


# Welcome!

---

Visit the event page to download a copy of the webinar slides and any additional resources.

Select **'Everyone'** from the drop-down menu when commenting in the chat pod.

Email us if you need tech support or have questions.  
[Contact@OneOp.org](mailto:Contact@OneOp.org)



<https://oneop.org/learn/154525/> 1

1

# The Importance of Nutrition in Breast Cancer Survivorship

---

2

2

## The Importance of Nutrition in Breast Cancer Survivorship



### Event Materials

Visit the **event page** to download a copy of the presentation slides and any additional resources.



### Continuing Education

This webinar has been approved to offer continuing education credit. Please stay tuned for more information!

<https://oneop.org/learn/154525/>

3

3



This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, and the Office of Military Family Readiness Policy, U.S. Department of Defense under Award Number 2019-48770-30366 and 2023-48770-41333.

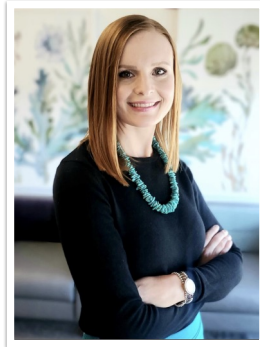
[OneOp.org](https://oneop.org)

4

4

## Today's Presenter

---



**Whitney Warminski**

*Clinical Dietitian*  
BSA Harrington Cancer Center

<https://oneop.org/learn/154525/>

5

5




## Learning Objectives

- Identify diet and nutrition issues for breast cancer survivors.
- Discuss strategies to manage nutrition issues for breast cancer survivors.
- Review current evidence on nutrition recommendations for breast cancer survivors.

6

6



## Breast Cancer


- Most commonly diagnosed cancer in the United States
- High survival rates (for early stages) mean more people with breast cancer are living and living longer
- Prognosis and treatment are dependent on staging, biomarkers, histologic grade and the individual patient, but includes
  - Surgery - mastectomy, lumpectomy, lymph node biopsy and dissections
  - Systemic therapy - chemotherapy, targeted therapy, endocrine therapy
  - Radiation therapy
  - Any combination of these

7

7

## Goals of Nutrition Interventions *During* Breast Cancer Treatment

- Promote recovery and healing
- Prevent malnutrition
  - Avoid treatment breaks, delays and hospitalizations
  - Support immune function
  - Decrease toxicities/side effects
  - Improve quality of life
- Management of nutrition impact symptoms
- Avoid significant *unintended* weight loss
- Encouragement to achieve and maintain a healthy body weight



8

8



## Nutrition Concerns *During* Breast Cancer Treatment

- Fatigue
- Chemotherapy-induced nausea & vomiting
- Taste changes
- Poor appetite
- Diarrhea
- Unintended weight gain

9

9

## Nutrition Concerns *During* Breast Cancer Treatment

### FATIGUE

- Most common side effect of all treatments
- Often the most distressing side effect due to impact on activities of daily living
- May persist after treatment
- Affects quality of life
- May affect ability to prepare nutritious foods

### STRATEGIES TO MANAGE

- Regular physical activity
  - Spend less time being sedentary
  - Combined aerobic and resistance exercise, yoga, and regular physical activity were the most effective exercise modalities for alleviating cancer-related fatigue.
- Adequate hydration
- Adequate nutritional intake
  - Keep nutrient-dense snacks, frozen or convenience food options on hand
  - Enlist caregivers to help prepare meals/snacks
- Assess for other causes like depression, difficulty sleeping

Source: J Orthop Sports Phys Ther 2023;53(6):343–352. Epub: 23 March 2023. doi:10.2519/jospt.2023.11251

10

10

## Nutrition Concerns *During* Breast Cancer Treatment

### Chemotherapy-induced nausea & vomiting (CINV)

- May occur early (within 24 hours of infusion) or delayed (1-7 days after infusion).

