

***Triple Negative Breast Cancer,
Part One:
Reducing the Risk of Recurrence
through Healthy Lifestyle Choices***



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Triple Negative Breast Cancer (TNBC)

- Breast cancers that do not express:
 - Estrogen Receptor (ER)
 - Progesterone Receptor (PR)
 - Human Epidermal Growth Factor Receptor 2 (HER-2)
- Currently no drug therapy options for TNBC besides chemotherapy, but there ARE lifestyle modifications that can reduce risk for recurrence and improve overall physical and emotional health

Reducing the Risk of Recurrence through Healthy Lifestyle Choices

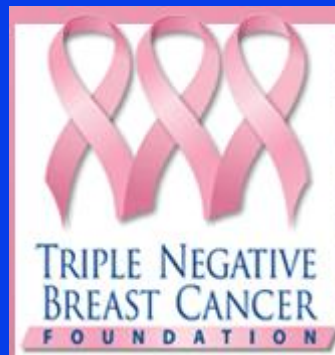
Outline

- **Research-based lifestyle changes and healthy living strategies to help lower risk of recurrence**
- **How healthy living can have a positive impact on your emotional well-being and outlook**
- **Survivorship care plans and how they can help you navigate care after treatment ends**

Triple Negative Breast Cancer: Survivorship

<http://www.tnbcfoundation.org/>

- You've finished your treatment. Now what?
- This question can be very challenging. Since there's no long-term treatment for you, you may worry you aren't doing anything to protect yourself....
-But you have control over your health. Protect yourself by paying attention to your body, being a good advocate for yourself, going to regular follow-up visits with your doctor, exercising and eating well



Lifestyle Factors in Cancer Survivorship

- Lifestyle factors have been identified as potential ways to impact cancer outcome and improve quality of life in cancer survivors
- **Energy-Balance Lifestyle Factors**
 - Energy expended (physical activity and baseline metabolism)
 - Energy consumed (food)
 - Energy stored (adipose tissue – body fat)
- Studies have linked each of these factors to cancer risk and prognosis

Physical Activity and Breast Cancer Risk

- Regular physical activity is associated with decreased cancer risks
- Several studies have found that women who exercise at higher intensity levels for > 3 hours/week reduce their risk of developing breast cancer



- **McTiernan A et al, JAMA 2003**
- **Tehard B et al, Cancer Epidem Biomarkers Prev, 2006**

Physical Activity and Breast Cancer Recurrence

- **Many studies have examined the relationship between physical activity after breast cancer diagnosis and cancer outcomes**
- **Most reported decreased breast cancer recurrences and better survival in patients who engaged in at least modest levels of physical activity after diagnosis**

Holmes M et al, 2005; Irwin M et al, 2008; Sternfeld B et al, 2009; Chen X et al, 2011; Pierce J et al, 2007; Schmitz KH et al, 2011

Nurses Health Study: Exercise and Survival After Breast Cancer Diagnosis

Patients: 2,987 nurses with stage I-III breast cancer, tracked exercise after diagnosis

Exercise Category	Hours per week walking at an average pace (2-3 miles/hour)	Risk of dying from breast cancer
LOW	< 1 hour	--- (control)
LOW-MEDIUM	≥ 1 and < 3 hours	20% less
MEDIUM	≥ 3 and < 5 hours	50% less
MEDIUM-HIGH	≥ 5 and < 8 hours	44% less
HIGHEST	≥ 8 hours	40% less

- Conclusion: Physical activity after diagnosis may decrease deaths in breast cancer patients

Exercise Also Improves Functioning of Breast Cancer Survivors

Effects of Exercise on Breast Cancer Patients and Survivors: A Meta-Analysis

- 717 breast cancer survivors in 14 randomized, controlled trials
- Summary: Physical activity led to significant improvements in:
 - quality of life
 - physical functioning
 - peak oxygen requirements
 - reduction in fatigue

