



Blood Transfusion for your Baby



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This brochure provides you with some general information about blood transfusion and why it might be needed for your baby.

Why might your baby need a blood transfusion?

Like all medical treatments, a blood transfusion will only be used when necessary. The decision to give a blood transfusion is made after careful consideration. Your baby's specialist doctor will balance the risk of having a blood transfusion against the risk of not having one. Blood transfusion often plays an important part in the management of a premature or sick baby. Some medical procedures cannot easily be carried out without using blood or blood products and many premature babies need extra blood product support to help them through their early days.

What is a blood transfusion?

When a blood donor donates blood it is usually 'whole blood' that is collected.

This whole blood is then divided into different components (parts). Not everyone who requires a blood transfusion needs all these components.

What types of blood components are used for transfusion?

- **Red blood cells** carry oxygen to the body's tissues. These may be given in cases of anaemia (where red cells are low in number) or if a baby is bleeding (e.g. during or after surgery), to ensure that the tissues receive enough oxygen.
- **Platelets** help to stop bleeding by helping the blood to clot. Platelet transfusion may be necessary when platelet numbers are low or when platelets don't work properly.

- **Fresh Frozen Plasma and Cryoprecipitate** contain clotting factors, which work with platelets to seal wounds. Plasma may also be used to help stop bleeding.

Where does blood 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 volunteers and are specially selected. They have a long history of donation with the Australian Red Cross Blood Service (ARCBS) and are known to be CMV Negative. CMV is a common viral infection that many people in the population have encountered. It is not a problem for a healthy adult but babies are particularly vulnerable to this infection and the selection of these 'special' donors means there is an extra safeguard in place. A single adult donation will be divided into four smaller packs (minipacks) and that blood will be reserved just for your baby, until it expires. This means the same donor will be used again for any repeat transfusions. Each donation is extensively tested to further check its safety and any blood that fails these tests is not used. This testing process meets very high standards.

Is blood safe? What are some of the possible risks of blood transfusion?

Although Australia's blood supply is very safe, as with all medical procedures, blood transfusion is not risk free and complications can occur. The most common types of reactions are not serious and include, for example, mild fever or itching. However these reactions are rarely encountered when transfusing babies. In terms of viral safety, Australia has one of the safest blood supplies in the world.

A possible rare adverse effect of blood transfusion in preterm babies is an inflammation of the gut called necrotising enterocolitis. This sometimes serious condition can occur in preterm babies anyway but in rare cases has been associated with a blood transfusion. The risks and benefits of a blood transfusion are carefully considered by the neonatologist in each individual case. As a precaution preterm babies are not fed milk during the transfusion period and receive intravenous fluids instead.

Infection	Residual risk with tested blood per unit transfused
HIV	Less than 1 in a million
Hepatitis C	Less than 1 in a million
Hepatitis B	Less than 1 in a million

Risks of transfusion transmitted infection calculated on Australian Red Cross Blood Service December 2011: www.transfusion.com.au

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 objections to a 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 always carefully check your baby's identity band to make sure that the correct blood is given. They will check the identity band when your baby has a blood sample taken to cross match the blood in the blood bank and again just before the transfusion is administered to ensure the details identically match the details on the blood unit. Confirming identity is very important because if the wrong blood is given (meant for someone else) this could cause serious medical problems including death.

There are also strict monitoring of vital signs during the transfusion but if you have any concerns you should alert a staff member.

Alternatives to blood transfusion

As blood transfusion is not risk free, it is important to consider other alternatives to transfusion or ways of reducing the amount of blood used if transfusion is necessary. Some alternatives include:

- using new procedures and medicines so as little blood as possible needs to be transfused
- using surgical methods which prevent or reduce bleeding where possible.

Many of these alternatives are not suitable when treating a baby due to the specialised and complicated needs of premature or sick babies. You may wish to ask your doctor if there is anything which could be used for your baby to avoid the need for transfusion.

Can I donate blood for my baby's transfusion?

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

- Blood for your baby must be ABO, Rh (D) and K blood group compatible before it can be used. As previously explained it must also be CMV negative. Many family members will not meet these basic criteria.
- The family donor must fulfil the ARCBS health criteria and may not qualify, e.g. a new mum is often 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. This mandates the need to irradiate all directed donor blood products. The use of family directed donations must be avoided if the recipient may undergo a future transplant as there is an increased risk of graft rejection due to HLA sensitisation.
- All directed donations that are not used are destroyed. This is a significant wastage of resources in terms of funds, donor and staff time.

All current scientific data strongly supports the use of blood products from ARCBS anonymous volunteer donors as best practice.

What if I have other worries about blood transfusion?

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



Other information

If you are interested in finding out more about blood transfusions and have access to the Internet, you might find the following web site useful:

www.transfusion.com.au