

Nutrition and Breast Cancer: Making Healthy Diet Decisions

Cara Anselmo, MS, RD, CDN

Jody Gilman, MS, RD, CDN

Lianne Russo, MS, RD, CDN

Rachel Zinaman, MPA, RD, CDN

We thank Moshe Shike, MD, and Larry Norton, MD, for their guidance and thoughtful review of this booklet.

Contents

I.	Introduction	[2]
II.	Lifestyle and Breast Health	[2]
III.	Eating During Breast Cancer Treatment	[2]
	<i>a. Food Safety</i>	[3]
IV.	Supplements	[5]
V.	Optimal Body Weight	[6]
VI.	Determining Your Caloric Needs	[7]
VII.	Weight Gain After Diagnosis	[8]
	<i>a. Strategies for Weight Control</i>	[8]
VIII.	Designing a Healthy Diet	[9]
	<i>a. Understanding Food Labels</i>	[11]
	<i>b. Size Up Your Servings</i>	[12]
	<i>c. One-Week Meal Plan</i>	[17]
	<i>d. Eating Out</i>	[21]
	<i>e. Alcohol Awareness</i>	[21]
	<i>f. Fats and Your Health</i>	[22]
	<i>g. Filling Up with Fiber</i>	[23]
	<i>h. Omega-3 Fatty Acids</i>	[24]
	<i>i. Phytochemicals in Food</i>	[25]
	<i>j. Soy and Phytoestrogens</i>	[26]
	<i>k. Other Plant Compounds</i>	[27]
	<i>l. Diet and Hot Flashes</i>	[27]
	<i>m. The Calcium Connection</i>	[27]
	<i>n. About Vitamin D</i>	[28]
	<i>o. Choosing a Calcium Supplement</i>	[28]

IX. Physical Activity	[29]
X. Organic Food Guidelines	[32]
XI. Grapefruit and Your Medications	[32]
XII. Avoid Tobacco	[33]
XIII. Additional Information on MSKCC and other resources	[33]

I. INTRODUCTION

It can be difficult for women with breast cancer to know how to stay healthy during or after treatment. This booklet is written for women who want to:

- Maintain wellness during breast cancer treatment.
- Follow a healthy diet and lifestyle.
- Lower the risk of breast cancer and/or breast cancer recurrence.

The booklet addresses many questions that patients with breast cancer may have. Read the entire booklet or sections that apply to you. If you have any additional questions, speak with your dietitian and your doctor.

II. LIFESTYLE AND BREAST HEALTH

A healthy diet and lifestyle are linked to overall wellness. There are now studies showing that diet and lifestyle may play a role in breast cancer and its recurrence.

Keys to overall health and wellness are:

- Achieving and maintaining the proper weight.
- Eating a calorie-controlled, balanced diet.
- Exercising regularly.

There are certain factors that make a person more likely to get breast cancer that cannot be changed. These include:

- Female gender
- The age at which you have your first period
- Increasing age
- Family history

Other factors that make a person more likely to get breast cancer can be changed. These include:

- Being overweight
- Drinking too much alcohol
- Lack of exercise

III. EATING DURING BREAST CANCER TREATMENT

The focus of eating during breast cancer treatment is to:

- Stay well.
- Maintain energy.

- Obtain the right nutrients.
- Prevent excess weight gain.

The guidelines in this booklet will help you make wise food choices throughout your breast cancer treatment. These treatments may include surgery, chemotherapy, radiation, immunotherapy, hormonal therapy, or a combination of these.

During chemotherapy and/or radiation therapy:

- Drink at least 8 glasses of non-caloric or low-calorie beverages each day. Not drinking enough can cause lightheadedness, dizziness, nausea, constipation, and fatigue.
- Avoid skipping meals. Try eating small frequent meals throughout the day.
- Choose moderate portions of lean protein-rich foods at most meals. These include:
 - Nonfat or low-fat dairy products.
 - White-meat poultry.
 - A variety of fish.
 - Eggs.
 - Beans.
- Choose fiber-rich foods daily. Include vegetables, fruits, beans, and whole grains.
- Limit your refined sugars, such as candy, juice, and regular soda. Excess refined sugars and sweets can cause fatigue due to sharp changes in blood sugar levels. They can also contribute to too many total calories.

Do not take vitamin, mineral, herbal, or other dietary supplements unless your doctor prescribes them. You may take calcium and vitamin D supplements. Discuss these with your doctor, nurse, or dietitian. See the section Calcium Connection (page 44) for more information.

Methotrexate and capecitabine may interact with folic acid. If you take these medicines, speak with your doctor.

Limit alcohol or stop drinking it altogether. If you have questions, speak with your health care team. (See Alcohol Awareness section, page 33).

a. Food Safety

If you are getting chemotherapy, you are more likely to get sick from foods. This is because the treatments can lower the number of cells that fight bacteria (germs). Be careful of foods that are not processed, prepared, stored, or handled correctly. These problems can happen where you shop, dine out, or even at home.

Symptoms of a food-borne illness may include:

- Abdominal cramps.
- Nausea.
- Vomiting.
- Diarrhea.
- Fever.

Food poisoning may go undiagnosed. This is because some treatments for cancer may cause similar symptoms.

These food safety guidelines can help prevent food borne illness:

- Safe shopping

1. Do not buy packages that are torn or leaking, or canned goods that have dents, bulges, or leaks.
 2. Choose fruits and vegetables that are not bruised.
 3. Do not buy foods past their expiration date.
 4. Pick up frozen and refrigerated items last when shopping.
 5. Only buy pasteurized dairy products. **Avoid** unpasteurized soft cheeses such as feta, brie, camembert, fresh mozzarella, and blue cheese.
 6. Only buy refrigerated eggs.
- Safe storage
 1. Keep the refrigerator temperature between 34° F and 40° F.
 2. Set the freezer temperature to 0° F.
 3. Storage temperature of pantries and cupboards should be 50° F – 70° F.
 4. Keep pantries and cupboards clean, dry, dark, and cool.
 5. Cook or freeze fresh poultry, fish, and ground meat within two days.
 6. Cook or freeze veal, beef, lamb, or pork within three to five days.
 7. Do not leave perishable foods out for more than two hours.
 8. Avoid overloading your refrigerator or freezer. Cold air needs room to circulate.
 9. Do not keep leftovers more than three to four days.
 10. Store fresh meat, fish, and poultry in separate plastic bags. Put them in the bottom shelf of the refrigerator.
 11. Keep hot foods at a minimum temperature of 140° F.
 12. Keep cold foods at a maximum of 40° F.
 - Safe Thawing
 1. For slow, safe thawing, place meat, poultry, and fish in the refrigerator.
 2. For faster thawing, place food in a plastic, leak-proof bag. Then submerge it in cold tap water.
 3. If you are thawing meat or poultry in the microwave, be sure to use a microwave-safe container. Defrost on the “low” or “defrost” setting. Cook meat and poultry right after you thaw it in the microwave.
 - Safe Preparation
 1. Always wash your hands thoroughly in warm, soapy water. Wash them for at least 20 seconds.
 2. Clean and sanitize work surface areas. This includes counters and cutting boards. Use a solution of bleach and water.
 3. Rinse towels, sponges, and dishcloths in a bleach and water solution. Allow them to dry completely when not in use.
 4. Use hot soapy water to clean up spills on appliances and work surface areas.

5. Rinse all fresh fruits and vegetables in clean running water. Use a soft scrub brush for hard-to-reach crevices.
6. Use separate cutting boards, plates, trays, and utensils for cooked and uncooked meat, poultry, and fish. Do not use the same cutting board or utensils to slice raw meat and vegetables.

