



Lifestyle Changes After Cancer Treatment

Nutrition and Physical Activity for Cancer Survivors After Treatment





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Nutrition and Physical Activity for Cancer Survivors After Treatment

Cancer survivors often ask questions about food choices, physical activity, and dietary supplements. They want to know whether nutrition and physical activity can help them live longer or feel better. The information here is meant to answer some of those questions for survivors who have completed cancer treatment. We hope to give you and your family the information you need to make informed decisions about your food and physical activity choices. This information is based on the American Cancer Society Nutrition and Physical Activity Guidelines for Survivors, developed by our organization and a panel of experts in nutrition, physical activity, and cancer survivorship.

After you've finished your treatment, you may still have symptoms or side effects that affect your nutrition and physical well-being. It will take some time for them to go away. If you lost weight during treatment, nutrition counseling can help you regain a normal, healthy weight. If you are overweight or obese, counseling can help you get to a healthy weight. You may also need treatment for other symptoms or side effects that haven't gone away. If you haven't started a physical activity program yet, this would be a good time to start. A program of regular physical activity will help you recover from treatment and will improve your fitness. Be sure to ask the advice of your doctor and cancer care team before starting an exercise program.

Nutrition during recovery

Cancer and cancer treatment can affect your body's needs for nutrients, as well as your eating habits and how your body digests, absorbs, and uses food. Your main nutrition goals as you recover are:

- To make sure your body's nutrient and calorie needs are met
- To stay at or get to a healthy weight
- To avoid losing muscle mass

To help you meet these goals, your cancer care team will look at your current nutrition status.

If you have nutrition-related problems after treatment, your team will do one of 2 things:

- They will have the registered dietitian on the team see you.
- They will help you find a qualified nutrition professional for dietary counseling.



Getting help from a registered dietitian after cancer treatment can help reduce treatment-related symptoms, improve your quality of life, and improve your eating. If a registered dietitian isn't available, be sure to talk to your cancer care team about your nutrition-related questions and concerns. Here are some tips on how to find a qualified nutrition expert who works with cancer patients and survivors:

- Ask your cancer care team for a referral to see a registered dietitian (RD) if you have any nutrition-related challenges. It would be best if the RD is also a certified specialist in oncology (CSO).
- If an oncology dietitian is not available on your cancer care team, ask about seeing a dietitian at your primary care provider's office, a clinic, or in your community.
- Visit the Academy of Nutrition and Dietetics' website (www.eatright.org), click the "Find an Expert" button, then the "Search by expertise" button, and check the box at "Cancer/Oncology Nutrition." Put in your ZIP code and click "Find an RDN" to get a list of registered dietitians near you, or call the academy at **1-800-877-1600** to ask about a private practice dietitian in your area.

When you are unable to eat enough to meet your body's needs

Nutrition supplements such as high-protein/high-calorie beverages and foods can be helpful if you can't eat or drink enough to keep up with your body's needs. Some people think that tube-feedings or intravenous (IV) feedings might help them as they recover from cancer treatment. If you're thinking about these kinds of nutrition support, talk with your doctor or registered dietitian about whether these types of feedings are right for you. Ask about the benefits and possible risks of these feedings, too.

Vitamin and mineral supplements

You may be thinking about using dietary supplements such as vitamins and minerals. In fact, you may already be taking some supplements. Doctors do not agree on their use, so if you are taking any, discuss this with your doctor. Many dietary supplements contain levels that are higher than the amount found in food. Some may also be higher than what is recommended for good health.

There's no evidence today that taking supplements after cancer treatment reduces the risk of cancer coming back (recurrence). But if you are thinking about taking a vitamin or mineral supplement after treatment, check with your cancer care team first. You'll want to know if there might be any harm to you or if the supplements will help you in any way.

Your doctor may suggest using a dietary supplement if it's needed to treat a deficiency-related problem, such as osteoporosis or anemia, or to promote another aspect of health.

Some supplements can be useful if you have a specific deficiency, but most studies have found that the risks of high-dose supplements usually outweigh the benefits. Unless your cancer care team recommends a supplement for a specific reason, do not take any that contain higher amounts than 100% of the Daily Value (DV). Your first line of defense should be to strive to get the nutrients you need from nutrient-rich foods and beverages.

