

Improving Breast Cancer Survivorship with Lifestyle Changes

By Barbara MacDonald, ND, LAc

I hope to inspire an uprising among the 2.5 million American breast cancer survivors – a campaign shouting from the rafters, or at least tweeting and posting with slogans such as “take control of your survivorship sister!” or “you can help yourself if you only knew the truth.” Ok – perhaps that is a bit dramatic – but, everyone who has breast cancer deserves to know this information. *“There are things you can do to lower your risk of recurrence that may also improve your prognosis.”* If you can achieve even one of these lifestyle changes, research shows, that the benefits could be well worth the effort. So, grab a friend and get walking, learn to mix a cup of organic miso soup or green tea, eat lots and lots of veggies and fruit, drink less alcohol and/or hire a weight-loss coach to create your own survivorship strategy.

“What now?” is a common question asked after cancer treatment ends. Survivors want to *do* something to help prevent cancer from coming back. When empowered to do so, they reflect that “If it does come back, I will feel like I’ve done everything I could to prevent it.”

For years, we referred to primary prevention data (studies of things that reduce the risk of ever getting breast cancer) because there weren’t any studies on what you could do to reduce recurrence or improve survival. Now, we have studies showing that lifestyle changes improve prognosis. I will review the evidence-based recommendations that breast cancer survivors can choose from in creating their own survivorship strategies.

Exercise 3-5 Hours Weekly

Exercise holds the greatest promise to those who wish to make their own impact on breast cancer prognosis. The Women’s Healthy Eating and Living (WHEL) study, reported a 50% greater chance of survival in those who did the equivalent of 30 minutes of exercise six days weekly, regardless of

obesity.¹ The amount does matter. The Nurse's Health Study showed that women who did 3-5 hours of weekly exercise were 30% more likely to survive compared to those who did only 1-3 hours.² In addition, simply increasing the amount of exercise after treatment increases survival by 45% while reducing post-treatment activity had a four-fold higher risk of mortality (death).³ In study after study, moderately strenuous, regular, physical activity has been found to improve breast cancer prognosis. However, the vast majority of women treated for breast cancer do not meet the recommended guidelines. Only 34% of survivors exercised 3 hours weekly before diagnosis and only 21% report doing so when asked ten years after diagnosis.⁴ Hopefully, we can inspire more and more survivors to make physical fitness their number one health-related goal.

Drink 3-10 Cups of Green and White Tea Daily

Another powerful tool to reduce the risk of recurrence of breast cancer is to drink high-quality green and white tea or take standardized green tea extract in capsule form. A 1998 study found that drinking four or fewer cups of green tea daily resulted in a 24.3% recurrence rate among early-stage (I=III) breast cancer survivors. Those who drank five or more reduced their risk of recurrence to 16.7%.⁵ This was the first study to show that more is better. A 2001 Japanese study reported that early-stage survivors who drank an average of five, but at least three, cups of green tea daily had a 31% reduced risk of recurrence compared to those who didn't drink any.⁶ Systemic reviews and meta-analyses in 2005 and 2010 affirmed the results of the earlier studies.^{7,8}

The type and quality of tea that you drink makes a difference however. Green and white tea, (*Camellia sinensis*), contain the most cancer-fighting flavonoids like polyphenol catechins. This includes the powerful, epigallocatechin-3-gallate or EGCG. According to the USDA, the amount of EGCG in green tea varies greatly. Low quality teas have been found to contain as little as 2.31mg/100ml of tea while higher quality types contain up to 200mg/100ml of tea.⁹ Among tea industry experts it is thought that the freshest loose leaf teas are higher quality than the dust found in

many conventional tea bags. Companies with the best quality pluck, processing and storage will yield the strongest cancer-fighting constituents.

Green tea contains approximately 25-40 mg caffeine per cup compared to less than 20 mg in white tea.¹⁰ In order to consume enough green tea to get the health benefits (3-10 cups daily), this may be more caffeine than some people can handle without side effects. A study comparing green and white tea for total catechin content (TTC) and total antioxidant capacity (TAC) found that the TTC of white tea ranged from 14-369 mg/g dry plant material compared to green tea ranging from 21-228 mg/g. They also found that while certain white teas had comparable TTC, some had lower antioxidant capacity. They concluded that “the results suggest certain green and white tea types have comparable levels of catechins with potential health promoting qualities.”¹¹

If drinking green tea doesn't appeal at all, you can purchase standardized green tea extract (GTE) in capsule form. The average 300 mg capsule of green tea extract (standardized to 80% catechins of which 45% is EGCG) yields 135 mg of EGCG per capsule which is equivalent to 3 cups of green tea daily.¹² Most healthcare practitioners recommend 1-3 capsules daily for better breast cancer outcome, depending on how many cups of green tea one drinks. The maximum tolerated dose of EGCG is nearly three times this amount (600 mg twice daily over a 6 month of study period). Side effects at these very high doses define the dose-limiting toxicity and include: rectal bleeding, weight gain, indigestion, insomnia and liver function abnormality.¹³ One would have to consume 25 cups of green tea daily to reach this level of toxicity. It should also be noted that green tea has blood thinning properties. Consult your physician about reducing intake prior to surgery and be monitored regularly if on Coumadin or with bleeding disorders.