- Safe cooking and serving
- Cook all meats to the following minimum internal temperatures:
- Juices from all cooked meats should run clear. There should be no pink flesh visible.
- Avoid eating raw or undercooked seafood (e.g., sushi, lox), meat, poultry, or eggs. Raw or partially cooked eggs may be found in:
 - Caesar salad
 - Homemade mayonnaise
 - Homemade ice cream
 - Chocolate mousse
 - Custard
 - Eggnog
 - Hollandaise sauce
 - Poached eggs
- When cooling hot foods, divide larger portions into smaller portions. Place them in shallow containers to speed cooling.

Poultry (whole bird)	180° F (82° C)
Poultry parts (breasts, thighs, and wings)	170° F (77° C)
Ground poultry	165° F (74° C)
Ground beef, veal, lamb, or pork	160° F (74° C)
Pork or ham	160° F (74° C)
Steaks and roasts	145° F (63° C)
Seafood	145° F (63° C)

IV. SUPPLEMENTS

A well-balanced diet can provide the right amounts of vitamins, minerals, and antioxidants. This is generally the healthiest and best way to get them.

Some people may need to supplement the nutrients in their diets. Ask your doctor or dietitian what to do if you are 65 or older. You may also need supplements if you have other medical conditions or are on a special diet.

You may receive conflicting information from family, friends, health food stores, and the Internet. Your dietitian can help you sort through any advice you get.

Calcium supplements may be helpful for people at risk for osteoporosis. You may need them if you do not have enough calcium in your diet. (See Calcium Connection, page 44.)

There are many supplements on the market. Supplement makers are not required to have standards for the safety, content, and quality of their product. Side effects are also not printed on their labels. There are many reasons to be very careful with supplements, especially during chemotherapy treatment.:

- They may interact with drugs.
- Large doses of supplements may cause serious side effects.

- Some cancer treatments cause *oxidation* to help kill cancer cells. High-dose *antioxidants* may decrease the effects of these treatments. Speak with your dietitian if you are adding any kind of antioxidant to your diet. This includes:
 - Green tea.
 - Juicing.
 - Vitamin or antioxidant enhanced water (e.g., Vitamin Water®, Snapple® Antioxidant Water, and Sobe Lifewater®, and many others).

It is important for your entire health care team to be aware of any supplement you are taking. This includes vitamins, minerals, and herbals/botanicals. For more information about supplements, ask for the booklet *Complementary Therapies to Ease the Way During Cancer Treatment and Recovery*, or visit MSKCC Integrative Medicine website at <http://www.mskcc.org/mskcc/html/1979.cfm>.

V. OPTIMAL BODY WEIGHT

A key guideline for good health is to achieve and maintain a proper weight.

One way to see if you are at an appropriate weight is to find your body mass index (BMI). BMI is a way of looking at your weight relative to your height.

The following chart will help you find your BMI. A healthy BMI ranges from 18.5 – 24.9.

You can calculate your BMI using the mathematical formula below:

$$\text{BMI} = \left(\frac{\text{Weight in pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

Find your weight in the top row. Next, find your height in the left column. Then go to the box where your weight and height meet. For example, if you weigh 150 pounds and are 5-feet 6-inches tall, your BMI is 24.

Weight	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250		
Height																																	
5'0"	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49		
5'1"	19	20	21	22	23	24	25	26	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	43	44	45	46	47		
5'2"	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	37	38	39	40	41	42	43	44	45	46		
5'3"	18	19	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	35	36	37	38	39	40	41	42	43	43	44		
5'4"	17	18	19	20	21	21	22	23	24	25	26	27	27	28	29	30	31	32	33	33	34	35	36	37	38	39	39	40	41	42	43		
5'5"	17	17	18	19	20	21	22	22	23	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	37	38	39	40	41	42		
5'6"	16	17	18	19	19	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33	34	35	36	36	37	38	39	40	40		
5'7"	16	16	17	18	19	20	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33	34	34	35	36	37	38	38	39		
5'8"	15	16	17	17	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	36	36	37	38		
5'9"	15	16	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	32	33	34	35	35	36	37		
5'10"	14	15	16	17	17	18	19	19	20	21	22	22	23	24	24	25	26	27	27	28	29	29	30	31	32	32	33	34	34	35	36		
5'11"	14	15	15	16	17	17	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	29	29	30	31	31	32	33	33	34	35		
6'0"	14	14	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	31	31	32	33	33	34		
6'1"	13	14	15	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	32	32	33		
6'2"	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	31	32		
6'3"	12	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	27	28	29	29	30	31	31		
6'4"	12	13	13	14	15	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25	26	26	27	27	28	29	29	30	30		

Reprinted with permission from Shape Up America!, 6707 Democracy Blvd., Ste. 306, Bethesda, Maryland 20817

Understanding Your BMI

The chart below is from the National Institutes of Health.

Classification	BMI
Underweight	Below 18.5
Normal	18.5 – 24.9
Overweight	25.0 – 29.9
Obese	30.0 and above

VI. DETERMINING YOUR CALORIC NEEDS

The number of calories a person needs depends mostly on:

- Body weight.
- Activity level.

Set your goal after you plot your BMI. You will either try to stay at your current weight, lose weight, or gain weight.

Step 1: Determine your body weight in kilograms.

Divide your weight in pounds by 2.2. That equals your weight in kilograms.

Step 2: Multiply weight in kilograms by:

- 20 if you want to lose weight
- 25 if you want to maintain your current weight
- 30 if you want to gain weight

Example: If you weigh 140 pounds

Step 1: $140 \text{ pounds} \div 2.2 = 64 \text{ kilograms}$

Step 2: $64 \text{ kilograms} \times 20 = 1280 \text{ calories per day to lose weight}$

Or

$64 \text{ kilograms} \times 25 = 1600 \text{ calories per day to maintain current weight}$

Or

$64 \text{ kilograms} \times 30 = 1920 \text{ calories per day to gain weight}$

Example for a person who is 140 pounds engaging in normal daily activity:

Weight Goal	Calories Per Day
Lose	Less than 1,280
Maintain	1,600
Gain	At least 1,920

These are estimates. Calorie needs decrease slightly as you get older. They are typically lower for women than men. To determine your calorie needs, consult a dietitian.

VII. WEIGHT GAIN AFTER DIAGNOSIS

Patients often gain weight after treatment of breast cancer. This is not seen as often with other cancers. Pre-menopausal women seem to gain more weight than postmenopausal women. It may be difficult to lose the weight gained during treatment. Excess weight gain has been linked with poorer outcomes. Therefore, it is important to try to maintain a healthy weight.

There are a number of reasons why women may gain weight:

- Excessive food intake
- Decrease in physical activity
- Early onset of menopause
- Depression and anxiety
- Receiving steroids during treatment

Use the guidelines in this booklet to help prevent weight gain. Work with a dietitian on your weight goals.

a. Strategies For Weight Control

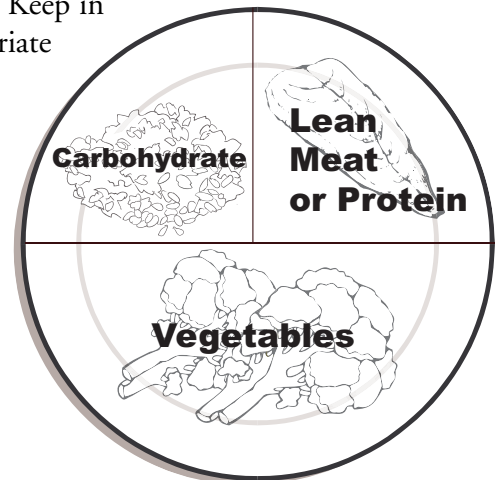
Change your behaviors to lose excess pounds and keep a healthy weight:

- Control the calories you eat.
- Choose the right foods.
- Exercise regularly.

