# FIGHT NOW UPDATE

Eat & Live Proactively Against Breast Cancer
By Aaron Tabor, MD
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**FIGHT NOW BEFORE BREAST CANCER STRIKES.**
**PREVENTION IS THE BEST CURE.**

## Obesity Responsible for 33,000 Breast Cancers Yearly

The American Institute of Cancer Research (AICR) issued a press release last week to announce their new estimates of cancer cases directly associated with obesity. Several sources of information were used to determine these estimates, including a 2009 report, Policy and Action for Cancer Prevention, published by AICR and the World Cancer Research Fund (WCRF) that estimated the percentage of cancers due to poor diet, excess weight and physical activity level.

Overall, this report indicated that 17% (33,000 cases) of breast cancer cases each year are due to being overweight. That is a huge proportion of breast cancer cases that could have been preventable by simply maintaining a healthy body weight. Other findings included:

- Increasing BMI was associated with an increasing breast cancer risk.
- Increasing amounts of physical activity reduce the amount of breast cancer recurrence and mortality.
- Current methods of breast cancer therapy do not discuss the link between obesity and a sedentary lifestyle with breast cancer prognosis.
- Obesity and a lack of physical activity are common both before and after breast cancer diagnosis.
- According to a separate AICR press release, breast cancer awareness (as well as other cancers) is shockingly low in the U.S. Some of the cancer awareness numbers discussed in the press release include:
- Only 51% of Americans realize that obesity is a cause of cancer
- Only 46% of Americans are aware that a lack of physical activity increases cancer risk, including breast cancer risk.
- Only 52% of Americans realize that a diet low in fruits and vegetables increases breast cancer risk (as well as other cancers).
- Only 20% of the population rated cancer, including breast cancer, as highly preventable.

In contrast to the above, 90% of Americans blame breast cancer and other cancers on 'cancer genes'. This press release really highlights the nearly desperate need for an improvement in breast cancer awareness. There are several things you can do to decrease

your personal breast cancer risk. In addition to increasing your physical activity and maintaining a health body weight, eating right can help reduce your breast cancer risk.

## Prudent Diet Lowers Breast Cancer Risk

A new study published in the American Journal of Clinical Nutrition examined some of the relationships between diet and breast cancer risk in African-American women. The results of their study indicated that thinner, younger African-American women who followed a "prudent" diet had a lower risk of developing breast cancer.

A "prudent" diet was defined as one rich in whole grains, vegetables, fruits, and fish while being lower in red meats, processed meats, and sweet and starchy carbohydrates. In the study, as the scores on the prudent-diet scale increased, the chances of developing breast cancer dropped.

## Vigorous Exercise Reduces Breast Cancer Risk

A new study clarifies some of the questions surrounding the benefits of exercise for breast cancer risk reduction. According to the study investigators, their study is one of the first prospective studies to examine the effect that various intensities of exercise has on breast cancer risk.

In their study, the investigators surveyed nearly 119,000 postmenopausal women about their exercise habits during four periods of life: 15 - 18, 19 - 29, and 35 - 39 years of age and during the past 10 years. The results of this study showed that exercising at a moderate to vigorous intensity for more than 7 hours per week during the past 10 years reduces breast cancer risk by 16%, while light intensity exercise was not associated with a reduction in breast cancer risk.

## Healthy Lifestyle Might Reduce Breast Cancer Mortality

New research conducted in Norway suggests that physical activity and metabolic characteristics (body mass index, blood pressure, and blood cholesterol levels) can impact a breast cancer patient's chances for survival.

In this population-based survival study of over 1,300 breast cancer patients, measurements of body mass index (BMI), blood pressure, and cholesterol levels as well as physical activity were analyzed in relation to the risk of dying. The following findings were reported:

- Women with a BMI of 30 or higher (obese) were at a 1.47-fold greater risk of dying compared to women with a healthy BMI.
- For women with a healthy BMI and at least 55 years of age when diagnosed with breast cancer, regular physical activity reduced the risk of dying by 66% compared to women who did not exercise.

