

Preparing for transfusion therapy

Each year, over 4 million Americans get blood transfusions. Transfusions are needed for patients having surgery, or for those being treated for blood disorders, cancer, and leukemia. Clinical Center patients need about 5,000 units of red blood cells and 3,000 transfusions of platelets every year.

Will I need a transfusion while I am at the Clinical Center?

During your treatment here, you may need a transfusion of blood or blood components. The most common blood components you might need include the following:

Red blood cells

Red blood cells carry oxygen to and from tissues and organs. Transfusions of red blood cells help patients with sickle cell disease, thalassemia, aplastic anemia, leukemia, or cancer. Red blood cells may also be needed during and after surgery.

Platelets

Platelets help blood clot. Platelet transfusions control bleeding in patients with leukemia and cancer. They also help patients after surgery.

Plasma

Plasma helps blood clot in patients having surgery, and in those with cancer or immune disorders.

What is blood?

Blood is a living tissue composed of two parts: liquid and solid. The liquid part, called plasma, is made of water, salts, and proteins. Your blood is about 55 percent plasma. The rest of your blood contains cells such as red blood cells, white blood cells, and platelets.

Hemoglobin

Hemoglobin makes blood look red. It is a protein in red blood cells that carries oxygen from the lungs to the body, and brings the waste product, carbon dioxide, back to the lungs to be exhaled.

Hematocrit

Your hematocrit is the percentage of red blood cells in relation to how much blood you have. A low hematocrit may mean that you have anemia.

Blood group

Red blood cells are covered by proteins that make up a person's blood group. The four major blood groups are O, A, B, and AB. About 85 percent of the people in the United States have a substance on their red blood cells called the "Rh factor." These people are "Rh positive." The remaining 15 percent of Americans are called "Rh negative" because they do not have the Rh factor. This is why a person's blood may be referred to as "A positive" (group A, Rh positive) or "O negative" (group O, Rh negative).

Are transfusions safe?

A common concern for patients is the risk of contracting AIDS or hepatitis after a transfusion. Blood collecting agencies make every effort to assure that the blood or components they get are safe and effective. Donors are asked to provide a detailed medical history before they donate, and their blood is thoroughly tested to make sure it is free from disease or infection.

What happens when I need a transfusion?

If you need a transfusion, your doctor or nurse will explain why this procedure is necessary and what blood or blood components you will get.

Preparation

Cross-matching

Before your transfusion, your blood will be drawn for cross-matching. During cross-matching, a sample of your blood is mixed with a sample from a blood donor. If the blood cells do not clump together, your blood is compatible, and the transfusion can be given.

Typenex bracelet

When your blood is drawn for cross-matching, a special red Typenex bracelet will be placed on your wrist. This bracelet will be checked by your nurse before your transfusion begins. Please do not remove the bracelet until after your transfusion.

Informed consent

Before you get your transfusion, you will be asked to read and sign an Informed Consent for Transfusion of Blood or Blood Components. (If an emergency arises and you have not had the chance to sign this form, you will still get the blood you need.) This form explains why the transfusion is needed, as well as risks, benefits, and choices about where the blood or blood components come from.

For example, some patients prefer to be given their own blood (autologous donation). Autologous blood is donated by a patient who qualifies to donate before a planned procedure. You can donate blood weeks before your surgery, either at NIH or at your local hospital. If you choose not to donate blood at NIH, your blood will be shipped in time for your surgery. Others wish to be given a transfusion from someone of their choosing (directed donation). Many patients choose directed donation, but there is no evidence that it is safer than getting blood from a volunteer community donor.

Procedure

- ▶ The transfusion will be given either in your room or in the outpatient clinic. Before you get your transfusion, two nurses will confirm that the blood you will receive was tested and prepared for you. They will verify ABO and Rh compatibility, your name, hospital ID number, and the number on your red bracelet. Then, a needle will be placed in your arm, or you will receive the transfusion through your central venous line, if you have one.
- ▶ Your vital signs (pulse, respiration, temperature) will be taken before, during, and after the transfusion. If you have had transfusion reactions, you may be given medication (Tylenol and Benadryl) 30 minutes before your transfusion.
- ▶ Unless you are on a special diet, you may eat or drink what you like during

the transfusion. You may also get up and move around. Just make sure to keep your movements slow and easy so that the needle and tubing do not come loose.

- ▶ If you feel any discomfort from the needle, please let your nurse know right away. Transfusing one unit of red blood cells takes about 1 1/2 to 2 hours, but other blood components, such as platelets, take less time to give. Often, electronic pumps are used to regulate the speed of a transfusion.

Reactions to the transfusion

During, or right after the transfusion, some patients have a “transfusion reaction.” Symptoms are usually mild and include hives, itching, rashes, fever, chills, muscle aches, back pain, chest pain, headache, and heat where you got the transfusion or along the vein. If you have these symptoms, or feel anything unusual, tell your nurse immediately. If you have had a transfusion reaction in the past, please let your doctor or nurse know before you get a transfusion.

After the procedure

After the transfusion, you may do your normal activities. Though it is uncommon, delayed transfusion reactions can occur days or weeks after the procedure. Symptoms of a delayed transfusion reaction are fever, muscle aches, and dark urine. If you think you are having a delayed reaction to your transfusion, notify a member of your health care team right away:

Name:

Telephone:

A special note to relatives and friends of patients

If you are at least 17 years old and in good health, you can be a blood donor. If you would like to donate blood for Clinical Center patients, contact:

National Institutes of Health, PHS, DHHS,
Clinical Center Blood Bank,
10 Center Drive Room 1C711 MSC1184,
Bethesda, MD 20892-1184.
Phone: 301-496-1048

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Questions about the Clinical Center?
<http://www.cc.nih.gov/comments.shtml>
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