

Safety of Blood Transfusions

Part II: Blood Transfusion Options and Procedures



Where can the blood come from?

If your child needs a blood transfusion, you may be able to choose where the blood comes from. See “Blood Transfusion Options” below.

What you should know before giving consent

All medical procedures have risks. As mentioned, the risks of receiving blood or blood products may include disease transmission and allergic reactions. Before your child receives a transfusion of blood or blood products, you will be asked to give your permission or consent. To do this, you need to have as much information as possible. Ask as many questions as you need and make sure you understand the following:

- Your child’s condition and why he needs a transfusion
- Other treatments besides a transfusion and their risks and benefits
- What will happen if you choose not to permit the transfusion

In an emergency, it may be difficult for you to understand everything the doctor is telling you. Ask questions until you understand what is happening to your child. Keep in mind that the doctor who is treating your child may not be able to predict all possible risks and cannot give you any guarantees. In an emergency, there may not be time to discuss why your child needs a

transfusion. However, the reasons for the transfusion should be fully explained to you when your child is recovering.

How are transfusions done?

If your child is old enough to understand, try to prepare her for the procedure by going over what will happen.

- Before the transfusion begins, a small amount of your child’s blood will be tested to identify its type and to make sure it matches the donor. This is done by inserting a needle into a vein in your child’s arm (this should only sting for a few seconds) and withdrawing the blood into a test tube to be used by the laboratory.
- Next, a sterile, single-use plastic tube (catheter) or steel needle (butterfly) will be placed into a vein in your child’s arm and taped in place.
- The nurse will make sure the blood is the correct blood for your child. You may be asked to identify your child.
- A plastic bag holding the blood or blood product will then be hung on a pole next to your child’s hospital bed.
- Finally, a plastic tube will be attached from the bag to the tube or needle in your child’s arm. The transfusion begins when the contents of the bag start to flow.

Blood Transfusion Options

Option	Description	Advantages	Disadvantages
Autologous transfusion	A patient donates his or her own blood before surgery to be used if needed.	No risk of disease transmission or allergic reactions.	Not suitable for children younger than 9 or 10 years. Cannot be used for emergency surgery because the donation must be planned in advance. May not be possible for patients with certain medical conditions.
Blood recycling	Blood lost during surgery is collected, cleaned, and returned to the patient.	No risk of disease transmission or allergic reactions.	Cannot be used for emergency surgery because the recycling process must be planned in advance. May not be possible for patients with certain medical conditions.
Directed donation	Patients choose their own blood donors. For example, parents can donate blood to their children.	Patients feel safer by selecting their own donors.	Blood types must be the same or compatible. Still has a risk of disease transmission and allergic reactions. Must be planned in advance. Some hospitals do not allow this type of donation.
Random donor blood	Volunteer blood donors.	Readily available; screened for diseases.	Blood types must be the same or compatible. Small risk of disease transmission and allergic reactions.

Blood alternatives

Some alternatives to human blood and blood products have been developed. For example, children with hemophilia now can be given highly purified clotting factors or factors made without human protein in the laboratory by what are called “recombinant DNA techniques.” The recombinant factors are virtually 100% free of germs that can be transferred from a donor to a transfusion recipient. There also are hormones or growth factors available that cause the body to increase blood cell production. When time permits, treatment with one of these may eliminate the need for a transfusion.

Research is being carried out in a number of laboratories on several red blood cell substitutes. Such substitutes would eliminate the need for donors of red blood cells and make transfusions simpler and safer.

Investigators are making progress in this area and hope that someday an effective, safe alternative to human blood for transfusions will be available.

Once the transfusion begins, your child should not feel any pain. If she complains of pain or a burning sensation, becomes itchy, or feels anxious, let the nurse know. Because the blood has been refrigerated, your child may feel cold after a few minutes. Ask the nurse for a blanket if your child gets uncomfortably cold.

Most transfusions take 1 to 4 hours. However, if your child requires more than 1 unit of blood or requires another blood product, the transfusion could last longer. When the transfusion is over, the nurse will remove the tube or needle from your child's arm and cover the opening in the vein with a bandage.

Remember

If your child needs to receive blood or blood products, talk with your pediatrician about any concerns or fears you have about the procedure. If necessary, seek out a specialist in transfusion medicine (usually a clinical pathologist affiliated with a hospital blood bank). Learn all you can about your child's condition and make sure you understand the benefits and risks of receiving blood or blood products.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

From your doctor

