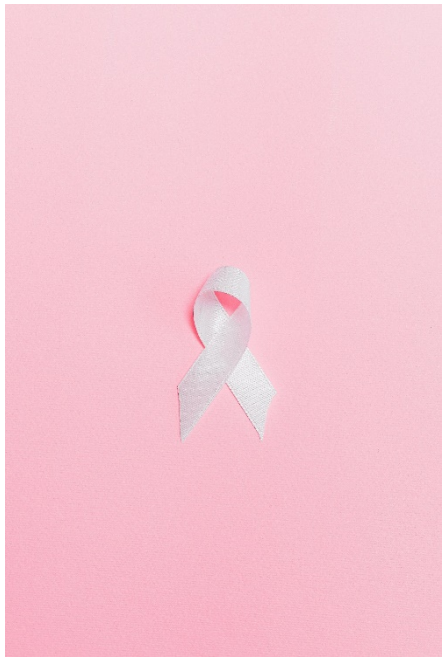

Breast Cancer & Nutrition

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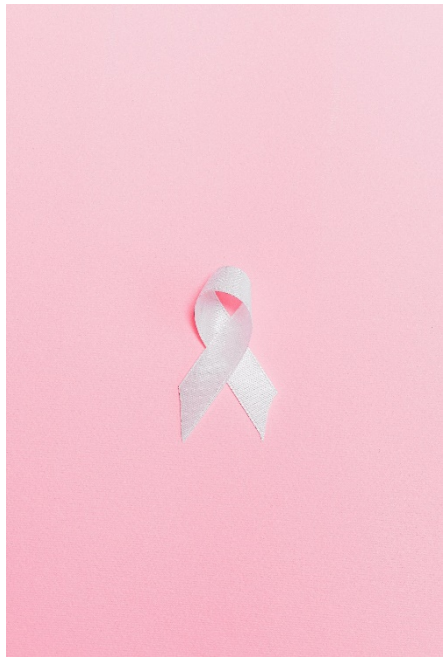

BUILT TO BEAT CANCER | NORTHSIDE HOSPITAL CANCER INSTITUTE

AICR Recommendations for Reducing Cancer Risk

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1. Be a healthy weight
2. Be physically active
3. Eat a diet rich in whole grains, vegetables, fruits & legumes
4. Limit consumption of “fast foods” & other high in fat, starches or sugars
5. Limit consumption of red & processed meats
6. Limit consumption of sugar-sweetened drinks
7. Limit alcohol consumption
8. Do not use supplements for cancer prevention
9. For mothers: breastfed your baby, if you can
10. After a cancer diagnosis: follow our recommendations if you can

Maintain a Healthy Weight

It is important to manage your weight for a number of reasons:

- Reduces your risk for chronic diseases
- Prevents disease related complications
- Body fat is active & acts like a “hormone pump”. Releases insulin, estrogen & other hormones that can spur cancer growth

Physical Activity

- Aim to get 150 minutes of moderate intensity physical activity per week (30 minutes, 5 days per week)
  - Walking, jogging, biking, playing tennis
- Start small; it all counts!
- Add walking or standing breaks to limit time sitting
- Limit “screen time” to ≤ 2 hours
- Space it out throughout the day

Plant-Based Diets

- Plant-based diets allow us to get plenty of plant foods that provide:
  - Dietary Fiber
  - Vitamins & Minerals
  - **Phytochemicals**
- All of these have been linked to health benefits for lowering your risk of heart disease, type 2 diabetes and cancer
- People who follow vegetarian or vegan diets weigh less than non-vegetarians

How to Get Started

- Put plant foods first
- If you include meat, poultry, fish or dairy – these will be a **supporting** food but the **plants** will be the **star**!!!
- Focus on a balanced plate with mostly whole-foods – it's ok to use fresh or frozen fruits and vegetables

Carotenoids & Breast Cancer

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- Phytochemical with antioxidant properties
- Show potential to alter cell signaling to inhibit cancer cell growth and promote cell death
- In the WHEL study, women with early-stage breast cancer and high levels of plasma carotenoids had a 43% reduction in new breast cancer events compared to women with lower plasma levels
- Long-term exposure to a **diet high in fruit and vegetables** may be more responsible for positive outcomes than a short-term intervention aimed at increasing carotenoid intake

Carotenoids

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Alpha & Beta Carotene

- Sources: carrots, mangos, pumpkin, sweet potatoes, red bell peppers

Lutein & Zeaxanthin

- Sources: spinach, kale, turnip greens, collards, summer squash, peas, pumpkin, Brussel sprouts, broccoli, avocado, egg yolk

Lycopene

- Sources: tomato paste, tomato soup, vegetable juice, tomato juice, watermelon, tomatoes, ketchup, pink grapefruit, baked beans

Beta Cryptoxanthin

- Sources: pumpkin, papayas, red peppers, orange juice, tangerines, carrots, yellow corn, watermelon, paprika, oranges, nectarines

Lignans

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- May reduce tumor growth
- Found in whole grains, seeds, nuts, legumes, fruit, and vegetables. **Flaxseeds** are a rich source.
- Studies show a decreased risk for breast cancer with flaxseed consumption (as little as ½ tsp of flaxseed per day)
- Ground flaxseed is better absorbed – add to cereals, muffins, yogurt, and salads
- Tamoxifen: no interactions have been found

Soy and Breast Cancer

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Common consensus from health experts is that soy foods are safe for breast cancer survivors

Emerging research suggests that soy foods may decrease the likelihood of breast cancer recurrence

Most health experts agree that the evidence is not strong enough to recommend that all women with a history of breast cancer eat more soy

Several large (thousands of women), human studies consistently show that compared with women who do not eat soy, women who regularly eat soy have lower breast cancer risk

Some studies also suggest that breast cancer survivors who consumesoy foods have lower risk of recurrence compared to those who avoid soy

Soy and Breast Cancer

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Studies have been conducted in both Asian and US populations - this is important because soy has long been part of many Asian cuisines, but it is relatively new to the American diet.

