

Cancer-fighting superfoods

Although many causes of cancer are unknown, it's important to learn about potential links that you can control—such as the food you eat.

Potential cancer risk factors

Although the direct cause of cancer remains unclear, research has shown that certain risk factors may increase a person's chances of developing cancer. While some risk factors cannot be avoided, it's important to limit your exposure to controllable risk factors to help lower your risk.

Here are some potential risk factors for cancer¹:

- **Age:** Although something we cannot control, cancer rates tend to increase with age.
- **Alcohol:** Excess alcohol consumption may increase your risk of cancer. The Dietary Guidelines for Americans defines moderate alcohol drinking as up to one drink per day for women and up to two drinks per day for men.
- **Chronic inflammation:** Chronic inflammation may be caused by long-term infections, abnormal immune reactions or conditions such as obesity.
- **Diet:** Studies have not yet shown definitively that any dietary component causes or protects against cancer; however, some results show only that the dietary component is associated with a change in cancer risk.
- **Environmental substances:** The National Toxicology Program identified several chemical substances as known human carcinogens, including arsenic, benzene, formaldehyde, radon, and secondhand tobacco smoke—just to name a few. Keep in mind, simply because a substance has been identified as a carcinogen, doesn't necessarily mean that the substance will cause cancer. Many factors may impact whether an exposed person will develop cancer, such as the amount and duration of the exposure, and the individual's genetic background.
- **Hormones:** Estrogens, a group of female sex hormones, are known human carcinogens. Hormone replacement therapy or treatment may increase risk of certain cancers.
- **Immunosuppression:** Many organ transplant recipients take medications to suppress the immune system so the body won't reject the organ; however, these medications may make the immune system less able to detect and destroy cancer cells or fight off infections, which may put them at increased risk for cancer.
- **Infectious agents:** Certain viruses, bacteria and parasites may increase the risk of cancer due to disrupted signaling to maintain cell growth, weakening of the immune system and chronic inflammation.



- **Obesity:** People who are considered overweight or obese may be at higher risk of developing several types of cancer.
- **Radiation:** Radiation of certain wavelengths has enough energy to damage DNA that may increase risk for cancer. This includes radon, x-rays, gamma rays and other forms of high-energy radiation.
- **Sunlight:** Too much exposure to ultraviolet (UV) radiation, whether through excess sun exposure or use of tanning beds, may cause early aging and skin damage, which may lead to an increased risk of developing skin cancer.
- **Tobacco:** People who use tobacco products or who are regularly exposed to secondhand smoke have an increased risk of cancer because tobacco products and secondhand smoke have many chemicals that may damage DNA.



Keep in mind: Most cancer risk factors are initially identified in epidemiology studies, which may show that the people who develop cancer are more or less likely to behave in certain ways or to be exposed to certain substances than those who do not develop cancer. Such studies, on their own, cannot prove that a behavior or substance causes cancer.

Talk with your doctor if you think you may be at risk for cancer.

Cancer-fighting superfoods

Let's focus on one of the potential cancer risk factors that you can control: your diet.

Although you cannot eliminate your cancer risk completely by eating certain foods, it may help to go a long way in reducing your risk if you develop certain eating habits and live a lifestyle to maintain a healthy weight. Eating a variety of these types of superfoods may help you get started.

Superfood category	Health benefits	Specific foods to incorporate
<p>Variety of vegetables, including:</p> <ul style="list-style-type: none"> • Cruciferous vegetables • Green, leafy vegetables • Other vegetables 	<p>Vegetables are rich in nutrients and phytochemicals that may have anticancer properties.² These chemicals may help reduce inflammation, strengthen your immune system, and aid DNA formation and repair.</p>	<ul style="list-style-type: none"> • Cruciferous vegetables: broccoli, brussels sprouts, bok choy, cabbage, cauliflower, collard greens • Green, leafy vegetables: spinach, kale, arugula • Other vegetables: garlic, onions, mushrooms, carrots
<p>Whole grains</p>	<p>The dietary fiber and other nutrients found in whole grains may help provide anti-inflammatory benefits as well as support the growth of good gut bacteria.³</p>	<ul style="list-style-type: none"> • Wild or brown rice • Whole grain breads, tortillas, buns, etc. • Whole grain pastas • Oatmeal • Quinoa • Farro

<p>Nuts</p>	<p>Nuts may help promote lower cancer risk and better overall health due to their antioxidant and anti-inflammatory properties.⁴</p>	<ul style="list-style-type: none"> • Walnuts • Brazil nuts • Almonds • Pistachios • Hazelnuts • Pine nuts <p>Tip: Incorporate more nuts into your diet by adding to oatmeal, cereal, yogurt, a salad, a stir fry, a rice bowl or trail mix.</p>
<p>Fruits</p>	<p>Fruits are antioxidant powerhouses that are rich in vitamins, minerals and dietary fibers. A variety of fruits and berries may help reduce inflammation and neutralize carcinogens, and may have anti-tumor benefits.²</p>	<ul style="list-style-type: none"> • Blackberries • Blueberries • Cherries • Cranberries • Pomegranates • Raspberries
<p>Plant proteins</p>	<p>The compounds and phytochemicals found legumes may help prevent cancer by stopping the reproduction of cancer cells and slowing tumor growth.⁵</p>	<ul style="list-style-type: none"> • Lentils • Soybeans <p>Tip: Incorporate more legumes into your diet by adding to soups and salads, or replacing with meat used in tacos and burgers.</p>
<p>Seasonings</p>	<p>Seasonings not only add flavor and help reduce excess salt—they are also an easy way to add anti-inflammatory and antioxidant foods in your diet. The antioxidant properties of certain seasonings may help reduce cancer cell growth.²</p>	<ul style="list-style-type: none"> • Turmeric • Ginger • Cinnamon • Basil • Oregano • Dill