Physical activity during recovery

Exercise is safe during and after cancer treatment, and it has many benefits, too. It improves bone health, muscle strength, and other quality of life measures.

Ways regular exercise may help you

- Keep or improve your physical abilities.
- Improve balance, and lower risk of falls and broken bones.
- Keep muscles from wasting due to inactivity.
- Lower the risk of heart disease.
- Lessen the risk of osteoporosis (weak bones that are more likely to break).
- Improve blood flow to legs, and lower risk of blood clots.

- Make you less dependent on others to do normal activities of daily living.
- Improve your self-esteem.
- Lower the risk of anxiety and depression.
- Lessen symptoms of tiredness (fatigue).
- Help control your weight.
- Improve your quality of life.

Goals of an exercise program

While there are many reasons for being physically active, each person's exercise program should be based on what's safe, effective, and enjoyable for them. Your exercise plan should take into account any exercise program you already follow, what you can do now, and any physical problems or limits you have.

You may need to exercise at a lower intensity and/or for a shorter period of time for a while. The goal should be to be active as much as possible. If you didn't exercise before you had cancer, you might start with stretching and brief, slow walks and progress slowly.

If you have bone metastases, osteoporosis, arthritis, or damage to any nerves in the hands, legs, and feet (called peripheral neuropathies), you should give careful attention to your balance and safety to reduce the risk for falls and injuries. Having a caregiver or exercise professional present while exercising can be helpful.

Remember that what may be a low- or moderate-intensity activity for a healthy person may seem like a high-intensity activity for you right now. Some people can safely start their own exercise program, but many will have better results with the help of an exercise specialist, physical therapist, or exercise physiologist. Be sure to get your doctor's OK first, and be sure that the person working with you knows about your diagnosis, treatment, and any limitations you might have. These specially trained professionals can help you find the type, frequency, duration, and intensity of exercise that's right for you.



Looking for a fitness expert?

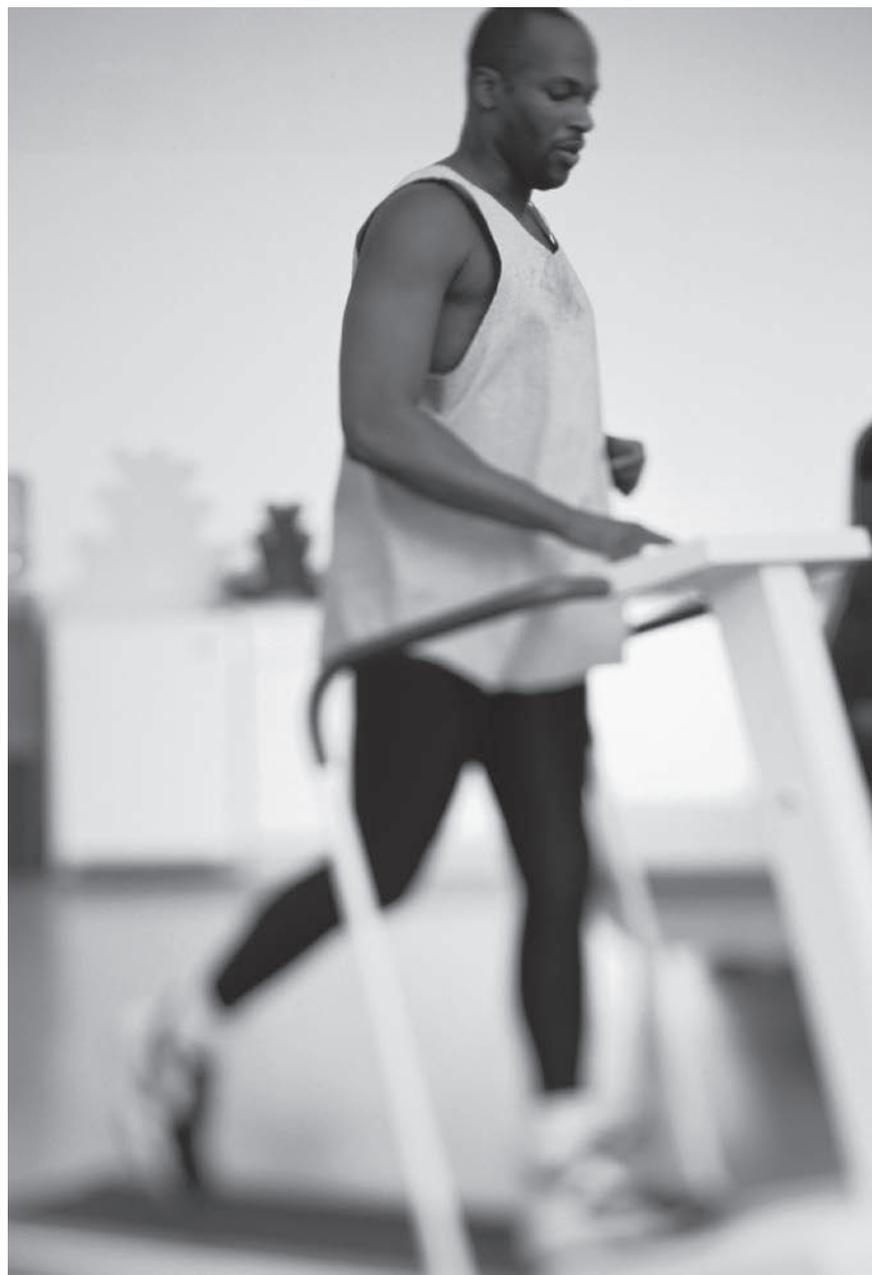
The American College of Sports Medicine (ACSM) offers a certification for trainers who want to work specifically with people who have been affected by cancer. Visit the ACSM website at **www.acsm.org** to find a certified cancer exercise trainer (CET).