Carefully Monitored Exercise Does Not Increase Lymphedema

Weight-lifting for Women at Risk for Breast Cancer-related Lymphedema

- Patients: 54 breast cancer survivors, 1-5 years from surgery with ≥ 2 lymph nodes removed
- Intervention: Randomized to weight-lifting with 13 weeks of instruction and 9 months unsupervised versus no exercise
- Results: Onset of lymphedema
 - Weight-lifting group: 11%
 - No exercise group: 17%
- Conclusion: Program of slow progressive weight lifting did not increase risk of lymphedema

Exercise as Part of the Treatment Plan for Cancer Survivors

- **Benefits to Physical Health**
 - Improved healing and recovery from surgery
 - Decreased lymphedema
 - Higher energy levels, less fatigue
 - Weight loss/prevention of weight gain
 - Less pain
 - Decreased heart disease and osteoporosis

Exercise as Part of the Treatment Plan for Cancer Survivors

- **Benefits to Emotional Health**
 - Improved body and self-image
 - Decreased anxiety
 - Improved social interaction
 - Better sense of control
 - Improved depression and mood
 - Better sleep patterns

CDC Physical Activity Recommendations

www.cdc.gov/physicalactivity/guidelines

- **Adults 18-64:**
- **Aerobic activity:**
 - 150 minutes of moderate intensity activity (ie brisk walking) every week
 - OR 75 minutes of vigorous activity (ie jogging or running) every week
- **PLUS Muscle-strengthening activities:**
 - On 2 or more days each week, working all major muscle groups (legs, hips, back, abdomen, chest, shoulders, arms)

Adding Up Physical Activity

- Frequency
- Duration
- Intensity



- Per CDC: 150 minutes per week sounds like a lot, but 10 minutes at a time is fine

2010 American College of Sports Medicine Exercise Guidelines for Cancer Patients

- **Exercise is a crucial part of recovery for cancer survivors**
- **Exercise training is safe during and after cancer treatment and results in improvements in physical functioning, quality of life, and cancer-related fatigue**
- **Recommend at least 150 minutes per week of moderate-intensity aerobic activity**
- **Avoid inactivity, even for patients with existing disease or who are undergoing difficult treatments**
- **Tailor exercise recommendations to the individual to account for exercise tolerance and specific diagnosis**
- **Pay close attention to responses to physical activity to safely progress exercise programs and avoid injuries**

Nutrition and Breast Cancer

American Cancer Society Dietary Recommendations
www.cancer.org



- Eat a variety of healthful foods
- Focus on plant sources
- Choose whole grains
- Limit consumption of red meats
- Balance caloric intake with physical activity
- Choose foods to maintain a healthy weight throughout life

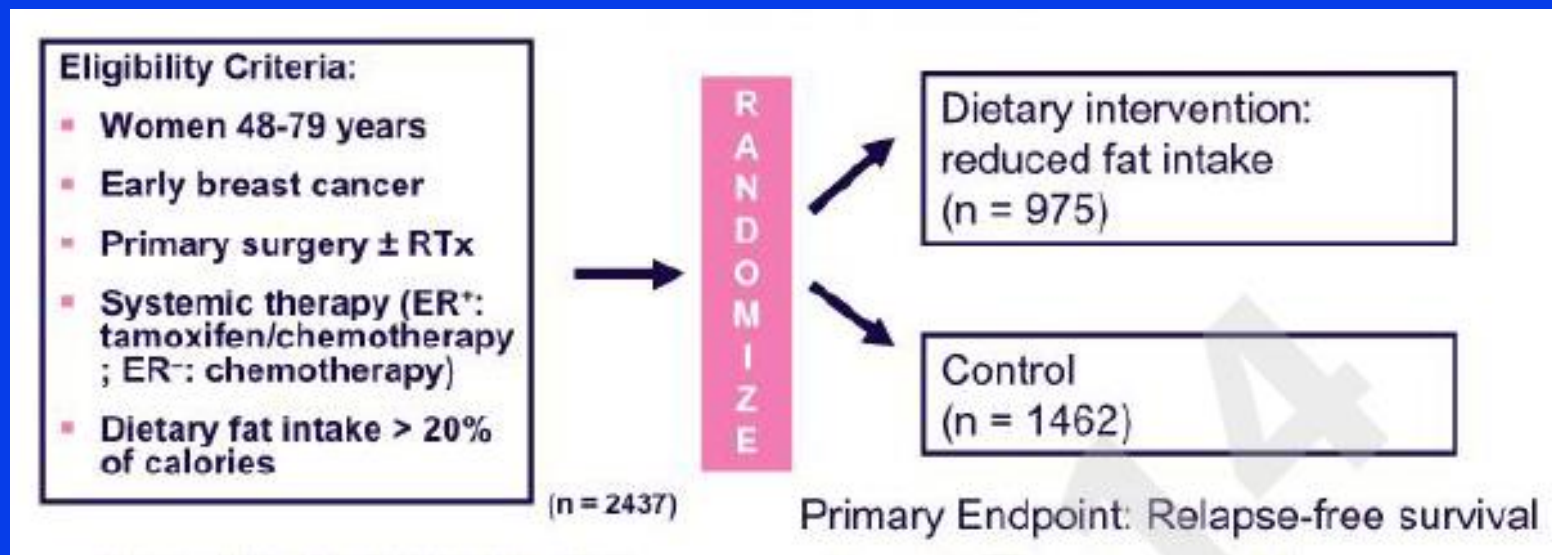
Dietary Factors and Breast Cancer Survival

