

WHAT YOU SHOULD KNOW ABOUT
low blood counts.



UNIVERSITY OF
PENNSYLVANIA
Abramson Cancer Center

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INTRODUCTION

Overview

It is important for you to be aware that cancer, and some treatments for cancer, may affect your blood counts. Radiation therapy and chemotherapy treatments, for example, attack rapidly dividing cancer cells. In the process, these treatments may also affect important cells, such as those in the bone marrow, where blood cells are made. By understanding the signs and symptoms of low blood counts, you can help prevent or minimize any related medical problems.

This booklet explains low blood counts and describes their warning signs. Please share this information with people who are close to you. The more they know, the better they will be able to understand how you're feeling and what they can do to help.

Be sure to contact your doctor or nurse whenever you have additional questions.

Types of blood cells and related disorders

There are three kinds of blood cells:

- White blood cells (WBCs) help you fight infection.
- Platelets help your blood clot.
- Red blood cells (RBCs) carry oxygen throughout your body.

Each type of blood cell has a special function. Normal levels of these cells are needed to help you stay well. When your blood counts are low, you may be at risk for infection, bleeding or anemia. This is why you need to have your blood counts measured frequently while you are receiving treatment.

A low level of WBCs is called neutropenia. A low level of platelets is called thrombocytopenia. A low level of RBCs is called anemia.

If your blood counts are low, please discuss treatment options with your doctor. They will come back up on their own. However, there are things you can look for to avoid problems. This guide will tell you some of the common signs and symptoms of low blood counts. If at any time you have a question about any symptoms you are experiencing, do not hesitate to call your doctor or nurse. They are there to help you in any way they can.

NEUTROPENIA: LOW WHITE BLOOD CELLS (WBC)

There are several kinds of WBCs in your blood. Each acts in a different way to defend your body against infection. Neutrophils, for example, are a kind of white blood cell needed to fight infection. The word neutropenia means a decrease in the number of neutrophils in your blood. Sometimes cancer, or treatments you receive for cancer, may cause your level of neutrophils to drop. This is known as being “neutropenic,” which puts you at risk for developing an infection.

What should I look for?

When you are neutropenic, your body cannot fight infection as well as it should. Any infection you get could become serious if not treated right away. The following are common signs and symptoms of infection. If you notice any of these symptoms, call your doctor or nurse immediately.

- Fever of 100.5° F or greater.
- Chills or sweats.
- Cough, increased mucous production, shortness of breath or painful breathing.
- Soreness or swelling in your mouth.
- Ulcers or white patches in your mouth.

- Pain, burning, urgency, or frequent urination.
- Foul smelling urine.
- Redness, pain or swelling of any area of skin.
- Redness, pain, swelling or drainage from any tubes or catheters you may have.
- Drainage from any open cut or sore.
- Rectal pain.

What should I do?

There are several things you can do to prevent serious problems when you are at risk for neutropenia. For example:

- Immediately report any temperature of 100.5° F or greater to your doctor. During regular business hours, call your doctor's office. On nights, weekends and holidays, call the hospital operator at 215-662-4000 and ask for the medical oncologist on-call.
- Wash hands frequently and thoroughly.
- Do not do anything that could lead to a cut or a break in your skin, since this could increase your chance of getting an infection. Protect your skin by doing the following:
 - Do not visit the podiatrist or cut ingrown toenails without getting permission from your doctor.
 - Use an electric razor.
 - Use a stool softener if necessary to prevent constipation.
 - Do not use rectal suppositories.
 - Do not empty cat litter boxes.
 - Wear gloves when gardening.
 - Wear shoes or slippers at all times.
 - Do not wear shoes that are too tight.