Exercise safety and precautions as you recover

Always check with your doctor before starting any exercise program. This is especially important if your treatments affected your lungs (such as the drug bleomycin or radiation to the chest), your heart (such as the drugs doxorubicin or epirubicin), or if you are at risk for lymphedema.

- Your cancer care team will check your blood counts during follow-up visits. Ask them about your counts and if it's OK for you to exercise.
- You may not be able to exercise if you have anemia (low red blood cell count). Discuss this with your doctor or nurse.
- If you have low white blood cell counts or if you take medicines that make you less able to fight infection, stay away from public gyms and other public places until your counts are at safe levels.
- You may not be able to exercise if the level of minerals in your blood, such as sodium and potassium, are not normal. This can happen if you've had a lot of vomiting or diarrhea. Discuss this with your doctor or nurse.
- If it's OK with your doctor, drink plenty of fluids to keep yourself well hydrated.
- If you feel very tired (have fatigue) and don't feel up to exercising, try to do 10 minutes of stretching exercises every day. (Later, we'll discuss fatigue and exercise in more detail.)
- Avoid uneven surfaces or any weight-bearing exercises that could cause you to fall and injure yourself.

- Do not use heavy weights or do exercise that puts too much stress on your bones if you have osteoporosis, cancer that has spread to the bone, arthritis, nerve damage, poor vision, poor balance, or weakness. You may be more likely to injure yourself or break a bone.
- If you have numbness in your feet or problems with balance, you are at higher risk for falls. You might do better with a stationary reclining bicycle, for example, than a treadmill.
- Watch for swollen ankles, unexplained weight gain, or shortness of breath while at rest or with a small amount of exertion. Let your doctor know if you have any of these problems.
- Watch for bleeding, especially if you are taking blood thinners.
- Avoid any activity that raises your risk for falls or injury. If you notice swelling, pain, dizziness, or blurred vision, call your doctor right away.
- To avoid irritation, don't expose skin that has had radiation to the chlorine in swimming pools.
- Do not exercise if you have unrelieved pain, nausea/vomiting, or any other symptom that causes you concern. Call your doctor or nurse.
- If you still have a catheter (tube that goes into your body), avoid water and other exposures that may cause infections. Also, avoid resistance training that uses muscles in the area of the catheter to avoid dislodging it. Talk with your cancer team about what is safe for you.