- **Dozens of reports have evaluated the relationship between dietary exposures and prognosis in breast cancer survivors**
 - **Few consistent relationships have been seen between a specific dietary factor and cancer outcomes**
 - **Several studies have reported a relationship between fat intake and poor breast cancer outcomes – majority are non-significant when controlled for weight and total calorie intake**

Rock C et al, 2002; Goodwin P et al, 2003; Berrino F et al, 2003

Final Analysis of the Women's Intervention Nutrition Study (WINS)

Patients: 2,437 postmenopausal women with early stage breast cancer



- Trial started in 1990s – standard therapies of that era
- HER2 status not available

Chlebowski R et al, SABCS 2014

Final Analysis of the Women's Intervention Nutrition Study (WINS)

- Goal: Reduce dietary fat intake (target 15% calories from fat)
- Diet Group:
 - Given fat gram goal by dietician, low fat eating plan
 - 8 bi-weekly individual counseling sessions and contact every 3 months
 - Monthly group sessions
 - Self-monitoring of fat intake
- Control group:
 - Dietician contacts every 3 months

Final Analysis of the Women's Intervention Nutrition Study (WINS)

Caloric Intake from Fat (%) at Baseline and Subsequently by Randomization Group

Randomization Group	Percent Caloric Intake from Fat				
	Baseline	12 Mos	36 Mos	60 Mos	72 Mos
Diet	29.6 ± 7.1	20.0 ± 7.8	21.7 ± 8.4	23.2 ± 8.4	23.0 ± 9.2
Control	29.6 ± 6.7	29.2 ± 8.2	30.7 ± 8.7	31.2 ± 8.9	31.4 ± 8.2

All values, $P < .0001$ versus control

Reduced caloric intake from fat (%) in Diet Groups

- Diet group had 1/3 less fat intake per day at 1 year

Change in BMI and Weight by Randomization Group

Variable	Diet Minus Control Group		
	Year 1	Year 3	Year 5
BMI (kg/m ²)	-0.80 (-1.3 to -0.3)	-0.77 (-1.3 to -0.2)	-1.1 (-1.9 to -0.4)
Weight (LBS)	-5.0 (-8.0 to -2.1)	-3.9 (-6.9 to -0.5)	-6.0 (-9.9 to -1.9)

All values, $P < .005$ versus control

Reduced weight and BMI in Diet Group

- Diet group reduced weight and Body Mass Index (BMI) at years 1, 3 and 5

Final Analysis of the Women's Intervention Nutrition Study (WINS)