Notes

Foods to limit or avoid

Just as there are foods that can reduce your cancer risk, there are foods that can increase it. Consider these nutrition tips to avoid increasing your risk for cancer:

- **Limit processed and red meats:**⁶ Increased consumption of processed and red meats may increase the risk of colorectal cancer. Common examples of processed meats include bacon, sausage, hot dogs, pepperoni, ham, corned beef, and cold cuts like bologna and salami. Red meat—including beef, pork and lamb – is higher in heme iron, which may lead to the production of free radicals that may damage DNA. Red meat may also increase cancer risk by promoting chronic, low-grade inflammation.
- **Avoid drinks with added sugar:**⁶ Drinking sugar-sweetened beverages can contribute to gaining weight and becoming overweight or obese—and excess body fat may put you at a higher risk for developing cancer. Examples of sugar-sweetened drinks include soda, sports drinks, energy drinks, tonic, lemonade, fruit punch and coffee- and tea-based beverages that are sweetened with some form of added sugar.
- **Be mindful of alcohol intake:**⁶ Increased alcohol consumption may increase the risk of many forms of cancer, such as breast, colorectal, esophageal, stomach and liver cancer. This may be due to alcohol being metabolized to a compound called acetaldehyde, which is a recognized human carcinogen (capable of causing cancer). Alcohol may also cause tissue damage and may contribute to weight gain, putting you at higher risk of developing cancer.

Quick tips for eating more superfoods

Incorporating superfoods into your diet doesn't have to be done overnight. Small, gradual changes may make a big difference in your long-term eating habits.

Let's review a few quick tips to help you get started on incorporating more cancer-fighting superfoods into your diet:

1. **Pay attention to your plate:**⁷ Increase the amounts of fruits and vegetables you eat by adjusting the portions on your plate or at each meal throughout the day. Aim to have two-thirds of your plate filled with vegetables, fruits and whole grains. Aim to have one-third of your plate filled with lean animal protein (chicken or fish) or plant-based protein (tofu or beans).
2. **Eat the rainbow:** Add more color to your diet each day. This may help you automatically increase the amount and variety of fruits and vegetables you eat.
3. **Check your snacks:** Make sure your snacks are plant-based instead of processed. Plant-based snacks include fruits, vegetables, nuts and seeds. Snacking on plant-based foods is a simple way to kickstart a more plant-based diet.
4. **Schedule meatless meals:** Reduce your intake of red and processed meats by choosing to go meatless more often. Choose a few days each week to try meatless meals and opt for plant-based options like beans, lentils, peas and tofu. You can also try going lean a few times per week, focusing on lean proteins such as fish, seafood and poultry.
5. **Vary your carbs:** Choose whole grains, whole foods or vegetables instead of processed carbohydrates. For example, instead of pasta, try substitutes like spaghetti squash or veggie noodles. Choose to regularly eat brown rice and quinoa instead of white rice.
6. **Incorporate “safe” sweets:**⁷ If you're craving something sweet, try eating fruit for dessert. This may help you increase your fruit intake and avoid eating processed foods and excess sugar—all while satisfying your sweet tooth.

Notes

Sources

1. “Risk Factors for Cancer,” National Cancer Institute, last accessed Jan. 31, 2023, www.cancer.gov/about-cancer/causes-prevention/risk.
2. “7 foods to fight cancer, heart disease and enhance health,” Loma Linda University Health, last accessed Jan.31, 2023, news.llu.edu/patient-care/7-foods-fight-cancer-heart-disease-and-enhance-health.
3. “Whole Grains: Protect Against Colorectal Cancer,” American Institute for Cancer Research, last access Jan. 31, 2023, www.aicr.org/cancer-prevention/food-facts/whole-grains.
4. “Nuts for Cancer Prevention: Health Benefits and Hype,” American Institute for Cancer Research, last accessed Jan. 31, 2023, www.aicr.org/resources/blog/nuts-for-cancer-prevention-health-benefits-and-hype.
5. “Pulses: Dry Beans, Peas, and Lentils (Legumes),” American Institute for Cancer Research, last accessed Jan. 31, 2023, www.aicr.org/foods-that-fight-cancer/legumes.html.
6. “AICR’s Foods that Fight Cancer™ and Foods to Steer Clear Of, Explained,” American Institute for Cancer Research, last accessed Jan. 31, 2023, www.aicr.org/cancer-prevention/food-facts.
7. “Diet,” MD Anderson Cancer Center, last accessed Jan. 31, 2023, www.mdanderson.org/prevention-screening/manage-your-risk/diet.html.

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