Things to think about when planning an exercise program

- Start slowly. Even if you can only do an activity for a few minutes a day it will help you. How often and how long you do a simple activity like walking can be increased slowly. Your muscles will tell you when you need to slow down and rest.
- Try short periods of exercise with frequent rest breaks. For example, walk briskly for a few minutes, slow down, and walk briskly again, until you have done 30 minutes of brisk activity. If you need to, you can divide the activity into three 10-minute sessions. You'll still get the benefit of the exercise.
- Try to include physical activity that uses large muscle groups such as your thighs, abdomen (belly), chest, and back. Strength, flexibility, and aerobic fitness are all important parts of an exercise program that works.
- Try to include some exercises that will help you keep lean muscle mass and bone strength, like exercising with resistance or light weights.
- You might want to include exercises that will increase your flexibility and keep the range of motion in your joints.
- Always start with warm-up exercises for about 2 to 3 minutes. Examples of those exercises are shoulder shrugs, lifting arms overhead, toe tapping, marching, and knee lifts. End your session with stretching or flexibility exercises. Hold a stretch for about 15 to 30 seconds and relax. Remember to breathe when you stretch.
- Listen to your body, and rest when you need to.

When you're too tired to exercise – fatigue

Most people with cancer notice that they have a lot less energy. During chemotherapy and radiation, about 70% of patients have fatigue. Fatigue is when your body and brain feel tired. This tiredness does not get better with rest. For many, fatigue limits their activity even after treatment ends. Inactivity leads to muscle wasting and loss of function.

An aerobic training program can help break this cycle. In research studies, regular exercise has been linked to reduced fatigue. It's also linked to being able to do normal daily activities without major limitations. An aerobic exercise program can be prescribed as treatment for cancer-related fatigue. Talk with your doctor or nurse about this.



Tips to reduce fatigue

- Set up a daily routine that allows activity when you are feeling your best. For instance, some people have more energy in the morning, while others feel better later in the day.
- Exercise regularly at light-to-moderate intensity.
- Get fresh air.
- Unless you are told otherwise, eat a balanced diet that includes protein (meat, milk, eggs, and legumes, such as peas or beans) and drink about 8 to 10 glasses of water a day.
- Keep your symptoms controlled, like pain, nausea, or depression.
- To save energy, keep things you use often within easy reach.
- Enjoy your hobbies and other activities that give you pleasure.
- Use relaxation and visualization techniques to reduce stress.
- Balance activity with rest that does not interfere with night-time sleep.
- Ask for help when you need it.

For more information on fatigue, please visit us online at www.cancer.org or call us at **1-800-227-2345**.



Add physical activity to your daily routine.

Here are some ways to add physical activity to the things you do every day. Remember, only do what you feel up to doing.

- Walk around your neighborhood after dinner.
- Ride your bike.
- Mow the grass, or rake the leaves instead of using the blower.
- Scrub your bathroom.
- Wash and wax the car.
- Play active games with the kids, like freeze tag, jump rope, and the games you loved to play when you were a child.
- Walk a dog (one that can be controlled so that you don't trip or get pulled off balance).
- Weed your garden.
- Use an exercise bike or treadmill, or do arm curls, squats, lunges, and sit-ups while watching TV.
- Park your car in the farthest parking space, and walk to the building.

- Use the stairs instead of the elevator or escalator.
- Get off the bus several stops early, and walk the rest of the way.
- Make appointments for yourself in your daily schedule for 10-minute walking breaks.
- Form a walking club of co-workers to help you stay motivated to walk during the workday.
- Wear a pedometer every day, and increase your daily steps.

Tips to enhance your interest in your exercise program

- Set short- and long-term goals.
- Focus on having fun.
- Do something different to keep it fresh. Try yoga, dancing, or tai chi.
- Ask for support from others, or get friends, family, and co-workers to exercise with you.
- Use charts to record your exercise progress.
- Recognize and reward your achievements.

Keep your exercise program simple and fun. The goal is to be as active as possible. Keep it safe, keep it fun, and make it work for you!

Disease-free living

Setting and achieving goals for weight management, a physically active lifestyle, and a healthy diet will help your overall health and quality of life. To help you with these goals, we have developed the American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Survivors. These guidelines focus on 3 areas: weight, physical activity, and diet. Following these guidelines may help reduce the risk of cancer coming back and of developing another cancer. They are also important for your heart health, too.