### STRATEGIES TO MANAGE

- Take nausea medications as prescribed, at the first sign of nausea
- For times of intense N/V: bland, starchy foods, clear liquids served at room temperature
- Frequent sips of liquids, bites of foods
- Avoid high fat, highly seasoned foods
- Limit exposure to cooking odors
- Elevate head for 30 minutes after eating
- Time meals for when nausea medications work best
- Take pain medications with food
- Complementary therapies:
  - Ginger tea, ginger ale, 0.5-1g ginger extract
  - Acupressure bracelets
  - Acupuncture
  - Massage
  - Relaxation techniques

11

11

## Nutrition Concerns *During* Breast Cancer Treatment

### TASTE CHANGES

- Loss of taste
- Metallic taste
- Food tastes “off”

### STRATEGIES TO MANAGE

- Practice good oral hygiene – salt/baking soda mouth rinse
- Use fresh or frozen fruits – eat whole, mix in yogurt, cottage cheese or blend in smoothies
- Choose foods with tart flavors – add a squeeze of lemon or lime to foods/beverages
- Use marinades for meats
- Use herbs, spices condiments
- Use plastic utensils (metallic taste)

12

12

## Nutrition Concerns *During* Breast Cancer Treatment

### POOR APPETITE



### STRATEGIES TO MANAGE

- Eat by the clock rather than relying on hunger cues
- Eat small portions of food every 2-3 hours
- Drink the majority of fluid between meals rather than with meals
- Engage in light physical activity

13

13

## Nutrition Concerns *During* Breast Cancer Treatment

### Diarrhea

- May occur with chemotherapy, immunotherapy, hormone therapies, bisphosphonates
- Occurs *commonly* with targeted therapies used during breast cancer treatment
  - Abemaciclib (Verzenio), Neratinib (Nerlynx), Pertuzumab (Perjeta)

### STRATEGIES TO MANAGE

- Take anti-diarrhea medications as instructed
- Drink 8 ounces of fluid for every loose stool
  - Include electrolyte-containing beverages
- Limit lactose, insoluble fiber, high fat and overly spicy foods
  - Consume bland, easy-to-digest foods until symptoms improve
- Eat smaller, more frequent meals
- Recline or lie down (not flat) after meals

14

14

## Nutrition Concerns *During* Breast Cancer Treatment

### UNINTENDED WEIGHT GAIN

- Occurs more commonly than weight loss
- Several contributing factors -
  - Fatigue and decreased physical activity
  - Transition to menopause
  - Increased appetite/cravings related to steroid use
  - Edema (fluid-retention)
  - Nausea that improves with eating more

### STRATEGIES TO MANAGE

- Regular physical activity
  - Combined aerobic & resistance training
- Increase intake of plant-based food
  - Fruits, vegetables, whole grains, beans, nuts/seed
- Limit intake of foods & beverages high in added sugars & fat
  - Sweets/desserts, fried food, fast food & dining out

15

15



## Hormone Therapy

- Also called endocrine therapy
  - Given over an extended time period to help decrease estrogen levels or block the effects of estrogen on breast cancer cells
  - Used for hormone sensitive cancers (estrogen-receptor positive breast cancer)
- Avoid grapefruit/grapefruit juice - affects drug metabolism, leading to increase in side effects
  - *Undesirable side effects*

16

16



## Nutrition Concerns Related to Endocrine Therapy

- Vasomotor Symptoms (hot flashes, intense sweating, flushing)
- Bone Loss
- Weight Gain



17

## Nutrition Concerns Related to *Endocrine Therapy*

### VASOMOTOR SYMPTOMS

- Hot flashes
- Intense sweating
- Flushing

### STRATEGIES TO MANAGE

- Avoid hot beverages, alcohol
- Limit spicy foods
- Limit caffeine intake
- Sip ice water
- Discuss herbal supplements with provider as many are contraindicated with treatment
- Relaxation techniques

18

18

## Nutrition Concerns Related to *Endocrine Therapy*

### BONE LOSS

- Occurs due to estrogen deficiency, increased bone resorption; ovarian failure due to surgery, chemotherapy or use of luteinizing hormone.

