

# Breast cancer prevention

WHAT EVERY WOMAN SHOULD KNOW



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## - What Every Woman Should Know -

Presented by MichaelDrew

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## Introduction

Being diagnosed with any form of cancer can be devastating. In particular, breast cancer takes a heavy toll on women both physically and emotionally, with the illness threatening their lives, and often what helps them feel like an attractive woman. While it can occur in men, the rate is 1 in 1,000, compared to 1 in 8 US women, about 12%, who will develop breast cancer over the course of her lifetime.

<https://www.cancer.org/cancer/breast-cancer/about/how-common-is-breast-cancer.html>

Even though breast cancer rates have become lower in recent years thanks to new medical protocols and screening, around 300,000 women will be diagnosed each year, and more than 40,000 women will die each year, making breast cancer the second most lethal cancer in women after lung cancer.

Having said that, it is important to put things into perspective. More than 43 million women are affected by heart disease, and in fact, 1 in 3 American women will die of heart disease, compared with 1 in 31 women dying of cancer.

<http://www.theheartfoundation.org/heart-disease-facts/heart-disease-statistics/>

The important thing to note is that BOTH these diseases are preventable through healthy lifestyle measures. Chances are a breast cancer prevention routine will help with your heart health, and vice versa. The thing is to not panic, and to get the facts you need to prevent breast cancer.

Let's start with a definition of breast cancer.



## Chapter 1 - What is Breast Cancer?

Breast cancer can be defined as malignant or cancerous cells in the breast. The cells can also spread to the lymph nodes, part of the immune system in the body, and to the lung, liver, bone and brain, in which case it is referred to as metastatic breast cancer.



Breast cancer is commonly 'staged' from 0 to IV by doctors, who give the cancer a TNM score, which stands for Tumor, Node, Metastasis. A small tumor, no node involvement and no spread would be Stage 0, while a large tumor and node involvement might be a Stage III. Any metastasis or spread is a Stage IV.

Staging is important because it helps doctors decide the best treatments in each case. The National Comprehensive Cancer Network is a group of leading cancer care centers throughout the US which set guidelines to help doctors in all practices follow similar procedures that have been tried and tested in order to get the best outcome (prognosis) possible.

In addition to staging, there are certain types of cancer as well. These will be determined by examining a sample of the tumor under the microscope. There are 4 types to look out for, which will each help determine what sort of treatment/s a woman should have to try to cure her cancer completely. The 4 types are:

### **Hormone receptor-positive or negative cancer**

Some types of cancers grow in response to certain hormones, estrogen (ER+) and progesterone (PR+). If they don't, they are labeled ER- and PR- those that do not test negative. If they are positive, they will be treated with a certain type of therapy, hormonal therapy and will usually respond well to it. Cancer that is both ER+ and PR+ can be more aggressive.

### **Human epidermal growth factor receptor 2**

The HER-2 protein is part of normal cell growth, but in some cancer cells the amount of HER2 proteins is too high, leading to rapid growth of the tumor. This is called HER-2+ breast cancer and is treated with what are termed targeted therapies.

### **Triple-negative breast cancer**

These types of cancers can be labeled ER-, PR- and HER-2-. The cells grow without estrogen, progesterone or HER-2 being present. These cancers will therefore not respond to hormone or targeted therapy but they usually respond well to chemotherapy.

As you can see, there are many factors to consider in deciding on treatment for breast cancer, so the best tactic to take is to try to prevent it in the first place. Let's look next at the known risk factors for breast cancer and what you can do to prevent it.

## Chapter 2 – What are the Risk Factors for Breast Cancer and What Can You Do to Reduce your Risk?

Like many cancers, the risk of developing breast cancer depends on a number of risk factors and varies among individuals due to a genetic component. This is commonly referred to as cancer running in families. Fortunately, there are many risk factors you can control, so even if you are genetically predisposed to get breast cancer, your healthy lifestyle can reduce your risk.



### Genetic Factors

If you come from a family with a history of breast or ovarian cancer, genetic counseling and testing to identify mutations in certain genes might be a good idea. The BRCA1 or BRCA2 genes may give you more of an idea of your potential risk. Actress Angelina Jolie made headlines when she decided to have both her breasts removed and her ovaries as well because her mother had died young from breast and ovarian cancer, and she wanted to be pro-active and reduce her



risk. This response is extreme by many people's standards. While it has not started a trend, it has opened up the discussion for women to get tested.

