

A silver fork and knife are placed on a green textured napkin. The fork is on the left and the knife is on the right. The background is white.

# **Survivorship:**

**Nutrition Guidelines for  
Cancer Survivors**

THE UNIVERSITY OF TEXAS  
MD ANDERSON  
CANCER CENTER  
*Making Cancer History®*



# Nutrition Guidelines for Cancer Survivors

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## To the Patient and Family

This booklet is for people who have been diagnosed with cancer. If you have any questions about the information in this booklet, please ask your health care team.

Nutrition plays a big part in a healthy lifestyle after cancer treatment. A healthy lifestyle can:

- Help you lower your risk for heart disease
- Give you more energy
- Lessen feelings of sadness and improve your mood

## Understand Nutrition Research

With ongoing research we are starting to see more specific guidelines for cancer survivors.

Most experts agree that following the guidelines for cancer prevention should be a reasonable approach for cancer survivors. This may help prevent a cancer from coming back or a second type of cancer. There are several reasons why this makes sense:

- Cancer survivors who have finished treatment may still have tiny, undetected cancer cells in their bodies.
- Cancer survivors have a higher risk of:
  - A second type of cancer
  - Osteoporosis
  - Obesity
  - Heart disease

- Diabetes
- Problems with being able to perform daily activities
- Nutrition and lifestyle changes for cancer prevention are similar to the guidelines for general good health and well-being. They offer overall health benefits in preventing disease.

## Make Healthy Lifestyle Changes

Take it one step at a time, and do not try to change your current eating habits in one day.

To help you get started, take the following American Cancer Society (ACS) Nutrition and Activity quiz. It is also on the ACS's Web site at [www.cancer.org/](http://www.cancer.org/).

1. Check "Yes" or "No" next to each question.
2. Add up your "Yes" Responses.
3. Look up your score in the "Scoring" section.

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	I eat at least five servings of fruits and vegetables every day.
<input type="checkbox"/>	<input type="checkbox"/>	I eat at least three servings of whole-grain bread, rice, pasta and cereal every day.
<input type="checkbox"/>	<input type="checkbox"/>	I drink reduced-fat or fat-free milk and yogurt, and I seldom eat high-fat cheeses.
<input type="checkbox"/>	<input type="checkbox"/>	I rarely eat processed or red meat like bacon, hot dogs, sausage, steak, ground beef, pork or lamb.
<input type="checkbox"/>	<input type="checkbox"/>	I take it easy on pies, cakes, cookies, sweet rolls and doughnuts.
<input type="checkbox"/>	<input type="checkbox"/>	I rarely add butter, margarine, oil, sour cream or mayonnaise to foods when I'm cooking or at the table.
<input type="checkbox"/>	<input type="checkbox"/>	I rarely eat fried foods (less than twice a week).
<input type="checkbox"/>	<input type="checkbox"/>	I try to maintain a healthy weight.
<input type="checkbox"/>	<input type="checkbox"/>	I get at least 30 minutes of moderate to vigorous physical activity five or more days of the week.
<input type="checkbox"/>	<input type="checkbox"/>	I usually take the stairs instead of waiting for an elevator.
<input type="checkbox"/>	<input type="checkbox"/>	I try to spend most of my free time being active, instead of watching television or sitting at the computer.
<input type="checkbox"/>	<input type="checkbox"/>	I never, or only occasionally, drink alcohol.

Scoring:

### 0-4 "Yes" Answers

You eat a diet high in fat and low in plant-based foods. Try to eat more fruits, vegetables and whole-grains, and increase your physical activity.

### 5-8 "Yes" Answers

You are making a great start for smart living. Look at your "No" responses to help you make goals.

### 9-12 "Yes" Answers

You follow healthy eating and lifestyle habits. Continue to look for new ways to increase or maintain your current lifestyle.

## Goal Setting

The next step is to make one goal. For example, “I will add ¼ cup of dried fruit to my cereal every morning to eat more fruit every day.” As time goes on, set more goals for healthy living.

## American Cancer Society Guidelines

The American Cancer Society sets guidelines that teach people about how to lower cancer risk. The guidelines are:

- Eat a variety of healthy foods, with an emphasis on plant sources.
- Adopt a physically active lifestyle.
- Maintain a healthy weight throughout life.
- If you drink alcoholic beverages, limit your intake.

It is important to have support from your school, workplace and community, too. The community guidelines are:

- Ask for healthy meal and snack choices at school or work.
- Support retailers and restaurants that serve healthy options.
- Help make your community an easier place to walk, bike and enjoy a variety of physical activities.

## Eat Healthy Foods

Plant-based foods are healthy because they give the body nutrients, such as vitamins, minerals, antioxidants, phytochemicals and fiber. Each of these nutrients is essential to good health. Examples of plant-based foods include:

- Fruits
- Vegetables
- Beans, peas and soy beans
- Whole-grain bread, cereal, rice and pasta
- Olives, nuts and seeds
- Canola oil and olive oil

Animal-based foods, when eaten in moderation and cooked correctly, are fine, too. Animal protein contains saturated fat, so it is better to eat lean meats. Your body makes cholesterol from saturated fat, so eating some saturated fat is OK, but eating too much of it is unhealthy.

Use low-fat cooking methods, such as stir frying, baking, broiling and boiling. Do not fry meats.