### STRATEGIES TO MANAGE

- Goal of 1200 mg calcium daily
  - Supplement if unable to meet needs through diet
  - Calcium carbonate - take with meals to enhance absorption
  - Calcium citrate - for people with decreased stomach acid; take with or without food
  - Take in divided doses to enhance absorption - 500 mg per dose
- Ask provider to check vitamin D levels (25-hydroxy vitamin D)
  - If less than 20-30 ng/mL, add 1000 IU vitamin D3 daily for 3 months
- Physical activity focusing on weight-bearing exercises

19

19



## Nutrition Concerns Related to *Endocrine Therapy*

- **Sources of dietary calcium:**
  - Milk, yogurt and cheese are natural sources
  - Non-dairy sources
    - Canned sardines and salmon with bones
    - Kale, broccoli, Brussels sprouts, white beans

20

20

## Calcium Content of Foods

### High Calcium (200 mg or more)

Food	Serving Size	Mg Calcium
Cereals (fortified)	1/2 cup	200-670
Cheese (cheddar, mozzarella, muenster)	1 oz	205
Cheese (provolone, jack, Swiss)	1 oz	220
Cheese (ricotta, part skim)	1/2 cup	335
Fish (sardines, canned)	3 oz	325
Milk (fat free)	1 cup	305
Soy or rice milk (fortified)	1 cup	300-370
Tofu (fortified)	1/4 cup	215
Yogurt	8 oz	275-450

### Moderate Calcium (50-200 mg)

Food	Serving Size	Mg Calcium
Almonds	1 oz	75
Beans (white, canned)	1/2 cup	95
Dried beans and peas	1/2 cup	50-100
Figs (dried)	5 each	135
Fish (salmon, canned with bones)	3 oz	180
Greens (collard)	1/2 cup	135
Hummus	1/2 cup	65
Kale (frozen)	1/2 cup	90
Oatmeal	1/2 cup	85
Okra	1/2 cup	90
Orange	1 each	50
Soybeans	1/2 cup	130
Sweet potato (baked with skin)	1 medium	55

21

## 1200 mg Calcium Sample Menu

### Breakfast

- 1 cup Greek yogurt (227 mg calcium) with 1 cup blackberries (40 mg calcium)

### Lunch

- Pasta with 1/2 cup part skim ricotta cheese (335 mg calcium) and 1/2 cup cooked spinach (135 mg calcium)
- 3 oz cooked shrimp (30 mg calcium)

### Dinner

- 3 oz canned salmon with soft bones, prepare as desired (180 mg calcium)
- 1 cup cooked broccoli (60 mg calcium)
- 1 medium baked sweet potato with skin (55 mg calcium)

### Snack

- 1 medium orange (50 mg calcium)
- 1/4 cup almonds (75 mg calcium)
- Approximately 1187 mg calcium



22



## Nutrition Concerns Related to *Endocrine Therapy*


### Weight Gain

- Often begins during treatment - steroids (increased appetite, food cravings), edema, decrease in physical activity
- Emotional eating
- Decreased physical activity (fatigue, joint pain)
- Changes in metabolism and body composition
  - Decreased lean body mass
  - Increased fat tissue

23

23

# Where Do I Start?



**Putting AICR's Cancer Prevention Recommendations into Action**

- Be a Healthy Weight:** Manage weight with healthier food choices. Experience with AICR's healthy recipes that include a variety of plant-based meats.
- Be Physically Active:** Start small. Take a 15-minute walk in the morning and in the evening to get 30 minutes of activity each day.
- Eat a Diet Rich in Whole Grains, Vegetables, Fruits and Beans:** Use the new American Plate Model for your meals. Fill 2/3 for most of your plate with vegetables, fruits, whole grains and beans. Fill 1/3 for half of your plate with animal protein.
- Limit Consumption of "Fast Foods" and Other Processed Foods That Are High in Fat, Starches or Sugars:** Choose healthy snacks. Limit chips, cookies and sugary snacks and swap with nutrient packed veggie and berries or fresh fruit and reduced fat yogurt.
- Limit Consumption of Red and Processed Meat:** Swap red meat for chicken, fish or turkey. Use hamsters or bean dip on a sandwich instead of processed meat.
- Limit Consumption of Sugar-Sweetened Drinks:** Drink mostly water. Make a pitcher of fresh-infused water to add extra flavor.
- Limit Alcohol Consumption:** Choose sparkling water or 100% fruit juice. If you do choose to drink, try putting a splash of wine into your water for a light option.
- Do Not Use Supplements for Cancer Prevention:** Build your meals around plant foods to meet nutritional needs through diet alone.
- For Mothers: Breastfeed Your Baby, If You Can:** Evidence suggests breastfeeding can help protect children by lowering risk for breast cancer.
- After a Cancer Diagnosis: Follow Our Recommendations, If You Can:** Speak with your health professional about what is right for you. AICR's recommendations are a guideline to help lower cancer risk, but also after chronic disease and cancer recurrence.