The BRCA genes are known tumor suppressors, that is, genes which make proteins that help control cell growth. When inherited with a mutation, however, the BRCA genes can increase the chances of developing breast and ovarian cancer.

BRCA testing may give women an idea of their risk, leading them to give themselves self-exams more often and go for mammograms (scans of the breast) more frequently than other women. However, it is important to note that some people might argue that even though the doses of radiation are quite small, frequent mammograms could actually boost the risk of abnormal cell format and cancer.

Knowing your BRCA can help you and your family gauge their risk of cancer. It might also qualify you for very specific clinical trials that are enrolling to track women over time in terms of number of cases of cancer they develop, treatments and outcomes.

## **Lifestyle**

Many cases of breast cancer are linked to certain lifestyle aspects:

- Lack of physical activity
- Alcohol consumption (alcohol has been linked to at least 7 different types of cancer)
- Cigarette smoking
- Using oral contraceptives
- No childbirth
- A late first live birth, such as over the age of 30
- No breastfeeding
- Obesity after menopause
- Receiving, or having received, hormonal replacement therapy (HRT) for menopausal symptoms
- History of receiving radiation therapy to the chest before age 30

- Poor diet-eating lots of processed foods, meat and cow milk; eating charred or grilled red meat.

Other factors which are important, but over which you have no control, include:

- Advancing age (most cases are diagnosed in women over 45)
- Early start to one's periods, such as younger than 12 years of age
- Late menopause, such as greater than 55 years of age
- History of ovarian, endometrial, or uterine cancer
- History of benign breast conditions such as atypical hyperplasia (overgrowth of tissue) or 'lumpy breasts'

Controlling the lifestyle aspects means potentially minimizing the risk of the factors not under your control. Here are some of the things you can start doing TODAY to lower your risk of breast cancer:

### **Avoid alcohol**

Alcohol constitutes empty calories, makes you feel hungover if you drink too much, alcohol kills brain cells, and also leaves you open to blood sugar highs and lows leading to food cravings and uncontrollably binges.

- Maintain a healthy body weight and waist circumference.
- Calculate your BMI and measure your waist regularly. So-called 'waist roundness' is seen as a danger sign of diabetes. You can calculate your BMI here: [https://www.nhlbi.nih.gov/health/educational/lose\\_wt/BMI/bmicalc.htm](https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm)

### **Exercise**

Current recommendations for physical activity in all American adults is currently, 150 minutes of moderate-intensity aerobic exercise per week, that is, exercises that boost your heart rate, and 30 minutes of strength training twice a week. Try a walking program, cycling, spinning, aerobics or swimming. For strength training, try light weights, resistance bands, yoga or tai chi.

Exercise and smart food choices can all help you maintain a healthy weight.

**Regular trips to the gynecologist**

A Pap smear and internal exam can determine the presence of ovarian, uterine and endometrial cancer.

**Regular mammograms according to age and genetic status**

Follow your doctor's recommended guidelines regarding being screened. They will depend on age, genetic status if you get the BRCA test, and overall makeup of your breast.

**Regular breast self-exams**

Women, and sometimes their partners, are often the first to discover a suspicious lump. Early detection is key. The "Know Your Lemons" campaign has been hugely successful in getting women to pay more attention to breast health and self-exams. <https://www.worldwidebreastcancer.org/>

**Beware of birth control pills**

Birth control pills are 97% reliable, but they do contain hormones, which means that cancers which are hormone-positive can thrive. If you are in a secure, monogamous relationship, consider a diaphragm and other forms of barrier contraception, or an Intra-Uterine Device or IUD if you are sure you don't want to start a family soon, or already have children and don't think you want any more in the near future.

**Have childbirth at an earlier age and breastfeed each child for a significant duration**

This may not always be in your control for various reasons, but in general, women who put their careers first and leave childbirth until their mid- to late 30s might be increasing their risk. Lactation is also an issue that many women can't control. However, a lactation specialist can help. You can also pump the breast milk, so you don't have to be the only person feeding the baby.

Studies have also shown that breast milk protein profiles are better for baby than formula or cow milk. They have also shown that the earlier children are put on solid food, the worse their weight and nutritional issues. So while it is true that breast feeding can be a big commitment, it benefits both you and baby long term.

### **Get the BRCA test**

This will help you consider your level of risk and plan your lifestyle accordingly. If you have any immediate family members who have had breast cancer, such as mother, aunt, sister, it is a good idea to get tested.