The balance of foods on your plate is important when trying to eat healthy. Keep in mind the picture of the plate shown here. This can help you choose appropriate portions of different foods.

Half of your plate = vegetables. Aim for mostly non-starchy ones, such as:

- Broccoli
- Cabbage
- Cauliflower
- Greens (eg, spinach, lettuce, kale)
- Mushrooms
- Peppers
- Tomatoes



One quarter of your plate = other carbohydrate-rich foods and/or fruits. These include:

- Whole grains (eg, brown rice, whole wheat pasta, quinoa, barley)
- Starchy vegetables (eg, potatoes, squash, corn)
- Whole fruits (eg, berries, apples, pears, kiwis, oranges)

One quarter of your plate = protein-rich foods. Some good sources are:

- Fish
- Beans and legumes
- Nonfat dairy (eg, plain yogurt, nonfat milk)
- White-meat chicken

Nutrition Tips

- Control the sizes of your portions.
- Always place food on a plate to gain awareness of how much you are eating.
- Buy snacks in single-serving packs.
- Avoid eating while watching TV or talking on the phone.
- Monitor portions of fat-free foods – not all of them are low in calories.
- Drink eight 8-ounce glasses of fluids per day. Choose water or other drinks without calories, such as seltzer. Limit juice to no more than one cup per day. (It's better to eat whole fruit than drink juice.)

VIII. DESIGNING A HEALTHY DIET

This section has key guidelines to design a healthy diet.

Following are recommendations adapted from *The Dietary Guidelines for Americans* (2010).

- **Control your caloric intake. You should have adequate nutrients within calorie needs.**
 - Choose foods that are nutrient-rich. Minimize empty-calorie foods such as cookies and cake. Include vegetables and fruits, whole grains, low-fat or nonfat dairy, fish, and beans. Choose foods that are low in saturated and trans fats, cholesterol, added sugars, and salt. Limit alcohol intake.
 - Balance the calories you take in with the calories you use during physical activity.
 - To lose weight, lower your calorie intake and increase your exercise. (See Physical Activity, page 48.)
- **Vegetables and fruits should be the largest part of your diet.**

Choose a wide variety of vegetables and fruits. Choose ones with different colors such as dark green, purple, orange, yellow, red, and white.

 - Eat about five or more servings per day.
 - 5 or more vegetables (non-starchy)
 - 2-3 fruits
 - Be sure to stay within your caloric needs.
- **Choose foods rich in dietary fiber.**
 - Most adults should consume 25 – 35 grams of fiber per day.
 - To reach dietary fiber goals each day, most adults would need a total of:
 - About 2½ cups of vegetables and/or legumes,
 - 2 cups of fruit, and
 - 3 servings of whole grains.
 - A rapid increase in fiber can cause gas and bloating. Therefore, increase your fiber slowly and drink plenty of water. This will help your body adjust.
- **Choose foods moderate in sugars.**

There are no definitive studies on the role of sugar in cancer. However, it is wise to limit intake of added sugar because of other health concerns.

- Read food labels. Ingredients are listed in descending order. This means that the product has more of the ingredients listed first, and less of those listed last.
- Food labels list added sugars in many ways. Other names to watch for are:
 - Corn syrup.
 - High-fructose corn syrup.
 - Fruit juice concentrate.
 - Maltose.
 - Dextrose.
 - Sucrose.
 - Glucose.
 - Fructose.
 - Honey.
 - Maple syrup.
 - Cane sugar.
- Sugar is sugar whether it is raw, brown, white, powdered. Honey is also a sugar. If you are concerned about the sugar content in packaged foods, check the label. Make sure it is not one of the first few ingredients on the list.
- If you have other health concerns, such as diabetes, talk to a dietitian.
- Even if foods are low in fat, concentrated sweets have many calories. Some examples include:
 - Soft drinks and sweetened iced tea.
 - Juice and juice drinks.
 - Low-fat or fat-free packaged cookies and cakes.
- Choose fiber-rich whole grains, vegetables, and fruits. These are naturally lower in sugar.
- **Choose foods moderate in salt and sodium.**

A high intake of salt may raise blood pressure and increase the risks for stroke, heart failure, and kidney disease.

 - Consume less than 2,300 mg of sodium (about 1 teaspoon of salt) per day
 - Fresh food that is not processed is usually lower in sodium.
 - Read labels to find out the amount of sodium in foods.
 - Choose foods that are labeled “low sodium,” “very low sodium,” or “sodium-free.”
 - Flavor foods with fresh herbs and spices.
 - Limit packaged, processed, pickled, and cured foods.
 - Ketchup, soy sauce, and salad dressing are usually high in sodium.
 - Avoid preparing and cooking food with salt.
 - Do not add salt to food at the table.
- **Drink at least eight glasses of water and or other non-caloric drinks daily.**

- **Be physically active.** See Physical Activity, page 48
- **Limit your alcohol.** See Alcohol Awareness, page 33

a. Understanding Food Labels

A Nutrition Facts label is on most packaged foods. (See illustration.) Food labels give information to help you make wise choices about the foods you eat.

For more information about serving sizes, see Size Up Your Servings, page 12.

Nutrition Facts	
Serving Size 1 cup (228g)	
Serving Per Container 2	
Amount Per Serving	
Calories 250 *Calories from Fat 110	
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Servings per container can sometimes be deceiving. Packages that look like single servings can often be two or three. Please make sure to look at the serving size of beverages.

Multiply fat, calories, and all other values by the number of servings per container.

The type of fat is important. Choose products with the least amount of saturated and trans fat.

More fiber, vitamins, and/or minerals are better (up to 100%). Select foods that contain at least 25% of one or more of these categories.

Less sugar is better. Save foods or beverages with more than 15g of sugar per serving for special occasions.

This lists the % of the total daily recommendations for each nutrient when someone is on a 2,000-calorie diet.

b. Size Up Your Servings

It is important to think about serving sizes. Portion sizes of bottled, packaged, and restaurant foods have increased over the years. The following list has the suggested serving sizes of food.

One Serving of:	Equals
BREAD, CEREAL, RICE, AND PASTA	
Bread	1 slice
Pasta	½ cup
Cereal – hot	½ cup
Cereal – cold	1 ounce (1/2 to 1 cup depending on cereal)
Rice	½ cup
VEGETABLES	
Raw, leafy	1 cup
Cooked or raw, chopped	½ cup
Juice	¾ cup
FRUITS	
Medium fresh	1
Chopped, cooked, or unsweetened canned	½ cup
Fruit juice	¾ cup
Dried fruit	¼ cup
MILK, YOGURT, and CHEESE	
Milk or yogurt,	1 cup
Natural cheese such as mozzarella, swiss, muenster, cheddar, provolone and gouda	1 ½ ounces
Processed or packaged cheese such as American and most cheese spreads	2 ounces
LEAN MEAT, POULTRY, FISH, DRY BEANS, EGGS, AND NUTS	
Cooked meat or fish	3 ounces
Cooked dry beans	½ cup
Eggs	1
Peanut butter	2 tablespoons
Nuts	⅓ cup

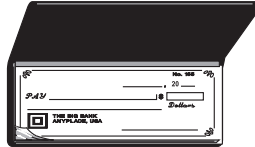
Keep a detailed record of the foods you eat, including the portion sizes. Use measuring cups and spoons to measure portions accurately. Some other useful ways to estimate serving sizes are as follows.