- Results:
 - At 5 years: 24% reduction in breast cancer recurrences in diet group
 - At 15+ years: No statistical difference in survival
 - Exploratory analysis showed favorable influence on survival during active intervention (1st 5 years)
 - » At long term follow-up, 64% reduction in deaths in ER-, PR- subset
- Conclusion: Nutrition interventions may decrease recurrences in some breast cancer patients
 - Future interventions should focus on weight loss/maintenance and increased physical activity

Women's Healthy Eating and Living (WHEL) Study

- Patients: 3,088 breast cancer survivors
- Study: Randomized to:
 - Dietary intervention focused on increasing fruits, vegetable and fiber and decreasing fat intake
 - Control group
- Results:
 - After 7 years, no difference in recurrence rates between diet and control group
 - No weight loss seen in either arm
- Conclusion:
 - Hypothesized that weight loss (and not diet itself) may account for different results between WHEL and WINS studies

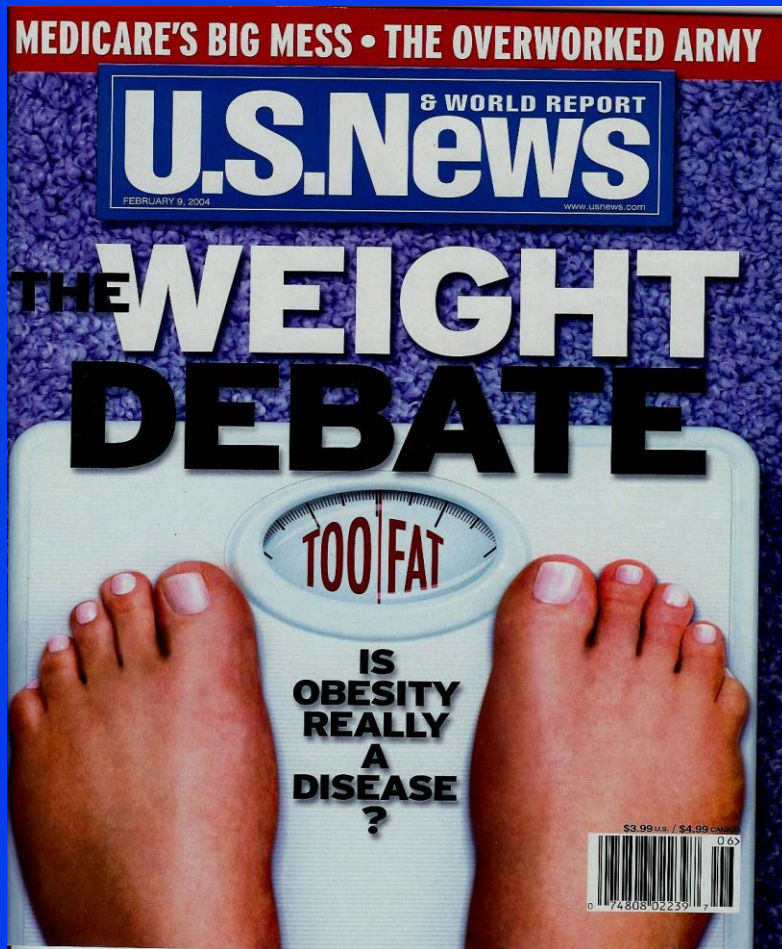
Cancer and Vitamin and Mineral Supplements



- No current proof that vitamin or mineral supplements prevent cancer, or cancer recurrence
- Studied, but not shown to prevent cancer:
 - Vitamins B6 + B12
 - Vitamin E
 - Vitamin C
 - Beta carotene
 - Folic acid
 - Selenium
- Vitamin D is of great interest!
- The relationship between supplements and cancer is the subject of many ongoing studies

Good reference: NIH Office of Dietary Supplements Fact Sheets:
<http://ods.od.nih.gov/>

Obesity and Cancer



- Obesity may account for 25-30% of several major cancers
- Weight gain during adulthood has been found to be a consistent and strong predictor of breast cancer risk
- Overweight women (BMI > 25) are 1.3 – 2 times more likely to die from breast cancer compared to women with normal weight

