

Young Women Get Breast Cancer



Presented to: Cancer Support Group

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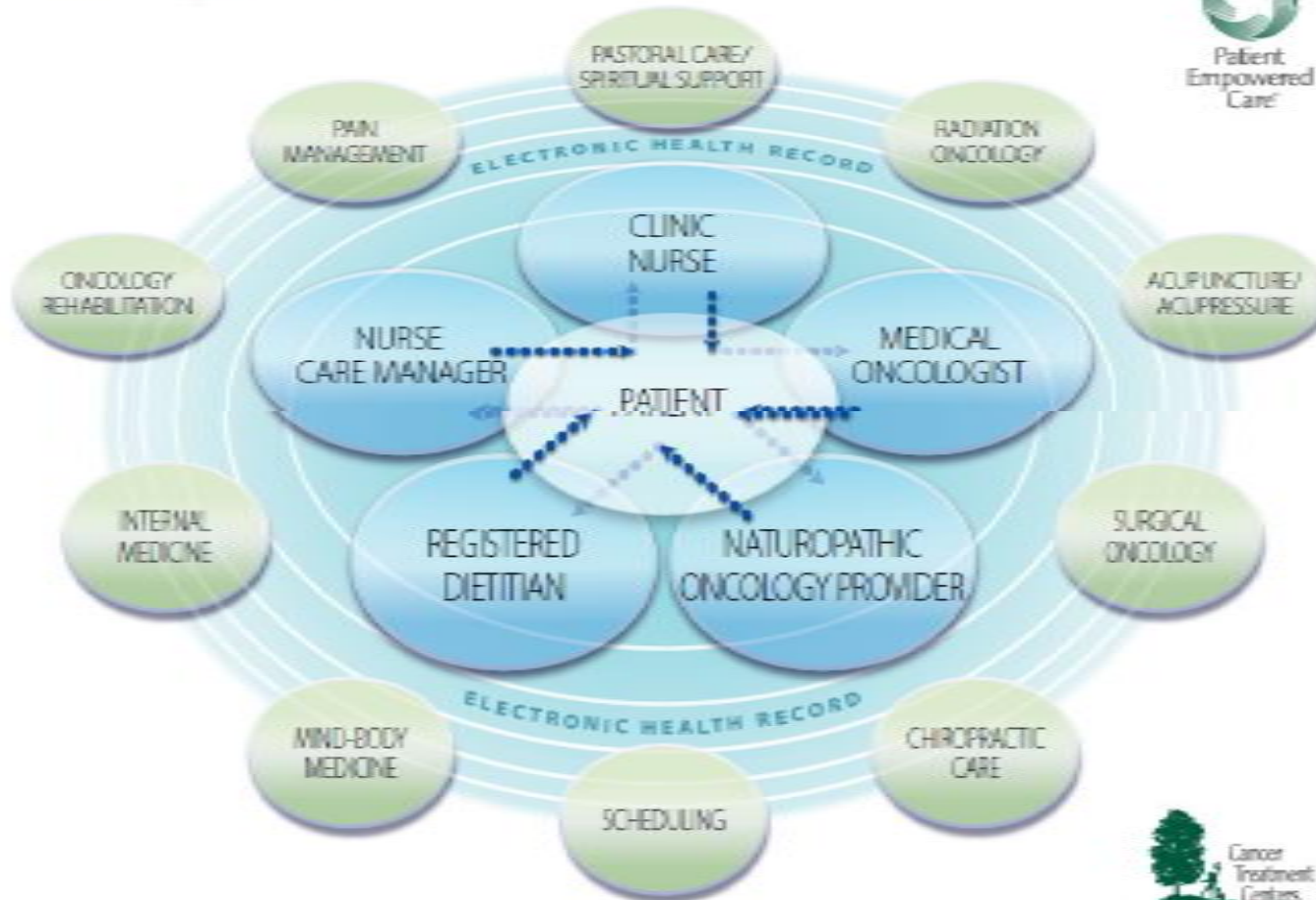
Date: May 4, 2011

Patient Empowered Care



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Patient Empowered Care[™]



Statistics:



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- Each year 400,000 women die from breast cancer worldwide
- In 2009, the [American Cancer Society](#) predicted more than 190,000 new cases of breast cancer in women. They estimated that roughly 18,600 of these women would be younger than 45.
[<http://seer.cancer.gov>].

American Cancer Society. (2009). *Breast Cancer Facts and Figures 2009-10*. Atlanta, GA: American Cancer Society, Inc. Available at: <http://www.cancer.org/Research/CancerFactsFigures/BreastCancerFactsFigures/breast-cancer-facts--figures-2009-2010>

Statistics:



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- Due to a lack of awareness about the disease, many will be diagnosed in later stages than women who get breast cancer in their 50s and 60s.
- If you're under 40, what do you need to know about breast cancer right now?