Use these examples of everyday items to help determine portion sizes:

Three ounces of meat is about the size of a cassette tape or deck of cards.



Three ounces of fish is about the size of a checkbook.



One cup of fruit, vegetables, or cereal is about the size of a baseball.



A medium size bagel is about the size of a hockey puck.



One ounce of cheese is about the size of a domino.



A teaspoon of butter is about the size of a die.



Common Measures

3 teaspoons = 1 tablespoon

4 tablespoons = $\frac{1}{4}$ cup

4 ounces = $\frac{1}{2}$ cup

8 ounces = 1 cup

1 cup = $\frac{1}{2}$ pint

2 cups = 1 pint

Approximate Calorie Content of Commonly Consumed Foods

Food	Calories
3 ounces very lean meat (such as white meat poultry without skin, white/flakey fish such as tilapia)	105
3 ounces lean meat (such as dark meat poultry without skin, fatty fish such as salmon, T-bone or porterhouse steak)	165
3 ounces medium-fat meat (such as ground beef, short ribs, pork chop, lamb chop, veal cutlet, dark meat poultry with skin)	225
3 ounces high-fat meat (such as spare ribs, hot dogs, bacon, luncheon meats)	300
1 teaspoon fat (such as olive oil, canola oil, margarine, butter, salad dressings, mayonnaise)	45
1 tablespoon fat (such as olive oil, canola oil, margarine, butter, salad dressings, mayonnaise)	135
1 cup nonfat or low-fat (1%) dairy (such as milk or yogurt)	90
1 cup reduced-fat (2%) dairy (such as milk or yogurt)	120
1 cup whole-fat dairy (such as milk or yogurt)	150
6 medium-sized nuts (such as almonds, cashews, walnuts)	45
1 tablespoon peanut butter	90

Adapted from The American Dietetic Association, American Diabetes Association, Exchange Lists.

Keeping a Food Journal

Record-keeping will tell you what foods you eat. This information will help you identify which ones to decrease or increase in your diet. People who keep food records are often more likely to achieve their weight goals.

To keep accurate food records, it is best to write down what you eat right after you eat. See the Sample Food Diary in this booklet for an example. There is also a blank copy that you can photocopy for your own use.

Your dietitian can help you use these records to meet your nutrition goals. Keep in mind that you do not have to change your diet all at once. Set one or two goals each week. If you have setbacks, you can learn from them. Small changes add up to big results over time.

Name: _____ Date: _____

Sample Food Diary

Time/Place	Type of Food/Beverage	Amount	Mood	Activities During Meal
<i>8 a.m. at work</i>	<i>coffee with 1% milk</i>	<i>16 oz. + 2T milk</i>	<i>good/alert</i>	<i>read paper during breakfast</i>
	<i>raisin bagel w/ fat-free cream cheese</i>	<i>1 large + 2T</i>		
	<i>orange juice</i>	<i>16 oz. container</i>		
<i>11 a.m. at work</i>	<i>cereal bar (blueberry)</i>	<i>1 bar</i>	<i>anxious</i>	<i>ate while in staff meeting</i>
	<i>Water</i>	<i>1 8-oz. glass</i>		

Time/Place	Type of Food/Beverage	Amount	Mood	Activities During Meal
<i>2 p.m. at work</i>	<i>vegetable soup and crackers</i>	<i>1 bowl + 4 crackers</i>	<i>good, but tired</i>	<i>ate at desk while working on report</i>
	<i>bottled water</i>	<i>16 oz.</i>		
<i>7 p.m. at home</i>	<i>pizza, cheese with green peppers</i>	<i>2 slices</i>	<i>good, but tired</i>	<i>watched T.V. with kids</i>
	<i>red wine</i>	<i>1 4-oz. glass with ice</i>		
	<i>Water</i>	<i>2 8-oz. glasses</i>		

Name: _____ Date: _____

Sample Food Diary

Time/Place	Type of Food/Beverage	Amount	Mood	Activities During Meal

Time/Place	Type of Food/Beverage	Amount	Mood	Activities During Meal

Here is a sample meal plan for one week. Each day's menu has about 1,600 calories.

- For weight loss goals, eliminate one or two snacks.
- If you are very active, add one or two snacks.

c. One-Week Meal Plan

Day 1

Meal	Food
Breakfast	2 whole grain frozen waffles <i>with</i> – 1 cup mixed berries (frozen or fresh) (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Snack	2 Tbs whole unsalted almonds
Lunch	Turkey sandwich: – 1 whole wheat pita – 3 oz sliced turkey breast – Sliced fresh tomato – Sliced red onion – 2 tsp mustard 1 small square dark chocolate
Dinner	4 oz broiled Arctic Char <i>with</i> – 2/3 cup cooked barley – 1 cup steamed string beans or broccoli Small garden salad: – 1 cup mixed greens – ½ cup other vegetables (such as mushrooms, carrots, cauliflower) – 1 Tbs olive oil vinaigrette salad dressing
Snack	1 medium pear ½ cup nonfat vanilla frozen yogurt

Day 2

Meal	Food
Breakfast	½ whole wheat or oat bran bagel <i>with</i> – 1 Tbs low-fat cream cheese (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Snack	1 cup plain non-fat yogurt 2 large Brazil nuts
Lunch	Tricolor salad: – 1 cup arugula – ½ cup radicchio – ½ cup endive – 1 Tbs pine nuts – 1 Tbs raisins – 2 tsp balsamic or other flavored vinegar – ¾ cup cooked pumpkin topped with nutmeg, to taste
Dinner	Pasta with chicken and artichoke (toss together the following) – 1 cup (cooked) whole wheat penne – 5 oz grilled skinless and boneless chicken breast, chopped – 2 tsp olive oil + 1 tsp lemon juice – ½ cup artichoke hearts (rinsed and drained if from can) – 2 Tbs chopped fresh parsley
Snack	1 cup watermelon

Day 3

Meal	Food
Breakfast	1 whole wheat English muffin <i>with</i> – 1 Tbs butter or replacement spread – ½ banana – 1 hard-boiled egg (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Lunch	8-10 oz vegetarian lentil soup 1 small whole grain roll (about the size of a fist)
Snack	6 oz nonfat plain yogurt 2 clementines or 1 small orange
Dinner	Seafood stir-fry – 5 oz Barramundi, rainbow trout or other similar fish – 2 tsp peanut oil – 1 tsp soy sauce – 1 Tbs unsalted peanuts 1 cup sliced zucchini 2/3 cup cooked brown rice
Snack	½ cup coconut sorbet 2 Tbs slivered almonds

Day 4

Meal	Food
Breakfast	1 cup oat-bran or shredded-wheat type cold cereal – ¾ cup nonfat milk or milk replacement – ½ cup fresh or frozen blueberries (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Snack	6 oz non-fat plain Greek-style yogurt <i>with</i> – 1 tsp honey
Lunch	Spicy seitan sandwich: – 2 slices whole wheat bread – 4 oz prepared chicken-style seitan topped with ½ tsp ground cumin – 2 large Romaine lettuce leaves – ¼ avocado
Dinner	Mixed veggie platter: – ½ cup steamed or sautéed mixed greens (eg, spinach, kale, boy choy, collards) – ½ cup roasted parsnips, turnips, or other root vegetable – ¼ cup chickpeas – 1 tsp truffle oil or other flavored olive oil – 2 Tbs grated or shredded Parmesan, Pecorino or other hard cheese – Black pepper, to taste