Greater Survival After Breast Cancer in Physically Active Women With High Vegetable-Fruit Intake Regardless of Obesity

- Patients: 1,490 breast cancer patients within 4 years of diagnosis
- Study:
 - Evaluated diet, physical activity, body mass index, alcohol, smoking
- Results: Combination of high levels of physical activity and vegetable-fruit intake improved breast cancer survival
 - Combination of consuming ≥ 5 servings of fruit + vegetables/day plus exercising > 9 MET-hours/week (equal to walking 30 minutes 6 days/week) associated with a 50% reduction in risk of death
 - Among those who adhered to this healthy lifestyle, there was no apparent effect of obesity on survival

Calculate Your Body Mass Index (BMI)

www.nhlbisupport.com/bmi

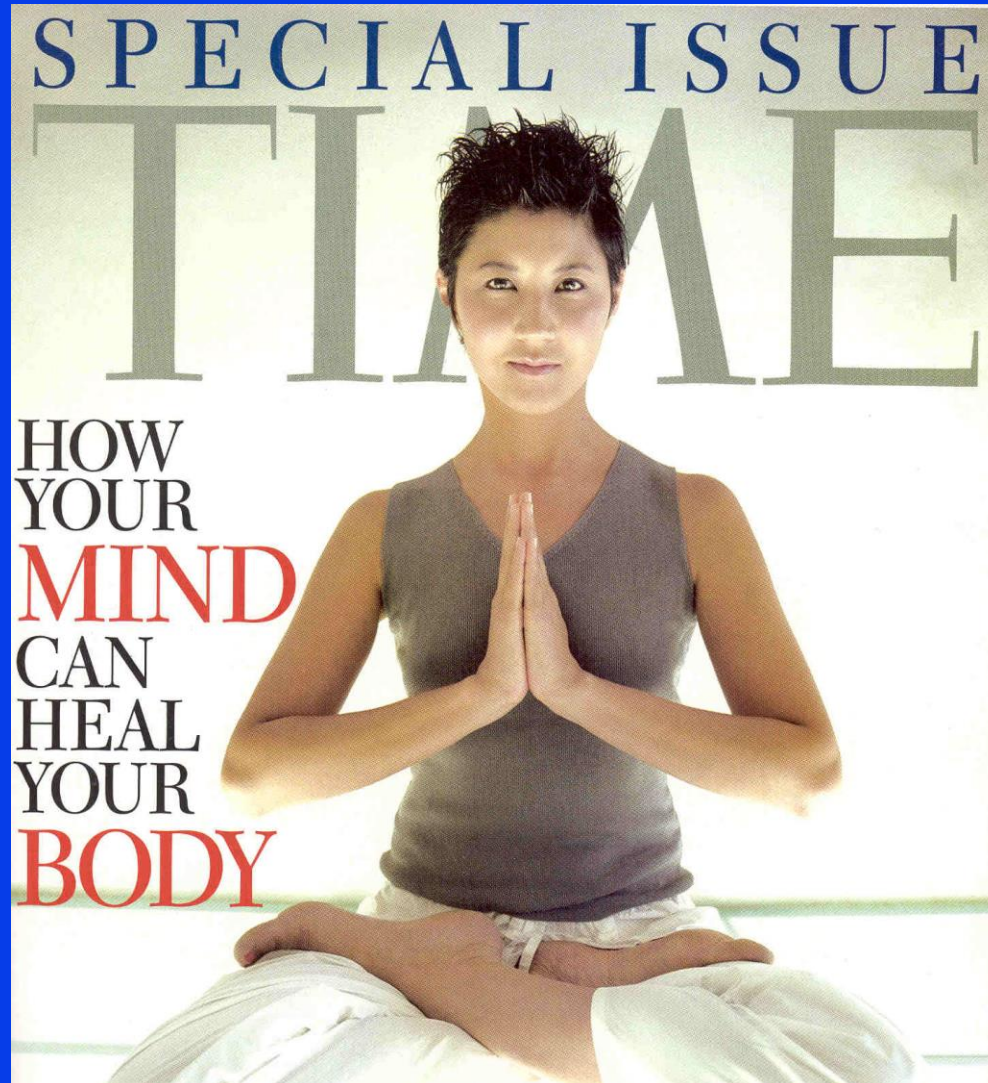
- Calculating BMI:
 - $\text{Weight (kg)} / \text{Height (m)}^2$
- BMI Categories:
 - Underweight = <18.5
 - Normal weight = $18.5\text{-}24.9$
 - Overweight = $25\text{-}29.9$
 - Obesity = > 30

