



Nutrition and the Cancer Survivor

Introduction

Adopting a healthy lifestyle is important for cancer survivors. It can reduce the risk of recurrence, help manage weight, reduce the risk of other diseases such as heart disease or diabetes, and improve overall mental and physical quality of life. According to the American Institute of Cancer Research, the available science on diet and survivorship suggests that – unless advised otherwise by a qualified professional – cancer survivors should aim to follow the recommendations that help prevent cancer in the first place.

- **Be a healthy weight.** Keep your weight within the healthy range and avoid weight gain in adult life.
- **Be physically active throughout the day.** Aim for 30 minutes of physical activity a day. Avoid being sedentary.
- **Make healthy food choices.**
 - A daily variety of vegetables, fruits, whole grains and legumes (beans) can provide the fiber, vitamins, minerals, and phytochemicals you need to help prevent cancer and other diseases.
 - Avoiding sugary drinks and processed meats in addition. Limit red meat and high-calorie “fast foods” and other processed foods high in fat, starches, or sugars. Avoiding and limiting these foods can help you achieve and maintain a healthy weight and help to prevent obesity-related cancers, heart disease, and diabetes.
 - Aim to meet nutritional needs through diet alone rather than through supplements.



- **Limit alcohol consumption.** If you drink alcohol at all, try to limit your intake to no more than 2 drinks per day for men and one drink per day for women. Alcoholic drinks increase the risk of a number of cancers and can be high in calories which may lead to weight gain. One standard

“drink” is equal to 12 ounces of beer, 1.5 ounces of 80-proof liquor, or 5 ounces of wine. For preventing cancer recurrence or onset of a new cancer, it’s best not to drink alcohol.

- **Do not smoke or chew tobacco.** Smoking or using tobacco in any form increases the risk of cancer and other diseases. It’s never too late to stop using tobacco and your health will benefit immediately. If you smoke, quitting is the most important thing you can do to reduce risk of cancer recurrence.

The Registered Dietitian Nutritionists (RDNs) are part of your Roswell health care team. RDNs can help you manage nutrition-related side effects from your cancer treatment and provide guidance to help you improve your nutritional health. If you would like to meet with a dietitian, ask your doctor or nurse to order nutrition consult for you.

Weight and Cancer Survivorship

What is a “healthy weight”?

Maintaining a healthy body weight is important to overall health. Measurements such as Body Mass Index (BMI) and waist size can help you determine if you are a healthy weight.

BMI - To determine BMI divide your weight (pounds) by your height (in inches squared), then multiply by 703. The ranges below help you interpret your result. You can also visit www.aicr.org/bmi to use an online calculator.

- Less than 18.5 = underweight
- Between 18.5-24.9 = normal
- Between 25-29.9 = overweight
- 30 or more = obese

Note: BMI may not be an appropriate measurement if you are frail and elderly, under 5 feet tall, an athlete, pregnant, or a child.



Waist Circumference

To measure your waist, place a tape measure halfway between the top of your hip bone and the bottom of your ribs and measure after breathing out. The tape should be snug but not compress your skin. A healthy measurement is less than 31.5” for women and less than 37” for men.

Overweight

There is strong evidence that being overweight increases the risk of certain cancers as well as other diseases such as heart disease, and type 2 diabetes. The goal for cancer survivors is to get to – and stay at – a healthy weight.

Additionally, studies show that excess abdominal fat (even in people who are a healthy weight), can lead to a greater health risk.

Tips for maintaining a healthy weight include:

- choosing foods lower in calorie density
- keeping an eye on portion sizes
- being physically active
- limiting sedentary activities

Each of these strategies is discussed further on the following pages.

Underweight

If you are underweight or have had unintentional weight loss, *talk to your doctor or dietitian about ways to maintain a healthy weight*. Some of these strategies include:

- Have smaller meals or snacks more frequently during the day.
- Don't wait until you feel hungry; schedule your meals and snacks throughout the day.
- Choose foods that pack a lot of calories into small amounts such as nuts, dried fruit, liquid oils, and avocados.
- Include liquid nutritional supplements in your diet (e.g., Ensure, Boost, Carnation Instant Breakfast).

A Healthy Pattern of Eating

Your overall dietary pattern is important for cancer survivorship. It's not one food, or even a whole group of foods that makes a difference. It's the **combination** of many different nutrients – working together – that offers the best protection. If you feel well and your doctor has not restricted your diet, focus on choosing food and beverages that are in line with the current Dietary Guidelines for Americans.