Statistics



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- More than 90% of breast cancer can be cured if found early.
- Early detection and prompt treatment can significantly increase chance of survival.

Unique Challenges



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- No effective breast-cancer screening tool yet exists for young women (ages 40 or younger).
- Young women with breast cancer struggle with many issues either not present or much less severe in the lives of older women, including:
 - The possibility of early menopause
 - Effects on fertility
 - Questions about pregnancy after diagnosis
 - Concerns about body image
 - Challenges to financial stability

Unique Challenges



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- Since breast cancer occurs at a much lower rate among young women than in older counterparts, young women remain underrepresented in many [research studies](#).
- Partridge, A.H. et al. (2009). Breast Cancer in Younger Women. In J. Harris (Ed.), Diseases of the Breast (pp. 1073-1083). Philadelphia, PA: Lippincott Williams & Wilkins.

Background, Challenges: Health Disparities



- African American women under age 35 have rates of breast cancer two times higher than Caucasian women under age 35.
- African American women under age 35 die from breast cancer three times as often as Caucasian women of the same age.



Adolescent and Young Adult Oncology Progress Review Group. *Closing the Gap: Research and Care Imperatives for Adolescents and Young Adults with Cancer*. Department of Health and Human Services, National Institutes of Health, National Cancer Institute and the LIVESTRONG Young Adult Alliance. Available at:

http://planning.cancer.gov/library/AYAO_PRG_Report_2006_FINAL.pdf

Background, Challenges: Health Disparities



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- Researchers believe that access to healthcare and the quality of healthcare available may explain these disparities, although scientists continue to investigate.
- Research also shows that young, African American women are more likely to get aggressive forms (growing larger and faster) of breast cancer than anyone else.

Three Things to Remember:



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1. You know yourself BEST;
2. Be Empowered; Be Persistent
3. Doc Shop; Get Second Opinions

#1. You Know Yourself BEST



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- *Know your breasts.*
 - Talk to your doctor about the pros and cons of breast self-exams.
 - If you know how your breasts "should" look and feel, you'll know when there's a significant change that means you should call your doctor.

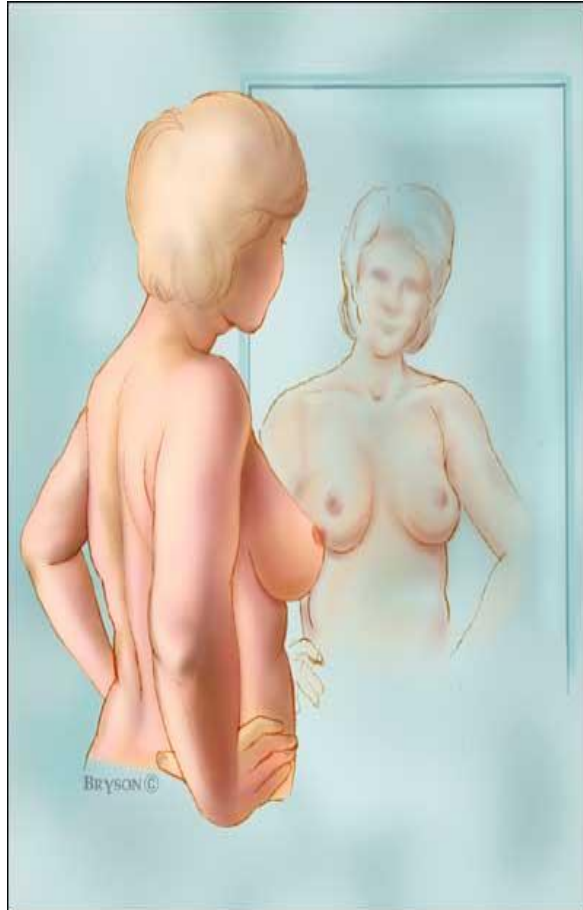
Breast Self Exam (BSE) Debate



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- There has been some debate over just how valuable BSE is in detecting breast cancer early and increasing the likelihood of survival.
- For example, in summer 2008, one study of nearly 400,000 women in Russia and China reported that breast self-examination does not reduce breast cancer mortality and may even cause harm by prompting unnecessary biopsies (removal and examination of suspicious tissue).
- Because of the ongoing uncertainty raised by this and other studies, the American Cancer Society has chosen to advise women that BSE is an “optional” screening tool.

Breast Self Exam: Step One



Begin by looking at your breasts in the mirror with your shoulders straight and your arms on your hips.

