D supplement or placebo for one year and will further explore how vitamin D effects breast density and other markers of breast cancer risk.



Cranberry Pear Crumble

For a warm winter treat try this dessert!

Preheat oven to 350 degrees

Filling:

- 1/4 cup fresh cranberries
- 1 Tbsp. fresh lemon juice
- 4 cups of Anjou pears, peeled and chopped
- 1 Tbsp. orange rind

Mix ingredients and add to 11x17 inch baking dish coated with butter.

Topping:

- 1/4 cup flour
- 6 Tbsp. brown sugar
- 6 Tbsp. oats
- 1 tsp. cinnamon
- 1/4 tsp. salt
- 1/8 tsp. ground nutmeg
- 3 Tbsp. chilled butter, cut into pieces

Combine dry ingredients and cut in butter with pastry blender. Sprinkle over cranberry pear filling and bake for 30 minutes. Serve with vanilla ice cream. Enjoy!

Scarf Project a Success!

In an effort to help fund costs associated with the HRBP a volunteer network of knitting scarves was started. Local women donate their time to knit scarves, which in turn helps fund the HRBP's educational newsletter, data collection costs, and program coordination costs.

Many scarves were donated throughout 2007 and over \$2,000 in sales were collected during November and December. The Scarf Project has been a great success and we will continue collecting donated scarves throughout 2008. If you would like to knit a scarf to donate to the HRBP you can pick-up yarn at the Breast Care Center or you can donate the yarn you use.

See our website for more information.

Save the Date: 8th Annual Stowe Weekend of Hope

May 2 - May 4, 2008

The Stowe Weekend of Hope is a weekend retreat for cancer patients, survivors and their families. The focus is to inspire, educate, and celebrate the lives of people living with cancer. Workshops and seminars provide participants with information about new treatments, cancer prevention, support and healing. For more information visit www.stowehope.com.