

Neutropenia During Chemotherapy

Neutropenia means a low level of neutrophils, the white blood cells that help fight infection. Chemotherapy can lower neutrophils, sometimes during predictable low-count periods in a treatment cycle. Infection can become serious quickly, so cancer teams usually give clear instructions about fever, chills, and other symptoms to report.

This page is for people getting chemotherapy and their caregivers. It explains neutropenia (low neutrophil count), why fever matters, and what to ask your care team.

The short answer

Neutropenia means your neutrophil count is low. Neutrophils are white blood cells that fight infection. Chemotherapy can lower this count. That is why infection precautions and fever instructions are such a big part of many chemo plans. A fever during neutropenia can turn serious fast, so it is handled as a medical emergency rather than something to report and wait on.

Why chemotherapy causes it

Chemotherapy targets fast-growing cells. Cancer cells are the target, but the bone marrow (the soft tissue inside bones) also makes blood cells quickly. That includes neutrophils. Chemotherapy can slow this production down for a while. Your care team checks your blood counts often. This tells them whether your neutrophils are recovering enough to keep treatment on schedule.

Why timing matters

Neutrophil counts do not drop right after a chemotherapy dose. The CDC notes that neutropenia often occurs between 7 and 12 days after chemotherapy, though the exact timing depends on your specific regimen. This lowest point is called the nadir, and it is when infection risk is highest. Counts then recover before the next cycle. Ask your care team when your nadir is expected, so you know which days call for extra caution.

Why fever gets special attention

The CDC says to call your doctor immediately for a temperature of 100.4°F (38°C) or higher during chemotherapy. Ask your team for your own number and use it. When neutrophil counts are low, an infection that a healthy immune system would easily handle can turn serious within hours. Fever is often the first sign, and sometimes the only one, before other symptoms appear.

Signs that cannot wait

A fever at or above the threshold your team gave you (100.4°F / 38°C if they have not given you one), with or without shaking chills, means calling your care team straight away, day or night. CDC treats fever during chemotherapy as a medical emergency. If you cannot reach the team quickly, call 911 or go to the ER. Tell whoever meets you that you are on chemotherapy and may be neutropenic. Do not take fever-reducing medicine (even acetaminophen, ibuprofen or aspirin) unless your team has told you to. It can hide the fever the team needs to know about. Call your care team right away for chills, a new cough or sore throat, diarrhea, pain when urinating, redness and swelling around a port or catheter site, a mouth full of sores, or a white coating on your tongue when your temperature is normal.

What to expect day to day

During your low-count window, your care team may ask you to avoid crowds, people who are sick, and raw or undercooked foods. Good hand-washing and avoiding cuts or scrapes matter more than usual. None of this means you cannot live your life. It means being a little more careful during the days your counts are expected to be lowest.

How this fits into your treatment plan

Some people are given medicine to raise the number of white blood cells, or medicine to help prevent infection while counts are low. These decisions depend on your specific regimen and history, so ask your team what applies to you.

Neutropenia is not the same as infection

Having a low neutrophil count does not mean you have an infection. It means your body has a harder time fighting one off if it starts. Many people go through low-count windows with no problems at all. The reason teams ask you to report fever and other symptoms quickly is not because something is definitely wrong. It is because, during this window, doctors would rather check early than wait and see.

What to ask before your low-count window

- When are my neutrophils expected to be lowest in this cycle?
- Exactly what temperature should make me call, and what number do I use after hours?
- Should I check with you before taking any fever-reducing medicine?
- Is growth factor support part of my plan, and what does it involve?

Sources

- [National Cancer Institute — Infection and Neutropenia During Cancer Treatment](https://www.cancer.gov/about-cancer/treatment/side-effects/infection) (cancer.gov/about-cancer/treatment/side-effects/infection)

- [CDC — Neutropenia and Cancer Treatment](https://www.cdc.gov/cancer-preventing-infections/patients/neutropenia.html) (cdc.gov/cancer-preventing-infections/patients/neutropenia.html)
- [CDC — Fever and Cancer Treatment](https://www.cdc.gov/cancer-preventing-infections/patients/fever.html) (cdc.gov/cancer-preventing-infections/patients/fever.html), accessed August 13, 2026

Source: National Cancer Institute - Infection and Neutropenia (cancer.gov/about-cancer/treatment/side-effects/infection)

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