- For mouth care:
 - Use a soft toothbrush and keep your lips moist to prevent cracking. Your nurse can recommend products that will keep your lips moist. Use a mouthwash without alcohol or 1 teaspoon baking soda and 1 teaspoon salt in 2 cups water. Swish the solution in your mouth for 1-2 minutes and spit out.
 - Check with your doctor before you go to the dentist's office. And be sure to tell the dentist that you are receiving chemotherapy.
 - Talk to your doctor or nurse about using dental floss.
- Keep any open cuts, clean with soap and water. Ask your nurse or doctor if you should use an antiseptic on any open sore.
- Maintain good hygiene; take a bath or shower every day to keep your skin clean.
- Check with your doctor or nurse about using tampons or douches.
- Check with your doctor or nurse about sexual intercourse.

Can neutropenia be prevented?

In some situations neutropenia can be prevented by receiving an injection that will help to increase your white blood cells. Your doctor may order this medication if you:

- Are elderly.
- Have had neutropenia in the past.
- Have had chemotherapy or radiation therapy in the past.
- Are receiving a chemotherapy that is particularly known to decrease white blood cells.

What happens if I get a fever when my counts are low?

When your blood counts are low, you may develop a fever even though you have been very careful. This is known as a neutropenic fever. If this happens, you may need to come to the hospital to prevent serious problems.

If you get a fever of 100.5° F or greater, call your doctor immediately. On nights, weekends and holidays, call the hospital operator at 215-662-4000 and ask for the medical oncologist on-call.

What can I expect if I am hospitalized for a fever?

If you are admitted to the hospital with a neutropenic fever, you will be given antibiotics to treat any possible infection. A sign may be placed on your door that reads “Neutropenic Precautions.” This means the following precautions should be exercised:

- Everyone taking care of you must wash their hands before entering the room.
- Visitors or staff, who have a cold, may not enter your room or care for you.
- You may be asked to wear a mask when you leave your room in order to protect you from anyone you come in contact with outside your room.
- You will be put in a private room or in a room with someone who does not have an infection.
- You should not have live plants, flowers, or fresh fruits or vegetables in your room because they may carry bacteria.
- You will not be given any rectal suppositories or enemas.
- You will not have your temperature taken rectally.

These guidelines are to support and protect you while your blood counts are low. Once your blood counts return to a safe range, you should be able to go home.

THROMBOCYTOPENIA: LOW PLATELETS

Platelets are the cells that help your blood to clot when you are bleeding. A decrease in the number of platelets is called thrombocytopenia. When you have a low platelet count, you are at risk for bleeding.

What should I look for?

The following are common symptoms of a low platelet count. If you have any of these signs, call your doctor's office.

- Excessive bruising of your skin.
- Tiny, pinpoint red spots on your skin (called petechia).
- Bleeding gums.
- Nosebleeds that will not stop.
- Excessive bleeding from a small cut, or bleeding that won't stop even after pressure has been applied.
- Dark urine or blood in the urine.
- Blood in your stool or from your rectum when you have a bowel movement; black-colored stools.
- Menstrual bleeding that is heavier than usual, lasts longer than usual or occurs between periods.

What should I do?

If your platelets are low, or if you are at risk for low platelets, you should do the following:

- Call your doctor if there are any signs of bleeding.
- Apply firm pressure for 5 minutes to any area where bleeding occurs. If bleeding does not stop after 5 minutes, continue to apply pressure and call your doctor.
- Blow your nose gently.

- If you have a nosebleed, apply pressure with your fingers below the bridge of your nose until the bleeding stops. Keep your head raised.
- Check your skin every day for excessive bruising or tiny red spots. Report any signs of this to your nurse or doctor.
- Inspect your mouth every day for ulcers, white patches, or changes in the color of your gums.
- For mouth care:
 - Use a soft toothbrush and keep your lips moist to prevent cracking, which may lead to bleeding. Your nurse can recommend products that will keep your lips moist. Use a mouthwash without alcohol or 1 teaspoon baking soda and 1 teaspoon salt in 2 cups water. Swish the solution in your mouth for 1-2 minutes and spit out.
 - Consult with your doctor or nurse about having surgery or dental work. And be sure to tell the dentist that you are receiving chemotherapy.
 - Talk to your doctor or nurse about using dental floss, if your platelets are very low they will recommend not to floss. If you can floss, do so 4 times daily when you brush your teeth.
- Take sips of water or juice frequently if your tongue and gums feel dry.
- Drink plenty of fluids to prevent constipation. If you have problems with constipation, ask your doctor for a stool softener.
- Use an electric razor for shaving.
- Wear shoes or slippers to protect your feet at all times. Wear loose fitting clothes.
- Check with your doctor or nurse about:
 - Rectal suppositories
 - Tampons or douches
 - Sexual intercourse