The general ranges of servings per day for most adults (based on a 1600-2200 calorie diet) are:

- 2-3 cups of vegetables
- 1-2 cups of fruit
- 5-7 servings of grain-based foods (at least half should be whole grain)
- 2-3 servings of dairy foods (fat-free or low-fat milk, yogurt, cheese)
- 3-4 servings of protein foods (lean meat and poultry, seafood, eggs, nuts, legumes (beans, peas, and lentils)
- 5 teaspoons liquid oils (olive, vegetable, canola, sunflower)
- Foods low in sodium (salt)
- Water instead of sugary drinks

Keep in mind that individual energy needs vary, and the number of servings needed from each group is based on your own energy needs.



Set Yourself Up for Success

Stock Up – Fill your pantry, fridge and freezer with healthful options that make quick meals easy and are affordable and convenient to have on hand. Consider products like canned and frozen fruit, vegetables, and seafood.

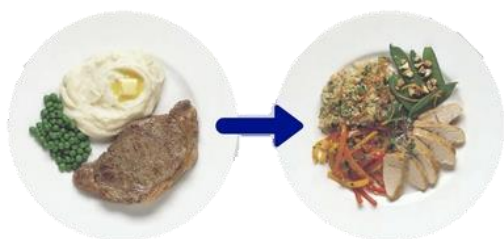
Plan Ahead – Make a list before going to the grocery store based on meals you will make for the week. It may help to try using themed nights like “Meatless Monday” or “Taco Tuesday”. Plan to make enough for leftovers. If you freeze leftovers in single- or family-sized servings, you’ll have ready-made meals for another day.

Set Small Goals – Take small steps towards healthier habits that last, rather than trying to overhaul your diet overnight. Make sure your goals are realistic based on your personal situation and then build on the successful changes that you make.

Plant Power

Overall, this pattern of eating means putting **more plant foods** on your plate and **fewer animal foods**. This does not mean that you have to follow a vegetarian or vegan diet, or completely give up any of your favorite foods. The AICR recommends that plant foods such as fruits & vegetables, whole grains, legumes (like beans, peas, and lentils), nuts and seeds fill up 2/3 or more of your plate. The other 1/3 or less can be for seafood, poultry, low-fat dairy, lean red meats and other animal foods.

Visit www.aicr.org/new-american-plate for additional information and recipes!



Phytochemicals

One of the many reasons to fill your plate up with plant foods is to include phytochemicals in your diet! Phytochemicals are vitamins and other substances found naturally in plant foods. While no single phytochemical can protect you from cancer or any other disease, some phytochemicals may defend against potential cancer-causing agents or stop cancer cells from reproducing.

Eat a Rainbow

The best way to get a variety of protective vitamins, minerals, and phytochemicals is to eat a rainbow of colorful fruits and vegetables! Deep, bright colors often indicate high levels of these compounds. Remember, fresh, frozen, and canned fruits and vegetables all count! When choosing canned fruits and vegetables, look for options that are packed without added sugar or sodium.



Fiber

Fiber is another benefit of plant foods! The USDA Dietary Guidelines recommend Americans eat at least 28 grams of fiber per day. Fiber is found in all whole plant foods, but not animal foods. Fiber can help protect against colorectal cancer, and it can also help maintain healthy digestion, curb hunger by helping you feel fuller longer, and help with weight management.

Calorie Density

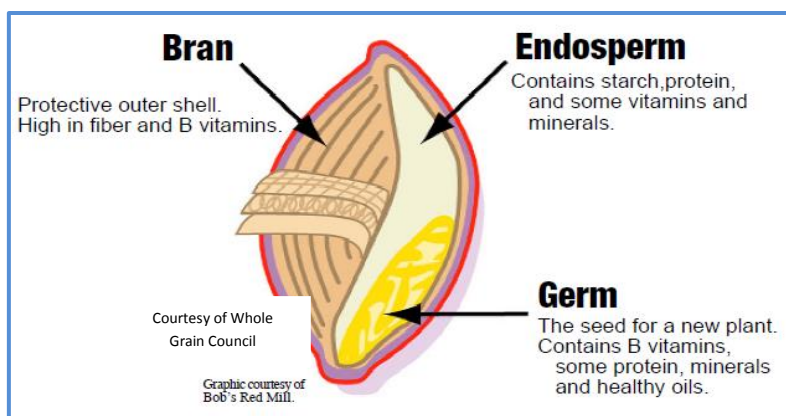
Plant foods are usually low in calories, which means you can eat more of them without consuming too many calories. Foods such as vegetables, fruits, whole grains and legumes have fiber and water to help fill you up. A pattern of eating including these foods can help you manage your weight for cancer protection.