## How much should I eat?

Most people only need about 6 ounces of animal protein per day. Choose lean cuts of chicken, turkey, fish, pork and beef. Try to limit red meat (such as beef and pork) to no more than 3 ounces per day. Other animal based-protein includes:

- Milk, yogurt and cheese
- Eggs
- Venison and wild game
- Lard
- Bacon and ham

If you choose to eat animal protein as part of your meal, limit the portion to 3 ounces cooked (the size of a deck of cards) or one-third (or less) of your plate. The other two parts of the plate should be plant-based foods.

Remember to:

- Eat five to nine servings of vegetables and fruits every day. A serving is  $\frac{1}{2}$  cup cooked or 1 cup raw.
  - Eat fruits and vegetables at each meal.
  - Snack on fruits and vegetables.
  - Limit french fries, chips and other fried vegetable choices.
- Choose whole grains, rather than processed (refined) grains and sugars. White flour and white rice are both refined grains.
  - Healthy whole grains include brown rice, whole-wheat pasta and whole-grain cereals and breads.
  - Eat at least 25-30 grams of fiber per day. Good sources of fiber include bran cereals, wheat germ, wheat bran, fruits, vegetables, 100 percent whole grains, beans, soy, nuts and seeds.
- Limit red meats, especially high-fat and processed meats. Processed meats are cured, smoked or preserved and include hot dogs, bacon, sausage, ham and lunch meat.
  - Choose fish, poultry and beans in place of beef, pork and lamb.
  - Prepare meat by baking, broiling or poaching rather than frying or charbroiling.
  - Add soy foods into your diet in moderation (one to two servings per day). See page 16 for more information.
  - Try a meatless meal one to two times a week. Eat beans or lentils instead of meat.
- Limit “empty calories,” which are foods with calories but few vitamins, minerals or protein.
  - Avoid sweetened cereals, sweetened juices, soft drinks, pastries, candy and other sugars.
  - Avoid fried foods and foods prepared with a lot of oils and fats.



- Avoid *trans* fats. *Trans* fats are created by taking a healthy plant-based oil and putting it through a chemical process called hydrogenation. This converts the oil from a liquid form to a solid form. Your body makes cholesterol from *trans* fats, so try to avoid all *trans* fats. *Trans* fats are in some margarines and many processed and convenience foods.
- Avoid “fad” or severely restrictive diets. Choose foods that help you maintain a healthy weight.
- When you eat away from home, choose foods that are lower in calories, fat and sugar. Eat smaller portions; for example, share a meal with your dinner partner.
- Substitute salads, vegetables or fruit for calorie and high-fat foods, such as french fries, cheeseburgers, pizza, ice cream, doughnuts and sweets.

## Adopt a Physically Active Lifestyle

Exercise has many benefits. It:

- Improves overall health and prevents disease, including diabetes
- Improves heart and lung health and lowers risk of heart attack
- Helps you lose weight and maintain your weight
- Increases your energy, endurance, strength and flexibility
- Lessens the effects of stress, anxiety and fatigue and gives you emotional well-being
- Helps you maintain normal bowel function

Always ask your doctor before starting an exercise program. Be careful if you have:

- Severe anemia: Stop exercise until the anemia has improved, but continue normal activities.
- Compromised immune system: Avoid public gyms and public places until white blood cell counts improve.
- A stem cell transplant: Avoid gyms and public places for one year after the transplant.
- Severe fatigue: Try to do 10 minutes of stretching exercises daily.
- Radiation burn: Avoid swimming pools.
- Indwelling catheters: Avoid water or other microbial exposures. Avoid weight training of the muscles in the catheter area.
- Significant peripheral neuropathy: Try stretching and floor exercises, or ride a stationary recumbent bicycle. You may be less able to do exercises that use the affected limbs due to weakness, limited feeling or loss of balance.

## What kind of physical activity do I need?

Some research shows that high-intensity exercise weakens the immune system. If your doctor advises you to exercise, start slowly.

Moderate exercise like a brisk walk is best. Start with shorter sessions (10-15 minutes) at a relaxed pace to avoid injury. Then over time, increase the length and intensity of your activity.

## Aerobic Exercise

Aerobic exercise makes the heart and lungs work harder. Aerobic exercise moves oxygen through the blood and helps you maintain a healthy weight by burning calories.





As your strength and stamina improve, do moderate to vigorous activity for at least 30 minutes on most days. This improves fitness, heart and lung health. Please see the chart below for information on certain activities.

<b>Activity</b>	<b>Calories Burned Per Hour by a 150-Pound Person*</b>
Bicycling 6 miles per hour	240
Bicycling 12 miles per hour	410
Cross-country skiing	700
Jogging 5 ½ miles per hour	740
Jumping rope	750
Running in place	650
Swimming 25 yards per minute	275
Tennis (singles)	400
Walking 2 miles per hour	240
Walking 3 miles per hour	320
Walking 4 ½ miles per hour	440

**\*A heavier person burns more calories; a lighter person burns fewer calories.**

## Weight Training

Lifting weights several times per week can increase the size and strength of muscles, and improves your metabolism. Muscle weighs more than fat, so having more muscle may make your weight go up slightly.

With your doctor's approval, talk to a personal trainer for a weight-training program.

### How do I start?

- Use the stairs instead of the elevator.
- Park at the far edge of the parking lot.
  - Walk a few laps around the store before you begin to shop.
  - Purchase a new or used stationary bicycle, and peddle while watching television.
    - Walk, jog or jump rope in place while watching television.
    - Increase your steps by taking a longer route.

### Tips for Success

- Schedule exercise on your calendar to reserve time for this important activity.
- Find an exercise partner to help you stay with your program and to keep you company.
- Warm up and cool down at a low intensity for five minutes. Remember to stretch after both your warm up and cool down.
- Always talk to your doctor before beginning an exercise program.