- Use a water-based lubricant before sexual intercourse.
- Check with your doctor or nurse about taking blood thinners, aspirin, products containing aspirin, or aspirin-like products such as Motrin®, Aleve®, or Advil®.

What happens if my platelets are too low?

Your doctor will check your platelet count frequently. If your platelets are too low, you may need to receive a platelet transfusion. This will lower your risk of bleeding.

ANEMIA: LOW RED BLOOD CELLS (RBC)

Anemia refers to a decrease in the number of RBCs. You may notice that the doctor refers to the “hemoglobin level” when talking about your blood counts. Hemoglobin is the part of the RBCs that carries oxygen throughout the body. When your hemoglobin is low you may not be able to perform your everyday activities.

What should I look for?

The following list includes signs and symptoms you may have if you are anemic. Call your doctor or nurse if you have any of these symptoms:

- Weakness or fatigue
- Dizziness
- Headache
- Shortness of breath
- A faster heart beat or chest pain
- Irritability
- A heavy feeling in your upper legs
- Ringing in the ears

What should I do?

Follow these suggestions:

- Get plenty of sleep.
- Change positions slowly.
- Prioritize activities and delegate responsibilities.
- Take rest periods during activities that make you feel tired.
- Ask for and accept help from others.
- Drink plenty of fluids.
- Eat well-balanced meals.

Can anemia be prevented?

In some situations anemia can be prevented by receiving an injection that will help to increase your red blood cells. Your doctor may order this medication if you:

- Have a low hemoglobin.
- Have had anemia in the past.
- Are elderly.
- Have had chemotherapy or radiation therapy in the past.
- Are receiving a chemotherapy that is particularly known to decrease hemoglobin.

In severe cases of anemia, you may need a blood transfusion. Your doctor's office will handle the arrangements for you.

ABOUT THE ABRAMSON CANCER CENTER OF THE UNIVERSITY OF PENNSYLVANIA

The Abramson Cancer Center is one of a select group of cancer centers in the country awarded the prestigious designation of Comprehensive Cancer Center by the National Cancer Institute. This reflects our outstanding research, clinical services, education and information services and community outreach. Penn's Cancer Center is dedicated to developing more effective treatments for all types of cancer and to forging scientific discoveries that will lead to new understandings about the underlying causes of this disease. Our 300 physicians and scientists, all of whom are dedicated to the increasing knowledge concerning preventing and curing cancer. Penn's Cancer Center offers multidisciplinary evaluation, so patients can receive diagnosis and treatment options quickly and easily, as well as comprehensive treatment services for all types of cancer.

Visit www.pennhealth.com/cancer/penn.

ONCOLINK®

OncoLink is the Abramson Cancer Center's award-winning Internet resource. It contains information about all aspects of cancer, the latest treatments, research advances, support services and related issues, including fatigue management. Through OncoLink, you can access information from the Abramson Cancer Center, the National Cancer Institute and other sources. Visit www.oncolink.org.

INFORMATION AND REFERRAL

The Abramson Cancer Center provides the latest information about cancer - quickly and easily - through a single phone call. Call to ask questions about cancer, request free brochures, learn more about our Cancer Center, or schedule an appointment. Call 1-800-789-PENN (7366), Monday through Friday, 8:30 am to 5 pm.

FOR MORE INFORMATION

This booklet was designed to give you a basic understanding of low blood counts and the signs and symptoms you need to know about. Whenever you have questions about your cancer treatment or any symptoms you are experiencing, please talk to your doctor or nurse.



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