The studies are observational so it is always possible that the true connection with better breast health is not soy, but something else that is related to eating soy.

For example, women who eat soy foods also may eat less fried food and more vegetables. They may exercise more and maintain a healthier body weight.

Soy Foods, Diet, and Tamoxifen

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- Postmenopausal Tamoxifen users with increased intakes of soy had significantly decreased risk for breast cancer recurrence.
- Increased intake of isoflavones were associated with a decreased risk for recurrence in ER+ or PR+ breast cancers
- In a meta-analysis, women taking tamoxifen who had higher intakes of soy isoflavones had a 37% decrease risk for breast cancer recurrence

How Much Soy?

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- Moderate consumption is 1 to 2 standard servings daily of whole soy foods, such as tofu, soy milk, edamame and soy nuts
- One serving averages about 7 grams of protein and 25 mg isoflavones
- Examples of a standard serving are:
  - 1/3 cup (3 oz.) tofu
  - 1 cup (8 oz.) soy milk
  - 1/2 cup edamame
  - ¼ cup (1 oz.) soy nuts
- Studies have demonstrated up to 3 servings/day – up to 100 mg/day of isoflavones – consumed in Asian populations long-term does not link to increased breast cancer risk.

Dairy

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- Meta-analysis of 11 prospective studies showed premenopausal women had an 8% decrease in breast cancer risk with each 300mg/d in dairy calcium intake.
- Meta-analysis of 18 prospective studies found that total dairy intake may be associated with a decrease in breast cancer risk.
  - Association was strongest for postmenopausal women consuming low-fat dairy
- In the Life After Cancer Epidemiology cohort:
  - Those with early-stage breast cancer who ate more than 1 serving of high-fat dairy/day had an increased risk for breast cancer mortality
  - This was not seen in those who consume low-fat dairy foods
- For breast cancer patients who enjoy consuming dairy - choose lower-fat dairy until more research is available.

Red Meat

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- Red meat can increase cancer risk by:
  - Increasing bioavailability of iron content
  - Presence of carcinogens produced during cooking
  - Higher fat content
  - Increased cholesterol intake (>370mg/d) has been associated with increased risk for breast cancer
- The Nurses' Health Study II found that consuming more than 3 servings of red meat per week was associated with increased risk for ER+, PR+ breast cancer
  - These results are consistent with a UK Women's Cohort study for postmenopausal breast cancer

Fasting

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- Nighttime fasting may promote decreased blood glucose levels
- Diabetes has been associated with increased risk for breast cancer diagnosis and nighttime fasting may lower breast cancer risk
- In a cohort of the WHEL study, patients who fasted more than 13 hours at night had decreased rates of breast cancer recurrence, compared to those who fasted for less than 13 hours per night
    - Current recommendation is to aim for 13 hours per night if tolerated

Limit Sugar-Sweetened Drinks

- Drink mostly water and unsweetened drinks
- Sugar-sweetened beverages provide energy but may not influence our appetites the same as food & can lead to too many of calories
- Strong evidence that consuming sugar-sweetened beverages causes:
  - Weight Gain
  - Overweight
  - Obesity

Alcohol & Breast Cancer

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- For cancer prevention – it is best **not** to drink alcohol
- Alcohol in any form is a potent carcinogen
- It is linked to 6 different cancers
- For those concerned about cancer do not drink.

* If you do choose to drink alcohol – limit your consumption to 1 drink for women & 2 for men per day

Do Not Use Supplements for Cancer Prevention

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- For most people – it is possible to obtain adequate nutrition from a healthy diet
- When it comes to cancer prevention the research shows that supplements do not offer the same benefits as eating whole foods
- The panel does not discourage the use of multivitamins or specific supplements for populations that benefit from them
- It's always best to discuss any supplements with your doctor or a registered dietitian.

Dietary Supplements – Vitamin D

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Vitamin D

- Recommendation is to test serum concentration of Vit. D = **25(OH)D**
- The Endocrine Society
  - Adequate = 40-60 ng/ml
  - **Sufficiency: ≥ 30 ng/ml**
  - Insufficiency: 21-29 ng/ml
  - Deficiency: ≤ 20 ng/ml
- Supplement if deficiency or insufficiency

For Mothers: Breastfeed Your Baby – If You Can

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- Breastfeeding is good for both mother & baby
- Strong evidence that breastfeeding helps protect against breast cancer in **mother**
  - Lowers the levels of some cancer-related hormones
  - At the end of breastfeeding – the body gets rid of any cells in the breast that may have DNA damage
- **Babies** who are breastfed are less likely to become overweight or obese
  - Overweight/obese children tend to remain overweight in adult life

Do I Need to Buy Organic Foods?

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- Organic foods have not been proven better than conventional foods.

- Research clearly shows that eating a wide variety of plant foods daily – in addition to being physically active and maintaining a healthy weight – is what really matters.

Summary

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BUILT TO BEAT CANCER

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Questions?

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