### **Consider a clinical trial**

There are more than 8,100 clinical trials in the US being conducted in relation to breast cancer. Some are related to people with the BRCA gene. Participation will be based on various selection criteria, but all expenses are usually paid in terms of medical care and sometimes even travel to and from the test center, and overnight stays. About 5% to 10% of breast cancer are thought to be related to gene mutations. While there is nothing you can do about your genes, knowing your risk can help you make smarter lifestyle choices

### **Avoid HRT for menopausal symptoms**

HRT, hormone replacement therapy, was once hailed as a great way to improve a woman's heart and bone health, which is often worsened once a woman starts to go through menopause. Menopause is defined as a lack of periods for a year. Perimenopause, with 'peri-' meaning 'around', can take place as early for some women as their 30s. Since we know some types of cancer are linked to hormones, hormone replacement therapy can fuel women's cancers.

There are a range of other things women can do to:

- Relieve typical menopausal symptoms like hot flashes, night sweats and so on
- Improve heart health
- Improve bone health and lower the risk of osteoporosis (thinning of the bone), which can lead to fracture and potentially even death, such as from a broken hip

Fortunately, all of these methods usually overlap one another, and include a healthy diet and exercise.

**Weight gain after menopause**

This is a significant risk factor for breast cancer. Fortunately, there are more ways than ever to lose weight and keep it off. Eating habits, activity levels, and in some cases weight loss aids such as prescription medications, or bariatric surgery in extreme cases, can all help.

**Being aware of radiation**

Diagnostic tests to determine whether or not a disease is present can be a blessing that saves lives, but they can also be a curse in that they expose the body to more and more radiation over time. It is important to be aware of this and discuss any concerns with your doctor about minimum radiation dose for each test, and how often you should have mammograms.

**Healthy eating and nutrition**

There are a number of things that can be done to create an 'anti-cancer' diet. We will discuss this topic in more detail in a later chapter.

Breast self-examinations, mammograms, and watching for warning signs  
All of these can help detect cancer in its earliest stages, when a woman will be most likely to get the best possible outcome. Let's look at these topics next.



## Chapter 3 - Breast Self-Examinations, Mammograms, And Warning Signs

Breast self-examinations, mammograms, and looking out for warning signs of some type of breast abnormality are three of the best ways to detect cancer early, before tumors become large and the risk of the cancer spreading (metastasizing) becomes greater.

A regular breast-self-examination, such as once a month, should be performed in order to look and feel for anything unusual. It is a good idea to do it after a warm shower or bath, when you and your body are nice and relaxed. Schedule about 15 uninterrupted minutes to do it. BreastCancer.org has a useful 5-step process women can follow:

[http://www.breastcancer.org/symptoms/testing/types/self\\_exam/bse\\_steps](http://www.breastcancer.org/symptoms/testing/types/self_exam/bse_steps)



## Breast Self-Exam

Step 1: Stand in front of a mirror. Rest the underside of your forearms on your hips and keep your shoulders straight.

Look for anything unusual, such as:

- Breasts that are not the usual size, shape, and color
- A swelling or odd-looking bulging
- Dimpling or puckering of the skin
- An inverted nipple, that is, one which stick in rather than out
- A nipple that has changed location
- Redness, soreness, rash
- Peeling skin around the nipple

Step 2: Raise your arms all the way over your head. Look for the same changes again.

Step 3: While you're at the mirror, look for any signs of fluid coming out of one or both nipples that might look watery, milky, yellowish or bloody. Discharge from the nipple if you are not pregnant or breastfeeding is not common and might be a sign of a breast health issue.

Step 4: Go to a comfortable place to lie down. Lie down flat. Feel your breast in a circular manner, with the nipple as the center of a 'clock'. The top part of your breast above the nipple will be 12, and below the nipple will be six.

Work your way around from 12 to 6 back to 12 again using the first two fingers of your opposite hand. Press gentle to 'palpate' the flesh to check for any hardness or unusual texture of the breast. Then press a little harder to get to the underlying tissue, and a bit harder again to reach the tissue closest to your rib cage.

Next, widen the circle outwards until you have examined the entire area on that one side from your collarbone to the top of your abdomen, and from your underarm to your cleavage, the gap between your breasts.

Repeat on the other side.