Not smoking and avoiding other exposure to tobacco and excess sun are also important in reducing cancer risk. Following these recommendations is likely to reduce intakes of salt, saturated and trans fats, which together may help prevent other non-communicable diseases. For more information and resources for practicing healthy habits to reduce cancer risk, take the HealthyO Challenge at [www.healthyOchallenge.org](http://www.healthyOchallenge.org).

American Institute for Cancer Research. <https://www.aicr.org/resources/media-library/putting-aicr-cancer-prevention-recommendations-into-action/>

PO Box 97167, Washington, DC 20099 | 800-842-8114 | [www.aicr.org](http://www.aicr.org)

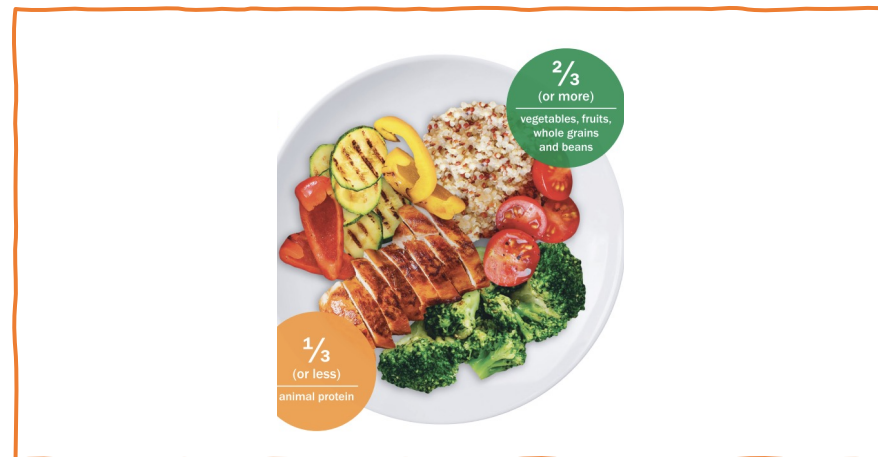
24

## Lifestyle Interventions

- Focus on what you are adding to your diet
  - Increase intake of plant-based foods (fruits, vegetables, whole grains, beans, nuts/seeds)
- Goal of  $\frac{2}{3}$  plant-based foods and  $\frac{1}{3}$  animal proteins
  - Plant-based foods contain phytonutrients, which can positively influence the body's cellular processes
    - Carotenoids; berries, cruciferous vegetables
  - They are higher in fiber and nutrients, but typically lower in calories, which can assist in weight control
  - However, do not neglect your protein intake especially if >50 years of age
    - Determine your daily protein goal and divide between meals and snacks
      - Ex: goal of 80 grams per day
        - 20 grams at breakfast, lunch, dinner; 10 grams at morning and afternoon snack
- Drink mostly water or unsweetened tea

25

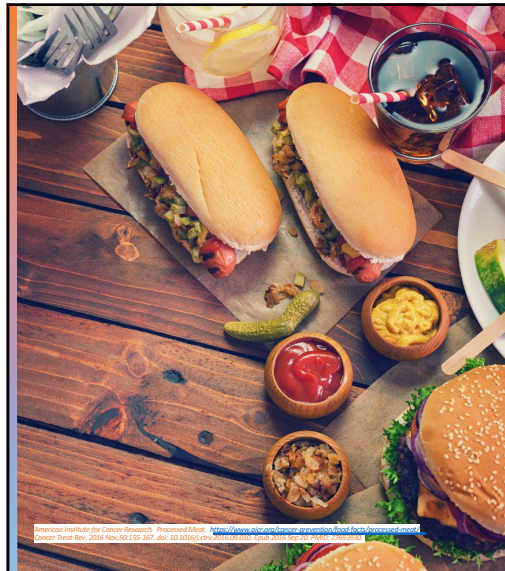
25

American Institute for Cancer Research New American Plate® [www.aicr.org](http://www.aicr.org)