1. Get to and stay at a healthy weight.

Extra weight is linked to an increased risk of cancer coming back and decreased survival among breast, prostate, and colorectal (colon) cancer survivors, and possibly others. Being overweight is a risk factor for developing cancer and other problems, like diabetes, heart disease, and osteoporosis. If you are overweight, setting goals to get to and stay at a healthy weight are among the most important health goals that you can set for yourself.

Healthy ways to control weight include:

- Limit high-calorie foods.
- Drink fewer beverages high in fat and/or added sugar.
- Eat more low-calorie foods like vegetables and fruits.
- Add more physical activity throughout your day.

The right weight

Knowing your body mass index (BMI) can tell you if your weight is right for someone of your height. In general, the higher the number, the more body fat a person has. BMI is often used as a screening tool to decide if your weight might be putting you at risk for health problems such as heart disease, diabetes, and cancer.

BMI is used to broadly define different weight groups in adults 20 years of age or older. The same groups apply to both men and women.

- Underweight: BMI is less than 18.5.
- Normal weight: BMI is 18.5 to 24.9.
- Overweight: BMI is 25 to 29.9.
- Obese: BMI is 30 or more.

Go to www.cancer.org/bmi to find your BMI.

2. Be active on a regular basis.

Many studies have shown that being physically active has an impact on the quality of life of cancer survivors. Studies have also shown that physical activity after a cancer diagnosis is linked to a lower risk of the cancer coming back and improved overall survival.

How much activity do I need?

The American Cancer Society guidelines, and those of the American College of Sports Medicine, encourage survivors to exercise for at least 150 minutes a week, and to include strength training exercises at least 2 days a week. If you haven't been active in the past, slowly work up to this level of physical activity.

Examples of moderate- and vigorous-intensity physical activities

	Moderate intensity	Vigorous intensity
Exercise and leisure	Walking, dancing, leisurely bicycling, ice and roller skating, horseback riding, canoeing, yoga	Jogging or running, fast bicycling, circuit weight training, aerobic dance, martial arts, jumping rope, swimming
Sports	Volleyball, golfing, softball, baseball, badminton, doubles tennis, downhill skiing	Soccer, field or ice hockey, lacrosse, singles tennis, racquetball, basketball, cross-country skiing
At home	Mowing the lawn, general yard and garden maintenance	Digging, carrying and hauling, masonry, carpentry
At work	Walking and lifting as part of the job (custodial work, farming, auto or machine repair)	Heavy manual labor (forestry, construction, fire fighting)

3. Eat a variety of healthy foods, with more foods from plant sources. This includes more vegetables, fruits, and whole grains.

Studies suggest that food choices may affect a person's risk for the cancer coming back, as well as their long-term survival.

Much like what has been seen for cancer prevention, it's the overall dietary pattern that's important for cancer survivorship – it's not one food, or even one food group, that makes the difference. It's likely the combination of many different nutrients coming from many different foods – working together – that offers the best protection. Studies suggest that the best protection comes from a diet that:

- Is high in fruits, vegetables, and whole grains
- Includes more fish and poultry instead of red and processed meats
- Includes non-fat and low-fat instead of full-fat dairy products
- Includes nuts and olive oil instead of less healthy sources of fat, such as butter or trans-fats found in many processed snack foods

Eat at least 2½ cups of vegetables and fruits each day.

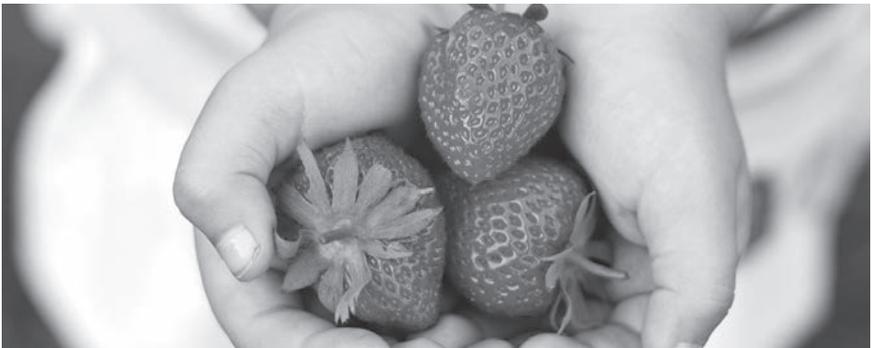
- Include vegetables and fruits at every meal, and eat them for snacks.
- Eat a variety of vegetables and fruits each day.
- Choose whole fruits and vegetables and 100% juice if you drink vegetable or fruit juices.
- Limit use of creamy sauces, dressings, and dips with fruits and vegetables.

