

Be aware during chemotherapy

Certain blood cell counts may become low

Which can cause serious side effects

Types of low blood cell counts and why they happen

Chemotherapy kills cancer cells. It can also kill healthy cells that grow fast, like the major types of blood cells that come from your bone marrow. A lower-than-normal number of blood cells is a side effect that can happen with chemotherapy. When this occurs, it can be serious to your health.¹⁻³

Neutropenia

pronounced noo-troh-PEE-nee-uh

When the number of white blood cells in your body is too low, this condition is called neutropenia. White blood cells help protect your body from infection.

Neutropenia puts you at risk for serious infection after chemotherapy.¹



Anemia

pronounced uh-NEE-mee-uh

When the number of red blood cells in your body is too low, this condition is called anemia. Red blood cells carry oxygen to all the cells in your body.

Anemia can happen for many reasons, including chemotherapy.²



Thrombocytopenia

pronounced throm-boh-sigh-toh-PEE-nee-uh

When the number of platelet cells in your body is too low, this condition is called thrombocytopenia. A platelet is a type of blood cell that helps your blood clot and helps control bleeding. Low platelet count can be due to several reasons, including chemotherapy.³



How do I know?

When **neutropenia** occurs, you may not know you have it. Your care team will draw blood for a test called a *complete blood count*. That test will show if you have neutropenia. A sudden fever might mean that you have an infection related to neutropenia.^{4,6}

Mild **anemia** is often not noticeable to patients. But if your red blood cell count becomes too low, you may notice symptoms. Your care team will do a complete blood count test to confirm anemia.^{2,5}

Thrombocytopenia may cause unusual bleeding. Your care team uses a complete blood count test to tell if you have a low platelet count.^{3,5}

Why do these matter?

An infection due to **neutropenia** can get serious very quickly. Because of this, it should be treated as an emergency. Having neutropenia may result in a delay in your cancer treatment or a drop in your chemotherapy dose.^{1,6}

Anemia can make you feel very tired, weak, or dizzy. It can make breathing harder. If it is severe, lack of oxygen due to anemia can be an emergency. It may cause a delay in your cancer treatment or a drop in your chemotherapy dose.²

A low platelet count during **thrombocytopenia** puts you at higher risk for bleeding. When this happens, your doctor may delay your cancer treatment or reduce your chemotherapy dose.³

Help prevent infection during chemotherapy^{4,6}



Wash hands or use hand sanitizer often



Ask family and friends to maintain social distance when they are sick or unwell



Ask your care team when you should get recommended vaccines



Ask your caregiver to get recommended vaccines



Take a daily shower or bath



Use unscented body lotion to prevent dry or cracked skin

Symptoms to watch for



Neutropenia^{4,6-8}

Fever can be the only symptom of neutropenia.

- If you feel warm, cold, or sick, take your temperature every 2 to 3 hours and write it down
- Call your care team right away if you have a fever of 100.4 degrees or higher for an hour, or a one-time temperature of 101 degrees or higher—even after hours. **Do not wait.** They will know if your fever is an emergency or not
- You may be at more risk of neutropenia several days after chemotherapy. Ask your care team which days are most risky



Anemia^{3,9}

Feeling very tired or weak are common symptoms of anemia. You may also feel dizzy, faint, or have headaches. If you agree with some, or all, of these statements, you might have anemia:

- I have trouble starting things because I am tired
- I must limit social activity because I am tired
- I feel weak all over

If you have any of these symptoms, tell your care team.



Thrombocytopenia³

Symptoms may include:

- Bleeding from the mouth, nose, or rectum
- New, unexplained bruises or a rash of reddish-purple spots that start on the feet or legs

If you have any of these symptoms, tell your care team.

When you have symptoms

In an emergency

Write care team emergency phone numbers here:

Care team daytime number

Care team after hours number

Consider adding these numbers to your phone's contact list

Call your care team right away (even after hours) or go to the emergency room if you have any of these symptoms of neutropenia, anemia, or thrombocytopenia¹⁻⁴:

- ✓ Fever of 100.4 degrees or higher for an hour, or a one-time temperature of 101 degrees or higher, or chills and sweats
- ✓ Chest pain or shortness of breath
- ✓ Feel dizzy, faint, or confused
- ✓ Blood in stool, vomit, urine, or bleeding that won't stop

Important: At the emergency room, tell the person checking you in that you have cancer and that you are taking chemotherapy.

References: **1.** American Cancer Society. Low white blood cell counts (neutropenia). <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/neutropenia.html>. Accessed June 14, 2022. **2.** American Cancer Society. Low red blood cell counts (anemia). <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/anemia.html>. Accessed June 14, 2022. **3.** American Cancer Society. Low platelet count (bleeding). <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/bleeding.html>. Accessed June 14, 2022. **4.** National Center for Chronic Disease Prevention and Health Promotion. Neutropenia and risk for infection. <https://www.cdc.gov/cancer/preventinfections/pdf/neutropenia.pdf>. Accessed June 14, 2022. **5.** American Cancer Society. Understanding your lab test results. <https://www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-lab-test-results.html>. Accessed June 14, 2022. **6.** Centers for Disease Control and Prevention. Top 5 things to know about neutropenia. https://www.preventcancerinfections.org/sites/default/files/14_250329-Patient-Infographic-15_508_FINAL_2.jpg. Accessed June 14, 2022. **7.** Centers for Disease Control and Prevention. A chemo side effect you should know about: neutropenia. https://www.preventcancerinfections.org/sites/default/files/14_250329-C-Caregiver-Targeted-Preventing-Infections_in-Cancer_Patients_14_508_FINAL_002_1.pdf. Accessed June 14, 2022. **8.** Centers for Disease Control and Prevention. 3 steps toward preventing infections during chemotherapy. https://www.preventcancerinfections.org/sites/default/files/CDC_3StepsFactSheet_508Compliant.pdf. Accessed June 14, 2022. **9.** Cella D, Viswanathan HN, Hays RD, et al. Development of a fatigue and functional impact scale in anemic cancer patients receiving chemotherapy. *Cancer*. 2008;113(6):1480-1488.