Breast Cancer and Alcohol

- Alcohol is linked to an increased risk of:
 - Oral cancer
 - Breast cancer
 - Esophageal cancer
 - Colorectal cancer
 - Liver cancer
- 2 drinks per day associated with 20% increased risk for developing breast cancer
- Data have not consistently shown a relationship between alcohol intake after breast cancer diagnosis and increased risk of recurrence
- American Cancer Society guidelines recommend limiting consumption of alcoholic beverages to no more than 1 drink per day for women, 2 drinks per day for men



Emotional Health after Breast Cancer Diagnosis and Treatment



Emotional Impact of Breast Cancer Diagnosis and Treatment

- **Cancer survivors often experience a variety of emotions:**
 - **Depression and anxiety**
 - **Fear of recurrence**
 - **Anger**
 - **Isolation**
- **Issues for cancer survivors:**
 - **Coping with interpersonal relationships**
 - **Changes to body image and sexuality**
 - **Returning to the workplace**
 - **Obtaining health insurance**

Yoga Improves Symptoms and Quality of Life in Breast Cancer Patients

- Patients: 45 breast cancer patients undergoing surgery, radiation and/or chemotherapy
- Study:
 - Randomized to home-based yoga (≥ 5 sessions/week) vs not
 - Assessed self-reported symptoms and quality of life
- Results:
 - Reduced symptoms following surgery
 - Reduced depression and anxiety
 - Improved quality of life

Exercise Can Improve Emotional Health

The Effect of Aerobic Exercise on Self-Esteem and Depressive and Anxiety Symptoms Among Cancer Survivors

- 10 weeks of exercise, 30-40 minute sessions 4 times/week
- Decreased depression and anxiety post-study
- Patients who received exercise recommendations from their physicians exercised significantly more than patients who received no recommendation

Take Control of Your Follow-up Care

- Get a treatment summary
- Create a survivorship care plan with your healthcare team
 - Potential long-term side effects of treatment
 - Screening and prevention recommendations
 - Emotional and financial issues
 - Follow-up care referral
 - Support resources
 - Ways to improve overall health
- American Cancer Society links to several Treatment Summary and Survivorship Care Plan templates:
www.cancer.org/treatment/survivorshipduringandaftertreatment/survivorshipcareplans/index

Breast Cancer Treatment Summary

(modified from asco.org)

Patient Name:			Date of Birth:		
Medical record number:					
Cancer Diagnosis:			Date of Diagnosis: Age at Diagnosis:		
Tumor Stage: Tumor Size (T) , Nodes (N) , Metastases (M)			Tumor grade:		
Hormone receptors: Estrogen receptor (ER) , Progesterone receptor (PR)			HER-2: IHC, FISH		
Oncotype DX (if done):					
Family History of Cancer:			BRCA1/2 testing (if done):		
Significant Past Medical History and Medications:					
Cancer Treatment					
Surgery					
Breast Surgery: <i>Procedure, date</i>			Lymph Node Surgery: <i>Procedure, date</i>		
Reconstruction: <i>Procedure, date</i>					
Systemic Therapy					
Chemotherapy:	Route	Dose	Schedule	Number of cycles	
Cumulative Anthracycline Dose Administered: Doxorubicin___mg/m ² Epirubicin___mg/m ²					
HER-2 Targeted Therapy: <i>Drug, start date, stop date</i>					
Endocrine (Hormonal Therapy): <i>Drug, start date, stop date</i>					
Bisphosphonate Therapy for Breast Cancer Indication: <i>Drug, start date, stop date</i>					
Enrolled in Clinical Trials?					
Radiation Therapy					
Date Start	Date Stop	Total Dose (cGy)			
Fields included:					
Complications of therapy:					
Providers					
Primary Care Provider:			Surgeon:		
Radiation Oncologist:			Medical Oncologist:		