Here's what you should look for:

Breasts that are their usual size, shape, and color.

Breasts that are evenly shaped without visible distortion or swelling.

If you see any of the following changes, bring them to your doctor's attention:

- Dimpling, puckering, or bulging of the skin.
- A nipple that has changed position or become inverted (pushed inward instead of sticking out).
- Redness, soreness, rash, or swelling.

Breast Self Exam: Step Two



Raise your arms and look for the same changes. While you're at the mirror, gently squeeze each nipple between your finger and thumb and check for nipple discharge (this could be a milky or yellow fluid or blood).

Breast Self Exam: Step Three

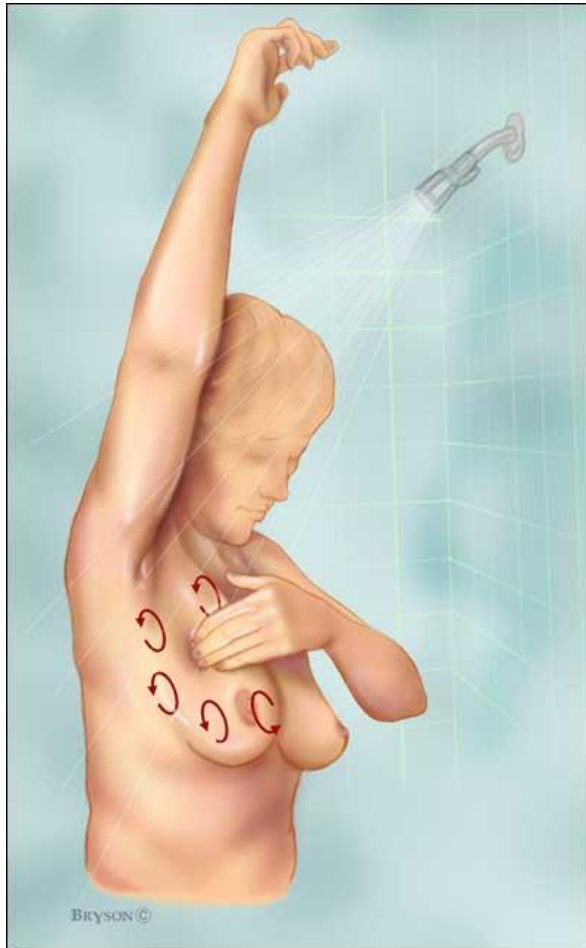


Feel your breasts while lying down, using your right hand to feel your left breast and then your left hand to feel your right breast.

Use a firm, smooth touch with the first few fingers of your hand, keeping the fingers flat and together.

Cover the entire breast from top to bottom, side to side—from your collarbone to the top of your abdomen, and from your armpit to your cleavage.

Breast Self Exam: Step Four



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 wet and slippery, so they like to do this step in the shower. Cover your entire breast, using the same hand movements described in Step 4