You can also use the 'lawnmower method', in which you go up and down and side to side in an organized manner to examine the breast. Using both together can help ensure you don't miss anything.

If you do find something, make note of it. Some women like to keep a health journal that tracks their period and other important aspects of their health. Draw a round circle with a dot in the center for a nipple and mark a spot in a different color, or an X, and be sure to bring this to the doctor to get your assessment confirmed by your doctor with a clinical breast exam and other tests.

Step 5: Finally, feel your breasts while you are standing or sitting. Many women find that the easiest way to feel their breasts is when their skin is slippery, so they like to do this step when they are moisturizing, or it can be done in the shower or tub first as Step 1, and then all the other steps done once you have dried off. Examine your entire breast using the same process as described in step 4.

<http://www.nationalbreastcancer.org/breast-self-exam>

The earlier breast cancer is detected, the higher the chance of cure. Therefore, every woman should be breast aware starting at a young age, and continuing into your senior years. While it is true that most cases are diagnosed in women around or after menopause, breast cancer can happen at any age. (And yes, even men get it-about 1 in 1,000).

In order to spot changes, you need to know what is normal for you, which means regular self-exams. It can also mean educating your partner and enlisting them in helping you notice anything unusual. (Men need to give themselves testicular exams in a similar manner to detect cancer, and women can help with this in return!)

Note that your breast tissue will change depending on what stage of your menstrual cycle you are at if you are still having periods, so put a date on the calendar as a monthly reminder that is a week before or a week after your period should occur.

If you do notice anything, schedule an appointment with your doctor. They are trained and experienced in detecting breast issues that might be benign (harmless) versus potentially malignant, that is, cancerous.

Your doctor will ask for your recent medical history, when you noticed the change, if you have pain, and so on. S/he will perform a physical examination and a clinical breast exam. On the basis of what they find, they might recommend other tests, such as a mammogram, or breast screening, ultrasound, tissue sample, and other tests.

### **Mammograms**

Breast cancer screening via mammograms is currently recommended for all women, with varying degrees of frequency depending on age, medical history, and family history. The American Cancer Society offers the following recommendations:

<https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html>

Women ages 40 to 44 should be given the option to start annual breast cancer screening with mammograms, which are x-rays of the breast, if they wish to do so. There is some risk involved with the radiation from x-rays, so some women may not wish to have a mammogram, in which case, they should consider other options.

Women age 45 to 54 should get mammograms every year.

Women 55 and older should switch to mammograms every 2 years, or can continue yearly screenings if they wish.

Screening should continue as long as a woman is in good health, and is expected to live 10 more years or longer. The average life expectancy of women in the US as of 2016 was estimated at around 81, so women could in theory stop once they reached their early 70s if they wished.

<http://www.cbsnews.com/news/life-expectancy-for-white-women-falls-slightly-in-u-s/>

All women should be familiar with the known benefits, limitations, and potential harms linked to breast cancer screening.

## Pros

- Early detection of cancer
- A baseline to compare to with follow up tests

## Cons

- Radiation
- False negatives
- False positives

The tests are good, but they have to be administered and interpreted by human beings, who can make mistakes.

During mammography, each breast is pressed between 2 plates to flatten and spread the breast tissue in order to try to obtain a clear image. The machine also has to be calibrated correctly to get a clear result. A woman's position can sometimes determine the result. In addition, some women may find it painful and move involuntarily, leading to an unclear image and potential call back for another test.

Mammography screening is safe in general and only a very small dose of radiation is used in the procedure. Studies have shown that cases of advanced breast cancer, and death from breast cancer, has fallen thanks to regular screening programs, so mammograms are generally felt to cause a lot more good than harm.

Having said that, false positives can lead to unnecessary treatment and misery (such as in the case of actress and singer Kylie Minogue) or missed cases that can advance. It is estimated that up to 1 in 5 breast cancers can be missed. Estimates show that 200 out of every 2,000 women might have a false alarm, and 10 out of 2,000 be given unnecessary treatment.

Some studies estimate that mammography screening can result in an up to 30% increase in over-diagnosis of breast cancer and over-treatment. This has provoked a wide range of discussions about mammogram as a diagnostic tool, and calls for more accuracy and better tests.