# Maintain a Healthy Weight Throughout Life

There are several ways to find your healthy weight. Here are two examples:

1. Quick method: These are healthy weights within 10 percent for an average person with average activity levels.

## Women:

Add 100 pounds for the first 5 feet of height + 5 pounds for each additional inch.  
For example, a 5-foot, 4-inch woman should weigh 100 lbs + 20 lbs = 120 lbs.  
(Ten percent of the range lower and higher would be 108-132 lbs.)

## Men:

Add 106 pounds for the first 5 feet of height + 6 pounds for each additional inch.  
For example, a 5-foot, 10-inch man should weigh 106 lbs + 60 lbs = 166 lbs.  
(Ten percent of the range lower and higher would be 150-183 lbs.)

2. BMI between 18.5 and 25

Body mass index (BMI) uses a formula that considers both a person's height and weight. BMI equals a person's weight in kilograms divided by height in meters squared. (BMI=kg/m<sup>2</sup>)

Ask your doctor or dietitian if you would like to know your BMI and the healthy BMI range for you.

## Limit Alcohol

Alcoholic drinks are high in calories with limited nutritional benefit. In other words, they are "empty calories." Too much alcohol causes:

- Cirrhosis of the liver
- Obesity
- Heart disease
- Liver cancer and cancers of the gastrointestinal tract, such as cancer of the mouth and esophagus

Alcohol is also linked to breast cancer and colorectal cancer, but alcohol and the link to cancer risk needs more research. We do know that drinking alcohol and smoking cigarettes adds to cancer risk. We also know that the more alcohol you drink, the greater chance you have of getting cancer and other types of disease.



## What is a serving of alcohol?

If you do not drink alcohol, don't start.

A serving of alcohol is:

- 5 ounces of wine
- 12 ounces of beer
- 1 ½ ounces of liquor

Men should have two servings or less per day. Women should have one serving or less per day. Instead, try fruit smoothies, green tea, herbal teas or alcohol-free cocktails.

## Make the Best Choices

### How to Read Food Labels

A nutrition facts panel (or food label) is on almost all processed foods, meat and chicken. Some raw food (like “raw chicken breast”) and fresh fruits and vegetables do not have a label.

Reading a food label can be hard. Use these tips to help read labels:

- Know that g=gram and mg=milligram.
- Look at the serving size. It may be more or less than what you expect. Serving sizes are based on what is normally eaten.
- Look at the left side of the label. It tells you the calories, fat, cholesterol, sodium, total carbohydrate and protein. Know your goals for each.
- Check the percent daily value on the right. This is based on a 2000-calorie diet. Your diet may not be the same.

### Understanding Health Claims

Reading packaged foods is hard to do because the facts are not always clear. Please see below for the claims that the U.S. Food and Drug Administration allows.

#### Calories

- Calorie free: Less than 5 calories per serving
- Low calorie: 40 calories or less per serving
- Diet: At least 40 percent less calories than a similar food (20 percent less calories if it is a liquid)
- Light or lite: Food has been changed to contain 1/3 fewer calories or 1/2 of the fat. It can also mean that the sodium of a low-calorie, low-fat food has been cut by 50 percent. If the food is not low calorie or low fat, it must say “light in sodium.”

## Nutrition Facts

Serving size ½ cup (114g)

Servings per container 4

### Amount per serving

Calories 90		Calories from Fat 30	
		% Daily Value*	
<b>Total Fat</b> 3 g			5%
Saturated Fat 3 g			0%
Trans Fat 0g			0%
<b>Cholesterol</b> 10 mg			0%
<b>Sodium</b> 300 mg			13%
<b>Total Carbohydrate</b> 13 g			4%
Dietary Fiber 3g			12%
Sugars 3g			
<b>Protein</b> 3g			
<b>Vitamin A</b> 80%	•	<b>Vitamin C</b> 60%	
<b>Calcium</b> 4%	•	<b>Iron</b> 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	65 g	80 g
Sat Fat	Less than	20 g	25 g
Cholesterol	Less than	300 mg	300 mg
Sodium	Less than	2,400 mg	2,400 mg
Total carbohydrate			375 mg
Fiber		25g	30 g
Calories per gram:			
Fat 9		Carbohydrate 4	Protein 4



## Fat and Cholesterol

- Low fat: 3 grams or less fat per serving
- Fat free: Less than 0.5 grams of fat per serving
- Low saturated fat: 1 gram or less saturated fat per serving
- Saturated fat free: Less than 0.5 grams of saturated fat per serving
- *Trans* fat free: Less than 0.5 grams of *trans* fat per serving.
- Low cholesterol: 20 milligrams or less cholesterol and 2 grams or less of saturated fat
- Cholesterol free: Less than 2 milligrams of cholesterol per serving and 2 grams or less of saturated fat
- Percent (%) fat free: This food is already low fat or fat free. It shows how much fat is in 100 grams of food. For example, if 100 grams of food has 2 grams of fat, then the food is 98 percent fat free. If the food is 75 calories, then the 2 grams of fat adds 18 calories (9 calories per gram of fat) or 24 percent of calories from fat.
- Lean and extra lean - Tells about the fat content of meat, chicken, seafood and game.  
Extra lean:
  - Less than 5 grams fat
  - Less than 2 grams of saturated fat
  - Less than 95 milligrams cholesterolLean:
  - Less than 10 grams of fat
  - Less than 4 grams of saturated fat
  - Less than 95 milligrams of cholesterol per serving

## Fiber

- High fiber: 5 grams or more fiber per serving
- Good source of fiber: 3 grams or more fiber per serving

