

SUPPLEMENTS AND CANCER POCKET GUIDE

FAST FACTS

- About half of Americans who take dietary supplements believe the U.S. Food and Drug Administration has approved them as safe and effective.¹
- The U.S. Food and Drug Administration does not have the authority to approve dietary supplements, but can remove them from the market if shown to be unsafe.²
- In a 2021 survey, fewer than 5 in 10 respondents had talked with their health-care provider before taking supplements.¹

SUMMARY

For people in treatment or survivorship, dietary supplements may:

- Help relieve symptoms and side effects of cancer and treatment.
- Boost strength and immunity.
- Help mind and body heal after treatment.

Always talk with your health-care provider and cancer team about any supplements you take. If you are interested in taking supplements, check with your health-care team first.

Supplements can be part of an integrative health plan that includes a nutritious diet, exercise, rest, social support, and other healing practices. So far, no supplement is proven effective as the sole treatment for any cancer or as a cure.

Dietary supplements and cancer

If you or a loved one has cancer, you may have considered taking dietary supplements, are already doing so, or are wondering if you should. Between 60 and 80 percent of people with cancer take supplements before, during, or after their treatment.³

Reasons for taking supplements include:

- Boosting the immune system.
- Aiming to reduce side effects or symptoms of cancer and treatment, such as nausea or fatigue.
- Trying to regain some control by fueling the body as it undergoes cancer treatment.

Experts agree that in general, a holistic approach to diet, exercise, rest, and stress relief is the best way to improve health and potential outcomes, including in those with cancer.³

"It's best to get the nutrients you need from food," says Donald Abrams, MD, an integrative oncologist at the UCSF Osher Center for Integrative Medicine. "However, as you age or when you have certain conditions, you may consider taking supplements."

An integrative approach to cancer treatment can include supplements when conventional treatments do not work well. Jeffrey White, MD, who directs the Office of Cancer Complementary and Alternative Medicine of the National Cancer Institute, says, "People seek dietary supplementation for fatigue and other issues, including sleep problems, low energy, and chemotherapy side effects such as nausea, vomiting, and neuropathy."

What are supplements?

Simply put, supplements are anything you take to boost your body's level of vitamins, minerals, hormones, or other nutrients.

You might hear them called dietary supplements because they are intended to supplement, or add to, the nutrients you get from food and drink.³

Supplements come in many forms, including tablets, capsules, gummies, liquids (including teas), and powders.

Supplements are very popular. One study showed that more than 80 percent of adults in the United States take supplements. But only 24 percent take them because tests showed they were lacking in a certain vitamin, mineral, or other nutrient.⁵ In other words, many people are taking supplements they may not need.

substances you don't need or that are harmful based on your age, sex, or other health conditions.

- **Supplements can interact with medications and treatments.** Substances in your supplement can interact with your regular medications or cancer treatments, making them less effective or even toxic.
- **Your body might not be able to absorb the active ingredient.** For example, curcumin is beneficial but very little enters your bloodstream unless it is combined with dietary fats or a compound found in black pepper.⁶

How to talk with your health-care provider

"It's incredibly important to stay honest and open about what you're interested in, taking now, or want to try," says Dr. White. "A lot of people are concerned about expressing things to their doctor. Some physicians are not as open to discussion as others, so this can be challenging, but I always recommend keeping the information exchange open on both sides."

Ways to bring up supplements with your provider include asking:

- Will taking a supplement interfere with any of my current medications or treatments?
- Will my cancer or treatment lower my level of any necessary nutrients?
- Would taking a supplement help me stay healthier during treatment?
- Would taking a supplement boost my immune system? Is that a good idea right now?