High calorie-dense foods include fried foods and processed foods like snacks, candy and cookies. Aim to eat less of these foods since they are high in calories, often high in fat and/or sugar, and low in cancer-protective fiber and nutrients. Some plant foods are calorie dense but are also nutritious. These include nuts, seeds, and avocados. It is beneficial to include these foods in the diet because they are a good source of healthy fats our bodies need, but to be mindful of portion sizes.

Whole Grains

Choose whole grain foods – such as brown rice, oatmeal, and quinoa as well as whole grain breads, pastas and wraps – more often. These foods are made from the entire grain kernel which includes the bran, the germ, and the endosperm.

The bran and the germ provide most of the grain's fiber, vitamins, minerals, and phytochemicals. When grains are processed and refined, the bran and the germ are taken out. Limit heavily processed and refined grain foods such as all-purpose white flour, white breads, baked goods, and candies.



Choose Healthy Fats

Fats are essential to overall health. There are different types of fat, and some are better for the body than others. Aim to eat unsaturated fat – found in fish, nuts, avocados, and liquid oil – more often and use saturated fat less often.



To remember which fats are saturated fats, think S-A-T.

S = Solid at room temperature (butter, lard)

A = Animal source (dairy fat, marbling in a steak)

T = Tropical oil (coconut or palm oil)

Trans fats are found mostly in processed foods and come from partially hydrogenated oils. These fats raise our cholesterol levels. Avoid *trans* fats whenever possible. Due to government regulations, *trans* fats from partially hydrogenated oils are being phased out of the food industry by 2018. Most manufacturers have already removed this ingredient from their products.

Meat on the Side

There is strong evidence showing an increased risk of colorectal cancer with increased consumption of red and processed meat. According to the AICR, if you eat red meat, you should limit the amount you eat to less than 18 ounces (cooked) of red meat per week and eat little if any processed meat. Examples of red meat include beef (such as steak or burgers), pork, and lamb. Bacon, ham, hot dogs, and most deli meats are examples of processed meats.



Remember that meat doesn't always have to be the center of the plate but can be used more like a side dish or a garnish, such as small portion of steak on top of a salad.

Remember to fill up two thirds of your plate with plant foods first, which leaves less room on your plate for red meat. For other meals, swap red or processed meat out for fresh roasted poultry or fish. Consider making some meals vegetarian and including beans, nuts, and whole grains!

Additional Healthy Eating Strategies

Keep an Eye on Portions

Portions have expanded over the years, so it is important to be aware of the amount of food you are eating. If you are trying to lose weight, try gradually reducing portion sizes. Measuring out your food before you eat and drink can help you visualize standard portion sizes and compare to what you would typically serve yourself.



Here are some additional tips for managing portions.

- Eat a single portion off a plate instead of munching out of a bag or large bowl.
- Avoid distractions – such as TV, cell phone, or tasks around the house – while you eat.
- Use smaller glasses, bowls and dishes.
- Eat slowly and mindfully – focus on what you are eating and use all of your senses to appreciate the food.
- When eating out, share a meal with a friend or plan on taking half home.

Limit Consumption of “Fast Foods” and Processed Foods

There is strong evidence from scientific studies that links eating “fast foods” and processed foods high in fat, starches, and added sugars to an increased risk of gaining weight, and becoming overweight or obese. Studies have shown that people who limit these “fast foods” and highly processed foods, and instead choose more whole grains, fruits, and vegetables for meals, are more likely to achieve and maintain a healthy weight.

Rethink Your Drink

- Sugary drinks – such as soda, sweetened iced tea, lemonade, energy drinks, sports drinks, and some specialty coffee-based beverages – contribute to weight gain and health risks. They are high in calories, but don’t make you feel full or provide any beneficial nutrients.
- Water is the best option for everyday hydration. If you don’t like plain water, try sparkling water or unsweetened flavored water.
- Make your own flavored water by adding citrus fruit or berries and herbs like mint leaves.
- Unsweetened tea or coffees are also good options.

Try this tip from the USDA to reduce added sugar and calories in a beverage.