Day 5

Meal	Food
Breakfast	Homemade smoothie (made in blender with the following) – ½ cup orange juice + ¼ cup water – ½ banana – ½ cup nonfat plain yogurt – 1 cup whole frozen strawberries (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Lunch	Quinoa chicken salad (can make ahead in larger batch) cooked to include the following: – ¾ cup cooked quinoa – 4 oz grilled, diced chicken breast – ½ cup cubed butternut squash – ½ cup cooked mustard greens or other spicy greens – ½ tsp ground turmeric
Snack	2 Tbsp hummus or white bean dip ½ cup baby carrots 1 whole wheat pita
Dinner	1 medium slice plain cheese pizza (blotted on top) 1 cup steamed broccoli or cauliflower with black pepper, to taste

Day 6

Meal	Food
Breakfast	Vegetable egg scramble: <ul style="list-style-type: none">– 2 eggs– ½ cup broccoli or bell pepper– ½ cup chopped tomatoes– 1 tsp olive oil (optional) 1 cup coffee or tea with 2 Tbsp low-fat or non-fat milk or milk replacement
Snack	¾ cup nonfat cottage cheese with ½ cup sliced melon
Lunch	Peanut butter sandwich: <ul style="list-style-type: none">– 2 slices whole grain bread– 1 Tbsp peanut butter (or other nut butter, such as cashew, almond, sunflower)– ½ medium banana, sliced– 1 tsp honey 1 ½ cups sliced carrot, celery or zucchini sticks
Dinner	Pasta with pesto tofu and vegetables: <ul style="list-style-type: none">– ½ cup cooked fusilli, orecchiette, or other pasta– ½ cup crumbled (firm or extra-firm) tofu mixed with 2-3 tsp prepared pesto sauce– 1 cup (cooked) chopped zucchini, steamed or lightly boiled in pasta water– ½ cup (cooked) spinach, steamed or lightly boiled in pasta water– Chopped fresh basil
Snack	1 apple

Day 7

Meal	Food
Breakfast	½ cup cooked oatmeal <i>made with</i> <ul style="list-style-type: none">– ½ cup non-fat milk or milk replacement– 1 tsp cinnamon– ¼ cup dried cranberries
Snack	1 navel orange
Lunch	4 oz grilled wild salmon 1 cup mixed greens with balsamic vinegar ½ cup edamame
Dinner	Homemade nachos: <ul style="list-style-type: none">– 20 low-fat tortilla chips– 1 oz shredded Monterey Jack cheese– 2/3 cup black beans, rinsed, and drained (bake above in oven at 350 degrees until cheese just melted) ½ cup salsa 1 Tbsp low-fat sour cream 1 cup lettuce ½ cup sliced jicama ½ cup sliced tomato or cherry tomatoes 1 Tbs chopped fresh cilantro

d. Eating Out

It can be a challenge to keep your healthy eating habits when dining out. Consider these tips to help keep your calories in check and eat healthy.

- Share an entrée or order an appetizer or salad as your main dish.
- Place portions of food on a plate before you eat.
- Avoid second helpings.
- Ask for coffee beverages made with nonfat (skim) milk.
- Drink water or seltzer. Avoid high-calorie soft drinks, cocktails, or juices.
- Look for nutritional information or low-fat or heart-healthy entrees.
- Have half of your dish, and save the rest for lunch or dinner the next day.
- Limit bread and butter while waiting for a meal.
- Order a salad or plain steamed vegetables with lemon as a starter or side dish.
- Omit dressing or sauce, or ask for it on the side and use a very small amount.
- Top a salad with balsamic vinegar.
- Enjoy fresh fruit or sorbet for dessert.
- Avoid going out to eat when you are already very hungry. Have a piece of fruit or tall glass of water beforehand to avoid overeating at the restaurant.

e. Alcohol Awareness

Research shows a link between alcohol intake and breast cancer risk. Alcohol consumption increases breast cancer risk and may adversely affect outcomes. Women who drink, on average, one or more servings of alcoholic beverages per day (or the equivalent of seven servings or more per week) are at an increased risk. Risk is higher with more alcohol intake. Adequate folate / folic acid intake, and having blood folate levels within a normal range, may decrease the risks associated with alcohol intake, but does not eliminate them.

The type of alcohol drink does not matter. Researchers are still trying to determine the link between alcohol and breast cancer. Alcohol raises estrogen levels in your blood. This may have adverse effects on the breast. If you drink, do so in moderation. You might simply save it for special occasions. Discuss any questions about alcohol with your doctor, nurse, or dietitian.

Each of the following is one serving of alcohol:

- 4-5 ounces of wine or champagne (\approx 100 calories)
- 12 ounces of regular beer (\approx 150 calories)
- 1.5 ounces of hard liquor (e.g., one shot of tequila) (\approx 100 calories)

Take note of the size of the wine glasses you use at home or in restaurants. Many wine glasses hold 20 ounces or more – up to 5 times the amount in one “serving.”

Keep in mind that “light beer” has fewer calories – but not less alcohol – compared with regular beer.

Alcohol is also a source of “empty calories.” “Empty calories” refers to foods that provide few nutrients. Common examples are candy, chips, cookies, and sweetened beverages. Adding juice, mixer, or regular soda increases the number of calories. Use club soda or diet beverages to help keep the calories down.

Too much alcohol is also linked to:

- Liver disease.
- Increased risk for cancers of the mouth, pharynx, larynx, and esophagus.
- Inflammation of the stomach and pancreas.
- High blood pressure.

f. Fats and Your Health

Some fat in our diets is necessary and healthful. However, limiting dietary fat may be helpful for heart health and with weight control. If you follow a low-fat diet, aim to consume no more than 20- 30% of your calories from fat.

Examples of approximate caloric and fat goals for a 140-pound person:

Weight Goal	Calorie Goals per day	Total Grams of Fat per day
Lose	1280	28 - 43
Maintain	1600	36 - 53
Gain	1900	43 - 63

- Eat less saturated and trans fats. These fats can raise unhealthy types of blood cholesterol levels. That contributes to heart disease. No more than 10% of your calories should be from saturated fat. Keep trans fat intake as low as possible.
 - Saturated fats are mainly in full-fat dairy (such as cheese and butter) and meats. They are also in vegetable fats such as coconut and palm kernel oils.
 - On a nutrition label, you may see trans fats listed as:
 - partially hydrogenated oil.
 - hydrogenated oils.They are found in some margarines as well as processed/packaged baked goods such as cookies, cakes, chips, and crackers.
 - Only animal products, such as eggs and meat, and baked goods made with butter have cholesterol.
- Choose moderate portions of foods that have mostly polyunsaturated and monounsaturated fats. These include fish, nuts, and olive and canola oils.
- Choose mostly lean sources of protein such as
 - Nonfat or low-fat dairy
 - White meat poultry without skin
 - Fish or seafood
 - Beans and legumesAvoid eating red meat more than once a week.
- One gram of fat has more than twice the calories of a gram of a carbohydrate or protein. High-fat foods pack a lot of calories in a small amount of food.

Below is a list of low-fat foods.

- White meat chicken and turkey without skin
- Fish/seafood, water-packed canned fish

- Nonfat or low-fat lunch meats
- Nonfat or low-fat (1%) milk
- Nonfat or low-fat yogurt
- Frozen nonfat yogurt, sherbet
- Nonfat or low-fat cheeses
- Nonfat or low-fat salad dressing
- Nonfat or low-fat spreads

Prepare food with the following techniques. They use little added fat or help decrease fat.

- Bake, broil, steam, or poach.
- Baste with wine, juice, or broth.
- Use herbs and spices to add flavor.
- Skim fat off the top of soups and stews after they cool.
- Use nonstick pans or vegetable cooking spray.
- Blot excess fat from food with a paper towel.
- Marinate foods with balsamic vinegar or citrus juice.
- Use a grill grate.

g. Filling Up With Fiber

Fiber is good for your health. Fiber may help to:

- Stabilize blood sugar.
- Improve cholesterol levels.
- Improve bowel function.