26

26





## Lifestyle Interventions

- **Foods/Beverages to Limit**
  - Fast food, highly processed foods that are high in saturated fat, added sugar
  - Red meat - beef, pork and lamb; consume 12-18 ounces or less per week
  - Sugar-sweetened beverages
- **Foods to Avoid**
  - Processed meat - any meat that is preserved by smoking, curing or salting, or the addition of chemical preservatives; ham, deli meat, bacon, sausage, hot dogs
  - For sandwiches or wraps try these alternatives instead:
    - Any nut or peanut butter + fruit or fruit spread, tuna salad, egg salad, hummus + vegetables; use leftover meat/poultry
- **Alcohol**
  - Can increase circulating estrogen levels
  - May increase risk of breast cancer recurrence, especially in postmenopausal women

27

27

## Lifestyle Interventions

- **Physical Activity**
  - Spend less time being sedentary (sitting, lying down)
  - Incorporate aerobic and resistance training
  - Goal of at least 150 minutes per week
    - 30 minutes, five days per week
    - Can be divided into increments that are manageable for you



28

<p><b>Smoothie:</b>                  ½ c frozen berries                  ½ c spinach                  6 oz plain yogurt or silken tofu                  ½ bagel                  1 T cream cheese</p>	<p><b>Breakfast</b></p>
<p>1 pita stuffed with:                  ¼ c hummus                  Baked chicken breast                  1 c chopped lettuce, tomatoes, cucumber, red onion                  1 apple</p>	<p><b>Lunch</b></p>
<p>1 hardboiled egg                  3 oz baby carrots</p>	<p><b>Snack</b></p>
<p><b>Chilaquiles with Beans and Corn</b>                  2 c tossed salad                  ¼ c mashed avocado and low sodium tortilla chips</p>	<p><b>Dinner</b></p>

American Institute for Cancer Research New American Plate® Meal Plan [www.aicr.org](http://www.aicr.org)

29

29



**Flavorful Creations** | Recipes for Breast Cancer Patients

30

30

## Chilaquiles with Beans & Corn

### INGREDIENTS

- Canola oil cooking spray
- 1 large ear fresh corn or 1½ cups frozen corn, defrosted
- 1 Tbsp. Canola oil
- ¾ cup chopped red onion
- 1 pkg. (10 oz.) frozen spinach, defrosted, squeezed dry
- 1 can (15 oz.) no-salt-added pinto beans, drained and rinsed
- 1 tsp. ground cumin
- 1 can (14.5 oz.) no-salt-added diced tomatoes, partially drained
- 6 yellow corn tortillas
- 1 can (15 oz.) mild or medium red enchilada sauce, divided
- 1 cup shredded, reduced-fat Mexican cheese blend, divided

**Makes 6 servings.** Per serving: 280 calories, 8 g total fat (2.5 g saturated fat, 0 g trans fat), 10 mg cholesterol, 41 g carbohydrates, 13 g protein, 7 g dietary fiber, 810 mg sodium, 10 g sugar, 0 g added sugar.

<https://www.aicr.org/cancer-prevention/recipes/chilaquiles-with-beans-and-corn/>

### DIRECTIONS

1. Preheat oven to 400 degrees F. Coat 11-inch x 7-inch baking dish with canola oil spray and set aside.
2. If using fresh corn, cut kernels from cob; there should be 1-1½ cups. Set aside.
3. In medium skillet, heat oil over medium-high heat. Add onion and cook until translucent, 4 minutes. Add spinach, pulling it apart. Add beans and cumin and cook until cumin is fragrant, stirring often. Add tomatoes and corn and cook until mixture is heated through, about 5 minutes. Set vegetable and bean filling aside.
4. Arrange 2 tortillas on bottom of prepared pan. Cut 2 other tortillas in half and add 2 halves to cover bottom of pan. Spoon half the filling over tortillas. Pour on ¾ cup enchilada sauce. Sprinkle on half the cheese. Repeat, using remaining tortillas, filling, sauce and cheese. Cover pan with foil.
5. Bake chilaquiles for 15 minutes. Uncover and then bake until cheese melts and casserole is bubbly around edges, about 10 minutes. Let stand 10 minutes before serving.

