

# The Prevention of Breast Cancer

**By: Dr. Sangeeta Pati MD, FACOG**

Although the belief that breast cancer cannot be prevented is a myth. In 1997, the American Cancer Society wrote "To date, knowledge about risk factors has not translated into practical ways to prevent breast cancer." Most of us know the risk factors of genes, biology (i.e. early menses, late menopause) and diet (i.e. high fat). However these risk factors are present in only 30% of women with breast cancer (JNCI Nov 1995). What about the rest 70% of women with breast cancer? What puts them at risk? Why should we take comfort in knowing that we do not carry the high risk genes (BRCA1 and BRCA2), when genes account for only 4% of all breast cancer cases. In this article, I would like to suggest that, "Breast cancer is preventable." There is scientific evidence supporting the role of environmental and dietary contaminants in breast cancer. There is scientific data supporting the prevention of breast cancer by hormonal balance, exercise, low fat diet, avoidance of alcohol and good nutrition. And since 70% of breast cancer occurs without traditional risk factors, we are all at risk. So, each and every woman should be armed with the practical knowledge to protect herself from breast cancer.

## How does breast cancer happen?

Breast cancer happens when a cell which normally does not divide, loses regulation and is transformed to divide without any brakes. This transformation can occur due to dietary and environmental toxins, low immune function, viruses, stress, hormone imbalance and nutritional imbalances including a lack of antioxidants. Any substance (environmental or dietary) which is a transforming agent for breast cells can either act like an estrogen (xenoestrogen) or be a carcinogen. If a person additionally carries gene mutations (like BRCA1 and BRCA2), they have a 4-fold increased risk of transformation. Let us look more closely at the science that supports how to prevent breast cancer.

## 5. Do's and 5 Don'ts to prevent breast cancer

### Do's

#### 1. Correct low progesterone and estrogen imbalance

Most breast cancer occurs after menopause; precisely at the time when the ovaries stop producing the normal balance of hormones. Why? First, progesterone starts to decline in the late 30's and it is progesterone that normally protects breast cells from dividing out of control. Second, approximately 10 years later comes an imbalance of the estrogens which normally are at 10% estrone (E1), 10% estradiol (E2) and 80% estriol (E3). This imbalance comes from a decrease in breast protective E3 and an increase in breast stimulating E1 (due to continued production of E1 in the fat tissue and adrenal gland). E1 is converted to forms of estrogen (i.e. 16-OH E1) which are mutagenic and carcinogenic to the breast. Data supports the role of hormonal imbalance (surplus E1 and low protective levels of progesterone and E3) as a major contributor to breast cancer.

Hormone balance can be checked and corrected by:

- Measurement of the ratio of good estrones (E1) to bad ones
- Bio-identical hormone replacement of progesterone and the three estrogens at the exact ratio that is natural and protective.
- Eating 3 servings per day of cruciferous vegetables (i.e. broccoli, cabbage, cauliflower, brussel sprouts), since these contain indole-3-carbinol (13C) which converts bad E1 to good E1
- Supplementation with DIM (di-indolylmethane) and 13C (indole-3- carbinol) if one can not correct the ratio by diet

2. Exercise regularly Regular exercise approximately 20 minutes, 3 times per week has been shown to lower the incidence of breast cancer by almost 30% (McTiernan, JAMA 2003). More recent data from the Nurses Health Study confirms that even after diagnosis of breast cancer, women who exercise have increased survival rates (JAMA 2005. NEJM 1997).

### 3. Eat good fats and Lower overall fat intake

Good fats with omega-3 and lignans from nuts, salmon and flaxseed are protective; however, body fat is not. Numerous studies have found that increased body fat is associated with increased breast cancer. Carrying an excess of 10 pounds of body fat from age 30 onwards, increases the risk of breast cancer by 25%. This may be due to the increased E1 produced in body fat, or it may be due to the contaminants in the dietary fat, since contaminants are often fat soluble and concentrate in the fat of animals. So, stay away from animal fat in meat and dairy and trim the fat off of all meats. Fat intake should be less than 20% (and Dr. Dean Ornish suggests less than 10%) of daily calories (JNCI, 1999).