Mammograms are of clear benefit to 'high-risk' women, with high-risk being defined as:

- Being a carrier of one of the BRCA gene mutations
- A family history of breast, ovarian or other female cancers
- A history of receiving radiation therapy to the chest before age 30
- A history of breast issues, such as benign breast conditions

### **Other tests**

Other tests used to determine if there is a tumor are:

Ultrasound, which bounces sound waves off the skin

MRI, Magnetic Resonance Imaging, using magnetic fields to spot tumors

Thermography, measuring heat in the body to determine if there is a tumor

<http://www.breastcancer.org/research-news/ultrasound-may-be-alternative-to-mammo>

### **Blood tests**

Blood tests can often suggest there might be cancerous activity in the body.

### **Biopsy**

This involves removing a sample of breast cells for testing. A fine needle aspiration biopsy into the breast can remove enough cells to hint at whether the lump is benign or malignant. A biopsy sample is also analyzed to determine the type of cells involved in the breast cancer, the aggressiveness (grade) of the cancer, and whether the cancer cells are ER, PR, HER-2 positive or negative.

This type of assessment, or staging, will be repeated again once a cancerous tumor is removed from the body through either a lumpectomy or a mastectomy. Once the tissue sample/s have been assessed by a pathologist, and your lymph nodes and other areas checked, a final stage and type would be decided upon and treatment plans drawn up accordingly.

We are of course hoping that things won't come to this, because you are doing all you can through a healthy lifestyle. The one key element to cancer prevention is what you eat. Let's look next at suggested nutritional guidelines to help prevent breast cancer.

## Chapter 4 - Nutritional Guidelines to Help Prevent Breast Cancer

Some researchers show that a combined approach of eating healthier foods and maintaining a healthier weight could lower the number of cases of cancer by nearly 15%.

Most research on possible links between diet and breast cancer recurrence risk has looked at broad dietary patterns, rather than specific foods. Emerging research is focusing on which foods to add to your diet, and offering 'swaps', exchanging a potentially cancer-causing food with a healthier choice that can be protective and preventive.



For example, most people now know red meat is unhealthy for us in relation to cancer, heart disease and more, especially if it is charred. But people need to eat something, so healthy swaps might include lean poultry or fatty fish like salmon, which is rich in Omega-3 fatty acids. They act as an anti-inflammatory in the body.

Some researchers believe that inflammation is a leading cause of disease such as heart disease and rheumatoid arthritis.

Swapping soy for red meat is another good choice. Soy contains phytochemicals, that is, plant-based nutrients, such as isoflavones. It is a good way to relieve naturally the troublesome symptoms of menopause. However, soy contains phyto-estrogens, plant-based estrogens, so women whose cancer is hormonally linked would need to be careful as to how much soy such as tofu, soy milk and so on they consumed.

### **High in plants and fiber**

Many studies have shown that a plant-based diet such as vegetarian or vegan can help lower the risk of breast cancer, or of breast cancer returning if a woman has had it. Those who eat diets high in vegetables, fruits, whole grains, chicken, and fish tend to live longer than those who eat diets high in refined carbohydrates, processed foods, red meat such as beef, pork, and lamb, and preserved meats such as bacon, sausage, luncheon meats, and hot dogs.

Two large studies have looked at the effects of lowering fat intake after being diagnosed with early stage breast cancer. One study found that women on a low-fat diet had a small reduction in the risk of cancer recurrence and also lost weight. The other study did not find a link, so the jury is still out, but weight loss is always a good thing if a person is obese provided it is healthy weight loss, not weight loss due to the cancer, nausea, vomiting and so on as a result of them undergoing treatment.

### **Dietary supplements**

So far, no dietary supplements have been shown to clearly help lower the risk of breast cancer progressing or coming back. Studies have also shown that people who rely on vitamins, rather than just take them as a supplement, actually live a shorter amount of time than those who don't. Their best guess as to why is in relation to the word supplement. Vitamins sold commercially are only ever supposed to fill in the gaps that might be in an otherwise healthy diet. They should not be relied upon as some sort of magic bullet in relation to a poor diet.

## **Antioxidants**

Antioxidants are foods and drinks which are believed to help fight cancer and combat aging. Aging and disease are thought to be caused by a process known as oxidative stress. Oxidative stress is caused by free radicals.