Grape Soda (12oz)
148 calories,
32g added sugar

$\frac{1}{2}$ 100% Grape Juice +
 $\frac{1}{2}$ Club Soda (12 oz)
112 calories
0g added sugar

Snack Smart

Snacks are a great way to fill in nutrient gaps throughout the day and sustain your energy in between meals. If you are watching your weight, snack only when you are hungry and stop before you feel full. Follow the same guidelines for snacks as for meals – that means lots of fruits and veggies, whole grains, nuts and seeds, and lean proteins. Keep these foods ready to go so they are an easy option to grab during the day. For example:

- Make your own trail mix with nuts and seeds and portion it out into individual baggies to have on hand in the car.
- Keep whole fruit like apples and bananas on hand for an easy portable snack.
- Wash and chop veggies ahead of the time for a grab and go snack. Try a dip that will provide some nutrients, such as hummus or nut butters.

Physical Activity and Cancer Survivors

Physical activity has many benefits! It can:

- lower the risk of cancer recurrence
- maintain a healthy weight
- improve overall survival
- relieve stress
- improve quality of life among cancer survivors
- maintain/improve physical abilities, strength and agility
- improve balance and reduce risk of falls
- reduce risk of osteoporosis
- keep muscles from wasting away
- reduce fatigue (tiredness), depression, and anxiety
- lower risk of heart disease
- stimulate a reduced appetite
- aid digestion

The American Cancer Society and the American College of Sports Medicine encourage survivors to engage in at least 150 minutes per week of moderate and/or vigorous activities (e.g., 30 minutes 5 days/week). Include strength training exercises at least 2 days per week to promote bone density and muscle mass.

Be sure to take it slow with small changes and gradual increases in physical activity. This will help keep you free from injuries and make physical activity a permanent habit!

It is also important to not sit around the rest of the day when you are not exercising. Think about how many hours each day you sit at school, at work, in the car, at meals, or in front of the TV. Increased sedentary time is associated with increased risk for type 2 diabetes, heart disease, and certain cancers such as breast cancer and colon cancer.



Examples of ways to add more activity to your daily routine:

- Walk around the neighborhood after dinner
- Ride your bike
- Mow the grass or rake leaves
- Play tag with the kids or grandkids
- Weed the garden
- Wear a pedometer
- Take a class like yoga, dancing, Zumba, or tai chi



FAQs

Should I try any integrative therapies?

Integrative therapies such as acupuncture, massage, mindfulness, meditation, yoga, and other options are available through our Survivorship Center. If you are considering any integrative therapy, it is important to have a discussion with your oncologist before you begin.

Should I take any dietary supplements or herbals?

Supplement, herbal, and “superfood” marketing is becoming more and more prevalent, especially for cancer survivors. A doctor may prescribe a dietary supplement for you if you are diagnosed with a deficiency of a specific vitamin or mineral (vitamin D is a common example) and/or you are unable to consume enough nutritious foods and/or beverages to meet your nutrition requirements. However, for people without a specific deficiency, research shows that eating colorful, whole foods that are rich in vitamins, minerals, and fiber is a better choice than taking dietary supplements.

Dietary supplements and herbals do not provide the full range of healthy nutrients that you can get from eating a variety of foods. Foods from plants provide unique combinations of healthy fiber, vitamins, minerals, and phytochemicals that cannot be duplicated in a supplement. Furthermore, it is possible to get too much of a good thing. High doses of some supplements, even those that have been shown to be protective, may pose a risk. Additionally, production and labeling of supplements are not regulated as drugs are, so ingredients in supplements and their effectiveness may not actually be what you expect.



Taking dietary supplements or herbals without informing your medical team has the potential to interfere with your treatment or to interact with other medications you are taking. This could put your safety at risk. If you are interested in taking a supplement or herbal, discuss it with your medical team first to get the facts to help you make an informed decision. Always ensure your medical team is aware of the type and dose of the supplements and/or

herbals you are taking.

Visit the National Institutes of Health’s Office of Dietary Supplements for more information about dietary supplements. www.ods.od.nih.gov

Should I be following a particular diet (e.g., macrobiotic, paleo, ketogenic, alkaline etc.)?

There are many different diets out there and you may see stories of individuals who attribute their health, weight loss, or recovery from cancer to a specific diet. However, there is no scientific evidence that these diets can cure or prevent disease. There is, however, clear evidence that a diet filled with a variety of plant foods like vegetables, whole grains, fruit, and beans, with moderate amounts of red meat and other animal foods and limited alcohol and highly processed, fatty, and sugary foods reduces the risk for cancer and other chronic diseases. It also provides the nutrition needed for overall health and wellness.

When you come across a new diet, keep in mind that if the diet eliminates any whole food groups, that may lead to deficiencies in certain nutrients that you need. Any diet that is overly restrictive is likely unrealistic to follow in the long term.

