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Nutrition and Physical Activity During and After Cancer Treatment: Answers to Common Questions

Cancer survivors often ask their health care providers if food choices, physical activity,

- [Supplements](#)
- [Vegetables and fruits](#)
- [Vegetarian diets](#)
- [Water and other fluids](#)
- [How can I find a nutrition or exercise professional?](#)

Here are some common questions cancer survivors have had about diet and physical activity. As you read this, keep in mind that a cancer survivor is defined as anyone who has been diagnosed with cancer, whether or not the person is in treatment.

Some people may not be able to do everything suggested in these guidelines. Cancer and cancer treatment can cause changes in the body which make it hard to eat certain foods. If you are having trouble eating certain foods during or after your treatment, you might find information about [side effects](#)¹, [nutrition during treatment](#)², or [treatments](#)³ helpful. Also let your cancer care team know about any problems you are having, as they may have other helpful ideas.

Alcohol

Does alcohol increase the risk of cancer recurrence (coming back)?

Studies suggest that drinking alcohol may increase the risk of dying for survivors of head and neck, laryngeal (voice box), pharyngeal (throat), and liver cancer so it may be best for survivors of those cancers to avoid alcohol. There isn't enough information at this time to know if drinking alcohol raises the risk of recurrence for other cancer types.

However, cancer survivors are encouraged to make lifestyle changes to decrease their risk of developing a second cancer. Studies have found a link between alcohol intake

with the drugs used to treat cancer.

Alcohol, even in the small amounts used in mouthwashes, can irritate [mouth sores](#)⁴ and even make them worse. If you have mouth sores, you may be advised to avoid or limit alcohol. It may also be best to avoid or limit alcohol if you are starting treatment that will put you at risk for mouth sores, such as head and neck radiation or many types of chemotherapy.

Antioxidants

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 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. In fact, studies have shown that high-dose supplements of beta-carotene can increase the risk of lung cancer in people who are already at higher risk of this cancer. The best advice at this time is to get antioxidants through your foods rather than supplements.

Is it safe to take antioxidant supplements during cancer treatment?

Many dietary supplements contain levels of antioxidants (such as vitamins C and E) that are much higher than the recommended Dietary Reference Intakes for optimal health.

For now, many cancer doctors advise against taking high doses of antioxidant supplements during chemotherapy or radiation. There is a concern that the antioxidants might repair the damage to cancer cells that these cancer treatments cause, making the treatments less effective. But others have noted that the possible harm from antioxidants is only in theory. They believe that there may be a net benefit in helping to protect normal cells from damage caused by these cancer treatments.

Whether antioxidants or other supplements are helpful or harmful during chemotherapy or radiation treatment is a major question without a clear science-based answer right now. Until more evidence is available, it's best for cancer survivors getting these treatments to avoid dietary supplements except to treat a known deficiency of a certain nutrient, and to avoid supplements that give more than 100% of the Daily Value for antioxidants.

Fat

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. The most recent research hasn't found a consistent link between the amount of fat eaten and chance of death after breast cancer. Some studies suggest that trans-fat intake might be linked with an increased risk of death after breast cancer, but this needs to be studied further. Trans fats also have harmful effects on the heart, such as raising blood cholesterol levels. Although trans fats are being removed from the food supply, survivors (especially those at increased risk of heart disease) should avoid trans fats as much as possible. Major sources of trans fats are margarines, baked goods, and snack foods that contain partially hydrogenated oils.

Although it's not clear that total fat intake affects cancer outcomes, diets very high in fat tend to be high in calories, too. This can lead to excess body weight, which is linked to a higher risk of developing some types of cancer, a higher risk of a cancer coming back or death for survivors of breast, endometrial, and bladder cancers. In addition, excess saturated fat intake is a known risk factor for heart disease, a major cause of death in all populations, including cancer survivors. The Mediterranean diet pattern, rich in olive oil (a source of monounsaturated fats), fish and nuts (rich in omega-3 fatty acids), vegetables, fruit, and whole grains have been linked to lower risk of death in prostate cancer survivors. This diet is also lower in saturated fat.

Fiber

Can dietary fiber prevent cancer or improve cancer 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. Fiber is also linked with improved bowel function. At this time, we don't know if fiber itself can affect cancer risk or survival.

Foods containing dietary fiber, such as beans, vegetables, whole grains, nuts and fruits, however, are strongly linked with a lower risk of colorectal cancer. These foods also have other health benefits, such as reduced risk of heart disease. For breast and prostate cancer survivors, eating a healthy diet pattern rich in these foods is also associated with lower risk of death.

Food safety

Are there special food safety precautions for people getting cancer treatment?