## Organic

All organic foods are approved by national organic standards. The labels are:

- 100 percent organic: Only organic ingredients used
- Organic: At least 95 percent of the ingredients are organically grown
- Made with organic ingredients: At least 70 percent of the ingredients used are organically grown

## Overall Health

- Enriched or fortified: Food contains at least 10 percent or more of the daily value of a nutrient than a similar food.
- More: Food has 10 percent or more of the daily value for a nutrient. This is the same for foods that are “fortified,” “enriched” and “added.”
- Good Source of: Food contains 10 to 19 percent of the daily value for a single nutrient.
- High/Rich in/Excellent source of: Food contains 20 percent or more of the daily value for a single nutrient.
- Healthy: Meets limits on fat, saturated fat and sodium. Contains 480 milligrams or less sodium per serving and has at least 10 percent daily value of one of these nutrients: vitamin A, vitamin C, calcium, iron, protein or fiber.
- Fresh: Never frozen or heated and contains no preservatives. “Fresh frozen” refers to foods that are quickly frozen while still fresh.



- Reduced: Food contains 25 percent less of a nutrient or calories than the regular food; this cannot be claimed if the regular food is already “low” in calories.

## Sodium

- Low sodium: 140 milligrams or less per serving
- Very low in sodium: 35 milligrams or less per serving
- Salt free: Less than 5 milligrams of sodium per serving

## Sugar

- Sugar free: Less than 0.5 grams of sugar per serving
- No added sugar: No sugar has been added, but there may be natural sugar in the food
- Zero net carbs: Sugar alcohols and fiber have been taken away from the total carbohydrate amount in the food.

## Gain Protection From Antioxidants

Antioxidants protect cells from damage caused by free radicals. Free radicals are unstable molecules that damage healthy cells, including DNA. If the DNA of a healthy cell is damaged, it can develop into cancer.

Free radicals come from:

- Pollution
- Radiation
- Sunlight
- Cigarette smoke
- Herbicides
- Alcohol
- Aging
- Injury

Antioxidants are found naturally in foods from plant sources.

Examples of antioxidants are:

- Vitamin E blocks the formation of cancer and may reduce the size of some tumors. Vitamin E is in:
  - Corn, soybean and safflower oil
  - Wheat germ
  - Nuts (sunflower seeds, almonds, peanut butter)
- Vitamin C protects cells from damage by free radicals. It also works with vitamin E. It may also have a role in immunity, bone and collagen formation and protecting the vascular system. Vitamin C is in:
  - Kiwi
  - Citrus fruits (oranges, grapefruit, lemons, limes)
  - Strawberries
  - Cantaloupe
  - Broccoli



- Selenium is a mineral that helps protect cells from free radicals, regulates thyroid function and plays a role in the immune system. Selenium is in:
  - Brazil nuts
  - Beef
  - Seafood
  - Turkey
  - Chicken breast
- Zinc enhances the activity of enzymes in the body. Zinc helps in wound healing and improves the senses of taste and smell. Zinc is in:
  - Oysters
  - Red meat
  - Chicken
  - Beans
  - Nuts
  - Whole grains
  - Fortified foods (like breakfast cereal)
- Phytochemicals are found in plant sources of food and play a vital role in a healthy diet. Read more about phytochemicals in the next section.

## What are phytochemicals?

Phyto is Greek for plant. Phytochemicals are plant chemicals that act as antioxidants and are found in fruits, vegetables, legumes, nuts, seeds, whole grains, fungi, herbs and spices. They add to the smell, color and flavor of the plant.

Phytochemicals have a major role in preventing and fighting disease in our bodies. We are still learning more about how they fight cancer. Early research hints that they may offer frontline defense against cancer.

The best way to include phytochemicals in your diet is to eat plant-based foods. The table on page 15 lists examples of phytochemicals and the foods that have them.

The key is to eat a mix, or rainbow, of colored fruit and vegetables. Choose whole grains, and eat five to nine servings of fruits and vegetables every day.





<b>Phytochemical</b>	<b>Food Sources</b>
Adiallyl sulfides	Onions, garlic, leeks, chives
Anthocyanin	Purple grapes, blueberries, cherries, plums, eggplant skin, red cabbage
Beta carotene	Oranges, carrots, apricots, cantaloupe, mangoes, pumpkin, sweet potato, winter squash, spinach, broccoli, kale
Capsaicin	Chili peppers
Catechins	Apple, grapes, pomegranates, raspberries, red wine, tea, dark chocolate
Curcumin	Ginger, turmeric
Indoles	Broccoli, cabbage, kale, cauliflower, Brussels sprouts
Isoflavones	Soy beans, tofu, soy milk
Isothiocyanates	Broccoli, cabbage, kale, cauliflower, Brussels sprouts
Labiatae	Rosemary, sage, oregano, thyme
Lignans	Flaxseed oil, flaxseed flour, flaxseed meal (Whole flaxseed cannot be digested, so it has no health benefits.)
Lutein	Kale, spinach, collard greens, Swiss chard, romaine lettuce, broccoli, Brussels sprouts, kiwi
Lycopene	Tomatoes, ketchup, tomato sauce, sun dried tomatoes, guava, watermelon, red grapefruit
Monoterpenes	Citrus fruits, mint, sage, cherries, cranberries
Phthalides	Celery seed
Quercetin	Outer part of onion
Reservatrol	Red and purple grape skin, red wine, grape juice

## Learn About Supplements: Vitamins, Minerals and Herbs

In most cases, the body is better able to use nutrients from food than from dietary supplements. If you wish to take a supplement, a daily multivitamin is a good choice.