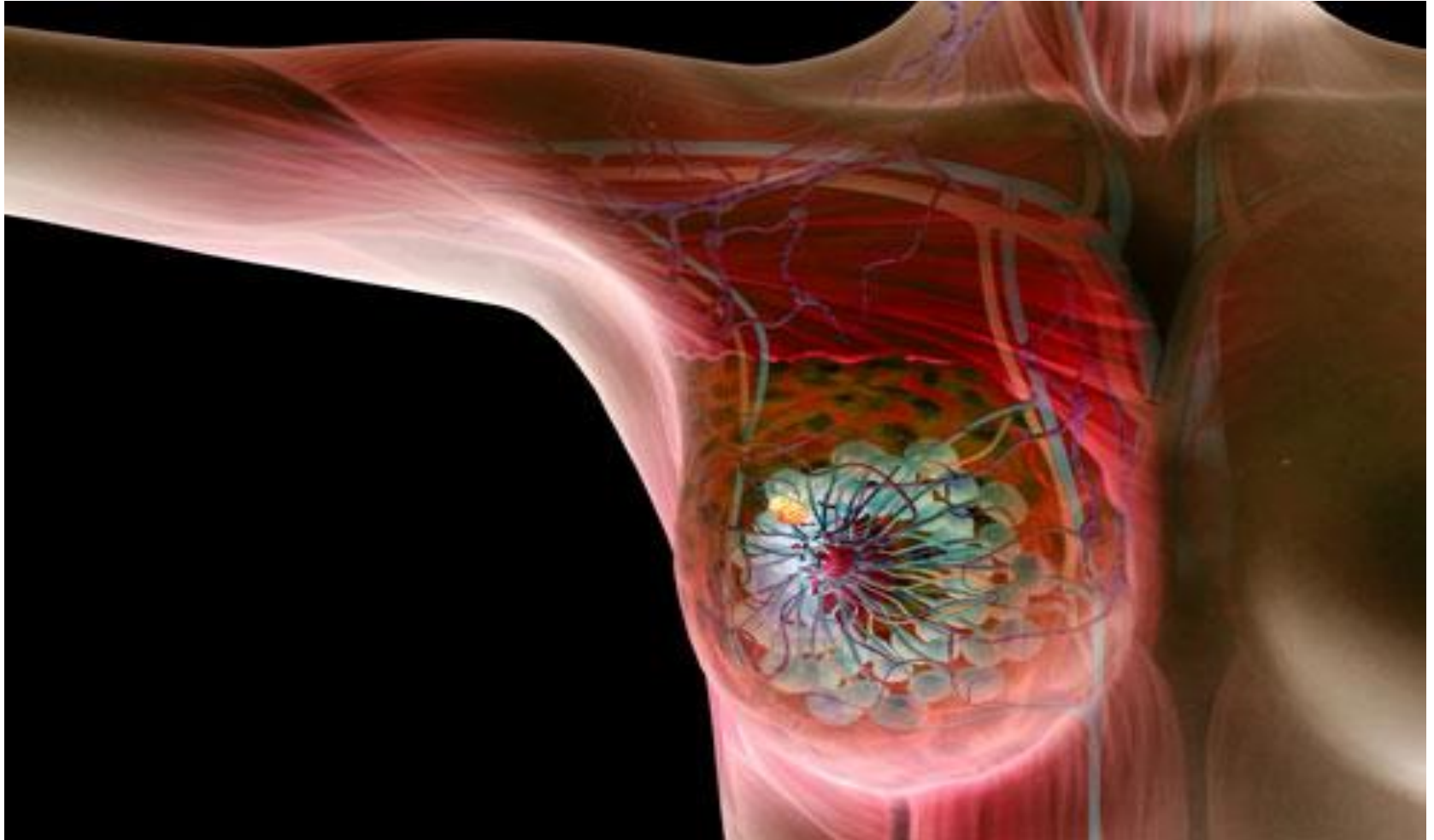
#2 Be Empowered; Be Persistent



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- If you think you feel "something," and family or doctors dismiss your concerns because you're "too young for breast cancer," it might be tempting to believe them and not seek further answers.
- The youngest patient I've seen felt a lump at 19 and by the time she finally had a proper work up was 22 and diagnosed with stage IV breast cancer.

Anatomy of the Breast



Mammography



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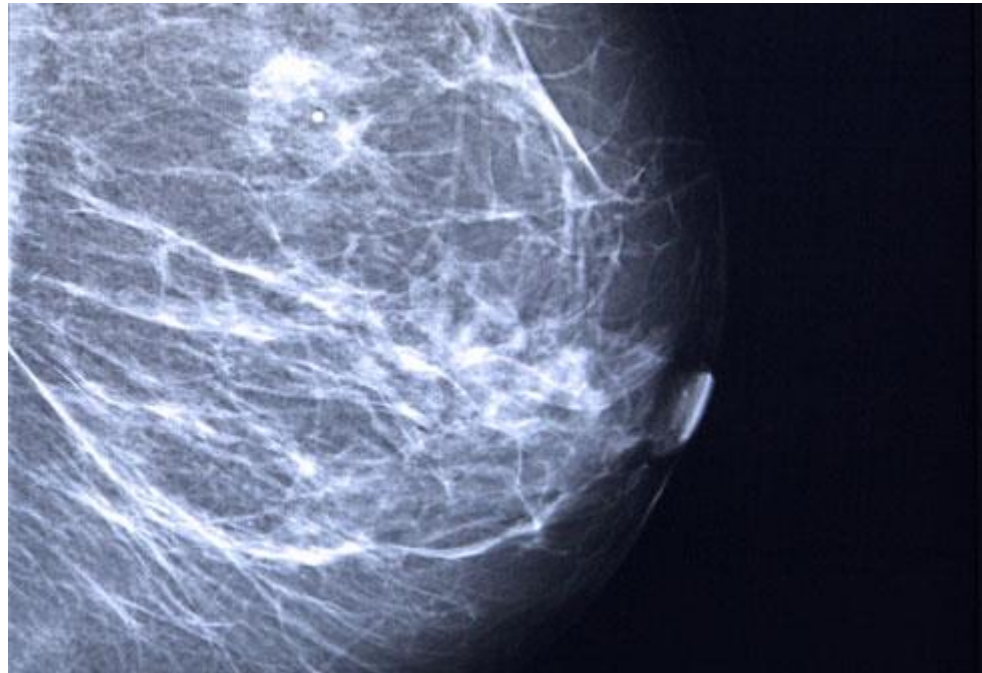
Breast Biopsy



Mammogram



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#3. Doc Shop: Get a Second Opinion



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- *Doc shop.* Don't automatically go with the first doctor you consult.
- "You want a treatment team you're comfortable with and that is aware of all the newer approaches, such as genetics, neoadjuvant therapy [chemotherapy before surgery], and looking at molecular markers of your tumor to figure out your individual risk."

