



Chemotherapy Side Effects

The information below describes side effects that might be caused by traditional or standard chemotherapy. There are also other drugs that are used to treat cancer in different ways, including [targeted therapy](#)¹, hormone therapy, and [immunotherapy](#)².

Why does chemo cause side effects?

Cancer cells tend to grow fast, and chemo drugs kill fast-growing cells. But because these drugs travel throughout the body, they can affect normal, healthy cells that are fast-growing, too. Damage to healthy cells causes side effects. Side effects are not always as bad as you might expect, but it's normal to worry about this part of cancer treatment.

The normal cells most likely to be damaged by chemo are:

- Blood-forming cells in the bone marrow
- Hair follicles
- Cells in the mouth, digestive tract, and reproductive system

Some chemo drugs can damage cells in the heart, kidneys, bladder, lungs, and nervous system. Sometimes, you can take medicines with the chemo to help protect your body's normal cells. There are also treatments to help relieve side effects.

Doctors try to give chemo at levels high enough to treat cancer, while keeping side effects at a minimum. They also try to avoid using multiple drugs that have similar side effects.

What do I need to know about side effects?

- Every person doesn't get every side effect, and some people get few, if any.
- The severity of side effects (how bad they are) varies greatly from person to person. Be sure to talk to your cancer care team about which side effects are most common with your chemo, how long they might last, how bad they might be, and when you should call the doctor's office about them.
- Your doctor may give you medicines to help prevent certain side effects before they happen.
- Some chemo drugs cause long-term side effects, like heart or nerve damage or fertility problems. Still, many people have no long-term problems from chemo. Ask your doctor if the chemo drugs you're getting have long-term effects.

While side effects can be unpleasant, they must be weighed against the need to kill the cancer cells.

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How long do side effects last?

Many side effects go away fairly quickly, but some might take months or even years to go away completely. These are called late effects.

Sometimes the side effects can last a lifetime, such as when chemo causes long-term damage to the heart, lungs, kidneys, or reproductive organs. Certain types of chemo sometimes cause delayed effects, such as a [second cancer](#)³ that may show up many years later.

People often become discouraged about how long their treatment lasts or the side effects they have. If you feel this way, talk to your cancer care team. You may be able to change your medicine or treatment schedule. They also may be able to suggest ways to reduce any pain and discomfort you have.

What are common side effects of chemo?

Most people worry about whether they'll have side effects from chemo, and, if so, what they'll be like. Here are some of the more common side effects caused by chemotherapy:

- Fatigue
- Hair loss
- Easy bruising and bleeding
- Infection
- Anemia (low red blood cell counts)
- Nausea and vomiting
- Appetite changes
- Constipation
- Diarrhea
- Mouth, tongue, and throat problems such as sores and pain with swallowing
- Peripheral neuropathy or other nerve problems, such as numbness, tingling, and pain
- Skin and nail changes such as dry skin and color change
- Urine and bladder changes and kidney problems
- Weight changes
- Chemo brain, which can affect concentration and focus
- Mood changes
- Changes in libido and sexual function
- Fertility problems

Learn more about these and other problems in [Managing Cancer-related Side Effects](#)⁴.

Chemotherapy drug interactions and side effects

When looking at how best to combine chemo drugs, doctors must look at interactions between chemo drugs and other medicines the person is taking, including over-the-counter medicines, vitamins, and supplements. These interactions may make side effects worse and affect how well chemo drugs work.

It’s important that you tell your doctor about all medicines, including over-the counter medicines, vitamins, herbal or dietary supplements you are taking– even if you only take them “as needed.”

For instance, platelets help blood clot and prevent bleeding. Many chemo drugs lower the number of platelets for a time. Taking aspirin or other related drugs can also weaken blood platelets. This isn’t a problem for healthy people with normal platelet counts, but if a person has low platelet counts from chemo, this combination might put them at risk of a serious bleeding problem.

Your doctor can talk with you about the safety of using other medicines, vitamins, and supplements while you are being treated for cancer.

How vitamins affect chemotherapy drugs

Many people want to take an active role in improving their overall health. They want to help their body's natural defenses fight the cancer and speed up their recovery from chemo. Most people think of vitamins as a safe way to improve health, so it's not surprising that many people with cancer take high doses of one or more vitamins. But some vitamins might make chemo less effective.

More research is needed, but until more is known about the effects of vitamins on chemo, keep these points in mind:

- If your doctor has not told you to take vitamins, it's best not to take any.
- Always check with your doctor first before starting to take a vitamin of any kind, even a simple multivitamin.
- Ask your doctors if and when it might be OK to start taking vitamins after treatment.
- If you're concerned about nutrition, you can usually get plenty of vitamins by eating a well-balanced diet. See [Nutrition for People With Cancer](#)⁵ to learn more about nutrition during and after cancer treatment.

When to call your cancer care team about chemo side effects

Because your cancer care team will give you lots of information about side effects, you might be more aware of physical changes. Do not take any physical symptoms you have lightly. Some side effects are short-lived and minor, but others may be a sign of serious problems. Make sure you know how to reach someone on your team any time, including after hours, weekends, and holidays.

Contact your cancer care team right away if you have any of the following symptoms during chemo treatment:

- A fever higher than what your cancer care team has instructed (usually 100.5°F - 101°F or greater (taken by mouth))
- Bleeding or unexplained bruising
- A rash
- An allergic reaction, such as swelling of the mouth or throat, severe itching, trouble swallowing

- Intense chills
- Pain or soreness at the chemo injection site or catheter site
- Unusual pain, including intense headaches
- Shortness of breath or trouble breathing (If you're having trouble breathing call 911 first.)
- Long-lasting diarrhea or vomiting
- Bloody stool or blood in your urine

Ask your cancer care team if there are any other problems they should know about right away.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/second-cancers-in-adults.html
4. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
5. www.cancer.org/treatment/survivorship-during-and-after-treatment/staying-active/nutrition.html

References

Anderson MK, Matey L. Overview of cancer and cancer treatment. In Olsen MM, LeFebvre KB, Brassil KJ, eds. *Chemotherapy and Immunotherapy Guidelines and Recommendations for Practice*. Pittsburgh, PA: Oncology Nursing Society; 2019:25-50.

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