Free radicals are incomplete molecules with an open space for an additional electron. They will rob it from any source they can get, damaging membranes, cells and even our DNA. Free radicals are produced by our own bodies, so there is no way to prevent them completely. However, we do know that certain substances we are exposed to can trigger them. They include:

- Unhealthy foods we eat, such as processed foods with lots of chemicals in them
- pesticides
- pollution
- synthetic toxins
- chemicals in our personal care, cleaning products and so on
- chemicals in our workplace

Fortunately, we can try to reduce their negative impact by adding antioxidants to our diet. As the name suggests, they combat oxidative stress. Antioxidants have extra electrons in their outer ring, so they can give them up to the free radicals and therefore neutralize them without being damaged or weakened themselves.

To lower your risk of cancer and reduce the signs of aging, eliminating chemicals from your diet and adding antioxidants could keep breast cancer at bay. The best sources are blueberries, apples and green tea.

## **Super Foods**

Some foods count as 'super foods'. In addition to their nutritional value, they are also thought to have diseases preventive and perhaps even healing qualities far beyond what their profile might suggest.

If you've been wondering why you are seeing kale everywhere these days, and why everyone tells you to eat broccoli even if you don't like the taste, it is because these are 2 super foods you should try to add to your diet every day. Other choices include:

- Almonds
- Apples
- Berries, blueberries, strawberries, blackberries, raspberries
- Broccoli
- Cherries
- Cranberries
- Fatty fish
- Flax seed
- Garlic
- Ginger
- Kale
- Onions
- Orange peppers
- Oranges
- Pomegranates
- Soybean
- Spinach
- Sweet potatoes
- Turmeric
- Walnuts
- Yogurt (0% fat, Greek-style)

### **Dietary fats**

Fats include oils, butter and margarine as well as the fat in meats, fish and nuts. Remember there are also hidden fats in sweets, biscuits, cakes and prepackaged foods, so if you are not baking yourself from scratch, chances are there is a lot more fat in your diet than you know.

An overview study reported that women had an increased risk of breast cancer if they had more fats in their diet after the menopause. Another study has shown that women who eat high levels of saturated fats have double the risk of breast cancer.



Not all fats are created equal. Animal-based fats will contain artery-clogging cholesterol. A Mediterranean diet with small amounts of high-quality olive oil, and nuts, can lower cholesterol naturally.

People who eat a lot of foods containing fish oils such as salmon and sardines seem to have a lower breast cancer risk, but watch out for fish oil supplements, which can be harmful in large doses.

### **Sugars and processed carbohydrates**

Those in the Western world have a higher rate of breast cancer and overall lower rate of life expectancy than those in Japan and other Asian countries. While no direct link has been found as yet between cancer and carbs, a large study of Chinese women in the USA reported in 2009 that for women younger than 50, more carbs increased the risk of developing breast cancer, particularly of ER-cancer. Those who eat a traditional Asian diet have a much lower incidence rate of cancer.

### **Dairy foods**

Dairy products are an issue of concern because many are full of antibiotics and hormones due to the practices of the dairy industry in the US. Buy organic if you can and limit your intake. Use soy or nut milks in place of dairy. There is some evidence yogurt can be protective. Vitamin D and calcium are also thought to be protective, and good for bone health in general.

### **Vitamin C**

Vitamin C promotes health, healing, and sturdy muscles and connective tissue to help keep the body lean and trim. It's also great for the skin. Many of the super foods on the list are high in vitamin C. Go for orange fruits and vegetables.

### **Vitamin A**

Beta-carotene is a precursor of vitamin A, which helps maintain a healthy immune system. The orange and green super foods on the list are high in beta-carotene, so try to incorporate them every day.

**Fiber**

Fiber is found mostly in fruit, vegetables and whole-grains such as oatmeal. It makes you feel full for longer, so you will eat less. It can help you remain regular, thus removing toxins from the body. All adults should eat around 25 to 30 grams of fiber per day. Wheat bran fiber has been shown to lower the levels of estrogen in the blood of premenopausal women. High fiber diets usually contain less fat, cholesterol and calories, promoting weight loss. They also usually contain more antioxidants.

**Fruit**

Fruit is an excellent natural substitute for processed desserts. Enjoy berries or apples with oats as a tasty crumble. It will be rich in fiber and antioxidants. Freeze and eat the berries as a substitute for ice cream, sherbet or sorbet.

**Avoid alcohol**

Alcohol has been linked with several different types of cancer. Drink eight 8-ounce glasses of fresh spring water or filtered water every day.

**Avoid caffeine**

Try swapping your coffee or cola for decaf green tea or plain water with a splash of fruit juice.