Infection is a special concern for cancer survivors, especially when the immune system is weak. (Blood tests are done often during cancer treatment to check this.) Certain cancer treatments, such as [chemotherapy](#),⁵ can weaken the immune system. When their immune systems are weak, survivors should be careful to avoid eating foods that may contain unsafe levels of germs. Food should be handled safely; for example:

- Wash your hands before and after preparing food, and before eating.
- Wash vegetables and fruits well.
- Keep hot foods hot (warmer than 140° F) and cold foods cold (cooler than 40° F).
- Use special care when handling raw meats, fish, poultry, and eggs. Keep them away from other foods.
- Thoroughly clean all utensils, countertops, cutting boards, and sponges that have touched raw meat.
- Meat, poultry, and seafood should be thoroughly cooked. Use a food thermometer to check the internal temperatures of meats before serving.
- Avoid raw honey, milk, and fruit juice, and choose pasteurized versions instead.
- Store foods in a refrigerator or freezer (below 40°F) right after buying them to limit the growth of germs.
- When eating out, avoid salad bars; sushi; and raw or undercooked meat, fish (including shellfish), poultry, and eggs—these foods are more likely to contain harmful bacteria.
- If you use well water in your home and are concerned about its safety (purity), ask your public health department to check it for bacteria.

For more on food safety and precautions, see [Food Safety During Cancer Treatment](#)⁶ yof2.0.6Tj r rgu 0.75

Should I avoid meats?

Studies have linked eating large amounts of red meat and processed meats (like bacon, hot dogs, and deli meats) with increased risk of colorectal and some other cancers. Some research also suggests that frying, broiling, or grilling meats at very high temperatures creates chemicals that might increase the risk of some types of cancer (especially meats that are higher in fat and poultry with skin).

For these reasons, the American Cancer Society Guideline for Diet and Physical Activity for Cancer Prevention recommends avoiding or limiting your intake of processed and red meats. It is recommended that cancer survivors also follow this guideline for general good health.

Research shows that a healthy eating pattern, which tends to be low in red and processed meats, is associated with higher overall survival for people with breast and prostate cancer. On the other hand, a “Western-style” diet, which is high in red and processed meat, high-fat dairy, refined grains, French fries, sweets and desserts, is associated with shorter survival in breast, colorectal, and prostate cancers, and also may increase the risk that colorectal cancer will come back. No studies have looked at the effect of processed meat, meat cooked at high temperature, or meat in general on cancer coming back or getting worse (progressing or growing).

Excess weight

Does being overweight increase the risk of cancer coming back or getting another cancer?

For some types of cancer, being overweight is linked to a higher risk of cancer coming back, as well as getting a second, different cancer.

In breast cancer survivors, being obese (BMI 30 kg/m²) after diagnosis is associated with a higher risk of the cancer coming back and a higher risk of death from breast cancer or any other cause.

In bladder cancer survivors, being overweight (≥ 25 kg/m²) is linked with a higher risk of the cancer coming back or getting worse. In endometrial cancer survivors, obesity is associated with a higher risk of dying.

It's not known if losing weight improves cancer outcomes for survivors. However, because of other proven health benefits to losing weight, people who are overweight are encouraged to get to and stay at a healthy weight. Avoiding weight gain as an adult is

important, too, not only to reduce cancer risk and improve outcomes of some cancers, but to reduce the risk of other chronic diseases as well.

Organic foods

Are foods labeled organic recommended for cancer survivors?

The term “organic” is often used for foods grown without pesticides and genetic modifications (changes). It’s also used for meat, poultry, eggs, and dairy products that come from animals that are not given antibiotics or growth hormones. The use of the term organic on food labels is controlled by the US Department of Agriculture.

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

At this time there is not enough research in people to clearly state that organic foods are better than other foods for reducing the risk of getting cancer, having the cancer get worse, or of having the cancer come back. 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.

Physical activity

Should I exercise during cancer treatment and recovery?

Research strongly suggests that exercise is not only safe during cancer treatment, but it

[plan](#)⁹ to be sure you are being safe and following recommendations.

Can regular exercise improve cancer survival?

This has not been looked at for all types of cancer, but there is strong evidence that survivors who are physically active after a diagnosis of breast, colorectal, prostate, or female reproductive cancers (endometrial, ovarian and cervix combined) have a lower risk of death if they are more physically active.

Since physical activity is known to prevent heart and blood vessel disease, diabetes, and osteoporosis, all cancer survivors should try to be physically active. Be sure to talk to your cancer care team about how physical activity might be affected by your type of cancer, symptoms, and side effects of treatment

Phytochemicals

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. Only a few studies have looked at the effects that phytochemicals (or the plants that contain them) may have on cancer coming back or getting worse (progressing).

Eating lots of vegetables and fruits reduces the risk of some types of cancer, so researchers are looking for the specific plant compounds that might account for this. At this time there is no evidence that phytochemicals taken as supplements are as helpful as the vegetables, fruits, beans, and grains they come from. In fact, some phytochemicals may be harmful so be sure to talk with your cancer care team before taking any types of supplements.

Soy products

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, including isoflavones, 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 anticancer effects.

There's a great deal of interest in the possible role of soy foods in reducing cancer risk, especially breast cancer risk. Some studies suggest that eating traditional soy foods like tofu may lower breast cancer risk, especially among Asian women who may have consumed soy in larger amounts for longer time periods, but evidence is still limited.

Less is known about the effects of soy supplements, which were shown in one study to increase risk of estrogen receptor-negative breast cancer, and increase breast cancer risk in women with a family history of cancer.