What are your Risk Factors?



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- Family History (especially 1st degree relative)
- Genetic Defect
- Overweight
- Breast density (more common in younger women)
- Lack of physical exercise
- African American
- Alcohol intake
- Hormone Replacement Therapy



What are your Risk Factors?



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- History of taking DES
- Noncancerous breast disease
- Radiation to the chest before age 40
- BCP use (normal risk after 10 years off)
- Reproductive and menstrual history

Risk Factors- Gail Model



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- Gail Index Score
 - Uses a formula to include age, family history, age at first menstrual period and pregnancy and number of breast biopsies.
 - Calculates risk for breast cancer in next 5 years.



Risk Factors: Family History



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- A strong **family history of breast or ovarian cancer**.
- This could mean:
 - two or more relatives with breast or ovarian cancer
 - a relative with both breast and ovarian cancer
 - a male relative with breast cancer
 - a relative diagnosed at a young age with breast cancer.

Breast Cancer: Genetic Mutations



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- These include mutations to two genes:
 1. BRCA1
 2. BRCA2
- These genes normally help control cell division.
- Genetic counselors can help you understand your risks, your family history and the implications of getting genetic testing.

Metastatic Disease



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- Breast cancer metastasis usually occurs in the skin, bone, liver, lungs and brain.
- Metastatic breast cancer is not curable but typically has a course of stable disease on therapy and then progression in a stepwise fashion
- Factors that influence risk of relapse:
 - Axillary lymph node mets,
 - tumors larger than 2 cm
 - high grade tumors
 - women < 35 years of age
 - negative hormone receptor status
 - HER-2 receptor positive.

Other Tests



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- Tumor Markers
 - CA 15-3, CEA, CA 27.29
- CT of the abdomen, pelvis, chest, brain
- Bone scan
- Chemistry panel
- CBC with differential

Other Tests



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Other Tests



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Surgical Options



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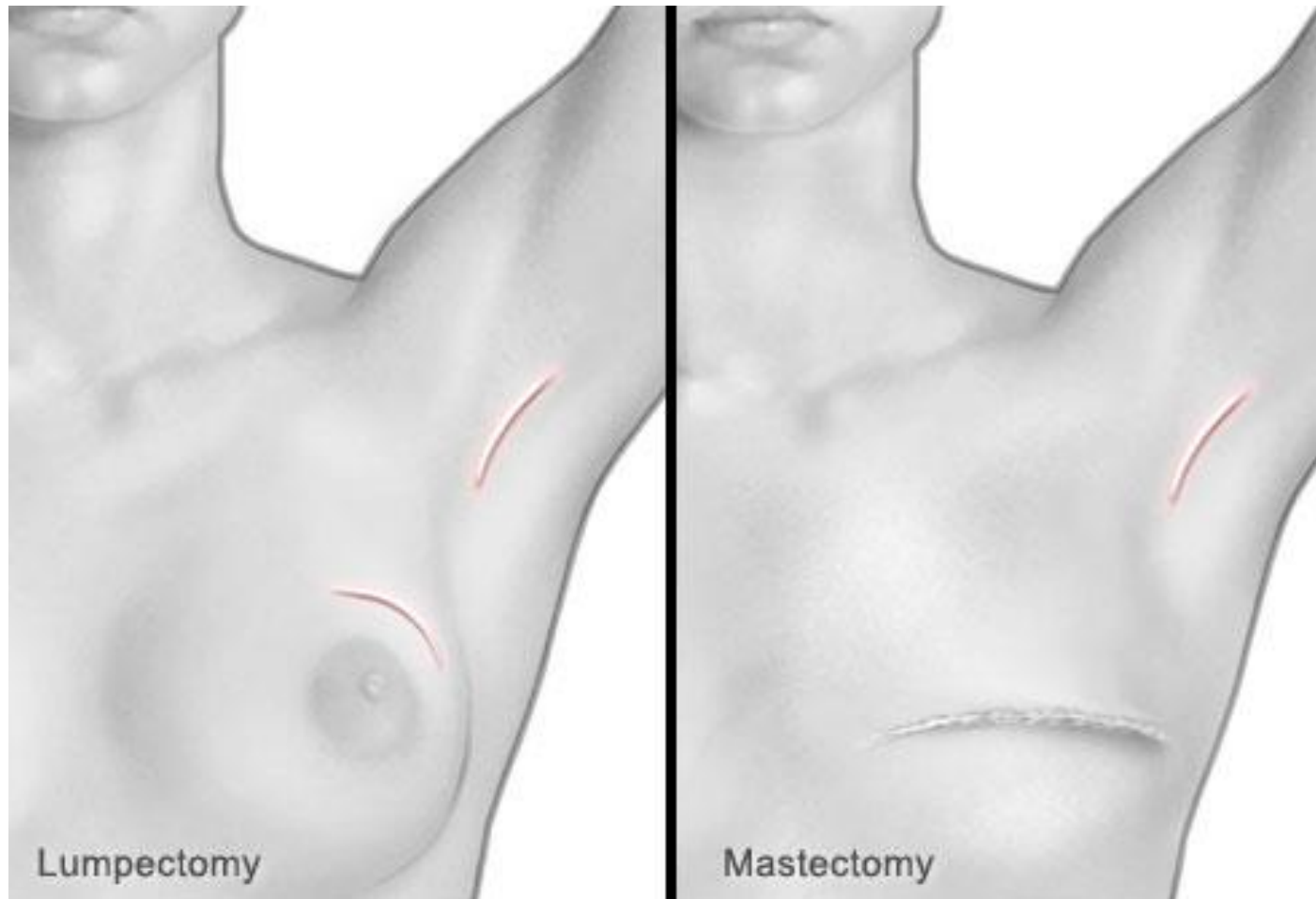
Surgery: Breast conservation surgery unless contraindicated