Choose whole grains rather than refined-grain products.

- Choose whole-grain foods such as whole-grain breads, pasta, and cereals (like barley and oats) instead of those made from refined grains. Choose brown rice instead of white rice.
- Limit refined carbohydrate foods, such as pastries, candy, sweetened breakfast cereals, and other high-sugar foods in your diet.

Limit the amount of processed meat and red meat you eat.

- Eat fewer processed meats, such as bacon, sausage, luncheon meats, and hot dogs.
- Choose fish, poultry, or beans instead of red meat (beef, pork, and lamb).
- If you eat red meat, select lean cuts and eat smaller portions.
- Prepare meat, poultry, and fish by baking, broiling, or poaching rather than by frying or charbroiling.





Living with stable disease or advanced cancer

If you're living with cancer that's stable (not growing or spreading) or advanced, what you eat and being as physically active as you are able may help you feel better and improve your sense of well-being.

Be sure to let your doctor, nurse, or registered dietitian know if you're having symptoms or side effects such as fatigue, bowel problems, or a decreased sense of taste or appetite. Your cancer care team can give you tips or prescribe medicines to help you feel your best, improve your appetite, and manage symptoms.

If you're living with advanced cancer and wonder about physical activity, please get your doctor's advice. There isn't enough research on the benefits of exercise for survivors with advanced cancer for the American Cancer Society to make recommendations at this time. Talk to your doctor about what level of physical activity is right for you.

Answers to common questions

This section reviews common concerns that cancer survivors have about diet and physical activity.

Does alcohol increase the risk of cancer coming back after treatment?

Studies have found a link between alcohol intake and the risk of developing a number of cancers, such as cancer of the:

- Mouth
- Throat
- Larynx (voice box)
- Esophagus (tube that connects the throat to the stomach)
- Liver
- Breast

Alcohol use may be linked to colon cancer, too. In people who have already been diagnosed with cancer, alcohol intake could affect the risk for these as new, separate cancers.

Alcohol intake can also increase levels of estrogens in the blood. In theory, this could increase the risk of estrogen receptor-positive breast cancer coming back after treatment. But few studies have looked at alcohol use in breast cancer survivors and no clear link has been found.

Moderate alcohol intake (1 drink per day for women, and 2 per day for men) can have helpful effects on the heart, but those benefits need to be weighed against the risks, including the possible effects on cancer risk.

Will eating less fat lower the risk of cancer coming back or improve survival?

Several studies have looked at the link between fat intake and survival after breast cancer. Results have been mixed. Early results of one large study of early stage breast cancer survivors suggested that a low-fat diet may lower the chance of the cancer coming back. This effect was strongest in women whose cancers were estrogen receptor negative.

Although it's not clear that total fat intake affects cancer recurrence and survival, diets very high in fat tend to be high in calories, too. This can lead to overweight and obesity, which are linked to a higher risk of many types of cancer, a higher risk of certain cancers coming back after treatment, and worse survival for many types of cancer.

Do different types of fat affect cancer risk and survival?

There is evidence that certain types of fat, such as saturated fats, may increase cancer risk. Saturated fats are animal fats that are solid at room temperature, such as butter, lard, and the fat found in meat.



There's little evidence that other types of fat, such as monounsaturated fats, omega-3 fatty acids, and other polyunsaturated fats, reduce cancer risk. But these fats have been shown to reduce the risk of heart disease. Monounsaturated fats can be found in canola and olive oil, olives, avocados, peanuts, and many other nuts and seeds; omega-3 fatty acids can be found in fish and walnuts. Polyunsaturated fats can be found in different types of liquid vegetable oils.

Although trans fats have harmful effects on the heart, such as raising blood cholesterol levels, their link to cancer risk or survival is not clear. Still, survivors (especially those at increased risk of heart disease) should eat as few trans fats as possible. Major sources of trans fats are margarines, baked goods, and snack foods that contain partially hydrogenated oils.



Can dietary fiber prevent cancer or improve cancer survival?

