

Blood is living tissue made up of many parts called components. Blood is perishable and only lasts 42 days. Platelets last only 5 days. Thus, a constant supply of blood donors is necessary to maintain the delicate balance.

Whole blood can be separated into five parts:

- red blood cells
- white blood cells
- plasma
- platelets
- cryoprecipitate.

It is rare for one unit of blood from an individual to be transfused as whole blood. Rather, the unit of blood is separated into its various components, enabling it to help several patients. Here's what the different parts of the blood do:

- Red blood cells help transport oxygen throughout the body.
- White blood cells help fight off disease and infection.
- Plasma is a pale yellow mixture of water, proteins and salts used to expand the volume of blood within the body.
- Platelets, essential to clotting, are used for the treatment of cancer and leukemia patients as well as surgery patients.
- Cryoprecipitate is a concentrated plasma component which contains certain clotting proteins. It's used to treat patients with bleeding disorders and is sometimes used to make a surgical glue.

### **More specific examples include:**

Cancer patients undergoing chemotherapy treatments may be given platelets. A transfusion of platelets replaces those damaged or destroyed by the chemotherapy.

An open heart surgery patient might receive platelets, as well as red blood cells, to replace blood lost during surgery and to help transport oxygen through the body.

Plasma is used to help stop bleeding and to restore fluid loss from burns.

White blood cells are effective in helping the body fight infection and disease.

## Blood Banking

There are 4 main blood types: A, B, AB and O. Type O negative is the **universal red cell donor**, and this person's blood can transfused into a recipient with any blood type. Type AB is the **universal plasma and platelet donor**; this person can receive blood from any other blood type. O positive is the **most commonly used blood type**.

## Donating is Easy

Donating blood is a simple process that takes less than an hour. Anyone who is in good health, at least 16 years old, and weighs at least 110 pounds may donate blood. Blood donations can be given every 56 days or every two months. **Platelets can be given every two weeks, up to 24 times per year and donors may still give single red cells every 56 days.** There is no upper age limit, and most people who take medications are eligible to donate, including those with diabetic conditions.

To donate, there are three easy steps performed at the donation location:

1. A short health history and physical examination. The physical exam includes checking pulse, temperature, cholesterol check, blood pressure and hemoglobin.
2. The blood donation. The actual blood draw takes about seven minutes while the donor relaxes comfortably. Most donors find the procedure painless and easy.
3. After donating blood, donors rest for a few minutes and also enjoy refreshments to help replenish fluids and energy.

## Lifecycle of Blood Donation

- Collect
- Test
- Manufacture
- Match
- Transfuse