

THE POCKET GUIDE TO NUTRITION AND CANCER

NOTE: With this guide, we tried to address the impacts of food on multiple areas of a person: their physical body, social body and emotional body.

FAST FACTS

- Food choices following a cancer diagnosis can feel as important as treatment decisions.
- Eating well during treatment and beyond means listening to your body's healing intuition.

CANCER AND NUTRITION—WHY IT MATTERS?

The question, “What should I eat?” is common after a cancer diagnosis. It may be prompted by concern about side effects or the search for a cancer-curing diet.

“Whatever you feel like eating—it doesn't really matter” is often the answer. Oncologists see many patients lose their appetites, struggle with nausea, and lose weight during treatment. However, physicians receive little training in nutrition.¹ Research shows many connections between diet and cancer, from the strong association of obesity and alcohol consumption with cancer risk² to the potential benefits of carotene- and sulforaphane-containing foods such as broccoli.^{3,4} Eating during and beyond treatment may mean considering your common sense amid messages from many “experts.”

Food can help heal the body, mind, and spirit. It can convey the message “I care about you” from a caregiver and help people dealing with cancer focus on self-care. Foods that fight cancer and inflammation contribute to whole-person healing regardless of the ultimate treatment outcome.

The body's response to food

A changing sense of taste

Both chemotherapy and radiation can change your sense of taste. This may be due to changes in both the taste buds and the brain, where taste sensation is perceived. The most common changes are to the sensations of sweetness and bitterness.⁵

Changes in taste mean favorite recipes and foods may no longer taste good, or at least not taste the same while you are on treatment. You may crave sugary foods or want to sprinkle everything with lemon juice to cut the sweetness.

It may help to think, “My sense of taste is new.” As when you try a new dish, expect it to take a couple of attempts to get used to tastes and modify them as needed.

Add cancer-fighting foods to the diet

Research shows many fruits and vegetables, and some other foods, are filled with cancer-fighting compounds that support the idea of food as medicine. These include:²

- Carotenoids, found in carrots, squash, sweet potatoes, broccoli, kale and more.³

- Sulforaphanes and other substances found in broccoli, cabbage, cauliflower, and other cruciferous vegetables.⁴
- Protease inhibitors, found in whole grains, apples, bananas, spinach, and more.

Learn more about [cancer-fighting foods](#) at DrWayneJonas.com. There are many ways to add cancer fighters to your regular diet—replacing a mid-morning cup of coffee with green tea, adding berries to a smoothie or bowl of oatmeal, and roasting vegetables like broccoli and cauliflower or eating them raw for a satisfying, stress-relieving crunch.

Food safety during treatment

Chemotherapy causes neutropenia, a decrease in white blood cell count that leaves a person more vulnerable to infection. This makes food safety even more important than usual. Keeping hot foods hot, cold foods cold, and cutting boards and utensils germ-free is vital when someone in the household has a weakened immune system. Memorial Sloan Kettering Cancer Center has a [free guide to food safety](#).

IS THERE “ONE BEST WAY” TO EAT WHEN YOU HAVE CANCER?

Despite books and websites touting “the cancer diet” or specific food cures, research has not yet shown that any specific diet prevents or treats cancer. Oncologist Alyssa McManamon, MD, says, “No single diet is best for every patient. Eating is social and emotional as well as physical, and the mind-body connection is very important for well-being during cancer treatment, just as it is when we are healthy.”

[Foods to Fight Cancer](#) by biochemist Richard Beliveau offers a comprehensive look at foods, spices, and beverages that do contain cancer-fighting compounds. Cookbooks from the American Cancer Society include many of the foods listed in Beliveau’s book. Check out [What to Eat During Cancer Treatment](#) for recipes that work for the family during the stress of cancer treatment, as well as for people getting treatment and managing side effects.

You may want to ask for a referral to a nutritionist. They can talk with you about balancing healthy choices, your family’s tastes, what you feel like eating, and what will nourish you most.

Are dietary changes effective?

Yes. Changing your diet can pay off, as a study of more than 8,000 women from the well-known Nurses’ Health Study shows. Researchers found that women following a diet designed to reduce the risk of developing diabetes reduced the risk of dying from breast cancer by 17 percent compared to women who didn’t follow the diet.⁶

The diabetes risk-reduction diet meant making the following adjustments:

- Eating more cereal fiber (whole grains).
- Drinking more coffee.
- Eating more nuts and whole fruits.
- Eating more polyunsaturated fats than saturated fats.
- Eating lower glycemic-index foods, meaning foods that have reduced impact on blood sugar, and fewer foods with trans fats.
- Drinking fewer sugar-sweetened beverages and fruit juice.
- Eating less red meat.