Eat A Diet High in Vegetables, Fruit, Fiber and Soy and Low In Saturated Fat

Healthy Diet in General

The research on using therapeutic dietary recommendations is conflicting and often confusing for patients and practitioners. As a naturopathic doctor, I generally recommend individualized nutritional plans. In designing a plan, we can take into consideration this information from breast cancer outcome studies and personalize it from there. Several studies have looked at the association between eating a ‘healthier diet’, in general, after breast cancer diagnosis and breast cancer recurrence, disease-free survival and all-cause mortality. The problem is that studies define ‘healthy’ differently.

In 2013, the *British Journal Cancer* reported that increasing ‘healthy’ dietary pattern (vegetables, fruits, vegetable oil and soups) compared to ‘unhealthy’ (red meat, processed meat and deep-frying) reduced the risk of overall mortality (26%) but not breast cancer specific mortality. Breast cancer recurrence was reduced by 29% in stage I-IIIa patients eating the ‘healthy diet.’¹⁴

The Healthy Eating and Living Trial (HEAL) found that African American and Hispanic participants, who had early-stage breast cancer, and ate a ‘healthier diet’ (fewer calories, added sugar, alcohol and saturated fat) had a 60% lower risk of all-cause mortality and 88% lower risk of breast cancer-related mortality.¹⁵

There was a positive association between healthy diet and overall survival in a study measuring the role of fiber, fat, vegetable and fruit intake among 516 postmenopausal breast cancer survivors (average 80 months post-diagnosis). They found participants who ate the lowest dietary calories from fat, compared to the highest, have a 3-fold improved chance of survival. They also reported reduced risk of death among participants who ate the highest amount of the following compared to the lowest: fiber (48% higher survival rate), vegetables (57%) and fruit (63%). In addition, other nutrients including folate, vitamin C, and carotenoid intake were also significantly associated with reduced mortality. These results suggest that postmenopausal women diagnosed with breast cancer,

who reduce dietary fat and increase nutrient intake associated with a plant-based, high-fiber diet improve their overall survival after breast cancer diagnosis.¹⁶

Eat more fruits and vegetables

Many studies, with thousands of participants, have found an association between breast cancer recurrence, breast-cancer specific mortality and overall mortality among those who increased post-diagnosis vegetable and fruit consumption.

The WHEL study set out to determine the effect of a diet very high in vegetables, fruits and fiber, and low in fat, on risk of recurrence and likelihood of survival in women diagnosed with early-stage breast cancer (Stage I – IIIC) ages 18-70 years.

The participants were given the following specific daily dietary goals: five servings of vegetables, 16 ounces of vegetable juice or vegetable equivalents, 3 fruit servings, 30 grams fiber, and 15-20% energy intake from fat compared to a control group given handouts suggesting they consume five fruit and vegetable servings daily, >20 g fiber and less than 30% of calories from fat. The authors found that the study group substantially increased their vegetable and fruit intakes and plasma carotenoid concentration increased accordingly.¹⁷

The authors concluded that higher exposure to carotenoids, indicative of greater fruit and vegetable consumption, was associated with greater likelihood of breast-cancer-free survival but was not associated with fewer second breast cancer events or mortality.¹⁸ A 2005 study, however, did find that having a higher plasma carotenoid concentration was significantly associated with reduced risk for a new breast cancer ($p < 0.05$).¹⁹

The survival benefits of eating fruit in general had been previously established by Ingram who followed 103 survivors for 81 months, reporting that intake of more fruit in general affords a survival benefit. Overall, there were 12 deaths in the group who ate the lowest amount of fruit, five in the moderate group and only 3 in the group who ate the most fruit (oranges, melon, apple, banana, berries, grapes and dried fruit.)²⁰

In a group of WHEL trial participants taking tamoxifen, women who ate the most servings of cruciferous vegetables daily had a 52% lower recurrence rate than those who ate the fewest servings.²¹ However, there was no association between cruciferous vegetable intake and breast cancer outcomes, even among tamoxifen users, when reviewing the data collected by the After Breast Cancer Pooling Project of 11,390 U.S. and Chinese survivors from 1990-2006.²²

Eat more soy foods

The consumption of soy foods after being diagnosed with breast cancer was highly controversial for years. Finally, in the 2009, the issue was clarified when breast cancer survivors themselves were studied. Eating more soy foods is associated with lowering the risk of breast cancer recurrence and all-cause mortality.²³

In 2009, two cohort population studies confirmed the safety and benefits of soy consumption among breast cancer survivors. The Shanghai Breast Cancer Survival Study followed women ages 20-75 for nearly 4 years. The women who ate the most soy isoflavones (>6 mg/day) had nearly 30% reduced risk of mortality and 32% lower risk of recurrence than those who ate the fewest (<2 mg/day).²⁴ According to the USDA, there are between 17-33 mg of isoflavones per ½ cup tofu and between 3-10 mg per cup of soy milk.²⁵ The results were independent of hormone receptor and menopausal status.