### How can I be sure of the quality of a supplement?

Unlike food, the U.S. government does not review the safety of dietary supplements. This includes all vitamins, minerals and herbal products. Therefore, it is best to use dietary supplements that are reviewed by an independent third party organization like the United States Pharmacopeia or ConsumerLab.com.

- United States Pharmacopeia (USP)  
www.uspverified.org  
To receive the USP Verified seal of approval on a product label, the supplement manufacturer must volunteer to participate in the program. The product is then tested for quality, purity and potency. Many brand and generic supplements are USP Verified.
- ConsumerLab.com (CL)  
www.ConsumerLab.com  
ConsumerLab performs independent reviews of dietary supplements and publishes this information on their Web site. However, this information is only available to subscribers. Brands that meet CL standards may carry the CL seal of approval on their label.

### **How do I choose a multivitamin?**

Choose a multivitamin with 100 percent daily value of the nutrients that are listed on the label. This information is on the right side of the nutrition label. Avoid multivitamins that have herbal products. Herbal ingredients may interact with other prescription or over-the-counter medicine. Take multivitamins once a day with food. A multivitamin should not take the place of nutrients found in a healthy, well-balanced diet.

### **Should I take additional vitamins, minerals, antioxidants or herbal products?**

It is usually not necessary to take additional vitamins, minerals or antioxidants. It is best to make healthy food choices and eat a plant-based diet. Some research has found that taking single vitamins, minerals or antioxidants in supplement form does not have the same health benefit as eating the whole food. In some cases, excess or high doses of some supplements can be harmful. Some supplements may also interfere with prescription or over-the-counter medicine. Talk to your health care team about any dietary supplements you are taking or those you have questions about. If you are taking blood-thinning medicine this is especially important.

There is not enough research data to say if herbal supplements are safe or useful. Herbs vary from region to region and from each other, so it is hard to know if herbal supplements are all the same. Talk with your health care team before taking these.

## **Be Aware of Soy**

Soy is a plant that is common in the Asian diet. Soy-derived foods, such as tofu, soy milk and soy powder, provide a number of qualities.

The controversy surrounding soy is due to one of its phytochemicals: isoflavone. The following statement is from the American Cancer Society:

“Current epidemiologic and laboratory evidence suggests there are unlikely to be harmful effects when soy is provided in the diet consistent with amounts in a typical Asian diet; whether such levels of soy intake may result in beneficial effects is unclear. This amount would be provided by as many as three servings per day of soy foods, such as tofu and soymilk. However, because higher doses of soy may have estrogenic effects and because higher levels of estrogens clearly increase the risk for breast cancer progression, **it is prudent for breast cancer survivors to avoid the high doses of soy and soy isoflavones** that are provided by more concentrated sources such as soy powders and isoflavone supplements.”

This may not only apply to breast cancer survivors, but also to people with other types of hormone-sensitive cancers.

Soy is a good source of fiber, protein and phytochemicals. The phytochemicals found in soy have:

- Antioxidant properties
- Protein inhibitors, which are enzymes that change cell division
- Anti-angiogenic activity, which limits blood supply to the tumor

As an excellent source of protein, soy can be a good alternative to meat.

## Tips for Adding Soy to Your Diet

Common soy products include:

- Soy milk: This non-dairy liquid is fortified with calcium and often vitamins A and D. Choose a low-fat or non-fat type. Use this to substitute for milk in any recipe, or drink it plain.
- Tofu: This varies in texture from extra firm to soft or silken. Extra firm tofu is dense and holds well for stir-frying or grilling. Soft or silken tofu is ideal for blending in soups. It has a creamy, custard-like texture. It works well in pureed and blended dishes.
  - Tip: When recipes call for sour cream, use half tofu and half sour cream.
  - Remember to keep tofu refrigerated. It is perishable, so always check the expiration date.
  - Freeze tofu for up to five months.
- Soy nuts: These baked, mature soybeans are usually seasoned. They have a nutty flavor, similar to a roasted peanut. Eat them as a snack.
- Edamame: These boiled or steamed green soybeans are eaten straight out of the pod. (Squeeze out the beans with your fingers or teeth, and throw away the pod.) Eat them as a snack.



## Special Considerations

Do you have another chronic health problem, such as diabetes, heart disease, liver disease or renal disease? You can still live a healthy, enjoyable life. In addition to these guidelines, monitor your carbohydrate, protein, salt and/or fat intake.

Seeking advice from a registered dietitian will benefit you and help you improve your health. Registered dietitians are licensed specialists. Their extensive education and training prepare them to create and implement unique care plans for patients during treatment and recovery.



## Do you feel different?

After cancer treatment, you may feel different. Your normal routine changed when you started treatment, and now that it is finished, your routine will change again.

It is normal and OK to feel different about yourself and how you relate to the world around you. As a cancer survivor, you may have changes in your physical, social, emotional and/or spiritual self.

Having a good support group of friends or family will help you through this time in your life. For some patients, counseling and/or support groups provide extra benefits in helping to work through post-treatment experiences.

If you would like to schedule an appointment with your clinic dietitian, please contact M. D. Anderson's Department of Clinical Nutrition at 713-563-5167.