At this time, we don't know if fiber intake can affect cancer risk or survival.

Dietary fiber includes many different plant carbohydrates that are not digested by humans. Fibers are either soluble (like oat bran) or insoluble (like wheat bran and cellulose). Soluble fiber helps lower the risk of heart disease by reducing blood cholesterol levels. The intake of fiber (both soluble and insoluble) is also linked with improved bowel function.

Good sources of fiber are beans, vegetables, whole grains, nuts, and fruits. Eating these foods is recommended because they contain other nutrients that may help reduce cancer risk. They also have other health benefits, such as reduced risk of heart disease.

Are foods labeled organic recommended for cancer survivors?

The term “organic” is often used for foods that are grown without pesticides and are non-GMO (not genetically modified or changed).

It’s commonly thought that organic foods may be better for you because they reduce exposure to certain chemicals. It’s also been suggested that their nutrient makeup may be better than non-organic foods. Whether this means health benefits to those who eat organic foods is not yet known.

At this time, there are no studies in humans to show whether organic foods are better than other foods in terms of reducing the risk of cancer, the risk of cancer coming back, or the risk of cancer progression.

Are there special precautions survivors should consider?

If you were not active before cancer, you should start with low-intensity activities and then slowly increase your activity level. Certain people should use extra caution to reduce their risk of falls and injuries, including:

- Older people
- Those with bone disease (cancer in the bones or thinning bones, such as osteoporosis)
- People with arthritis
- Anyone with nerve damage (peripheral neuropathy)

Details on exercise and safety precautions can be found on page 9.

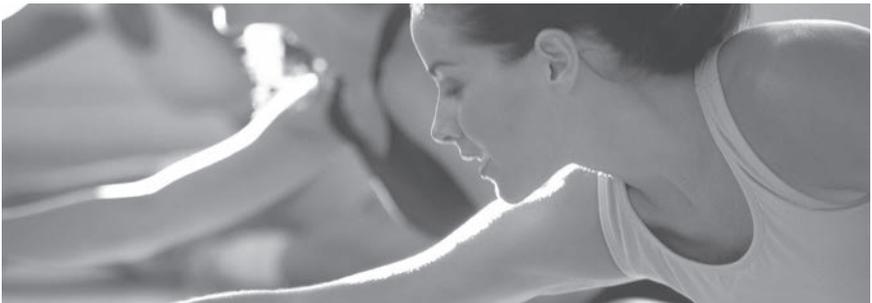
Is yoga helpful to cancer survivors?

Most of the studies of yoga and cancer have been in women with breast cancer. The results found that yoga can be helpful in terms of anxiety, depression, distress, and stress. It didn't seem to be as helpful for more physical outcomes, such as body composition, fitness, and muscle strength.

More research is needed, but to get the most benefit, it may be best to combine yoga with aerobic exercise and resistance (weight) training.

Should cancer survivors include soy-based foods in their diet?

Soy foods are an excellent source of protein and can be a good option for meals without meat. Soy contains many phytochemicals, some of which have weak estrogen activity and seem to protect against hormone-dependent cancers in animal studies. Other compounds in soy have antioxidant properties and may have anti-cancer effects.



There's a great deal of interest in the possible role of soy foods in reducing cancer risk, especially breast cancer risk. But the evidence at this time is mixed.

For the breast cancer survivor, current research finds no harmful effects from eating whole soy foods such as edamame, tofu, and soy milk.

What do antioxidants have to do with cancer?

Antioxidants include vitamin C, vitamin E, carotenoids (compounds that give vegetables and fruits their colors), and many phytochemicals (plant-based chemicals). They help prevent cell damage caused by chemical reactions with oxygen. Because this damage may play a role in cancer development, it has long been thought that antioxidants may help prevent cancer.

Studies suggest that people who eat more vegetables and fruits, which are rich sources of natural antioxidants, may have a lower risk for some types of cancer. Because cancer survivors may be at increased risk for second cancers, they should eat a variety of antioxidant-rich foods each day. (Second cancers are new, different cancers, not the same cancer coming back.)

So far, studies of antioxidant vitamin or mineral supplements have not found that they reduce cancer risk. The best advice at this time is to get antioxidants through foods rather than supplements.

What are phytochemicals, and do they reduce cancer risk?

