

TRANSFUSION SERVICES

Over 5 million Americans receive transfusions each year. Blood is used to save lives of patients undergoing surgery or other medical treatment, for accident victims, and for patients with cancer, hemophilia and other serious diseases.

Blood products include red blood cells, plasma, platelets, cryoprecipitate, white blood cells, Rh immune globulin (RhoGam), IVIG, albumin, and factor concentrates.

- ❑ Red blood cells are given to support oxygen levels
- ❑ Platelets are needed for some bleeding problems
- ❑ Frozen plasma (thawed) and/or concentrated forms of plasma (cryoprecipitate and factor concentrates) are needed for some bleeding problems
- ❑ White blood cells are given only in special circumstances
- ❑ Rh Immune Globulin (RhoGam) is given to pregnant Rh negative females to prevent Rh (D) antibody production thus preventing Hemolytic Disease of the Newborn (HDN)
- ❑ IVIG (intravenous immune globulin) for treatment of certain diseases (dispensed by pharmacies)
- ❑ Albumin is used for volume expansion and in the treatment of burn victims (dispensed by pharmacies)

Benefits of Transfusion

Benefits are very individualized and may include:

- ❑ Increasing amounts of oxygen circulating in the blood to support bodily functions
- ❑ Replacing factors or cell products in blood that help stop bleeding
- ❑ Replacing blood that may be lost due to bleeding, surgery, or a treatment procedure which may cause one's blood cells to be lower for a period of time
- ❑ Other reasons that one's doctor can explain

Risks of Receiving Blood

Risks of not receiving blood, in most cases, outweigh the risks of receiving blood if transfusion is indicated during a surgical procedure or other medical treatment. Some of the well known risks may include, but are not limited to:

a) Infectious diseases

Despite careful donor selection and extensive testing of blood products for viruses, the risks of infection cannot be fully eliminated. This is due to the fact that a minimum amount of time must pass before some infectious agents can be detected in the donor's blood. The transmission of infectious disease occurs only rarely, and seldom threatens life. The potential risk of contracting HIV infection from blood transfusion has received a great deal of attention. It is important to know that for more than 15 years now, all donated blood in the United States is tested for the HIV virus, reducing the risk to a negligible level.

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Currently, all donated blood is screened for Hepatitis B, Hepatitis C, HIV (types 1 and 2), HTLV I/II, West Nile virus, Chagas disease, and syphilis. To aid in reducing the risk of infectious diseases for which there are no tests, donors are screened for recent diseases and travel history. There are other infectious diseases, such as Babesiosis, Malaria and variant CJD for which there are no current FDA-approved tests available.

When you consider the risks of transfusion, it may be helpful to know that many common activities carry far greater risks – for example, smoking cigarettes, driving a car, or being pregnant.

b) Other adverse effects

Some patients may experience minor changes in the body's immune system after a transfusion, causing mild symptoms, such as fever, chills or hives, which typically require little or no treatment (1:100-500 units transfused). A small number of patients may also react to donated blood by developing antibodies (immune reactions).

Other risks include fluid overload, chemical imbalances, and breakdown of red blood cells.

Alternatives to Transfusion

What other choices are there?

- a) There are other choices to allogeneic (volunteer) blood transfusion. Autologous blood transfusion refers to procedures in which a person serves as their own blood donor. In preoperative autologous donations, one's blood may be collected and stored before a scheduled surgery if blood transfusion is a possibility. In intraoperative and postoperative autologous transfusions, blood lost during surgery is saved, washed, and returned to the patient.
- b) Some medications may be an alternative to transfusion.

Tests Offered by Laboratory Alliance's Transfusion Services Department

- Blood Type (Blood Group and Rh Test, aka ABO/Rh)
- Antibody Screen
- Compatibility Testing (Crossmatch testing)
- Antibody Identification
- Direct Antiglobulin Testing (DAT, Coombs test)
- Blood Group Antigen testing (Phenotyping)
- Fetal Bleed Screening test
- Acid Elutions
- Antibody Titrations