



Blood transfusion for your baby

What is a blood transfusion?

A blood transfusion is when donated blood is given to your baby. It is given into a vein, using a soft plastic tube and takes about 3 hours.

What types of blood components can be used for transfusion?

- **Red blood cells** carry oxygen to the body's tissues. A transfusion may be needed in cases of anaemia (where red blood cells are low in number), or if a baby is bleeding to ensure that the tissues receive enough oxygen (e.g. during or after surgery).
- **Platelets** help to stop bleeding by helping the blood to clot. A platelet transfusion may be necessary when platelet numbers are low.
- **Fresh Frozen Plasma** and **Cryoprecipitate** (a frozen blood product made from plasma) contain clotting factors, which work with platelets to seal wounds and can be used to help stop bleeding.

Why might your baby need a blood transfusion?

Preterm babies sometimes have a higher need for blood than term babies. This is because their bone marrow, which makes red blood cells, is immature and does not function as well. Like all medical treatments, a blood transfusion will only be given when necessary. The decision to give a blood transfusion is made after careful consideration and we will discuss the reasons why with you.

Where does the blood for transfusions come from?

In Australia there are many precautions to ensure blood is as safe as possible. Every donor is interviewed to make sure that they are suitable to donate blood. Donors who provide blood for babies are specially selected and have a long history of donation with the **Australian Red Cross, Lifeblood**.

Donors are also **cytomegalovirus (CMV) negative**. CMV is a common viral infection that many people have, it is not a problem for healthy adults, but babies are particularly vulnerable to this infection and the selection of these 'special' donors means there is an extra safeguard in place. Each donation is extensively tested to further check its safety and any blood that fails these tests is not used.

Are blood transfusions safe?

Australia has one of the safest blood supplies in the world but as with all medical procedures, blood transfusion is not risk free and complications can occur. The most common types of reactions are not serious e.g. a mild fever or itching. However, these reactions are rarely encountered when transfusing babies.

A possible rare side effect of blood transfusion in preterm babies is an inflammation of the gut, called **necrotising enterocolitis**. This serious condition can occur in preterm babies not undergoing blood transfusion anyway, but in rare cases, has been associated with a blood transfusion. As a precaution, preterm babies are not fed milk during the transfusion period and receive intravenous fluids instead.

Giving your consent to blood transfusion

If a blood transfusion is necessary for your baby, you will be asked to give your consent. You should understand why your baby needs a transfusion and the risks and benefits involved. If you have any concerns about the transfusion, please discuss these with your doctor. In the event of an emergency, it may not be possible to discuss the need for transfusion and obtain your consent. However, the reasons for the transfusion will be explained to you when it becomes possible.

What happens when my baby has a blood transfusion?

Staff will carefully check to make sure that the correct blood is given to your baby. Confirming identity is very important because if the wrong blood is given (meant for someone else) this could cause serious medical problems. There is also strict monitoring of your baby's heart rate, breathing and temperature during the transfusion.

Alternatives to blood transfusion

As blood transfusion is not risk free, your doctor will always consider alternatives. These include taking as little blood for tests as possible, to limit blood loss from your baby and using medications to increase your baby's own production of red blood cells.

Can I donate blood for my baby's transfusion?

A family member donating blood for another family member is called a 'directed donation'. Directed donations are not recommended for the following reasons:

- Blood for your baby must be ABO, Rh (D) and K blood group compatible and CMV negative before it can be used. Some family members will not meet these criteria.
- The family donor must fulfil the Australian Red Cross, Lifeblood health criteria and may not qualify, e.g. a new mum is not able to donate blood.
- Non-viral risks such as bacterial sepsis, haemolytic reactions and severe allergic reactions are not reduced by directed donation.
- Volunteer donor blood is never released until all confirmation tests are completed. In neonates the blood is often required immediately and waiting for this specialised testing on the directed donation would result in a delay in essential treatment.
- There is a documented increased risk of fatal **graft versus host disease** (GvHD) in blood transfusions from family members due to the shared HLA (white cell antigen) types. The use of family directed donations must be avoided as there would then be an increased risk of graft rejection if the baby needed a future organ transplant. All directed donations that are not used are destroyed. This is a significant wastage of resources in terms of funds and donor and staff time.

What if I have other worries about blood transfusion?

Please tell your doctor or nurse about any concerns you may have, no matter how small you think they may be.



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