Phytochemicals are a wide range of compounds made by plants. Some have either antioxidant or hormone-like actions. Not many studies have been done on the effects that phytochemicals (or the plants that contain them) may have on cancer coming back or getting worse (progressing).

At this time, there's no evidence that phytochemicals taken as supplements are as helpful as the vegetables, fruits, beans, and grains they come from.

Would survivors benefit from using vitamin and mineral supplements?

There is no evidence at this time that dietary supplements can lower the chance of cancer coming back or improve survival.

Supplements should be used only when your doctor advises you to take them because you lack a certain nutrient. Do not take vitamins or other dietary supplements to get higher than recommended levels of nutrients – this may do more harm than good.

Many healthful compounds are found in vegetables and fruits, and it's likely that these compounds work together to create these helpful effects. Food is the best source of vitamins and minerals.



Will eating vegetables and fruits lower the risk of cancer coming back?

Studies have shown that eating more vegetables and fruits can lower the risk of some kinds of cancer. But few studies have been done on whether a diet that includes many vegetables and fruits can reduce the risk of cancer coming back (recurrence) or improve survival.

Still, cancer survivors should get at least 2½ cups of vegetables and fruits each day because of their other health benefits. It's not known which of the compounds in vegetables and fruits are most protective, so it's best to eat a variety of different kinds of colorful vegetables and fruits each day.

Is there a difference in the nutritional value of fresh, frozen, and canned vegetables and fruits?

Yes, but they can all be good choices. Fresh foods are usually thought to have the most nutritional value. But some frozen foods can have more nutrients than fresh foods. This is because they are often picked ripe and quickly frozen, and nutrients can be lost in the time between harvesting and eating fresh foods.

Canning is more likely to reduce the heat-sensitive and water-soluble nutrients because of the high temperatures used in the canning process. Also, be aware that some fruits are packed in heavy syrup, and some canned vegetables are high in sodium. Choose different forms of vegetables and fruits.

Does cooking affect the nutritional value of vegetables?

Cooking vegetables and fruits can help you better absorb certain nutrients, like carotenoids (compounds that give vegetables and fruits their colors). Microwaving and steaming are the best ways to preserve the nutrients, while boiling, especially for a long time, can leach out the water-soluble vitamins.

Do vegetarian diets reduce risk of cancer coming back?

No direct evidence has shown that vegetarian diets help reduce the risk of cancer coming back when compared to a diet that contains meat and is high in vegetables, fruits, and whole grains and low in red meats. But vegetarian diets can be good for you because they tend to be low in saturated fat and high in fiber, vitamins, and phytochemicals.

Vegetarian diets are in line with the American Cancer Society Nutrition Guidelines for the Prevention of Cancer.

How much water and other fluids should I drink?

Symptoms like fatigue (extreme tiredness), light-headedness, dry mouth, a bad taste in the mouth, and nausea can be caused by dehydration (loss of fluids from the body). To help prevent these problems, survivors should try to take in enough fluids. This is especially important if you are losing fluids, such as through vomiting or diarrhea.

Healthy adult men need about 3.7 liters of water a day, while women need about 2.7 liters, but most of this fluid comes from foods. (Note: A liter is a little over a quart or 4 cups.)

If you are having trouble eating or drinking or are losing fluids (because of cancer or cancer treatment-related problems with vomiting or diarrhea, for instance), you may not be able to take in enough fluids. You should talk with your health care team because you may need to be treated with intravenous (IV) fluids.

To learn more

You can find the complete American Cancer Society Nutrition and Physical Activity Guidelines for Cancer Survivors online. Visit www.cancer.org or call us at **1-800-227-2345** to learn more about nutrition, physical activity, and recovering from cancer.



Here you will find a review of the importance of nutrition and physical activity as you recover from cancer treatment.

We cover things like:

- Healthy food habits
- Why physical activity is important and how you can safely start being more active
- The answers to common questions people have about diet and exercise after cancer treatment

Learn more about what you can do to help your body heal and feel better after cancer treatment.

For the latest cancer information, day-to-day help, and emotional support, call your American Cancer Society at **1-800-227-2345**. We're here when you need us – 24 hours a day, 7 days a week.



cancer.org | 1.800.227.2345
1.866.228.4327 TTY

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