### 4. Take anti-oxidants

Inflammation in the body produces high energy chemicals (called free radicals) which damage DNA and cause transformation of cells into cancer. Anti-oxidants absorb free radicals and prevent this damage. Fruits and vegetables are especially rich in antioxidants, the more colorful, the better. Green food supplements and phytonutrient drinks are also a good source of anti-oxidants. In addition, there are specific anti-oxidants that have been shown to protect against breast cancer, such as Vitamin A, vitamin E, Vitamin C, selenium, and the active ingredient in green tea (EGCG).

### 5. Increase Fiber

Fiber reduces bad estrogen levels and protects against a host of cancers. Our processed diets are very low in fiber. One should aim for 20-45 grams of fiber per day by adding whole grains, legumes, fruits, vegetables and a fiber supplement.

## Don'ts

1. Limit alcohol and tobacco The Nurses Health Study found a 5 fold increased risk of breast cancer in those women who drank 3 or more drinks per week. (JAMA 1998, Hankinson SE, JNCI 1995, JAMA 1998). There is mounting data that smoking increase breast cancer risk by 30% (Cancer Causes and Control 2005).

2. Avoid pesticides-toxins-eat organic

Although DDT was banned in the US many decades ago, it is still present in the produce from other countries, Lindane, DDT and many other pesticides and dyes (like Red Dye No 3) have been found to bind directly to breast tissue and stimulate the E1 receptor. Organic fruits and vegetables do not contain these pesticides and toxins.

3. Avoid hormone treated meats- eat organic

Most meats in the market come from animals treated with hormones that directly stimulate our hormone receptors, especially E1 Eating organic meats and dairy helps avoid these hormones and also the pesticides from animal feed.

4. Avoid industrial plastics/chemicals

There is mounting evidence that Bisphenol-A, polystyrene and other compounds which are present in most plastic food packaging and bottles, bind to estrogen receptors and are carcinogenic. So much so that, there is a move to ban bisphenol-A in food materials. So avoid packaged foods, such as meats wrapped in styrene and plastic. Pick foods wrapped in freezer wrap. Use glass cookware for the microwave, since the plastics give off toxic compounds when heated in the microwave.

5. Be cautious with hair dyes

The scalp is more absorbent than the skin of the body and hair dyes contain chemicals which bind to breast tissue. Some of the chemicals are known carcinogens and others are suspected carcinogens. 5 large studies have found an increased risk of breast cancer among those who routinely use hair dyes, especially to change color (Lancet 1979. JNCI 1979, 1980). Natural hair dyes (like henna) do not contain these chemicals.

## Unknown factors in need of further research

There are a host of factors that warrant mention since they are still under investigation for carcinogenic risk. These include excessive exposure to oral contraceptives, synthetic hormone replacement therapy. premenopausal mammography, silicone gel breast implants (especially those wrapped in polyurethane foam). chemicals (in home and at work), tobacco, electromagnetic radiation, chlorine in drinking water and food coloring (Red Dye No.3).

## Consider Digital Thermographic Imaging

Abnormal breast cells produce thermal changes before the development of a breast mass or calcifications. Digital thermographic imaging detects these thermal heat changes in the cells and

tissues. Although not extensively studied, digital thermography offers an additional method (to mammogram) of earlier detection without the radiation.

## Conclusion

Most breast cancer occurs in those without any risk factor. So, each and every woman should protect herself from breast cancer through restoring hormone balance, exercise, low fat diet, good nutrition and avoidance of alcohol, pesticides, plastics and other toxins. For more detailed information I have found useful "The Breast Cancer Prevention Program" by Samuel S. Epstein MD and David Steinman (1997 Macmillan).