- Breast cancer patients with higher levels (among the highest third) of blood cholesterol were at a 29% greater risk of dying compared to women with the lowest blood cholesterol levels (lowest third).
- Having a higher blood pressure increased the risk of breast cancer patients dying by 41% compared to having a lower blood pressure.

It is well understood that being overweight or obese substantially increases breast cancer risk. These new data not only support that relationship, but expand upon it. Body weight, blood pressure, cholesterol levels, and physical activity levels are all considered markers of healthy living by many health care professionals. Individuals that lead a less than healthy lifestyle can often have issues with being overweight, high blood pressure, and high cholesterol levels, putting them at risk for several chronic health conditions, including breast cancer. This new study suggests that these characteristics also decrease a breast cancer patient's chance of survival dramatically.

While it is never too late for anyone (breast cancer patient or otherwise) to start living a healthier lifestyle, it is always better to start sooner rather than later.

**FACT: An ounce of prevention is worth many, many pounds of cure.**

# Vitamin D & Calcium Reduce Breast Cancer Risk

Vitamin D has been one of the most, if not the most, talked about vitamin in 2009. Clinical and pre-clinical research continues to be published on the importance of appropriate vitamin D levels for protection against a variety of chronic conditions.

A new meta-analysis published online ahead of print in the journal Breast Cancer Research and Treatment provides more support for vitamin D, as well as calcium, for breast cancer protection. For their analysis, researchers examined data from 21 studies on vitamin D (intake and blood levels) and breast cancer risk and 15 studies on calcium intake and breast cancer risk. The results of their vitamin D analysis showed that as vitamin D intake increased, breast cancer risk decreased slightly. Furthermore, examination of blood levels of vitamin D showed that the highest blood levels of 25-hydroxy vitamin D were associated with a 45% reduction in breast cancer risk compared to the lowest levels. Analysis of the calcium data showed that the highest level of calcium intake was associated with a 19% decrease in breast cancer risk.

These data provide excellent support for the concept that diet and nutrition can have an important and beneficial impact on breast cancer risk.

# Breast Cancer Research Examines Cancer Metastasis

New breast cancer research published in the journal Nature Cell Biology investigated the method by which breast cancer cells spread throughout the body (breast cancer metastasis). Using new imaging techniques that involved dyes and marker proteins, the investigators demonstrated that breast cancer metastasis can occur in two ways, either by single cells or by groups of cells collectively.

Cells that spread as a group were limited to spreading into the lymph system, which is a more restricted breast cancer metastasis. In contrast, breast cancer cells that spread singly were able to spread through the blood vessel system and were therefore able to spread further, a more dangerous form of breast cancer metastasis. Using state-of-the-art imaging techniques, the investigators were able to show that activation of the transforming growth factor-beta (TGF-beta) gene caused cells to switch from group metastasis to single cell metastasis. However, these breast cancer metastatic cells, which spread to the lungs, did not grow until the TGF-beta gene was turned back off.

This is important new breast cancer research. Not only have these investigators discovered a cellular mechanism involved in breast cancer metastasis, they have shown that at least this particular gene not only has to be turned on, but also has to be turned back off in order for the breast cancer to continue to grow in the new site to which it spreads. Knowing the methods by which breast cancer cells metastasize to new sites might one day allow for the development of new breast cancer treatments, likely designed to prevent this specific cell signaling pathway. Breast cancer metastasis is one of the main causes of death from breast cancer, so new discoveries in how this occurs has the potential to save lives.

While new breast cancer research continues to provide hope for breast cancer prevention and breast cancer treatment, you can take steps on your own to reduce your risk of getting breast cancer at all

# Alcohol-Stimulated Breast Cancer Mechanism

Numerous scientific studies have shown that alcohol consumption, especially excessive alcohol consumption, is one of the biggest factors for increased breast cancer risk. What hasn't been known in any great detail is the mechanism by which alcohol consumption increases breast cancer risk.