Vegetables, fruits, beans, and whole grains are usually high in fiber. They also have many vitamins and minerals.

Whole grains include the entire grain seed. They are better for you than “refined grains.”

Examples of whole grains are

- Brown rice
- Buckwheat
- Bulgur
- Millet
- Oatmeal
- Popcorn
- Quinoa
- Spelt
- Whole grain barley
- Whole rye
- Whole wheat
- Wild rice

Read the labels on foods to find those that are high in fiber. Labels that list the word “whole” or “whole grain” before the first ingredient are good fiber sources.

Recipe Substitution

Instead of 1 cup of enriched or all-purpose flour, try:

- ¼ cup bran with ¾ cup white flour
- 7/8 cup whole wheat flour, if coarsely milled
- 1 cup whole wheat flour, if finely milled

In general, a high-fiber food has at least 3 grams of fiber per serving. The chart below lists some good food sources of fiber.

Grams of Fiber	Food Source
8 grams or more	<ul style="list-style-type: none">• All Bran®, Fiber One® cereals (1/2 cup)
6 grams	<ul style="list-style-type: none">• Pomegranate (½ medium)• Beans, (pinto, kidney, navy, black, northern), or lentils (½ cup)
4 – 5 grams	<ul style="list-style-type: none">• Pear with skin (1 medium)• Prunes (¼ cup)• Raspberries (½ cup)• Dates (¼ cup)• Broccoli (½ cup)• Brussels sprouts (½ cup)• Corn (½ cup or 1 ear)• Peas (½ cup)• Oatmeal (1 cup)• Bran cereal (2/3 cup)
2 – 3 grams	<ul style="list-style-type: none">• Banana (1 medium)• Orange (1 medium)• Apple with skin (1 medium)• Potato with skin (1 medium)• Blueberries (½ cup)• Wheat germ (¼ cup)• Whole grain bread (1 slice)• Brown rice (½ cup)• Wild rice (¼ cup)• Barley (½ cup)• Bulgur (1/3 cup)• Whole grain flour (2 tablespoons)• Whole wheat pasta (½ cup)• Shredded wheat (1 cup)

h. Omega-3 Fatty Acids

Studies have shown that foods with omega-3 fatty acids may be good for the heart. They may have a benefit in other health conditions as well. The role of omega-3 fatty acids is not fully understood. However, it is best to eat the foods rather than take supplements that contain them.

Foods rich in omega-3 fatty acids include

- Fish/seafood
 - Salmon

- Halibut
- Cod
- Sardines
- Herring
- Nuts, seeds and oils
 - Almonds
 - Walnuts
 - Olive oil
 - Canola oil
- Avocado

i. Phytochemicals In Food

Phytochemicals are found in plant foods. They may provide health benefits. They also seem to have anti-cancer properties. They may lower cancer risk by:

- Preventing damage to DNA (the genetic material in cells).
- Competing with estrogens.
- Boosting immune function.
- Helping the body to get rid of carcinogens (substances that may cause cancer).

We do not know if taking phytochemicals in pill form is safe or effective. The best way to get them is to eat a variety of plant foods daily. Over 100,000 phytochemicals have been identified and there may be many more. The following table lists some of the most common groups. It also lists their possible health benefits and food sources.

Phytochemical	Possible Benefit	Food Sources
Allylic sulfides	Protect against carcinogens	Garlic, chives, leeks
Carotenoids	Antioxidants that protect against carcinogens	Parsley, carrots, winter squash, sweet potatoes, yams, cantaloupe, apricots, spinach, kale, turnip greens, and citrus fruits
Catechins	Linked to low rates of gastrointestinal cancer and may boost immune function	Green tea and berries
Flavonoids	Block receptor sites for certain hormones involved in cancer promotion	Parsley, carrots, citrus fruits, broccoli, cabbage, cucumbers, squash, yams, tomatoes, eggplant, peppers, mushrooms, grapes, and berries
Indoles	Trigger the release of enzymes that block DNA damage and decrease the effectiveness of estrogens in the body	Cabbage, broccoli, Brussels sprouts, cauliflower, turnips, and kale
Lycopene	Inhibits cell damage from carcinogens	Tomatoes, red grapefruit, and watermelon
Phenols	Inhibit the formation of nitrosamine (a carcinogen) and increase cancer-fighting enzyme activity	Parsley, carrots, broccoli, cabbage, tomatoes, eggplant, peppers, citrus fruits, whole grains, grapes, and berries
Triterpenoids	Bind to estrogen and suppress unwanted enzyme activity	Citrus fruits

j. Soy And Phytoestrogens

There have been many questions about soy foods and breast cancer. Do soy foods promote breast cancer? Do they help prevent breast cancer? The answer may be somewhere in the middle.

Soy contains isoflavones. Isoflavones are one type of phytoestrogen — natural plant compounds with effects that weakly resemble the hormone estrogen. One theory is that if isoflavones bind to estrogen receptors in breast tissue, they might block estrogen produced in the body. However, isoflavones' estrogen-like effects also have prompted worries.

Based on research to date, we recommend moderation.

- Include moderate amounts of whole soy foods in your diet. These foods include:
 - Tofu
 - Miso
 - Tempeh
 - Edamame / Soy beans
 - Soy milk

½ cup	Whole soybeans
½ cup	Tempeh
½ cup	Texturized soy protein
½ cup	Soy nuts
4 ounces	Tofu
2 tbsp	Miso (fermented soybean paste)
1 cup	Soy milk

(See chart for serving sizes.)

- Some “soy foods” do not contain significant isoflavones. They are unlikely to have significant estrogenic effects. These are:
 - Soybean oil
 - Soy lecithin
 - Soy sauce
- These days, many food companies are increasing the soy and isoflavone content in their products. Examples of added, concentrated soy ingredients include:
 - Soy protein isolate
 - Soy protein concentrate
 - Soy flour
 - Soy fiber

Such ingredients are added to foods for different reasons. Often they are used as a means for marketing a product as “healthy.” Manufacturers sometimes replace wheat flour with soy flour in foods like breads and cereals. You may also see added soy protein isolate in foods such as canned soups, frozen entrees, protein bars, meat replacements, and packaged snack items.

Effects of these ingredients have not been adequately studied. We recommend limiting them. They are unlikely to change the calorie content of foods or offer benefits for most people. If you limit them, you will not be missing out on any “whole” foods that do offer health benefits, such as fish, beans, vegetables, or whole grains.

- Do not take soy isoflavone pills or powders unless your doctor tells you to. Ask your dietitian if you have questions about eating soy.

Your overall diet, more than any one specific food or group of foods, is what's most important for general health and with regard to breast cancer and recurrence risk. Soy foods may offer health benefits. For example, tofu is a good source of protein and calcium. However, it is unlikely that any one food, all by itself, will either cause or

prevent breast cancer. For most people, a healthy diet is one that contains mostly whole foods, including a wide variety of plant foods.

k. Other Plant Compounds

Flaxseed is not a soy food, but it is a phytoestrogen. If you consume flaxseed, do so in moderation. One serving equals 1 Tbsp ground flaxseed.

Some plant compounds have effects similar to estrogen. They may be added to vitamins, teas, and other supplements. These are often marketed to women for the relief of hot flashes. Women who have had breast cancer should avoid these compounds.