Women who followed the diabetes risk-reduction diet were also 33 percent less likely to die from any cause (not just cancer) compared to women who did not follow the diet. This large study shows that diet can be a highly effective intervention for cancer, diabetes, and other conditions.

Quality matters

The modern grocery store contains many items that are actually harmful to our health. Prime examples are sodas and other sugary drinks, processed meats, and foods that contain no or very few natural substances, such as packaged snacks and fast-food fare.

High-quality food typically does cost more than low-quality food. However, it is possible to focus on avoiding the foods most likely to be harmful. The non-profit Environmental Working Group publishes two lists, the [Dirty Dozen](#) and the [Clean 15](#), detailing the foods least and most likely to contain pesticides, updated regularly. Get a free, downloadable version of both lists at www.ewg.org.

You can also watch [How to Make Smart Food Choices](#) with food expert Mark Hyman, MD, author of [What the Heck Should I Eat?](#) and numerous other research-based resources on food and nutrition.

Sugar and Cancer

The idea that cancer cells feed on sugar comes from the work of Otto Warburg, MD, who nearly 100 years ago studied how cancer cells metabolize sugar. The Warburg Effect, as this is called, leads some patients to feel guilty if they do not give up all sugar-containing foods during cancer and treatment.

Research does show that cancer cells metabolize sugar avidly. Cutting back is a good idea for people whose diets include significant added sugar, often found in condiments, bottled sauces, yogurts, and other foods we might not expect to be as sugary as desserts. Some tips:

- Look for prepared foods with no added sugar.
- Keep the American Heart Association guidelines for added sugar in mind—just 25 grams per day for women, 36 for men. When you check the label on your favorite yogurt and see 18 grams of sugar, understand that you can still eat it, but sticking with the guidelines will mean avoiding almost all other foods with added sugar that day if you want to stick with the guidelines.⁷ Soda and coffee drinks can also contain a great deal of sugar. Some regular sodas may have more than 40 grams in a single 12-ounce can.

Researchers continue to study the role of sugar in cancer. For now, eating a healthy, balanced diet and adding known cancer-fighting foods is likely the best—and most sustainable—approach.

Should you go keto? Or fast?

Many people with cancer are interested in a ketogenic diet. The Academy of Nutrition and Dietetics [explains](#) what this diet involves, who should avoid it, and the pros and cons. You can also learn more from [Harvard Health](#).

Is “keto” necessary if you are serious about fighting cancer? Is fasting linked to survival? Current research shows keto or short-term fasting may help chemotherapy and radiation work more successfully.⁸ However, research is still ongoing and, particularly for fasting, in its infancy.⁹

It is important to note that the heavy emphasis on meat protein intake in ketogenic diet plans is not aligned with cancer prevention guidelines. As an alternative, the Mediterranean diet includes animal protein sparingly and has been extensively studied for its anti-inflammatory properties. Download our free [Mediterranean Diet Pocket Guide](#).

Food and emotions

Moving past shame and self-blame

Many patients come to treatment with the idea that they caused their cancer. While it is certainly possible that exposure to smoking, processed meats, and other potential carcinogens played a part, self-blame does not support healing.

The opposite idea is that making the right changes, such as giving up sugar or red meat, will effect a cure. The patient mistakenly feels that they have failed if the cancer does not disappear or go into remission.

In fact, while many cancers are cured, some are not. No dietary intervention has been reproducibly shown to cure cancer. People are not at fault if the malignancy does keep growing. Dr. Jonas' book [How Healing Works](#) offers a deep dive into what it means to create health for mind, body, and spirit.

The comfort of food and drink

Food can be medicine—and it can provide comfort and pleasure. Those are at least as important during the stress of cancer and treatment as when we are feeling healthy. Dr. McManamon agrees: “If you are depressed and craving a comfort food, this might be the time to eat it without guilt. If you are a caregiver, you might fix a favorite food the person with cancer feels like eating, even if it is a ‘bad’ or sugary food.” The nutritional value of food is emotional as well as physical.