Lumpectomy/Breast conservation surgery/Wide local excision— involves removing the breast lump and surrounding margins.

Mastectomy—There are three types of mastectomies—total, modified radical, and radical. Mastectomies are chosen for larger tumors, multicentric disease, and by patient choice. Concerns include female body image.

******Post mastectomy radiation recommended when tumors are greater than 5 cm (T3) or when there are at least 4 positive lymph nodes (and possibly even 1-3 positive nodes).***

Lumpectomy vs. Mastectomy



Breast Form



Chemotherapy



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Chemotherapy



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Adjuvant chemotherapy is commonly used when there is a higher risk of relapse

This is typically followed by radiation therapy, more chemotherapy, and possibly hormone therapy (if ER positive).

Indications:

- Positive, axillary lymph nodes
- Hormone receptor negative tumors
- Moderately or poorly differentiated tumors
- Over-expression of HER-2/neu
- Younger women (but not with DCIS)

Radiation Therapy



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Radiation Therapy



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Radiation therapy

Adjuvant Therapy—Reduces rate of recurrence after breast conservation therapy for DCIS, but not used unless cancer is advanced after a mastectomy.

Types

- External Beam Radiation
- Mammosite—delivers radiation to the “dead space” and the surrounding tissue created by the lumpectomy
- Brachytherapy—may be combined with external beam as a boost treatment

Timing—Typically delivered after chemotherapy

Typically 5 days/week x 5-6 weeks

Side effects: rare, but may cause skin irritations and/or burns.

****Mammosite may result in short term, breast pain, redness and/or bruising.*

Hormonal Therapy



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Hormonal Therapy



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Hormonal therapy

- SERMS (Selective Estrogen Reuptake Modulators): Tamoxifen
- Aromatase inhibitors – Aromasin, Arimidex, Femara

Selective ER Modifiers (Anti-estrogens)

- Reduces recurrence of ER/PR + breast cancers
- Not used concurrently with chemotherapy
- May be used regardless of age, lymph node involvement, and use of chemo

Aromatase inhibitors

- May be considered in postmenopausal women with ER positive tumors or where Tamoxifen is contraindicated or not tolerated.
- Block the peripheral conversion of the adrenal androgens into estradiol and estrone and are only useful in women without any ovarian function
- May be more effective and have less toxicity than Tamoxifen in the adjuvant setting

Chemotherapy



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Doxorubicin and Cyclophosphamide

Doxorubicin = Adriamycin

Cyclophosphamide = Cytosan

Naturopathic Supplements



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Naturopathic Care for patients- Chemotherapy



