
Blood Transfusions

The term “transfusion” means donated blood is given to a patient. About 80,000 transfusions are given to about 10,000 patients at the Hamilton hospitals each year.

Where does the blood used at the hospital come from?

Blood is collected from healthy volunteer donors by the Canadian Blood Services (CBS). The blood given by one volunteer is separated into many parts, called blood products. Each part of the blood has a different role. Separating the blood into different parts allows patients to receive only the specific part of the blood that is needed.

How is the donated blood tested?

All donors are carefully tested before they donate blood. They are asked questions about their health and their lifestyle to identify donors with blood that may contain a virus. Only donors who meet specific criteria are allowed to donate.

Each time blood is donated, it is tested to see if there are any viruses present. Donated blood found to have viruses is not used.

Currently, blood is tested for:

- Hepatitis B
- Hepatitis C
- HTLV-1 (Human T cell Lymphotropic Virus Type 1)
- HIV 1 and HIV 2 (Human Immunodeficiency Virus which causes AIDS)
- West Nile Virus (WNV)

A screening test for Syphilis is also done on each donation and must be negative.

After all of the testing is done, the blood is moved to the Transfusion Medicine Laboratory at St. Joseph's Hospital where it is carefully stored until a patient needs it.

What happens if my baby needs a blood product?

Before your baby receives a blood transfusion, the staff in the Transfusion Medicine Laboratory will carefully select and prepare the blood product that your baby needs. The staff in the laboratory will test your baby's blood to make sure that the donor blood selected for your baby is a good match with your baby's blood type. This test is called a cross match.

What are the risks of blood transfusion?

The risk of a blood transfusion is very low. But, like many medical treatments, a transfusion can never be completely risk-free. If a transfusion is needed, your baby's doctor will discuss:

- the reasons for the transfusion and
- the expected benefits and possible risks of the transfusion

In Canada, the risks for each unit of blood transfused are:

Infection	Risk
Creutzfeldt-Jacob Disease (variant)	Theoretical risk in Canada. Two probable cases in the United Kingdom.
Cytomegalovirus (CMV)	Up to 2% in certain high risk patients.
Hepatitis A	Very rare
Hepatitis B	1 in 31,000 to 1 in 1,200,000
Hepatitis C	1 in 3,100,000
Human Immunodeficiency Virus (HIV)	1 in 4 million to 1 in 10 million
Human T-Cell Lymphotropic Virus (HTLV)	Virtually zero risk with leukodepletion
Sepsis	Less than 1 in 50,000 serious reactions from platelets; 1 in 5000,000 serious reaction from red blood cells
Syphilis	Virtually zero risk
West Nile Virus (WNV)	Risk unknown

What are the alternatives to using donated blood?

Family members sometimes ask if they can donate blood for their baby. This is called a “directed donation”. Directed donations are available in one special situation: a parent can donate blood for a child under 17 years of age. If your baby is very small, the Transfusion Laboratory can split the directed blood into smaller bags when needed. Unfortunately, the blood from some parents may not be compatible for their child.

If donor blood from the Canadian Blood Services is used, then that unit of blood will be kept for your baby until the blood is used up, or the blood becomes too old. This is called “single donor” blood. The blood can be split into 3 or more, small bags of blood for your baby. This single donor blood tries to limit the number of donors your baby is at risk from.

Can both parents give their blood?

Only one parent will be allowed to be a donor at any one time. To be the donor, you must be healthy. Your own health must not be put at risk by donating blood. The Canadian Blood Services requires a note from your own doctor stating that you are healthy enough to donate blood. The neonatal doctor may be able to do this in unusual situations.

Before you donate blood, you will be asked many questions about your health and lifestyle. In certain situations, your donation may need to be deferred. For example, if you had body piercing in the last 6 months, your blood cannot be given to your baby right now.

Will my blood be tested?

Your blood will be tested for the AIDS virus, Hepatitis B and C viruses, HTLV I and II viruses, West Nile virus and Syphilis. If your blood sample shows that you have been infected with one of these viruses, you will not be able to donate blood for your baby. Also, if your blood sample shows that you have been infected with one of these viruses, your doctor and the Provincial Health Department must be notified.

Your blood will also be checked to see if your blood type matches your baby's blood. If you have concerns about this, please ask your baby's doctor.

How long will it take?

It takes less than a week to have your blood checked and made available for your baby. If your baby needs blood urgently, there may not be time for you to donate the blood. If this happens, your baby will be given blood collected from a volunteer donor by the Canadian Blood Services.

What will I need to do to give this blood?

After the laboratory has given approval for you to give the blood, there are several steps that you will need to do. You will need to:

- Make an appointment with the Canadian Blood Services (CBS) centre.
- Go to the CBS centre at your appointment time to donate the blood. The CBS centre is at 35 Stone Church Road at the corner of Stone Church Road and Golf Links Road in Ancaster, Ontario.

Your baby's nurse can help you organize this, and set up the appointment to go to the blood service centre.

Where is the blood stored until my baby needs it?

After you have donated the blood, the Canadian Blood Service will test it, then send it to the Transfusion Medicine Department at the hospital.

Each time you donate blood, it is collected into one bag. The bag is stored in a special refrigerator in the Transfusion Medicine Department ready for your baby. The required blood is separated into smaller bags for transfusion. This allows 3 or more transfusion from one bag.

As a directed donation, your blood will only be available for your baby. The blood is never given to someone else, even if your baby never uses it.

What happens during a transfusion?

During the transfusion, your baby will be watched closely. The nurse will monitor the baby's vital signs often. The transfusion may be finished within 30 minutes or it may take a few hours, depending on what blood product your baby is getting.

How long can you keep the blood?

After 42 days, the blood needs to be discarded. We will let you know when this happens, so that you can give more blood if it is needed.

**If you have any questions about blood transfusions,
please ask your baby's doctor or nurse.**