31

31

## Pumpkin Spice Overnight Oats

### INGREDIENTS

- ½ cup rolled oats
- ½ cup unsweetened almond milk (or any type of milk)
- ⅓ cup plain, reduced-fat Greek yogurt
- 1 Tbsp. ground flaxseed
- 2 Tbsp. pumpkin puree
- 1 Tbsp. maple syrup
- ½ tsp. vanilla extract
- ½ tsp. ground cinnamon
- ¼ tsp. ground ginger
- ¼ tsp. ground nutmeg
- Pinch of salt

**Makes 1 serving.** Per serving: 340 calories, 7 g total fat (1.5 g saturated fat, 0 g trans fat), 10 mg cholesterol, 52 g carbohydrates, 16 g protein, 8 g dietary fiber, 270 mg sodium, 17 g sugar, 12 g added sugar.

### DIRECTIONS

1. Stir together all ingredients in a medium-sized mixing bowl.
2. Add to a mason jar with a fitted lid.
3. Refrigerate and store overnight.
4. \*May warm microwave before eating.

<https://www.aicr.org/cancer-prevention/recipes/pumpkin-spice-overnight-oats/>

32

32



## Kale, Butternut Squash & Pomegranate Salad

### INGREDIENTS

- 1 large butternut squash (about 3 pounds), peeled, cut into 3/4" cubes
- 1/4 cup extra-virgin olive oil, divided
- 5 cloves garlic
- 1/2 tsp. turmeric
- 1/4 tsp. salt
- Freshly ground black pepper, to taste
- 1/2 cup chopped walnuts\*
- 2 large bunches Tuscan kale, stemmed and thinly sliced
- 1/4 cup lemon juice, divided
- Sea salt, to taste
- 1 Tbsp. apple cider vinegar
- 1 tsp. pure maple syrup
- 1 Tbsp. Dijon mustard
- 1 shallot, finely chopped
- 1 cup pomegranate seeds

**Makes 8 servings (1 1/2 cup per serving).** Per serving: 200 calories, 11 g total fat (1.5 g saturated fat, 0 g trans fat), 0 mg cholesterol, 24 g carbohydrates, 6 g protein, 6 g dietary fiber, 110 mg sodium, 9 g sugar, 2 g added sugar.

### DIRECTIONS

1. Preheat oven to 400°F.
2. Place squash cubes on baking sheet, drizzle 1 tsp. olive oil over squash. Add whole garlic cloves, turmeric and salt and pepper, to taste. Toss to evenly coat squash with oil and spices. Spread cubes evenly around pan and roast for 30-40 minutes until squash is tender.
3. While squash is roasting, heat 1 tsp. olive oil in small skillet over medium-high heat. Add walnuts and cook, stirring occasionally until golden brown, 2-3 minutes. Set aside.
4. Place kale in bowl. Add 2 Tbsp. lemon juice and pinch of sea salt and massage into kale to wilt. Set aside.
5. When squash and garlic are cooked, remove garlic and put squash in a separate bowl. Add remaining olive oil, lemon juice, vinegar, syrup, mustard and shallot; pulse in food processor until smooth to create a dressing.
6. In large mixing bowl, combine kale with about 3/4 of dressing, and toss until kale is lightly coated. Add more dressing to taste and reserve any leftover for another use.
7. Add roasted squash and pomegranate seeds to kale; toss to combine. Transfer to serving bowl; top with toasted walnuts.