## Menu 1

### Breakfast

- ½ -1 cup cooked oatmeal
- 1 slice whole-wheat toast
- ¾ cup blueberries
- 1 ounce Canadian bacon
- 8 ounces 1 percent milk
- 1 teaspoon butter
- 1 teaspoon jelly
- 1 cup hot green tea

### Lunch

Sandwich:

- 2 slices whole-grain bread
- 2 ounces sliced turkey breast
- 1 ounce low-fat cheese slice
- Lettuce, pickle, tomato and/or onion
- 1 teaspoon mayonnaise
- 1 teaspoon mustard
- 1 ¼ cup strawberries
- 1 cup carrot and celery sticks
- 12 ounces iced green tea

### Snack

- 6 ounces V-8® juice
- 1 mozzarella cheese stick
- 1 cup raw broccoli and cauliflower

### Dinner

- 1 cup whole-wheat spaghetti noodles with 1 cup marinara sauce made with lean ground turkey
- Garden salad: mixed green lettuce, carrots, tomatoes and cucumber
- Balsamic vinaigrette salad dressing (See recipe on page 21.)



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½ cup cooked Italian green beans  
Breadstick  
12 ounces iced green tea

## **Snack/Dessert**

Apple berry salsa with cinnamon chips (See recipe on page 23.)

## **Menu 2**

### **Breakfast**

Whole-wheat waffle topped with partially thawed frozen mixed berries (See recipe on page 20.)

8 ounces 1 percent milk

1 scrambled egg or ¼ cup scrambled egg whites

### **Lunch**

1 cup tomato soup

Grilled chicken salad: mixed lettuce greens, grated carrots, tomato slices, cantaloupe cubes, cucumber slices, chopped bell pepper, 3-4 ounces grilled chicken, 1 ounce feta cheese

Raspberry vinaigrette dressing

Whole-wheat roll

### **Snack**

Peach cubes topped with low-fat  
raspberry yogurt

### **Dinner**

3-4 ounces salmon

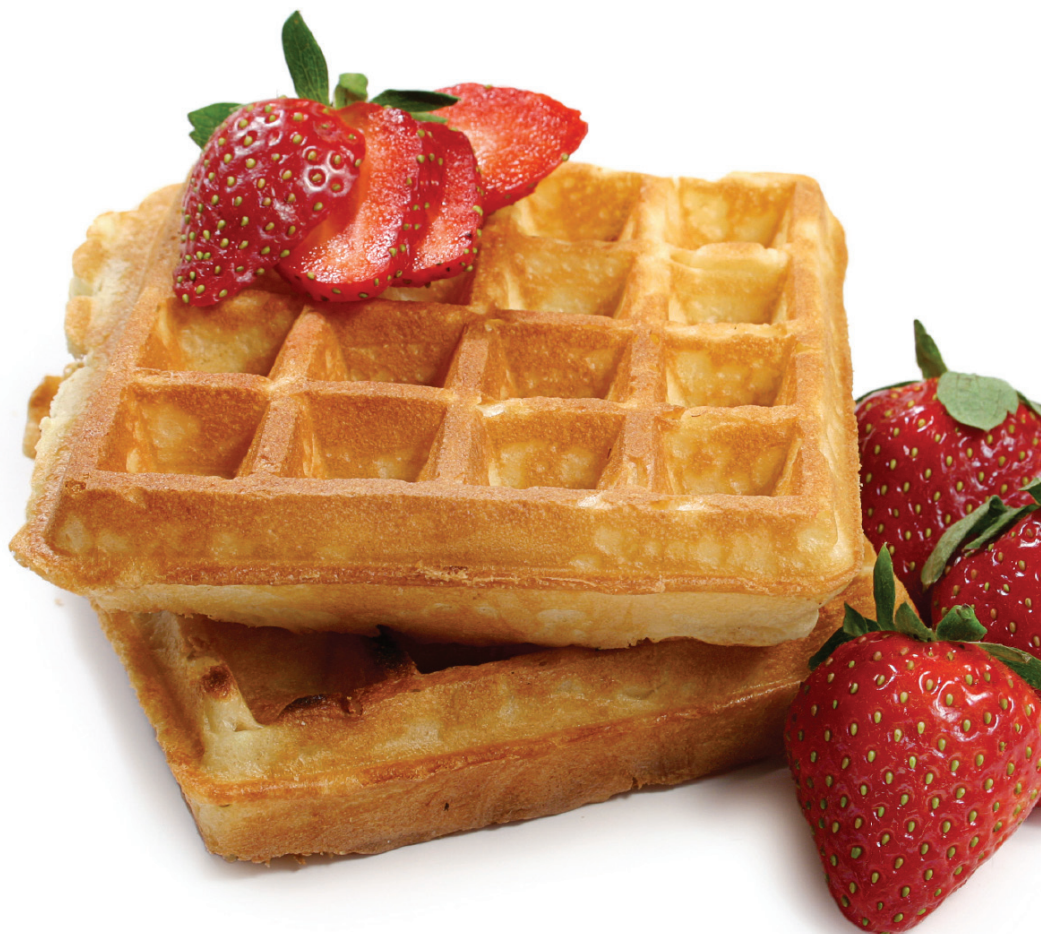
1 cup brown rice with snow peas  
(See recipe on page 22.)

Baked squash casserole (See recipe  
on page 22.)

Spinach salad

### **Snack/Dessert**

Fruit smoothie (See recipe on page  
20.)



# Try New Recipes

## Breakfast

### Whole-Wheat Pancakes

Prepare any pancake recipe, substituting whole-wheat flour for ½ or all of the white flour. Also, substitute soy milk for the milk.

### Fruit Smoothie (1 serving)

6 ounces plain low fat yogurt  
1–1 ½ cups fresh fruit  
1 teaspoon sugar or artificial sweetener  
6-8 ice cubes

Blend ingredients in a blender until smooth.