New research published in Alcoholism: Clinical & Experimental Research begins to provide some answers. In their study, the researchers tested the idea that alcohol might stimulate the 'epithelial-mesenchyme transition' (EMT), a developmental program that has been shown to be involved in cancer progression and metastasis. For the study, breast cancer cells (and other cancer cells) were treated with alcohol and changes in the EMT were recorded. The results of their study showed that alcohol increased markers of EMT activity, increased the activity of the 'Snail' transcription factor, stimulated breast cancer cell migration, and increased activity of the epidermal growth factor receptor. These results suggest that alcohol might be involved in both the progression of existing breast cancer tumors as well as the initiation of new breast cancer.

While the increase in breast cancer risk associated with alcohol consumption is well known, these new data start to explain why alcohol consumption increases breast cancer risk. By discovering the mechanism by which alcohol increases breast cancer risk, researchers open avenues for new breast cancer treatment possibilities. Of course, the best and easiest approach to reduce alcohol-associated breast cancer risk is to reduce one's alcohol consumption. According to the American Cancer Society, women who drink 2 - 5 alcoholic drinks per day have 1.5 times the increase in breast cancer risk compared to women who consume no alcohol. Therefore, the American Cancer Society recommends that women limit their alcohol consumption to no more than 1 drink per day.

Limiting alcohol consumption is one of the most important things we can do to reduce breast cancer risk.

## Postmenopausal Hormone Therapy That Reduces Breast Cancer Risk?

New research presented October 19, 2009 at the annual meeting of the American Society for Reproductive Medicine suggests that we might one day actually have a postmenopausal hormone therapy that reduces breast cancer risk.

A team of researchers from Yale University, the Federal University of Parana (Brazil), and Wyeth Research examined the effects of four different selective estrogen receptor modulators (SERMs) either alone or combined with estrogen on breast cancer and uterine cancer cells in culture. The SERMs tested were tamoxifene, raloxifene, lasofoxifene, and bazedoxifene. In these cell culture tests, estrogen alone increased cell growth as expected. In breast cancer cells, three of the SERMs (tamoxifene, lasofoxifene, and bazedoxifene) substantially reduced the cell growth caused by the estrogen. In uterine cancer cells, all 4 SERMs reduced estrogen-induced cell growth. The investigators concluded that this combination of estrogen with a SERM, called a "Tissue Selective Estrogen Complex", shows promise as a new postmenopausal hormone therapy.

This is very interesting research. We already know that some SERMs, tamoxifene and raloxifene, have been shown to reduce breast cancer risk. If these or other SERMs can be combined with estrogen safely, an effective therapy for menopausal symptoms that does not increase breast cancer incidence might be on the horizon. Of course, it is important to remember that this study was done in a cell culture system and these systems can sometimes have different results than what happens in a living human being. Human clinical trials will be needed to determine the true safety and effectiveness of this new hormone therapy. In the meantime, you can reduce your breast cancer risk by making important dietary and lifestyle changes.

**ABOUT AARON TABOR, MD**

Dr. Aaron Tabor, MD is the author of *FIGHT NOW.*

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After graduating from The Johns Hopkins School of Medicine, Dr. Tabor devoted his career to helping people live a life they love through medical research. Over 1 million women have already trusted Dr. Tabor for better nutrition and health education. His *prevention through nutrition* research projects with leading hospitals include cancer, weight loss, younger-looking skin, hair, and nails, glycemic-index, cholesterol, pain, and hormonal health. Dr. Tabor educates other doctors about diet and lifestyle research as the Diet & Alternative Medicine Section Editor for *The Journal of Medicine*. He has authored numerous books, papers, and patents in the fields of medicine and nutrition. His recent co-edited book *Nutritional Cosmetics: Beauty from Within* (Elsevier) is the first medical textbook on "inside-out makeover" science—foods and supplements to make you look younger from the inside out. L'Oréal, Nestlé, and others contributed to this cutting-edge work. Dr. Tabor is Founder of Gene Facelift, a Johns Hopkins' biotech spin-off developing anti-aging and anti-wrinkle gene therapy drugs. Gene Facelift's drug technology is designed to replace damaged skin DNA in order to heal wrinkles and reverse the aging process.

**Please contact me with your questions and comments: DrTabor@fightBCnow.com**