Avoid the following compounds in concentrated or supplement form:

- Alfalfa
- Black cohosh
- Chasteberry/Vitex
- Dong quai
- Fennel
- Flaxseed
- Licorice root
- Milk thistle (above-ground parts)
- Primrose oil, possibly
- Raspberry leaf
- Red clover
- Red yeast extract
- Resveratrol
- Siberian ginseng
- Wild yam

There may be other plant compounds that you should avoid that are not on this list. Please tell your doctor, nurse, or dietitian if you are taking or considering taking any supplements.

l. Diet And Hot Flashes

Hot flashes are a problem for many women during menopause. They can also be a problem for patients getting treatment for breast cancer. Hot flashes vary from person to person. They may last for different periods of time. Their frequency may also be different.

A stressful or warm environment can trigger a hot flash. Foods can also trigger or intensify hot flashes. Avoid or limit the following:

- Caffeinated beverages
- Chocolate
- Alcohol
- Spicy foods
- Hot beverages

Many dietary supplements are marketed for relieving hot flashes. Most of these supplements contain plant compounds with phytoestrogenic activity (see the “Other Plant Compounds” page 42). Talk to your doctor, nurse, or dietitian about other options to help manage hot flashes.

m. The Calcium Connection

Calcium is a mineral that the body needs. It is important for building and maintaining bones and teeth. If there is not enough calcium in the diet, the body takes calcium from the bones. This loss of calcium from the bones can lead to osteoporosis. Osteoporosis is a serious condition that results in weaker bones. This increases the risk of fractures.

The following factors are important to keep bones strong:

- Eating calcium-rich foods
- Engaging in weight-bearing exercise
- Consuming adequate vitamin D

The amount of calcium a person needs depends on age:

Age, in years Recommended Daily Intake, in milligrams

19-50 1,000 mg

50 + years 1,200 mg

For people who have a diagnosis of osteoporosis, the recommended amount of calcium is 1500 mg per day.

Nonfat or low-fat milk products are a good source of calcium. If you are lactose intolerant, you may want to try yogurt and lactose-free milk. In addition, there are now many foods on the market that are fortified with calcium. Some examples are listed below. The approximate amounts of calcium are also listed. Use this chart to add up how much calcium you are getting in your typical daily diet. That will tell you if you might need a supplement.

Food Source (Amount)	Milligrams of Calcium
Low-fat or nonfat yogurt (6 oz)	200-300 mg
Low-fat or skim (nonfat) milk (1 cup)	300 mg
Cheddar cheese (1 ounce)	200 mg
Soft cheese (1 ounce)	50-150 mg
Fortified orange juice (1 cup)	300 mg
Fortified cereals (1 cup)	300 mg
Sardines with bones (3 ounces)	325 mg
Salmon canned with bones (3 ounces)	200 mg
Beans, cooked (1 cup)	100 mg
Spinach cooked (½ cup)	120 mg
Broccoli cooked (½ cup)	30 mg
Almonds (1 oz, or about 20 nuts)	75 mg

n. About Vitamin D

Vitamin D is essential for maintaining strong bones. It is present in only a few foods. They include fatty fish, cod liver oil, eggs, and fortified milk. Most other dairy products are not fortified with vitamin D. The body does produce its own vitamin D from exposure to the sun. However, most people do not have enough sun exposure to consistently make enough vitamin D throughout the year. Therefore, a vitamin D supplement may be important. Speak with your doctor, nurse, or dietitian about how much vitamin D to supplement. Ask if your blood levels of vitamin D should be checked.

o. Choosing A Calcium Supplement

It is best to get calcium from foods. Nevertheless, not everyone can get enough through food alone. Therefore, a calcium supplement may be appropriate. Calcium supplements do not require a prescription. Your doctor, nurse, or dietitian can recommend the amount of calcium that is best for you. The most common calcium supplements are:

- Calcium carbonate.
- Calcium citrate.

Calcium Carbonate

Calcium carbonate has the most calcium. Take it with meals for best absorption. Tums® is an antacid that has calcium carbonate. You do not need to take Tums with a meal. There are many calcium carbonate supplements available. Some examples are Caltrate® and Viactiv®. Viactiv® is a calcium soft-chew that comes in different flavors.

Calcium carbonate may cause:

- Abdominal discomfort.
- Gas.
- Constipation.

If you experience these effects, try taking calcium citrate instead. Speak with your doctor, nurse, or dietitian.

Calcium Citrate

Some people may tolerate calcium citrate better than calcium carbonate. It is best absorbed if you take it 30 minutes before a meal. An example is Citracal®.

Special Points:

- Choose a calcium supplement that also has vitamin D. Take the amount of vitamin D that your doctor or dietitian recommends. Vitamin D is essential for your body to absorb calcium.
- Check with your doctor before taking calcium supplements if you:
 - Take diuretics (water pills).
 - Take large amounts of antacids for indigestion.
 - Have ever had kidney stones.
 - Have had problems with your parathyroid glands.
- Check with your pharmacist when buying calcium tablets. The amount of calcium varies with each brand. Some have 500 mg of calcium carbonate but only 200 mg of actual calcium. Therefore, you must take two tablets to get 400 mg of calcium. Some brands of calcium carbonate list the amount of actual calcium in each tablet.
- Take your calcium in divided doses for best absorption. For example, if you need 1200 mg of calcium each day, take 600 mg in the morning and 600 mg in the evening.
- Do not buy calcium tablets that are made from bone, coral, or dolomite. These may contain lead or other harmful metals.
- Calcium supplements can cause constipation. If you have this side effect, increase your fluid and fiber intake. If constipation does not resolve, call your doctor, nurse, or dietitian. They can tell you what to do.
- Calcium supplements do not replace other treatments for osteoporosis.
- Even if you take a calcium supplement, you should also eat foods that are rich in calcium. See the above list for calcium rich foods. You should also continue to do weight-bearing exercises, such as walking.
- If you take a multivitamin pill, be sure to take your calcium supplement at a different time of the day.
- You need calcium even if you are on a bone-building medicine. Fosamax and Actonel are bone-building medicines. Do not take your calcium supplement at the same time you take these medicines. They may bind to each other. Take the calcium 30 minutes before or 3 hours after the bone-building medicine.

IX. PHYSICAL ACTIVITY

Regular physical activity is important for good health. Exercise may reduce your risk for breast cancer and its recurrence. Staying active also may:

- Improve heart health.
- Increase or protect bone density.

- Improve cognitive function.
- Reduce fatigue and increase energy.
- Reduce depression or anxiety.
- Prevent and relieve constipation.
- Improve joint pain.
- Reduce the risk for other types of cancer and many chronic health conditions and diseases.
- Improve overall wellness.

Speak with your doctor before starting any exercise program or increasing your current exercise.

Find physical activities you enjoy. That will make it more likely that you will do them regularly.

If you are receiving chemotherapy, you may feel tired during the day. Exercise can help reduce fatigue and boost energy. Research also confirms other benefits. Exercise may help women get through their treatments on time and improve their self-esteem. It can increase fitness and help prevent weight gain.

Remember that any small increases in activity will help. Set small goals and gradually work your way up. Exercise can be broken up into two or three sessions. For instance, if you don't have one whole hour to spend, try walking for 30 minutes twice a day.

Goal	Amount of exercise	How often
To maintain weight	One hour moderate to high intensity	5-6 days/week
To lose weight	1 ½ hour moderate to high intensity	5-6 days /week

Try the following small steps.