If you are considering making any changes to your diet, it is important to talk to a registered dietitian about the pros and cons and potential risks of following a specific diet.

Are soy foods safe?



The overall body of research shows that soy foods, consumed in moderation, does not increase the risk of cancer recurrence or earlier death and may even be beneficial. A moderate amount is 1-2 standard servings daily of whole soy foods, such as half a cup of tofu, tempeh, or edamame (green soybeans) or 1 cup of soymilk. Soy foods can also provide protein, omega-3 and omega-6 fats, and calcium.

Should I buy only organic produce?

Organic foods are produced following specific environmentally supportive regulations outlined by the United States Department of Agriculture. There are many reasons why you may wish to choose organic foods. However, there have not been any direct studies done on humans to show organic produce can prevent cancer or disease any more effectively than conventional or non-organic produce. There is also no evidence to show that organic produce is any more nutritious than conventional. If you do choose organic, it is important to keep in mind that you can still have a poor diet even if the foods are organic. Organic cookies, chips, and other snacks are just as low in nutrients and high in calories, fat, and sugar as conventional varieties.

What about sugar and cancer?



The carbohydrates you take in, are broken down into simple sugars as they travel through your intestines. This signals your pancreas to release insulin into the blood stream. With the help of insulin, the sugars move into your cells and provide them with energy.

Glucose, the form of sugar most commonly used by the body, is in **all** body cells. Your brain needs it to work properly. Even if you did not eat carbohydrates, your body would activate alternative processes to keep your blood glucose levels normal. This shows how important carbohydrates are to your body's function with health.

When it comes to cancer cell growth and other diseases, scientific evidence tells us it is not “sugar” itself, but the relationship between how much carbohydrate we consume, our levels of insulin, and growth factors that seems to make a difference.

Processed sugars add calories to foods and beverages without providing a feeling of fullness. Consuming foods and beverages rich in processed sugars can result in overeating and weight gain. Being overweight appears to increase the risk of developing chronic diseases, including heart disease, diabetes, and some types of cancer. Evidence also shows that reducing your consumption of processed foods and avoiding sugary drinks can make you feel fuller longer and help you to achieve and maintain a healthy weight. This is why a diet rich in fruits, vegetables, whole grains, and legumes – and drinking water instead of sugary drinks – is linked to a lower risk of developing some common cancers.



Resources for Reliable Nutrition Information

Evaluating Nutrition Information

There is so much information available online regarding health. Yet dependable, science-based advice can be hard to find. When looking for information, beware of easy answers and quick fixes. If it sounds too good to be true, it probably is.

Media reports and companies pushing products can be sources of misleading information. Remember that science moves slowly carefully, so be skeptical of “breakthrough” or “miracle” discoveries. Always read carefully and make sure you know the whole story and all of the important details beyond a headline. Rely in scientific consensus rather than on “testimonials”. Here are some reputable sources of information.

Nutrition in Cancer Prevention, Treatment, and Survivorship

- **American Institute for Cancer Research (AICR):** www.aicr.org
- **NCI Nutrition in Cancer Care – Patient Version:** www.cancer.gov/about-cancer/treatment/side-effects/appetite-loss/nutrition-pdq
- **Nutrition & Cancer:** www.nutrition.gov
Links to government resources including *Food Safety for Cancer Patients* and *Eating Hints: Before, During, and After Cancer Treatment*
- **American Cancer Society – Nutrition After Treatment Ends:**
www.cancer.org/treatment/survivorship-during-and-after-treatment/staying-active/nutrition

Cancer Information

- **National Cancer Institute (NCI) – Home:** www.cancer.gov
- **National Comprehensive Cancer Network (NCCN):** www.nccn.com
Patient versions of cancer treatment guidelines

Healthy Eating Information

- **Dept. of Agriculture (USDA)**
Healthy Eating: www.choosemyplate.gov/MyPlate
Dietary Guidelines: www.cnpp.usda.gov/dietary-guidelines
www.nutrition.gov
- **United States Department of Health and Human Services (HHS) – Eat Healthy:**
www.healthfinder.gov/healthtopics/category/everyday-healthy-living/nutrition
- **Centers for Disease Control and Prevention (CDC) – Nutrition:** www.cdc.gov/nutrition

Cancer Information

- **National Cancer Institute (NCI) – Home:** www.cancer.gov
- **National Comprehensive Cancer Network (NCCN):** www.nccn.com Patient versions of treatment guidelines

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