<https://www.aicr.org/cancer-prevention/recipes/kale-butternut-squash-and-pomegranate-salad/>

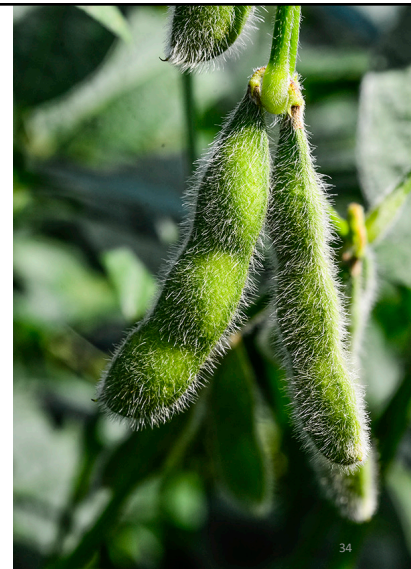
33

33

## What about Soy?

- Soy contains phytoestrogens
  - Contains isoflavones, whose chemical structure is similar to endogenous estrogen
  - Similar, but not equal
- Safe to eat in moderate amounts
  - 1-2 standard servings daily of whole soy foods
  - 1 standard serving = 1/2 cup tofu, 1 cup soy milk, 1/2 cup edamame, 1/4 cup soy nuts
  - 1 standard serving is about 25 mg isoflavones
- May consume up to 100 mg isoflavones daily
- A large meta-analysis showed decreased risk of breast cancer recurrence and decreased breast cancer-specific mortality in US and Chinese women consuming >10 mg isoflavones daily.
- It is prudent to avoid isolate protein or isoflavones
  - Concentrated phytoestrogens beyond what would normally be consumed in the diet

American Institute for Cancer Research. Soy: Intake Does Not Increase Risk for Breast Cancer Survivors. <https://www.aicr.org/cancer-prevention/food-facts/soy/>  
*Am J Clin Nutr.* 2012;96(1):129-132. doi:10.3945/ajcn.112.035972



34

34



## Summary


- Maintain adequate nutritional intake during treatment.
  - Avoid significant unintended weight loss or weight gain.
- After treatment, follow the American Institute for Research Recommendations.
  - Work towards a diet that is  $\frac{3}{4}$  plant-based foods,  $\frac{1}{2}$  animal proteins.
  - Avoid alcohol and processed meat.
  - 150 minutes physical activity per week.
    - Include aerobic (weight-bearing) and resistance training.
- Consume 1200 mg calcium daily; supplement as needed.
  - Ensure adequate vitamin D levels.
- Whole soy foods are safe to consume in moderate amounts.
  - Avoid soy protein isolates and concentrated isoflavones.

35

35

## Resources


- Cathy Leman, RD and breast cancer survivor: <https://dammadaboutbreastcancer.com/>
- Jean LaMantia, RD and breast cancer survivor: <https://jeanlamantia.com/>
- The Leukemia & Lymphoma Society's Nutrition Education Services®- Patients and caregivers of all cancer types can receive free education and consultations <https://llsnutrition.org/>



36

36

## Continuing Education



This webinar has been approved for 1.0 continuing education (CE) credits:

- Board Certified Patient Advocates (BCPA)
- Case Manager Certification
- Certified Family Life Educator (CFLE)
- Certified in Family and Consumer Sciences (CFCS)
- Certified Nutrition and Wellness Educator (CNWE)
- Registered Dietitian Nutritionists
- Social Work, LPC, LMFT


**Evaluation Link**

Go to the event page for the evaluation and post-test link.

[Continuing Education](#)

**Questions?**

Email us at:  
[OneOpMilitaryCareiving@gmail.com](mailto:OneOpMilitaryCareiving@gmail.com)




<https://oneop.org/learn/154525/>

37

37

## Upcoming Webinar



**Reduce Your Risk of Cognitive Decline as You Age**

**November 1, 2023, 11 AM – 12:00 PM ET**

Join us as we discuss cognitive decline in the context of lifestyle choices and habits that may help to reduce your risk for a diagnosis later in life and give you confidence that you are more “in control” than you might imagine when it comes to brain health.

For archived and upcoming webinars visit:  
[OneOp.org/AllEvents/](https://oneop.org/AllEvents/)



<https://oneop.org/learn/160011/>

38

38

## Connect with OneOp

---

Explore upcoming events, articles, resources, and more!



[OneOp.org](http://OneOp.org)

39