**Future research**

Researching diet and breast cancer is very difficult because we all eat such a range of different foods in such differing amounts. However, a large study called EPIC (the European Prospective Investigation into Cancer), started in 1992, is looking at the links between lifestyle and cancer. It involves more than 520,000 people in 10 European countries and regularly publishes results and updates when it has any significant findings. Visit their site to see the latest headlines:

<http://epic.iarc.fr/> and you can read a summary of some of the most important findings here:

[https://en.wikipedia.org/wiki/European Prospective Investigation into Cancer and Nutrition](https://en.wikipedia.org/wiki/European_Pro prospective_ Investigation_ into_ Cancer_ and_ Nutrition)

Note that the results refer to all forms of cancer, not just breast cancer.

Other important diet and cancer prevention data has come from the Genesis Breast Cancer Research Center, with a range of results related to lifestyle:  
<http://www.breastcentre.manchester.ac.uk/Portals/12/Documents/Genesis%20Research%20Overview%202015.pdf>

### **Intermittent Fasting**

Intermittent fasting, also known as the 5 2 diet, is based on a short, small study that found women who ate normally 5 days of the week and a reduced calorie diet 2 days of the week in a row showed changes in their body that could be protective against breast cancer.

<https://www.ncbi.nlm.nih.gov/pubmedhealth/behindtheheadlines/news/2016-06-17-52-diet-could-play-a-role-in-preventing-breast-cancer/>

On the 2 low calorie intake days, around 500 calories for women was suggested. The study involved 24 women who were overweight or obese, aged 35 to 45, free of cancer or diabetes, and with a higher than average breast cancer risk. The women were told to drop their calorie intake by 75% on two consecutive days a week. On the other 5 days, they followed a Mediterranean diet rich in olive oil, fish, and plant-based foods.

The women lost about 5% each in terms of weight and body fat and tests showed significant changes to the body's metabolism and the way it handled fat and insulin. Around half the women showed biochemical changes in their breast tissue that was interpreted as potentially reducing their breast cancer risk.

To read more about the study, visit:

<http://www.nhs.uk/news/2013/01January/Pages/Does-the-5-2-intermittent-fasting-diet-work.aspx>

While we may not be sure exactly what to eat to prevent cancer, a heart-healthy, anti-inflammatory diet rich in plant foods would seem to be the best option.

## Conclusion

Breast cancer can be a woman's worst health fear, and nightmare if she develops it. But with so many things you can do to get all the facts and be pro-active about your breast health, even if you have genetic markers for it, there is no need to feel helpless. Review all of the risk factors. Schedule doctor's appointments if you are overdue. Stop smoking tobacco, and start managing your stress. Exercise more, eat less. Try some of the tasty super foods on the list. Swap sensible choices for unhealthy ones. All these little changes can help your overall health, and keep breast cancer at bay.

To your best health!

## Resources

American Cancer Society Breast Cancer Guide

<https://old.cancer.org/acs/groups/cid/documents/webcontent/003090-pdf.pdf>

Diagnosing Breast Cancer –Mayo Clinic

<http://www.mayoclinic.org/diseases-conditions/breast-cancer/diagnosis-treatment/diagnosis/dxc-20207942>

American Cancer Society Guidelines for the Early Detection of Cancer - Breast and Other Types of Cancer Screenings, so read the entire page

<https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html>

U.S. Breast Cancer Statistics

[http://www.breastcancer.org/symptoms/understand\\_bc/statistics](http://www.breastcancer.org/symptoms/understand_bc/statistics)

The top 10 leading causes of death in the US-All population-Feb 2017 data

<http://www.medicalnewstoday.com/articles/282929.php>

Amongst women-2014 data

<https://www.cdc.gov/women/lcod/2014/race-ethnicity/index.htm>

Best and Worst Foods for Cancer Prevention

<http://www.womenshealthmag.com/health/breast-cancer-nutrition>

Calorie restriction and breast cancer

<https://www.cambridge.org/core/journals/proceedings-of-the-nutrition-society/article/div-classtitleenergy-restriction-and-the-prevention-of-breast-cancerdiv/4B30994FAFED5130D9B30784C7F3EBE2>

Alternate-day fasting and chronic disease prevention: a review of human and animal trials

<http://ajcn.nutrition.org/content/86/1/7.full.pdf>



Foods for breast cancer prevention

<http://www.everydayhealth.com/breast-cancer-pictures/foods-for-breast-cancer-prevention.aspx>

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