- Take the stairs instead of the elevator or escalator.
- Get off the subway or bus one or two stops early and walk the rest of the way.
- Go for a walk after dinner.
- Do some gentle stretches when you first get up in the morning.
- Bike, walk, or rollerblade to the store instead of driving.
- Walk the dog several times a day instead of hiring a walker.
- Get up from your desk and take a short walk around the office throughout the day.
- Instead of sending an email or calling a co-worker, walk to his or her office.
- Park the car a distance away from the entrance.
- Plan active social activities with friends and family. For example, instead of meeting for lunch or coffee, go for a bike ride. Instead of watching a movie with your children, go to the park.
- When golfing, walk instead of using a cart.
- Walk or play Frisbee at the beach or in the park instead of lying down or sitting.
- After going out for dinner, go out dancing.
- Make walking or biking “date” nights with your spouse or partner.

- Clean your house or apartment.
- If it's raining or snowing outside, walk laps inside a mall before the stores open.

Check the table below to see how many calories you burn during exercise. These are estimates for a 150-pound person. If you weigh less than 150 pounds, you will burn fewer calories. If you weigh more than 150 pounds, you will burn more calories.

Activity	Approximate Calories Used in One Hour (for 150-lb person)
Brisk walking	300
Relaxed walking	200
Jogging	675
Gardening	320
Playing with kids	215
Vacuuming or mopping	150
Biking (flat surface)	440
Yoga (moderate intensity)	360
Dancing	370
Golf	240
Swimming	600

(From the American Cancer Society. http://www.cancer.org/docroot/subsite/greatamericans/content/Calories_Burned_in_Various_Activities.asp)

Physical Activity Log

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Weekly Total	Comments
	20 minutes of yard work; 10 minutes of cleaning	15 min. of swimming; 10 min. walking on the treadmill	25 minutes of brisk walking outside		30 minutes of low impact aerobics	21 minutes of bicycling	121 minutes	I enjoyed walking the most.

If you have any special health considerations or questions about designing an appropriate exercise program, consult your doctor.

X. ORGANIC FOOD GUIDELINES

- Many people opt for organic foods when given the choice. Organic plant foods are made without the use of most pesticides or herbicides. Organic animal foods are made from animals that have not been given growth hormones or antibiotics. Foods labeled organic are produced without bioengineering. That means the genes cannot be altered. Ionizing radiation cannot be used.
- Before foods can be called “organic,” guidelines must be met. The government must inspect the farm or facility where the food is grown or animals are raised.

The USDA has four categories for labeling organic products.

- 100 percent organic – Must contain only organic ingredients.
- Organic – Must contain at least 95% organic ingredients.
- Made with organic ingredients – Must contain at least 70% organic ingredients. Organic ingredients may be listed on the display panel. There are certain restrictions on the other 30% of ingredients (e.g., cannot contain GMO). The USDA organic seal cannot be used on the package.
- Products that have fewer than 70% organic ingredients cannot use the term “organic” on the front label. Organic ingredients may be listed on the side panel.

The word “organic” and the organic seal can appear on

- Fruits and vegetables
- Packages of meat
- Milk cartons
- Eggs
- Cheese
- Other single-ingredient foods

Placing labels on these food items is voluntary. You may also see “natural,” “free range,” or “hormone-free” on food labels. Do not confuse them with “organic.” Only food labeled “organic” has been certified as meeting USDA standards.

The Environmental Protection Agency (EPA) and Food and Drug Administration (FDA) consider pesticides, herbicides, and growth hormones to be safe. The USDA makes no claims that organic food is safer or better than non-organic food. They tend to be higher in cost and are not always readily available. There is no research to show whether organic foods are more effective in reducing cancer risk. If you are concerned about reducing your intake of added hormones from the food supply, you may wish to choose animal products (e.g., chicken, eggs, meat, milk/dairy) that are labeled “organic” or “no added hormones.” For more information, speak with your dietitian.

XI. GRAPEFRUIT AND YOUR MEDICATIONS

Grapefruit lowers an enzyme that helps clear medicines from the body. Grapefruit includes:

- Grapefruit juice.
- Grapefruit pieces/sections.
- Grapefruit extract.
- Other products that have grapefruit.

If medicine is not cleared from the body, it can build up. This can cause an increase in side effects. This has not been seen with other citrus drinks, such as orange juice or lemonade. Grapefruit may interact with some medicines used to treat breast cancer. These include Tamoxifen®, Aromasin®, and Femara®. Do not eat grapefruit products if you are taking these medicines. Check with your doctor if you are taking other medicines.

Take most medicines with water unless you are told something else. Do not take them with fruit juice.

XII. AVOID TOBACCO

Tobacco increases the risk for:

- Lung cancer.
- Heart disease.
- Bladder, mouth, and throat cancers.

Recent studies show that smoking may also increase the risk for breast cancer. If you smoke, try to quit. Please call your doctor for a referral to a smoking cessation program. For information on smoking cessation at Memorial, please call 212-610-0507.

XIII. ADDITIONAL INFORMATION ON MSKCC AND OTHER RESOURCES

Memorial Sloan-Kettering Cancer Center

Evelyn H. Lauder Breast Center

300 East 66th Street

New York, NY 10065

Access the MSK Web site at www.mskcc.org.

The following services are offered at 300 East 66th St.:

- Breast Medicine and Surgery Consultation
- Diagnostic Imaging
- Chemotherapy
- Social Work Services
- Psychiatry Services
- Nutrition Services
- Occupational Therapy
- Special Surveillance Breast Program
- Survivorship Program
- Genetic Counseling
- Boutique
- Art Therapy

To speak with one of the Registered Dietitians at 64th Street, please call to schedule an appointment:

(646) 888-4880

(646) 888-4881

Memorial Sloan-Kettering Cancer Center

Bendheim Integrative Medicine Center

1429 First Avenue (at 74th Street)

New York, NY 10021

(646) 888-0800

Services provided by the Integrative Medicine Center are described on the MSKCC Web site. Go to www.mskcc.org, click on “Locations,” then “Manhattan.” You will see a link to the Integrative Medicine Outpatient Center.

American Cancer Society

Access the American Cancer Society (ACS) by phone at (800) 227-2345 or on the Internet at www.cancer.org. You will find information on diet and other cancer-related topics.

American Dietetic Association

The American Dietetic Association has information about the latest nutrition guidelines and research. They can help you find a registered dietitian in your area. For more information, call (800) 877-1600 or (312) 899 0040. Access the American Dietetic Association on the Internet at www.eatright.org. The American Dietetic Association also publishes “The Complete Food and Nutrition Guide.” This has over 600 pages of food, nutrition, and health information.

American Institute for Cancer Research

The American Institute for Cancer Research (AICR) focuses on diet and cancer prevention research and education. You can find information from AICR by phone at (800) 843-8114 or on the web at <http://www.aicr.org/site/PageServer>.

National Cancer Institute

The NCI website has information about cancer, including Physician Data Query (PDQ) statements (summaries of treatment guidelines), research news, clinical trial listings, links to medical literature, and more. Visit the site at www.cancer.gov or call 800-4-CANCER (800-422-6237).

BreastCancer.org

This web site provides information on breast cancer treatment, diagnosis, day-to-day concerns, and lowering your risk. It is available online at www.breastcancer.org.

American Heart Association

The American Heart Association has a wealth of information on healthy eating and general exercise guidelines. You can reach the Association by phone at (800) 242-8721 or on the Internet at www.amhrt.org. The American Heart Association also publishes several heart-healthy cookbooks. They can be found in most bookstores.

American College of Sports Medicine

The American College of Sports Medicine has information on the most recent exercise research and recommendations. Contact the College by phone at (317) 637 9200 or visit their web site at www.acsm.org.

American Council on Exercise

The American Council on Exercise (“ACE”) can provide you with the names of certified fitness professionals in your area. They also have information on a variety of health and fitness topics. Contact the Council by phone at (619) 535 8227 or on the web at www.acefitness.org.