## Appetizers

### Onion Dip

1 cup soft or silken style low-fat tofu  
½ cup green onions  
1 cup low-fat or non-fat sour cream  
1 envelope dry onion soup mix  
1 tablespoon Tabasco® Green Pepper Sauce

1. Stir tofu and green onions together until creamy.
2. Stir in the other ingredients.
3. Chill for two hours before serving.

### Greek Spinach Melts (12 servings)

1 package whole-wheat English muffins  
1 package (9 ounces) frozen chopped spinach, thawed and drained  
1 Roma tomato, chopped  
¼ cup onion, chopped  
1 clove garlic, pressed  
½ cup crumbled Feta cheese  
¼ cup silken tofu  
¼ cup light sour cream  
½ teaspoon dried dill weed  
¼ teaspoon salt

1. Preheat oven to 350 degrees.
2. Slice English muffins in half and place on a baking sheet. Place in the oven for 2-3 minutes to toast slightly.
3. Combine all other ingredients in a mixing bowl.
4. Spread each muffin slice with the spinach mixture.
5. Bake 10-12 minutes or until heated through. Serve immediately.





## Salad Dressings

### Creamy Salad dressing

Substitute silken style tofu for mayonnaise in any recipe.

### Balsamic Vinaigrette Salad Dressing

1 cup balsamic vinegar  
¼ cup olive oil  
2 tablespoons Italian seasoning  
2-4 garlic gloves, crushed

Combine all ingredients.

### Creamy Herb Dressing

½ cup non-fat plain yogurt  
½ cup low-fat sour cream or soy-based sour cream  
2 tablespoons cilantro, minced  
½ teaspoon lemon pepper  
1 green onion with top, minced  
½ teaspoon honey or sugar

1. Using a hand beater, whip together yogurt and sour cream.
2. Stir in the remaining ingredients.
3. Keep refrigerated.

### Yogurt Dressing

1 cup low-fat yogurt  
1 package buttermilk salad dressing  
2 tablespoons lemon juice  
⅓ cup skim milk or soy milk

1. Combine yogurt and salad dressing mix.
2. Stir in lemon juice.
3. Add milk.
4. Refrigerate until chilled.





## Vegetables and Grains

### Broccoli Salad (6 servings)

- 1 bunch fresh broccoli
- 1 small red onion, chopped
- 1/3 cup raisins
- 1 cup seedless grapes, sliced
- 3 strips fried bacon, crumbled
- 1/2 cup low-fat mayonnaise or soy mayonnaise
- 2 tablespoons sugar
- 1 tablespoons vinegar

1. Cut broccoli florets into small pieces. Peel stems and cut into small pieces. Place in a bowl.
2. Add onion, raisins, grapes and bacon.
3. In separate bowl, combine mayonnaise, sugar and vinegar.
4. Add dressing to broccoli mixture. Refrigerate for three hours.
5. Stir once before serving.



### Baked Squash Casserole (8 servings)

- 2 yellow squash, sliced
- 2 zucchini, sliced
- 2 fresh tomatoes, sliced
- 1 large onion, sliced
- 1 green bell pepper, cut into strips
- Parmesan cheese, grated
- Olive oil spray
- Salt and pepper

1. Preheat oven to 350 degrees.
2. Spray bottom of 9" by 13" pan with olive oil.
3. Layer on bottom of the pan: yellow squash, 1 tomato, 1/2 onion, 1/2 green pepper.
4. Lightly sprinkle with salt and pepper.
5. Sprinkle with Parmesan cheese.
6. Layer zucchini, 1 tomato, 1/2 onion and 1/2 green pepper.
7. Lightly sprinkle with salt and pepper.
8. Top with Parmesan cheese.
9. Bake one hour.

### Brown Rice With Snow Peas (8 servings)

- 1 1/2 cups brown rice, uncooked
- 2 chicken bouillon cubes
- 3 cups water
- 1/2 cup chopped onion
- 1/3 cup chopped celery
- 1/4 cup chopped parsley
- 1/4 cup chopped green pepper

1 sliced carrot  
4 tablespoons olive oil, divided  
½ pound fresh mushrooms, sliced  
1 can water chestnuts (8 ounces)  
1 bag frozen snow pea pods (7 ounces)  
Nonstick spray

1. Preheat oven to 350 degrees.
2. Place rice, bouillon cubes and water in a saucepan and cook according to package instructions.
3. Sauté onion, celery, parsley, green pepper and carrot in 2 tablespoons oil until tender.
4. Sauté mushrooms in 2 tablespoons olive oil for five minutes.
5. Combine cooked rice, vegetables, water chestnuts and pea pods and toss together.
6. Spray a 2-quart casserole dish with nonstick spray.
7. Spoon rice mixture into the casserole dish.
8. Cover and bake 15-20 minutes.

## Desserts

### Reduced-Fat Banana Pudding (8 servings)

1 large box fat-free instant vanilla pudding (fat-free, sugar-free may be used, if desired)  
1 cup vanilla flavored low-fat soy milk  
1 container fat-free whipped topping  
2-3 sliced bananas  
½-¾ box reduced-fat vanilla wafers

1. Beat together pudding and soy milk until thick.
2. Fold in whipped topping, and refrigerate for five minutes.
3. In large serving bowl, layer twice as follows: vanilla wafers, bananas and pudding mix. Top with vanilla wafers.
4. Refrigerate until ready to serve.