For the breast cancer survivor, current research finds no harmful effects from eating soy foods and indicates that consuming soy foods rich in isoflavones may lower the risk of recurrence. These foods may even help tamoxifen work better. However, be careful using soy supplements, as little is known about their helpful and harmful health effects in cancer survivors.

Sugar

Does sugar “feed” cancer?

Sugar intake has not been shown to increase the risk of getting cancer or having it get worse (progress). Still, sugars and sugar-sweetened drinks add large amounts of calories to the diet and can cause weight gain, which we know can affect cancer outcomes.

There are many kinds of sugars, including honey, raw sugar, brown sugar, corn syrup, and molasses. Many drinks, such as soft drinks and fruit-flavored beverages contain added sugar. Most foods and drinks that are high in added sugar do not offer many nutrients and may replace more nutritious food choices. For this reason, limiting the intake of foods and drinks with added sugar is recommended.

Supplements

Would survivors benefit from using vitamin and mineral supplements?

Survivors should try to get the nutrients they need through food, not supplements. Use dietary supplements only when your doctor tells you to take them because of a deficiency of a certain nutrient. Do not take vitamins or other supplements to get higher than recommended levels of nutrients—this may do more harm than good.

Can nutritional supplements lower cancer risk or the risk of cancer coming back?

There is no evidence at this time that dietary supplements can lower the chance of cancer coming back or improve survival. In fact, studies have shown that high-dose supplements of beta-carotene can increase the risk of lung cancer in people who are already at higher risk of this cancer and should be avoided.

vegetables are high in sodium.

Choose different forms of whole 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.

Should I juice my vegetables and fruits?

Juicing can add variety to your diet and can be a good way to get vegetables and fruits, especially if you have trouble chewing or swallowing. Juicing also helps the body absorb some of the nutrients in vegetables and fruits. But juices may be less filling than whole vegetables and fruits, and they contain less fiber. Drinking a lot of fruit juice can also add extra calories and simple sugars to a person's diet.

Buy juice products that are 100% vegetable or fruit juices and pasteurized to remove harmful germs. These are better for everyone but are especially important for people who may have weak immune systems, such as those getting chemotherapy.

Vegetarian diets

Do vegetarian diets reduce the risk of cancer coming back?

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

The [American Cancer Society Guideline for Diet and Physical Activity for Cancer Prevention](#)¹⁰ defines a healthy, cancer-preventive diet as one that is diet rich in vegetables, fruits, legumes, and whole grains and limits or does not include red and processed meats, sugar-sweetened beverages, highly processed foods, and refined grain products. Several eating patterns can meet this definition, including the Mediterranean diet, the DASH diet, and vegetarian diets.

Water and other fluids

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 fluid from the body). To help prevent these problems, survivors should try to take in enough fluids. This is especially important if you are losing fluid, 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 four 8-ounce cups.)

If you are having trouble eating or drinking or are losing fluid (because of problems with vomiting or diarrhea, for instance), you might not be able to take in enough fluid. Talk with your cancer care team or primary care provider about how you can get more fluids.

How can I find a nutrition or exercise professional?

Cancer survivors can benefit from nutrition and physical activity assessment and counseling as soon as possible after diagnosis and continuing through the cancer episode, as needed. If you are looking for professional help to address diet and exercise, you can ask your cancer care team or primary care provider for a referral.

You can also search for nutrition professionals in your area on the [Academy of Nutrition and Dietetics](#)¹¹ website.

[The American College of Sports Medicine Moving Through Cancer](#)¹² website has a directory of hospital and community-based exercise programs for cancer survivors.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/side-effects.html
2. www.cancer.org/cancer/survivorship/coping/nutrition.html
3. www.cancer.org/cancer/managing-cancer/treatment-types.html
4. www.cancer.org/cancer/managing-cancer/side-effects/eating-problems/mouth-

Academy of Nutrition and Dietetics (AND) Website:

<https://www.eatright.org/health/health-conditions/cancer>

Offers articles and videos about nutrition. Includes a link to searchable database to find a nutrition expert in your area.

American College of Sports Medicine (ACSM) - Moving Through Cancer Initiative

Website: <https://www.exerciseismedicine.org/eim-in-action/moving-through-cancer/>

Phone number: 317-637-9200

Provides handouts and infographics with detailed information about exercise for cancer survivors. Includes a link to Exercise Program Directory to locate a cancer exercise program in your area.

Food and Nutrition Information Center, US Department of Agriculture (USDA)

Website: www.nal.usda.gov/fnic Phone number: 301-504-5414 (8 a.m. to 3 p.m.

Eastern Time, Monday-Friday) TTY: 301-504-6856 Offers current information on dietary guidelines, food facts, and more. For information on safe food preparation, go to [ChooseMyPlate.gov](https://www.choosemyplate.gov)¹⁶ and select the “Healthy Eating Tips” tab, then “Food Safety Advice”

National Cancer Institute Website: www.cancer.gov¹⁷ Toll-free number: 1-800-4-CANCER (1-800-422-6237) TTY: 1-800-332-8615

Has up-to-date information about cancer and cancer-related topics for patients, their families, and the general public

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

References

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