If you already take supplements

A Harris poll of more than 2,000 U.S. adults found that more than one-third "didn't think their health care provider was interested" in whether they took supplements or not.¹ In fact, they are. To start the conversation, you might share something like

I take _____ and _____ for my health (e.g., calcium for bone health and vitamins for my eyesight).
I also drink _____ tea (e.g., echinacea)

Supplements for specific symptoms

Enough scientific evidence exists for some dietary supplements to recommend taking them for specific symptoms and side effects, provided there are not specific reasons you should not be taking them.

Talk with your oncologist or other health-care provider before trying any of these. They may recommend a specific dose or formula.

Are supplements harmless?

"What can it hurt?" you might think. After all, getting the vitamins, minerals, and other nutrients you need must be especially important when you have cancer. However, there are important reasons to talk with your cancer care team about supplements.

- **Supplements vary in quality.** Some are made in clean, controlled laboratories, and others are not. In the United States, supplements are not regulated for safety or effectiveness before they go to market.²
- **Labels may not be accurate.** Some supplements have clear, accurate labels. Others do not. Your supplement may contain substances that are not listed on the label. "You have to be wary about the quality of any products you get," says Dr. White. "The bottle may say it contains the product you're interested in, but you really have no idea what is in that bottle."

The herbal supplement PC-SPES, used by many patients with prostate cancer, was taken off the market after being found to contain the drugs DES, warfarin, indomethacin, and alprazolam, none of which were listed on the label.⁴

- **The same supplement may go by several different names.**³ This can be confusing and even lead to overdosing.
- **Supplements can interact with medications and treatments.** Substances in your supplement can interact with your regular medications or cancer treatments, making them less effective or even toxic.
- **You may not need everything in the supplement.** Even if everything is listed on the label, the supplement may contain

Safer supplements for cancer and treatment

Supplement	Why try it?*	Things to watch out for
Ginger	Nausea and vomiting	Can work like a blood thinner. You may bleed too much if injured, if you have a bleeding risk, or if you take aspirin, ibuprofen, or other medicines that can cause bleeding.
Ginseng	Fatigue	Could cause a dangerously fast heartbeat and increase the risk of bleeding for people taking Coumadin® (warfarin).
Probiotic containing Lactobacillus and Bifidobacterium	Diarrhea from chemo drug 5-fluorouracil	Dr. Abrams recommends a refrigerated product for best effect.
Coenzyme Q10 (CoQ10)	Beneficial to the heart, if radiation was given in that region	Only take after radiation therapy ends.
Vitamin B ¹²	Nerve problems (neuropathy) from B ¹² deficiency	Ask your health-care provider if this is important for you.
Vitamin C	Wound healing, stress relief	Discuss high-dose IV therapy with vitamin C, but avoid if said to “cure” cancer.
Zinc	Treating common cold symptoms or for symptoms related to radiation therapy (unproven)	Chronic use of zinc supplements can lead to copper deficiency and lowered blood counts.
Lion's mane mushrooms	Neuropathy, “chemo brain”	Only take after chemotherapy ends. Consult your doctor if you have mutation of gene CDC73. Avoid mushrooms if receiving immunotherapy.
Melatonin	Sleep	Avoid high doses said to “cure” cancers, as this is not proven. Some people experience undue drowsiness or headaches with use.

*Please note that many of the comments in this column are not derived from results of clinical trials. Consult your doctor if you are taking any of these or other supplements.

Avoid these supplements



St. John's wort – It can make chemotherapy drugs less effective and increase skin problems from radiation therapy.

Acetyl-L-carnitine, or ALC – It makes nerve damage from chemotherapy worse. Previously, it was thought to help with this.

Vitamin E – Patients who took vitamin E during treatment for head and neck cancers had higher rates of cancer recurring (coming back) and eventual death. Vitamin E can also increase the risk of prostate cancer in men.

Beta-carotene – In a large study, beta-carotene increased the risk of lung cancer in men who smoked.

Supplements and your treatment plan

Supplements contain powerful substances, including harmful ones. They also come in and out of vogue, often touted online by non-medical websites.