### Apple Berry Salsa With Cinnamon Chips

Salsa (8 servings, ¼ cup each):  
2 medium Granny Smith apples, chopped (do not peel)  
1 cup strawberries, sliced  
1 kiwi, peeled and chopped  
2 teaspoons orange peel  
¼ cup orange juice  
2 tablespoons packed brown sugar  
2 tablespoons apple jelly

Combine all ingredients in bowl and serve with cinnamon chips.



Cinnamon Chips (16 servings, 4 wedges each):

- 7" whole-wheat tortillas
- 1 tablespoon sugar (or substitute Splenda® if desired)
- ½ teaspoon ground cinnamon

1. Preheat oven to 400 degrees.
2. Lightly spray tortillas with water.
3. Combine sugar and cinnamon, and sprinkle over tortillas.
4. Cut each tortilla into eight wedges.
5. Place wedges on baking sheet.
6. Bake 8-10 minutes, until lightly browned and crisp.
7. Cool on baking rack.

**Berry Crisp** (8 servings)

- 4 ½ cup berries (Choose any you like: blueberries, raspberries, blackberries)
- 2 tablespoons Splenda
- 1 cup whole-wheat flour
- 1 cup oats
- ¾ cup brown sugar (or ½ cup brown sugar and ¼ cup Splenda)
- 1 teaspoon cinnamon
- ½ cup butter

1. Preheat oven to 350 degrees .
2. In 8" by 8" or 9" by 9" pan, place berries and sprinkle with Splenda.
3. In bowl, combine flour, oats, brown sugar and cinnamon. Cut in butter with fork until crumbly.
4. Sprinkle mixture on top of the berries.
5. Bake about 30 minutes. The fruit will be bubbly, and the topping will be golden brown.

**Fruity Soy Shake** (2 servings)

- 1 cup vanilla soy milk or skim milk, chilled
- 5 ounces soft or silken tofu, chilled
- 2 cups fresh or frozen fruit of your choice
- 2-3 tablespoons honey
- ½ teaspoon vanilla extract

Combine all ingredients in a blender and process until smooth.



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## Resources

### **American Cancer Society**

800-ACS-2345 (800-227-2345)

<http://www.cancer.org>

The American Cancer Society provides information on nutrition during and after treatment, how to handle side effects and much more. In the Web site search field, type “nutrition” to find information. Type “cooking smart” to find tips on healthy cooking, shopping lists and more.

### **American Dietetic Association (ADA)**

<http://www.eatright.org>

800-877-1600

The ADA is the nation’s largest organization of food and nutrition professionals. This Web site provides objective food and nutrition information for optimal nutrition, health and well-being. Although partially restricted to ADA members, the public may search for healthy lifestyle tips and use online tools, brochures, reading lists and links to other nutrition resources.

### **American Institute for Cancer Research (AICR)**

800-843-8114

<http://aicr.org>

The AICR funds research on diet and cancer prevention and educates the public about the results. This site contains valuable research-based information. Click on the “Subscribe” tab at the top of the page to subscribe to a free e-newsletter and weekly healthy recipes.

### **National Cancer Institute (NCI)**

800-422-6237

<http://www.cancer.gov>

For more information about nutrition and cancer survivorship, call the National Cancer Institute’s Cancer Information Service. A trained cancer information specialist will answer your questions.

Type “nutrition” in the search field to read “Nutrition in Cancer Care (PDQ®).”

### **National Institutes of Health – Office of Dietary Supplements**

301-496-4000

<http://dietary-supplements.info.nih.gov>

Click on the “Health Information” tab to find information on dietary, vitamin, mineral and herbal supplements. This link includes Federal Drug Administration (FDA) warnings and false advertising claims filed by the Federal Trade Commission (FTC). The Department of Agriculture’s Food Consumption Database is also available.

### **Nutrition Data**

<http://www.nutritiondata.com>

In addition to tools like the Daily Needs Calculator and the Nutrient Search Tool, Nutrition Data gives a complete nutrient analysis for any food or recipe and helps you select foods that best match your dietary needs.



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## **Nutrition.gov**

<http://www.nutrition.gov>

This Web site provides access to government information on food and nutrition for the public. Find reliable information on healthy eating, physical activity and food safety. Specialized nutrition information is also provided for life stages: infants, children, teens, women, men and seniors.

## **Books**

- *Anticancer: A New Way of Life* by David Servan-Schreiber, 2008.
- *Eating Well Through Cancer: Easy Recipes & Recommendations During and After Treatment* by Holly Clegg, 2006.
- *Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective* by the World Cancer Research Fund and the American Institute for Cancer Research, 2007.
- *Foods to Fight Cancer: Essential Foods to Help Prevent Cancer* by Richard Beliveau, 2007.
- *SuperFoodsRx: Fourteen Foods That Will Change Your Life* by Stephen Pratt, 2003.
- *The Great American Eat-Right Cookbook: 140 Great-Tasting, Good-for-You Recipes* by Jeanne Besser, 2007.
- *The Cancer-Fighting Kitchen: Nourishing Big-Flavor Recipes for Cancer Treatment and Recovery* by Rebecca Katz, 2009.
- *The New American Plate Cookbook* by the American Institute for Cancer Research, 2005.
- *The Survivor's Handbook: Eating Right for Cancer Survival* by Neal Barnard, 2006.
- *The Top 100 Immunity Boosters* by Charlotte Haigh, 2005.
- *What to Eat During Cancer Treatment: 100 Great-Tasting Family-Friendly Recipes to Help You Cope* by Jeanne Besser, 2009.

## **Journal Article**

*American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention: Reducing the Risk of Cancer with Healthy Food Choices and Physical Activity in CA: A Cancer Journal for Clinicians*, volume 56, page 254, 2006.





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