Blood transfusion information

Sometimes during medical treatment, transfusions of blood or blood products are needed. This sheet explains what you should know about blood transfusions.

How will I know if my child needs a transfusion?

The doctor will discuss the need for transfusion with you before it is given. This is a chance to discuss your questions and concerns with the doctor before you agree to a blood transfusion for your child. However, in an emergency, the doctor may have to decide whether to transfuse before talking to you.

Why would my child need a blood transfusion?

- to increase the number of red blood cells that carry oxygen in the blood
- to replace blood lost from an injury, during surgery, or due to a medical condition
- to replace needed blood components
- to control bleeding

What kinds of blood products are there and how are they used?

Donated blood (whole blood) is divided into several products:

- **Packed red blood cells** – the red blood cells carry oxygen from the lungs to the body. They may be given for rapid bleeding or anemia (low red blood cell numbers).
- **Plasma** is the fluid portion of blood that is separated from the red blood cells and frozen for later use. Plasma contains coagulation factors that help control (stop) bleeding.
- **Platelets** help stop bleeding by combining with thrombin to form a clot at the bleeding site.
- **White blood cells** are rarely transfused, but may be given to patients with infections and very low white blood cell counts.

How safe is the blood supply?

The American blood supply is the safest in the world. Blood is donated by volunteers. Before giving blood, donors must answer questions about their health and risk factors for disease. Only a healthy person can give blood.

Every donation is tested, according to federal requirements, for the following diseases:

- hepatitis B and C
- human immunodeficiency virus types 1 and 2 (HIV, the AIDS virus)
- human lymphotrophic virus, types 1 and 2
- syphilis

Before the transfusion, the donor blood is tested against the patient's blood to be sure they match.

What are the risks of blood transfusion?

Even though the blood supply is very safe, all blood transfusions have a small chance of causing problems. However, the risks of not receiving blood outweigh the risks of transfusion.

Average risk for each unit of blood transfused:

- rash, hives, itching: 1 in 70
- fever:
  - 1 in 100 (red cells)
  - 1 in 50 (platelets)
- hemolysis (breakdown of red blood cells): 1 in 38,000 to 70,000
- hepatitis C: 1 in 1 million
- hepatitis B: 1 in 147,000
  (Hepatitis B can be prevented by getting the hepatitis B vaccine.)
- HIV (the AIDS virus): 1 in 2 million
- bacterial contamination (infection):
  - less than 1 in 10,000 platelet transfusions
  - 1 in 1,000 red blood cell transfusions (1 in 10 million are fatal)
- cytomegalovirus: by removing the white blood cells (leukoreduction) from the red blood cell and platelet units, we lower the risk of cytomegalovirus transmission and prevent recurrent, nonhemolytic transfusion reactions

How do these risks compare to other risks in life?

Estimated risk of death in a year per person in the U.S.:

- home accident: 1 in 1,100
- influenza (the flu): 1 in 5,000
- pregnancy-related: 1 in 10,000
- car accident (Minnesota): 1 in 10,000
- snowmobile accident (Minnesota): 1 in 250,000

Do I have a choice about who donates blood for my child?

Some patients may donate blood for themselves before surgery (called autologous blood donation). This is limited to certain planned operations and depends on the size and age of the child.

Some families prefer to use directed donations which means family members or close friends provide the blood.

Is blood safer from directed donors?

No. Studies show that directed donor blood is no safer than blood from volunteer donors. The main benefit is the positive feeling that parents or family members my get from giving blood to help the child.

Are there any disadvantages of directed donor blood?

Yes. It is more expensive. The family is responsible for the handling costs of directed donations. Insurance may not cover this cost.

It takes 2 or 3 days for the directed donation process. This process cannot be used in emergencies.

Some blood products, such as platelets or clotting factors, cannot be obtained by directed donations.

What else do I need to know?

If you would like to arrange for directed donation, see the education sheet, *Directed blood donation.*

Sometimes unexpected things happen and a child might need more blood than a family can supply, or might need it sooner than the family can arrange for directed donation. In that case, blood would come from the volunteer donor supply.

Questions?

This sheet is not specific to your child, but provides general information. If you have questions, please ask the doctor.

Information about blood transfusions is also available from our local blood suppliers, North Central Blood Services (St. Paul American Red Cross) and Memorial Blood Center as well as from your doctor's office, the nurse, or the Transfusion Service:

Children's - Minneapolis (612) 813-6284
Children's - St Paul (651) 220-6558

For more reading material about this and other health topics, please call or visit the Family Resource Center library, or visit our Web site: www.childrensmn.org.

Children's Hospitals and Clinics of Minnesota
Patient/Family Education
2525 Chicago Avenue South
Minneapolis, MN 55404