

# Blood Transfusions – the basics: Patient Information

## What is blood?

Blood is composed of:

- red cells (these carry oxygen)
- white cells (these form our immune system)
- platelets (these help form blood clots to stop bleeding and bruising after injuries to blood vessels)
- Plasma (the liquid that carries cells around the blood vessels). Plasma also contains vital proteins and other components that are needed for our clotting system, our immune system, and proteins to transport important elements such as iron, nutrients and many medications).

## What is a blood transfusion?

A blood transfusion is a procedure where donated blood from a healthy donor is given to you, into your vein. It is used to correct one or more blood deficiencies, or to replace blood at times of blood loss such as injury, surgery, trauma or obstetric blood loss.

## Why is blood or blood products given to patients?

Red cells contain haemoglobin – the oxygen carrying molecule in our blood. Red cells are usually given if haemoglobin levels are low (anaemia) or if you have lost a lot of blood.

Platelets are given if your own platelet count is low (thrombocytopenia) or if your platelets are not working properly.

Fresh frozen plasma (FFP) may be given if your blood is not clotting properly. FFP contains proteins which work with platelets to help form clots.

White cells help the body fight infections. They are not routinely available as a transfusion treatment.

Plasma is also used to make products such as Intragam® , Kiovig®, Octagam® or similar products. These immunoglobulin products contain natural antibodies from healthy donors, and are used for patients with poor immune systems.

Albumin is another plasma product which is given in certain circumstances to treat low albumin or blood protein.

## Why do I need a transfusion?

Common reasons for a transfusion are:

- surgery, trauma, or childbirth where you may have lost a lot of blood
- illnesses or medications that impairs your own blood cell production

## Will I be asked if I want a transfusion?

In nearly all circumstances you will be asked and your doctor will obtain your consent for a transfusion. The risks and benefits will be discussed, and you will be asked to sign a consent form. Occasionally in emergencies or when the patient is unable to provide consent, the treating doctors may need to administer a blood transfusion as a life-saving procedure.

Some patients choose to have a 'do not transfuse' policy (for example due to religious beliefs) and this is written in advance, in their medical history and is often conveyed on a card that they carry with them at all times. You should discuss your feelings about transfusion with your doctor.

## How is a blood transfusion given?

If your doctor decides you need treatment with a transfusion, a blood sample will be taken to match your own blood with a unit (or units) of healthy donor blood. This is called crossmatching.

Cross matching is not complete unless the nursing staff ask you your full name and date of birth every time the test is done, even if they know you well. This is to ensure your safety. Ask to check your details written on the blood tube and the request form to make sure the information about you is correct.

The crossmatching of red cells may take several hours. In urgent situations blood can be given without extensive cross matching.

Transfusions of blood products are given into the vein through a drip or cannula, either in your hand or arm, or through a central line or port.

## How long does it take?

One unit (or bag) of red cells usually takes 2-3 hours to transfuse. Platelets and plasma take 20-30 minutes per bag.

## What should I expect?

The nurse will take your temperature, pulse rate, respiratory rate and blood pressure before, during and at the end of the transfusion.

You will be closely monitored by nursing staff for any signs of a reaction. Signs of a reaction include shaking, fever, dizziness, itching or sweating.

***Let a nurse know straight away if you are unwell during or after a transfusion.***

## Where does blood for a transfusion come from?

All blood in Australia is donated by healthy unpaid volunteers at the Australian Red Cross Blood Service.

## Can I use my own blood?

Although it may seem that it is safer to use your own blood (autologous) there is actually little advantage in using your own blood. The careful checks on all donated blood means that the risk of contracting a viral infection from blood in Australia is very, very low; for most viruses, less than 1 in a million transfusions. Using your own blood may prevent the small risk of contracting a viral infection from donated blood, but will still carry the same small risk of developing a bacterial infection, as with all blood transfusions. Autologous donations are rarely used in Australia.

## Can I use blood donated by my family and friends?

This is called a directed donation. Evidence shows that these transfusions are no safer than transfusions from carefully selected donors. The risk of infection may actually be higher, family and friends may withhold information about their own risk of infection. Cabrini and The Blood Unit does not routinely recommend the use of directed blood transfusions.

## What are the risks of a blood product transfusion?

Having a blood transfusion in Australia carries a very low risk of serious risks:

- Australia has one of the safest blood supplies in the world because all donors are carefully screened every time they donate blood. Donors are not paid to donate and are excluded from donating if the screening process detects any known risk of virus infection. The donated blood is tested using highly sensitive tests for viruses such as HIV and Hepatitis B & C before any blood product is released. The risk of contracting these viral infections from a transfusion is extremely low. Today in Australia the risk of contracting HIV or Hepatitis B & C from a transfusion is less than one in one million units transfused.
- “Allergic” reactions to transfusions can sometimes occur, especially in patients who have had a lot of transfusions, these are usually mild.
- Delayed reactions are rare but recognised. These can occur days to weeks after the transfusion, and present with chills, fevers, muscle aches. Urine can become dark, and this must be reported to your doctor immediately.
- The most preventable risk is accidentally receiving blood meant for someone else. This is why your identification is checked many times during the transfusion process.

## How are blood transfusion reactions treated?

If you experience fever or chills, the transfusion will be stopped and a doctor will be contacted. You may need to be given medication to treat a reaction. You may need medication before every transfusion to minimise the chances of having a reaction.

## What if I become unwell after a transfusion?

Call your doctor or your hospital immediately if you experience any of the following:

- fever (temperature over 38 degrees Celcius)
- chills
- shakes
- sweats.

If you become very unwell after discharge, dial 000 and ask for an ambulance.