“Vitamin C is something many people are interested in and consume,” says Dr. White. “Nowadays, it seems to be mostly high-dose IV vitamin C as opposed to pills. That's not really a dietary supplement—that is more like a drug.”

“Social media has a big impact,” Dr. Abrams says. “Someone goes online and says, ‘This cured my cancer.’ Even laetrile, which was debunked in the 1960s, is back as ‘apricot pits’ or ‘vitamin B¹⁷.’”

How supplements can affect you

- Some supplements can **make your skin more sensitive**. This can lead to severe skin reactions during radiation therapy.
- Some herbs **make chemotherapy drugs less effective**, like St. John's wort, listed in the box. They can also cause side effects such as **bleeding**.
- Some herbs and natural compounds, including ginkgo and grapefruit, **block the liver enzymes that break down chemotherapy drugs**. This can lead to toxic effects.
- Taking **antioxidants may make some chemotherapy drugs less effective**. "Antioxidants fight free radicals, but the point of radiation and some chemotherapy is to create free radicals to kill cancer cells," says Dr. Abrams.

"Foods with antioxidant properties are fine," Dr. Abrams says. "People ask me, 'Can I eat blueberries? They contain antioxidants.' The answer is yes, because blueberries do not contain such large amounts that they will interfere with chemotherapy, and they contain many other health-building compounds."

Can supplements cure cancer?

Are supplements effective at destroying cancer cells or shrinking tumors? Not that we know, according to Dr. Abrams. "For the most part, that idea is more wishful thinking than based in evidence. With many supplements, we simply do not have a body of evidence from placebo-controlled trials."

Dr. White offers this advice: "If you hear that a supplement kills cancer cells, ask, 'Did this happen in a petri dish? Did it happen in laboratory animals? Where are the studies showing that it works in humans?'"

"I see many patients extrapolating from what happens in test tubes and animals to what happens in their bodies, particularly if they hope that supplements will cure their cancer," says Dr. Abrams. "But the human body is more complex than cells in a laboratory dish."

How to evaluate supplements

When considering any supplement, Dr. White says, "First ask, 'What is the scientific evidence?' If it is all anecdotal—personal stories—you don't have much."

Ask your oncologist if studies have shown the supplement or product is effective for your concern. Nurses and pharmacists can also help you find reliable information.

Questions to ask

- Do I take medications that lower the level of nutrients in my body? Do I need supplements to replace these nutrients?
- Does everyone on my cancer team know what supplements I take?

- Will my supplements affect my cancer treatment?
- Do my supplements contain high-quality ingredients? Are there any dangerous ingredients?
- Do high-quality research studies show this supplement works for my concern? Or, does an experienced health-care provider recommend it?
- Will the supplement affect other health conditions besides my cancer? How?
- Is a different medication or approach safer or more effective?

Resources

- Look for products with the NSF International, USP, or Consumer Laboratories seal.
- Check the U.S. Pharmacopoeia information on dietary supplements and food at <https://qualitymatters.usp.org/topics/dietary-supplements>.
- See the [Dietary and Herbal Supplements](#) guide at the National Center for Complementary and Integrative Health.
- Subscribe to [ConsumerLab.com](https://www.consumerlab.com) for reviews of supplements and other health products.
- Check the [FDA Dietary Supplement Ingredient Advisory List](#), and sign up to get alerts when new ingredients are added.
- Check the FDA's [What's New in Dietary Supplements](#) page for the latest news and actions.
- [Your Healing Journey: A Patient's Guide to Integrative Breast Cancer Care Guide](#)
- [Chemotherapy-Induced Peripheral Neuropathy \(CIPN\) Pocket Guide](#)
- [Physician Data Query \(PDQ®\), National Cancer Institute](#)
- [About Herbs \(MSKCC\)](#)
- [Natural Medicines database](#)
- Search [Wellkasa](#) to find science on supplements and information on drug-supplement interaction.

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