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- Coenzyme Q10- 100 mg bid
 - To decrease cardiotoxicity *Biochem Mol Biol Int* 1995;36:1001-7
- L-Carnitine – 1000 mg bid (less expensive)
 - To decrease cardiotoxicity *Oncology* 1988;45(3):242-6
- Melatonin – 20 mg nightly
 - To decrease toxicity *J Pineal Res* 2001;31(4):301-7
 - The combination of Adriamycin and melatonin improved the anti-tumor activity of Adriamycin and melatonin protects against adria-induced cardiotoxicity. *J Cardiovasc Pharmacol.* 2005;46(2):200
 - Immune stimulant; can prevent some of the white blood cell reductions seen with chemotherapy. *Br J Cancer* (1994); 69:196-199 {clinical trial}, *Oncology Reports* 1995;2:597-599, *Shock, Vol. 9, No. 6, pp. 406-411, 1998.*

Naturopathic Recommendations



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- L-Glutamine – 10 grams tid x 5 days starting day after chemotherapy ends; repeated each cycle
 - Statistically significant reduction in the severity of peripheral neuropathy
Clin Cancer Res 2001;7(5):1192-7.
- B Complex plus high B-6
To help prevent peripheral neuropathy.
J Natl Cancer Inst. 1993 Sep 1;85(17):1432-3
- Fish Oil
 - DHA enhanced the cytotoxic activity of taxanes against MDA-MB-231 cells. *Eur J Cancer Prev. 2005 Jun;14(3):263-70*
- Melatonin
 - Increased the efficacy of single-agent Taxol in breast cancer, and significantly reduced the frequency of thrombocytopenia, neurotoxicity, cardio toxicity, stomatitis and asthenia. *Eur J Cancer. 1999 Nov;35(12):1688-92*

Naturopathic Care



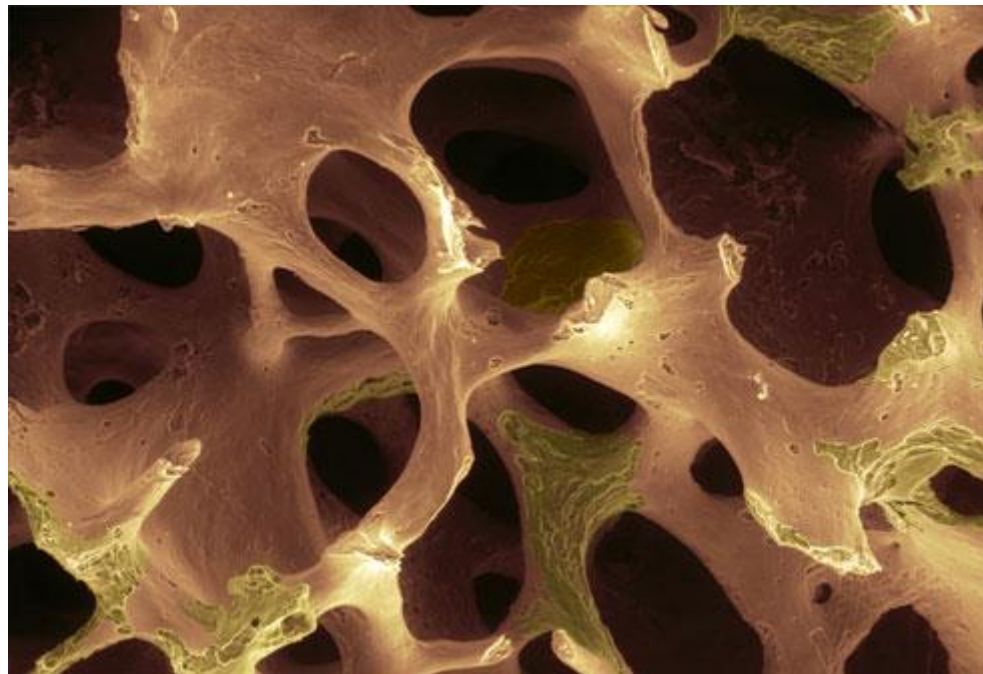
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- Vitamin D – 2000 IU daily
 - Active vitamin D increases the differentiation and exerts antiproliferative effects in cancer cells.. In clinical studies an impaired vitamin D status is associated with a 20-30% increased breast cancer incidence and 10-20% increased mortality. *Ugeskr Laeger. 2007 Apr 2;169(14):1299-302*
 - Breast cancer patients should be tested for vitamin D levels, since vitamin D may be related to cancer incidence and to bone disease. *Journal of Clinical Oncology, 2007 ASCO Annual Meeting Proceedings Part I. Vol 25, No. 18S (June 20 Supplement), 2007: 11082*
 - Bone microenvironment shown to be important in development of advanced breast cancer. Recent studies that indicate that bone remodeling levels, as influenced by calcium and vitamin D status, do impact the ability of human breast cancer cells to grow in the bones of nude mice [Ooi LL](#), [Zheng Y](#), [Stalgis-Bilinski K](#), [Dunstan CR](#). The bone remodeling environment is a factor in breast cancer bone metastasis. *Bone*. 2010 May 20.

