



[cancer.org](https://www.cancer.org) | 1.800.227.2345

Infusion or Immune Reactions

Infusion reactions are symptoms or side effects that can happen if your immune system overreacts to cancer treatment given through an IV (intravenously).

- [What causes infusion reactions?](#)
- [When do infusion reactions happen?](#)
- [What are the symptoms of an infusion reaction?](#)
- [Can infusion reactions be prevented?](#)
- [During the infusion](#)
- [If you have an infusion reaction](#)
- [After an infusion reaction](#)

What causes infusion reactions?

Anyone can develop an infusion reaction to any medicine. But certain types of types of [immunotherapy](#)¹, [targeted drug therapy](#)², or [chemotherapy](#)³ (chemo) are known to cause reactions more often than others. You might also hear your cancer care team call them **hypersensitivity** or **immune reactions**.

If you have had reactions or allergies to other medicines in the past, you are more likely to develop an infusion reaction. They are also more common among women than men.

Certain cancer treatments have a higher risk of causing an infusion reaction, such as:

- Taxane chemotherapy, especially paclitaxel and docetaxel
 - Etoposide chemotherapy
 - Platinum chemotherapy
-

When do infusion reactions happen?

For most medicines, the highest risk for having an infusion reaction is during the first or second dose. However, you can develop a reaction to any medicine during any dose – even if you’ve never had a reaction before.

Most infusion reactions also occur during the first few minutes to hours during an infusion (called an **immediate** reaction). Some people develop reactions days or even weeks after an infusion (called a **delayed** reaction).

Infusion reactions can be **mild** and include itching or flushing that goes away on its own. Some are **moderate** and cause more symptoms that need to be treated with medicines. Reactions can also be **severe** and life-threatening (anaphylaxis).

What are the symptoms of an infusion reaction?

The most common signs and symptoms of an infusion reaction are:

- [Itching](#)⁵
- Redness (flushing) on the face and neck
- Rash or hives
- [Fever or chills](#)⁶
- Back or belly pain
- Muscle or joint pain
- Fast heartbeat
- Shortness of breath or cough
- Chest discomfort
- Nausea, vomiting, or diarrhea
- Dizziness or lightheadedness
- Sudden and unexplainable anxiety

Can infusion reactions be prevented?

If you’re getting a cancer treatment that is more likely to produce an infusion reaction, you might be given medicines called **premedication** or **premeds** before the infusion. The most common types of premeds are:

- Antihistamines such as diphenhydramine (Benadryl) or famotidine (Pepcid)

- Steroids such as prednisone or dexamethasone (Decadron)
- Anti-fever medicines such as acetaminophen (Tylenol)

You might take premeds at home before your infusion appointment, or you might get them at your appointment. Follow whatever directions you are given by your cancer care team.

During the infusion

Some infusions are started at a slower rate to see how you respond to the medicine. If you don't have any signs or symptoms of a reaction, they might increase how fast the infusion goes in (infusion rate).

During the infusion, a nurse will watch you for signs and symptoms of an infusion reaction. They might ask you how you're feeling, or check your temperature, heart rate, and blood pressure. **It's important to tell your nurse immediately if you feel anything unusual, even if you're not sure what it is.**

If you have an infusion reaction

If you have any signs or symptoms of an infusion reaction, your nurse may pause the infusion while they check your breathing, temperature, blood pressure, and/or heart rate.

If your symptoms are severe or don't go away after stopping the infusion, they might give you **hypersensitivity** hypersensiti4ity

It might also be used if someone had signs of anaphylaxis during a past infusion. Some people go through desensitization in the hospital so they can be closely monitored.

If your cancer care team suggests desensitization, ask them about the risks versus benefits of continuing the treatment.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html
3. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
4. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy/monoclonal-antibodies.html
5. www.cancer.org/cancer/managing-cancer/side-effects/hair-skin-nails/itching.html
6. www.cancer.org/cancer/managing-cancer/side-effects/low-blood-counts/fever.html

References

Castells MC, Matulonis UA, & Horton TM. Infusion reactions to systemic chemotherapy. *UpToDate*. UpToDate Inc; 2023. Updated September 2023. Accessed December 11, 2023. <https://www.uptodate.com/contents/infusion-reactions-to-systemic-chemotherapy>

LaCasce AS, Castells MC, Burstein HJ, Meyerhardt JA. Infusion-related reactions to therapeutic monoclonal antibodies used for cancer therapy. *UpToDate*. UpToDate Inc; 2023. Updated June 2023. Accessed December 11, 2023. <https://www.uptodate.com/contents/infusion-related-reactions-to-therapeutic-monoclonal-antibodies-used-for-cancer-therapy>

National Cancer Institute, National Institutes of Health (NIH). Common terminology criteria for adverse events (CTCAE) v4.03

The American Cancer Society medical and editorial content team
(<https://www.cancer.org/cancer/acs-medical-content-and-news-staff.html>)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as editors and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345