The benefit of consuming soy foods was nearly the same as taking tamoxifen and doing the two together afforded no further benefit than either alone.²⁶

Also published in 2009, The Life After Cancer Epidemiology (LACE) study, of nearly 2,000 breast cancer survivors, reported on the daily consumption of soy isoflavones like daidzein. They reported an inverse relationship between highest daidzein consumption (9.6 mg/day) and risk of breast cancer recurrence in postmenopausal women. There was benefit even at 1.5 mg/day of daidzein consumption. Among those using tamoxifen, the risk reduction was nearly 60% lower among those who consumed the most vs. least daidzein.²⁷ This relationship was not seen in a later study.²⁸

Finally, a meta-analysis of soy studies, published in 2013, combining data from five cohort studies, found that soy food intake after diagnosis was associated with reduced mortality by 15% and recurrence by 21% regardless of hormone receptor or menopausal status. Comparing highest vs. lowest dose of isoflavones, soy food intake after diagnosis was associated with a 16% reduced mortality and a 26% reduced risk of recurrence.²⁹

It should be noted that soy consumption among those with HER2-positive breast cancer remains controversial as a result of a Korean study (2012) that reported high intake of soy isoflavones increased the risk of cancer recurrence in HER2-positive breast cancer patients.³⁰

Drink Fewer Than Three Alcoholic Beverages Weekly

Enjoying a couple of drinks a week does not increase or decrease the risk of recurrence of breast cancer. However, drinking more appears to. For example, survivors who consumed three to four alcoholic beverages weekly had a 1.3-fold increased risk of recurrence. That is 30 times higher risk

than those who drank fewer than three alcoholic beverages weekly. In addition, survivors who were overweight or obese, who had 3-4 drinks weekly, had a 1.5 times higher risk of mortality.³¹ Other studies have found no relationship to survival.³² Some, however, found a dose-dependent relationship. In a 2013 meta-analysis, including 25 cohort studies, only alcohol consumption of greater than 20 g/day was associated with higher risk of mortality but not recurrence.³³ (There are ten grams of alcohol in a standard drink.) It has been reported that 18% of breast cancer survivors have more than one drink per day.³⁴ Another study found that 58% of women previously diagnosed with breast cancer drink an average of four alcoholic beverages weekly – an amount that resulted in a 19% higher risk of recurrence among postmenopausal survivors.³⁵ Other studies demonstrated increased risk of breast cancer recurrence associated with premenopausal but not postmenopausal status.³⁶ To be on the safe side, drinking fewer than three alcoholic beverages weekly is advised.

Reverse Obesity, Reduce Body Fat & Optimize BMI

Losing weight and getting in shape may be the most difficult of the recommendations to achieve. The benefits of finding a successful, long-term strategy for optimizing body mass index are great. An Italian study found that women who had previously been treated for breast cancer, who had a body mass index (BMI) of less than 25 or a waist-hip ratio of less than or equal to 0.85, were 38% more likely to be a survivor than those whose BMI was greater than 30 or a waist:hip ratio of <0.80.³⁷ That means that a woman who is 5 feet 5 inches tall should reach a goal weight of less than 143 pounds. Unfortunately, gaining weight after diagnosis is common among survivors and is associated with increased recurrence and mortality.³⁸ Every 11 pounds of weight gain is associated with 13% increase in breast cancer mortality.³⁹ Achieving optimal body weight, reducing body fat and waist:hip ratio is not easy for most women and often requires the guidance and support of professional trainers and healthcare practitioners. The benefits are very real. If this seems daunting, consider doing all the other recommendations first. Eating healthier, increasing activity, drinking

more green tea and little alcohol are a good combination that may result in optimal body mass index and level of fitness.

Conclusion

So, the answer to the question, “what now?” is to make at least one positive choice toward post-treatment self-care. It is unlikely that you will be able to do them all. Be kind to yourself and create realistic goals that will be long-lasting. If these healthy survivorship strategies seem like too much to achieve, ask a licensed naturopathic doctor to help you to help yourself. If someone you care about has had breast cancer, let them know this empowering information. If you are a practitioner, make this article and chart (table 1) into a handout for patients. This information is free and easy to distribute so tweet, post or shout from the rafters - “take control of your survivorship sister!”

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