Osteoporosis



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Bone Density Testing



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Specific Contraindications



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- 3A4 inducers and inhibitors – *Avoid 48 hrs away from chemotherapy*
- 2C19 inhibitors – *Avoid 48 hr away from chemotherapy*
- Curcumin & Quercetin: inhibitors of JNK (Jun N-terminal kinase) - ***Avoid throughout*** (*JNK1 is involved in apoptosis, cell differentiation and proliferation; and cytokine production*
 - (Cancer Res. 2002 Jul 1;62(13):3868-75. Dietary curcumin inhibits chemotherapy-induced apoptosis in models of human breast cancer)

Naturopathic Recommendations- Radiation Therapy



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- B Complex daily
 - To help reduce fatigue
- Calendula Cream – apply to chest area daily.
Make sure to apply after radiation treatment
 - Phase III randomized trial of Calendula officinalis compared with trolamine for the prevention of acute dermatitis during irradiation for breast cancer. Patients receiving calendula had less frequent interruption of radiotherapy and significantly reduced radiation-induced pain. *J Clin Oncol.* 2004 Apr 15;22(8):1447-53

Naturopathic Recommendations- Radiation Therapy



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Fish Oil:

- To help decrease inflammation, anti-tumor effects

Melatonin: 20 mg nightly

- Melatonin ameliorates ionizing, radiation-induced, oxidative organ damage in rats. *Life Sci. 2003 Dec 19;74(5):563-72.*

Contraindications: Radiation Therapy



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CoQ10 above 300 mg per day

- *Folia Microbiol (Praha)*. 1998;43(5):505-6

Beta carotene above 5000 IU per day

- *J Clin Oncol*. 2005 Aug 20;23(24):5805-1

N-A-C

- *J Nutr*. 2004 Nov;134(11):3201S-3204S
- *Cancer Res*. 2003 Jun 15;63(12):3413-7

Alpha Lipoic Acid

- *J Nutr*. 2004 Nov;134(11):3201S-3204S

Naturopathic Recommendations- Herceptin



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Coenzyme Q10

- To continue cardioprotection especially from previous A/C chemotherapy

L- Carnitine

- Less expensive. To continue cardioprotection especially from previous A/C chemotherapy

Tamoxifen



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- **Mechanism of Action**
binds to estrogen receptors, producing estrogenic and anti-estrogenic effects (anti-estrogen)

Tamoxifen- Naturopathic recommendations



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- **Hot flashes**

- **Cimicifuga racemosa – 40 mg daily**

- Non-estrogenic, or estrogen-antagonistic effect of Cimicifuga racemosa (CR) on human breast cancer cells lead to the conclusion that CR treatment may be a safe, natural remedy for menopausal symptoms in breast cancer. *Breast Cancer Res Treat. 2002 Nov;76(1):1-10*
 - Isopropanolic extract of black cohosh increases disease-free survival following diagnosis of breast cancer. *Int J Clin Pharmacol Ther. 2007 Mar;45(3):143-54.*

Nutrition



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“Let food be thy
medicine, and let thy
medicine be thy food.”

HIPPOCRATES



Acupuncture



Exercise



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Lifestyle Factoids



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- To reduce your weight by a pound of fat a week (1 lb= 3500 calories), eat 500 fewer calories each day
- Carbohydrates and proteins have about 4 calories per gram. Fats contain more than twice as much : 9 calories per gram.
- Water has zero calories!!
- Alcohol is metabolized in a way that promotes accumulation of fat in the liver
- The adult expends about 100 calories for every mile walked or run. It takes nearly three miles to burn off the calories in a 20-ounce soft drink
- 2000 steps = approximately 1 mile

Tamoxifen- Naturopathic recommendations



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- **Insomnia-** address as needed
- **Mood changes, irritability, depression-** as needed
- **Hesperidin-** 500 mg tid for at least 4-6 weeks then consider if can reduce slightly. Seems to work better if combined with Vit C 500-1000 mg TID.
- **Homeopathics-** Sepia, Lachesis, Tuberculinum

Online Resources:



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- Breastcancer.org
- The Young Survival Coalition (youngsurvival.org)
- FORCE: Facing Our Risk of Cancer Empowered (www.facingourrisk.org)
- Sistersnetworkinc.org
- Living Beyond Breast Cancer (LBBC.org)
- Cancer For Young Women (C4YW.org)
- RAW (Rightactionforwomen.org)
- Susan G. Komen (www.komen.org)
- Hereditary Cancer risks (Bebrightpink.org)
- Facingourrisk.org)