



Blood Counts

A blood count is a test that gives information about the 3 main types of cells in the blood. This test is also called a CBC or complete blood count. Many of the chemotherapy drugs temporarily stop cells from dividing, especially the cells that divide quickly. This can lead to low blood counts (myelosuppression, pancytopenia) which can cause a variety of symptoms. The symptoms depend on the type of blood cell that is low.

There are three main cell types that we monitor in the CBC during chemotherapy, red blood cells, white blood cells and platelets.

Anemia

Includes low red blood cells, hemoglobin and hematocrit. Normal ranges vary from laboratory to laboratory. There are prescription medications to manage anemia not caused by chemotherapy, if appropriate.

For anemia involving a hemoglobin 8.0 or below, a red blood cell transfusion may be ordered.

Symptoms of anemia can include:

- Fatigue
- Weakness
- Shortness of breath
- Increase in your heart rate
- Dizziness or lightheadedness when you change positions
- Headaches
- Pale skin
- Chest pain (if severe)

Things you can do while anemic:

- Rest between activities
- Avoid or stop activities that make you short of breath or make your heart beat faster
- Eat a diet with adequate protein and vitamins (including B12 and folate)
- Drink plenty of fluids (non-alcoholic, non-caffeinated)

Low White Blood Cell Count

Includes low WBC, leukopenia, neutropenia or granulocytopenia. When your white blood cells are low you may be more susceptible to viral and bacterial infections. The level of risk involves how low the count falls, how long the count is low and which type of cell white blood cell is low.

The primary way we measure risk of infection during chemotherapy is the absolute neutrophil count (ANC). This is calculated and frequently reported on a differential as ANC, GRAN# or AGC depending on the lab.

If your treatment is known to cause decreases in white blood cell count, you will be required to obtain a blood test within 24-48 hours prior to every treatment.

Risk of infection based on ANC (May appear on our reports as "GRAN#"):

ANC greater than 1500	No increased risk of infection
ANC 1000-1500	Slight increase in risk of infection
ANC 500-999	Moderate increase in risk of infection
ANC 100-499	High risk of infection
ANC less than 100	Extremely high risk of infection

Measures to take when your risk of infection is increased:

Wash hands frequently with soap and water or hand sanitizer including every time before you touch your food or your face.

Avoid contact with people who are obviously ill.

Avoid dental work while your white blood cell count is low

Influenza vaccine is recommended annually before the flu season

Pneumococcal vaccine is recommended for all patients

If you have NOT had the chicken pox, discuss the value of varicella vaccine with your physician.

Babies or children living in the home should be vaccinated with inactivated polio rather than the oral live virus vaccine. Consult the child's pediatrician.

If your ANC is 500 or below you may need to take additional protective measures including:

Avoid eating food that you can not cook or clean properly or control the preparation of it.

Do not handle pet feces without gloves and a mask

Do not garden without gloves and a mask

Shop as less crowded times

**If your white blood cells are expected to reach consistently low or very low levels you may be prescribed medication to help you recover faster. These include Neulasta (Peg-filgrastim) and Neupogen (Filgrastim). You may also be prescribed antibiotics or antifungal medication to prevent infection while your counts are low.

Low Platelets

Platelets help blood to clot. Platelets are found in the bloodstream and also line the walls of blood vessels. When platelet counts are low, this layer thins and tiny drops of blood can leak through to the skin causing tiny red dots called petechiae. If your platelet counts are low you may be at risk for bruising or bleeding.

Risk of bleeding is based on the platelet count:

100,000-149,000	Little to no risk of bleeding
50,000-99,000	Increased risk of bleeding with injury
20,000-49,000	Risk of bleeding increased without injury
10,000-19,000	Risk of bleeding greatly increased
Less than 10,000	Spontaneous bleeding likely

**If your platelet count is below 10,000 you may be offered a platelet transfusion.

Measures to take when your risk of bleeding is increased:

Do not take medicines that interfere with platelets being able to form a clot such as Aspirin, Ibuprofen (Advil, Motrin) and Naproxen (Aleve).

Do not use rectal suppositories or take your temperature rectally.

Use caution or avoid flossing your teeth.

Use a very soft bristle toothbrush.

If your gums bleed, rinse with cold water.

Avoid activities that increase your risk of bleeding including contact sports, amusement park rides that involve fast or quick motion and strenuous exercise.

Avoid or limit use of sharp objects such as knives or razors.

Hold pressure on any cut or scrapes for at least 5 minutes.

When to seek help:

Call 911 or go to Emergency room for chest pain or sudden shortness of breath

Call the doctor:

If you get increasingly winded with activity

Severe weakness

Temperature 100.4 F or higher

Chills or shakes

Any sign of infection including redness or swelling in soft tissue, burning or pain with urination or urinating more frequently

Bleeding that does not stop after 5 minutes

Bleeding that occurs without injury

New or unexplained pain

If you experience a fall, trauma or injury

Have difficulty seeing or double vision