Some tips for comfort eating with cancer:

- Try a new comfort food that may be a cancer fighter. Green tea with honey, creamy scrambled tofu, or a side of caramelized roasted sweet potatoes can all be comforting and easy to eat—and are loaded with important nutrients. Also consider adding herbs and spices. These can boost flavor and, in some cases, decrease inflammation.

- Check the lists of cancer-fighting food and come up with your own ideas.

The social side of eating and cooking

More than 40 percent of Americans are now unmarried, and many live alone. Whether or not a caregiver is present, self-care is just as important for people living solo with cancer as for those in families. Nutrition tips include:

- Planning specific meals and snacks. Instead of grabbing whatever is on hand, breakfast might become the time for a smoothie.
- Dr. McManamon advises patients who live alone to make a big pot of soup once a week to have something healthy and easy to prepare on hand.

Patients may have a caregiver who prepares meals for them, or they may be the primary cook for a family group. Cooking can be challenging if the smells of certain foods are nauseating, or fatigue might make it difficult to be present at every family meal. Helpful questions to consider include:

- What can be stocked in the pantry to make it easy for you to eat and for family members to prepare their own meals?
- How can you talk with young children who are distressed that family patterns are disrupted?
- Who can help you shop or cook, if necessary?
- Do you need help cleaning up the kitchen? Can you maintain appropriate food safety and kitchen hygiene for yourself or someone you care for who is immunocompromised?

Author Rebecca Katz offers a complete online course, [The Cancer Fighting Kitchen](#), that caregivers and cooks may want to check out. Katz is interviewed in our article [“Navigating Nutritional Information as a Cancer Patient and Beyond.”](#)

Believing that what we take in is nourishing us also helps us get used to new foods. Instead of thinking of vegetables as “diet food,” focusing on the nutrients that give them their brilliant colors can help. The nutrition advice to create a “colorful” plate can double for creating a cancer-fighting plate. As you eat to benefit your body, you may find yourself discovering some new favorite foods, experiencing pleasure when you may not have expected it, and creating a new level of health for body, mind, and spirit.

My notes and questions

References

1. Crowley J, Ball L, Hiddink GJ. Nutrition in medical education: a systematic review. *Lancet Planet Health*. 2019 Sep;3(9):e379-e389. doi: 10.1016/S2542-5196(19)30171-8. PMID: 31538623.
2. Key TJ, Bradbury KE, Perez-Cornago A, et al. Diet, nutrition, and cancer risk: what do we know and what is the way forward? *BMJ* 2020; 368: m511 <https://doi.org/10.1136/bmj.m511>
3. Rowles JL, Erdman JW. Carotenoids and their role in cancer prevention. *Biochimica et Biophysica Acta (BBA) - Molecular and Cell Biology of Lipids*. 2020;1865(11):158613. doi:10.1016/j.bbalip.2020.158613
4. Abdull Razis AF, Noor NM. Cruciferous vegetables: dietary phytochemicals for cancer prevention. *Asian Pac J Cancer Prev*. 2013;14(3):1565-70. doi: 10.7314/apjcp.2013.14.3.1565. PMID: 23679237.
5. Murtaza B, Hichami A, Khan AS, Ghiringhelli F, Khan NA. Alteration in taste perception in cancer: causes and strategies of treatment. *Front Physiol* 2017;8:134. doi:10.3389/fphys.2017.00134
6. Hu FB, Manson JE, Stampfer MJ, Colditz G, Liu S, Solomon CG, Willett WC. Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. *N Engl J Med*. 2001 Sep 13;345(11):790-7. doi: 10.1056/NEJMoa010492. PMID: 11556298.
7. American Heart Association. Added sugars. April 17, 2018. Available at <https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/sugar/added-sugars>. Accessed July 27, 2021.
8. Weber DD, Aminzadeh-Gohari S, Tulipan J, Catalano L, Feichtinger RG, Kofler B. Ketogenic diet in the treatment of cancer - Where do we stand? *Mol Metab* 2020;33:102-121. doi:10.1016/j.molmet.2019.06.026
9. de Groot S, Pijl H, van der Hoeven JJM, Kroep JR. Effects of short-term fasting on cancer treatment. *J Exp Clin Cancer Res*. 2019 May 22;38(1):209. doi: 10.1186/s13046-019-1189-9. PMID: 31113478; PMCID: PMC6530042.

