

## Neutropenia

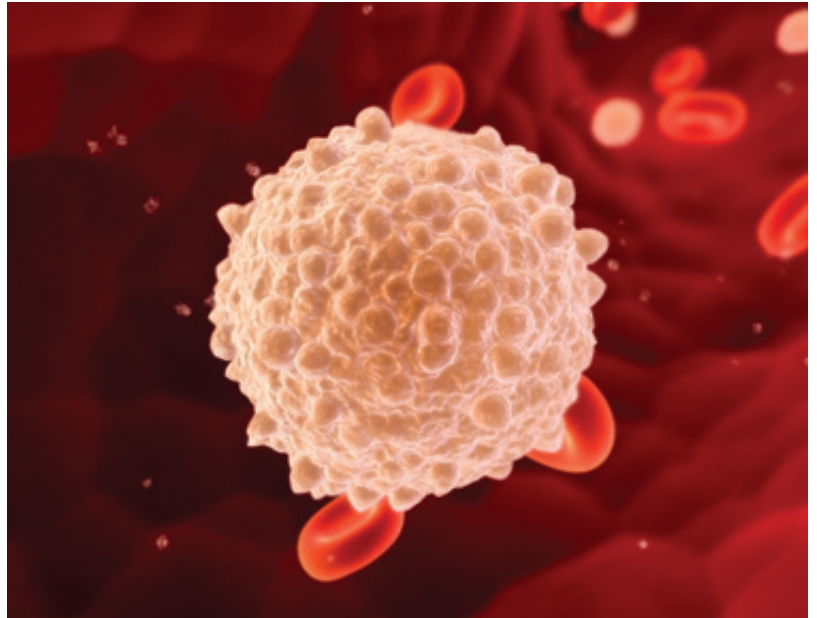
### What is neutropenia?

Neutropenia is a low level of neutrophils, a type of white blood cell. Neutrophils are made in the bone marrow and circulate through the bloodstream to help the body fight infection. People who have neutropenia have a higher risk of developing serious infections.

Some level of neutropenia occurs in about half of people who receive chemotherapy. It is a common side effect in people with leukemia.

### What are the symptoms of neutropenia?

Neutropenia itself may not cause any symptoms. People usually find out they have neutropenia from a blood test or when an infection develops. Even a minor infection can quickly become serious in people with neutropenia. Talk with your doctor immediately if you experience signs of infection, which may include fever, chills or sweating, pain, coughing, trouble breathing, swelling, a burning sensation, or redness.



### What causes neutropenia?

Some types of chemotherapy can damage the bone marrow, reducing the production of neutrophils. Radiation therapy can also affect the bone marrow, especially when it is directed at several areas of the body or at the bones in the pelvis, spine, chest, or abdomen. In addition, cancers that affect the bone marrow directly can crowd out healthy bone marrow cells. People with cancer who are age 70 or older or people with a weakened immune system are at higher risk for neutropenia. Those with severe or long-lasting neutropenia are more likely to develop an infection.

### How is neutropenia diagnosed?

Neutropenia is diagnosed with a blood test. People with specific types of cancer or those who are having cancer treatment known to cause neutropenia may receive regular blood tests to look for it and other blood-related complications. Sometimes other tests may be required to identify the specific cause of neutropenia.

### What are the treatment options for neutropenia?

If you are receiving chemotherapy and you develop neutropenia or your neutrophil level does not return to normal quickly enough, your doctor may delay the next round of chemotherapy or recommend a lower dose of chemotherapy. During long periods of neutropenia, your doctor may prescribe antibiotics to try to prevent infections from occurring.

If chemotherapy causes neutropenia with a fever, your doctor may prescribe medications called white blood cell growth factors during your remaining cycles of chemotherapy. They help the body make more white blood cells but can also cause side effects. These drugs are not needed for most people receiving chemotherapy, but are recommended if the doctor feels the risk of severe neutropenia and infection is very high.

## Questions to ask the doctor

Regular communication is important for making informed decisions about your health care. Consider asking the following questions of your health care team:

- Does my cancer or cancer treatment put me at risk for developing neutropenia?
- Will you test my blood to look for signs of neutropenia? If so, when and how often?
- Would you explain my laboratory test results?
- What is causing my neutropenia?
- What are my treatment options?
- What are the risks and benefits of each treatment?
- Will growth factors help in my situation?
- Would you recommend switching to a lower dose of chemotherapy or waiting longer between chemotherapy cycles?
- Would you recommend antibiotics to prevent or treat infection?
- Are there any other steps that I can take to prevent complications from neutropenia?
- Whom should I call if I have questions or problems?
- Is there anything else I should be asking?

Find additional information about neutropenia and other side effects at [www.cancer.net/sideeffects](http://www.cancer.net/sideeffects).

---

The ideas and opinions expressed here do not necessarily reflect the opinions of the American Society of Clinical Oncology (ASCO) or The Conquer Cancer Foundation. The information in this fact sheet is not intended as medical or legal advice, or as a substitute for consultation with a physician or other licensed health care provider. Patients with health care-related questions should call or see their physician or other health care provider promptly and should not disregard professional medical advice, or delay seeking it, because of information encountered here. The mention of any product, service, or treatment in this fact sheet should not be construed as an ASCO endorsement. ASCO is not responsible for any injury or damage to persons or property arising out of or related to any use of ASCO's patient education materials, or to any errors or omissions.

To order more printed copies, please call 888-273-3508 or visit [www.cancer.net/estore](http://www.cancer.net/estore).



### AMERICAN SOCIETY OF CLINICAL ONCOLOGY

2318 Mill Road, Suite 800, Alexandria, VA 22314 | Toll Free: 888-651-3038 | Phone: 571-483-1300

[www.asco.org](http://www.asco.org) | [www.cancer.net](http://www.cancer.net) | [www.conquercancerfoundation.org](http://www.conquercancerfoundation.org)

© 2015 American Society of Clinical Oncology. For permissions information, contact [permissions@asco.org](mailto:permissions@asco.org).

## TERMS TO KNOW

### Antibiotics:

Medications used to treat infections caused by bacteria

### Bacteria:

Microscopic, single-celled organisms, some of which may cause infection

### Bone marrow:

Soft, spongy tissue found inside larger bones

### Chemotherapy:

The use of drugs to destroy cancer cells

### Complete blood count:

Blood test that evaluates the number of white blood cells, red blood cells, and platelets

### Nadir:

Low point, often used in reference to blood cell counts

### Parasitic fungi:

Organisms that feed on other living organisms, some of which may cause infection

### Pathologist:

A doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease

### Phlebotomist:

A technician who collects blood samples for evaluation in a laboratory

### Radiation therapy:

The use of high-energy x-rays or other particles to destroy cancer cells

### Symptom management:

The relief of side effects, also called palliative or supportive care

MADE AVAILABLE THROUGH