Breast Cancer Survivorship Care Plan

(modified from asco.org)

FOLLOW-UP CARE TEST	RECOMMENDATION
Medical history and physical	Visit your doctor every three to six months for the first three years after the first treatment, every six to 12 months for years four and five, and every year thereafter.
Post-treatment breast imaging	The SCCA recommends a mammogram of the affected breast every 6 months for up to 3 years from cancer diagnosis, and annual mammography of the opposite breast. In some selected patients, a periodic breast MRI or ultrasound may be recommended.
Breast self-awareness	Report any unusual symptoms to your medical provider.
Pelvic examination	Continue to visit a gynecologist regularly. Women taking tamoxifen should report any irregular vaginal bleeding to their doctor.
Laboratory tests	Your oncologist will determine which blood tests are recommended in your case.
Radiology tests	It is uncommon to routinely recommend bone scans, CT scans, PET scans or MRIs in asymptomatic patients. Every few years a DEXA scan to evaluate bone density is indicated in postmenopausal breast cancer patients.
Coordination of care	Most patients diagnosed with invasive breast cancer continue to be followed by their medical oncologists for at least 5 years from diagnosis. It is important to also have a primary care doctor, to manage non-cancer related health issues.

OVERALL HEALTH AND WELLNESS RECOMMENDATIONS

Health Maintenance	Make sure you keep up to date on vaccinations and routine health maintenance screening (cholesterol, blood pressure, skin checks, pelvic exams, colonoscopy, etc).
Exercise and Physical Activity	Adopt a physically active lifestyle. Try to engage in at least 30 minutes of moderate to vigorous physical activity 4-5 days of the week. Request a referral to physical therapy for help in setting goals, and/or aid in dealing with physical limitations.
Lymphedema	Review lymphedema prevention education. Consider a referral to physical therapy for lymphedema, range of motion, or general exercise recommendations if indicated.
Nutrition	The American Cancer Society recommends a diet high in fruits, vegetables and whole grains, and low in fat. Choose foods and drinks in amounts that help achieve and maintain a healthy weight, and limit alcohol.
Genetic counseling and testing	If there is a history of cancer in your family, or if you were diagnosed with breast cancer at a very young age, consider genetic counseling and testing.
Fear of Recurrence	Develop and strengthen coping skills. Talk to friends and family. Request a referral to a therapist and information on community resources as needed.
Heart Health	Low fat diet, regular aerobic exercise and maintaining weight and blood pressure. Know what your cholesterol level is. Symptoms that should be reported are shortness of breath, dizziness, and chest pain.
Bone Health	Regular weight bearing exercise. Daily Calcium and vitamin D, limit alcohol and no smoking.
Pain	Regular exercise both aerobic and resistance training, stretching, yoga, acupuncture and massage can decrease pain.
Fatigue	Adequate sleep, regular exercise and good nutrition will facilitate recovery and reduce fatigue after treatment.
Sexual Health/Body Image	Communicate with your partner. Suggest vaginal lubricants/moisturizers and plan time for intimacy. Consider a referral to a therapist to address body image issues, or a gynecologist for help with vaginal atrophy and other physical issues.
Memory/ cognitive concerns	Look into organizational strategies such as establishing a routine and keeping a planner, taking notes, etc. Address anxiety and depression symptoms, if present, and optimizing sleep and nutrition.

Take Control of the Factors Over Which You Have Control!

Optimizing Health and Wellness After a Diagnosis of Breast Cancer

- Regular exercise
- Weight control
- Healthy diet
- Smoking avoidance
- Sunscreen
- Stress reduction
- Regular health screenings
- Control other diseases: hypertension, diabetes, high cholesterol, osteoporosis

Team Survivor Northwest Dragon Boat Team

