

Blood transfusion

The purpose of this handout is to help you and your family learn about blood transfusions. It provides answers to questions that are often asked about donated blood and how it is used.

What is a blood transfusion?

A blood transfusion is when donated blood is given to a person.

Where does the blood used at the hospital come from?

Blood is collected from healthy volunteers by Canadian Blood Services. The blood given by one volunteer is separated into many parts, called blood products. Separating the blood into different parts allows patients to receive only the specific part of the blood that is needed.

Is donated blood safe?

All donors are volunteers. They are asked questions about their health and lifestyle before donating their blood. These questions help to identify donors whose blood may contain a virus. Only donors who meet the rules can donate. Each time blood is donated, it is tested to see if there are specific viruses present. Donated blood found to have any of these viruses is not used.

Currently, blood is tested for:

- Hepatitis B and 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
 - Syphilis
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What happens if I need a transfusion?

Your health care provider decides what type of blood product you need. The Hospital Transfusion Medicine Laboratory carefully prepares the blood product.

A sample of your blood is checked so it is a good match (compatible) with the donated blood.

For babies and small children, the Hospital Transfusion Medicine Laboratory may divide the unit of blood into 3 or more smaller bags. This is called 'single donor' blood. It limits the number of donors for your child.

What happens during a transfusion?

Your identification wristband is checked with the unit of blood before the transfusion is started. During the transfusion a nurse watches you closely. Your temperature, blood pressure and heart rate are checked. If you need blood during surgery, the anesthesiologist watches you closely.

It can take about 30 minutes to a few hours to receive the blood product. Some patients may have a reaction to a transfusion. The reaction may be a skin rash, fever, chills or nausea. More serious reactions can make it difficult for you to breathe or cause you to feel faint. Most patients do not have a reaction, but if you feel unwell, please tell your nurse right way.

It is very rare for a baby to react to a transfusion. A baby's immune system is not mature enough to create antibodies which cause transfusion reactions.

What are the risks of blood transfusion?

Blood transfusion, like all other medical procedures is not without risk although serious complications are quite low. Talk with your health care provider or Patient Blood Management Coordinator about the risks and the benefits of having a blood transfusion.

| Non-infectious Complications | Estimated Risk |
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| Minor allergic reaction (hives / rash) | 1 in 100 |
| Fluid overload | 1 in 100 |
| Fever or chills | 1 in 300 |
| Lung injury | 1 in 12,000 |
| Incompatible blood transfusion | 1 in 40,000 |
| Serious allergic reaction | 1 in 40,000 |
| Infectious Complications | Estimated Risk |
| Bacteria | 1 in 10,000 platelet pools 1 in 250,000 red cells |
| West Nile Virus | Less than 1 in 1 million |
| Hepatitis B | 1 in 1.7 million |
| Human T-lymphocytic virus (HTLV) | 1 in 2.5 million |
| Chagas Disease | 1 in 4 million |
| Hepatitis C | 1 in 6.7 million |
| Human Immunodeficiency Virus (HIV) | 1 in 8 million |

Source: O'Brien SF, Yi Q-L, Fan W, Scalia V, Fearon M, Allain J-P. Current incidence and residual risk of HIV, HBV and HCV at Canadian Blood Services. *Vox Sang* 2012; 103:83-86.

Can I donate my own blood for my surgery?

If you are having planned surgery that will likely need a blood transfusion, you may be able to donate your own blood. This is called preoperative autologous donation (PAD). If you are interested in donating your own blood, talk with your surgeon to see if you qualify. Ask your surgeon or Patient Blood Management Coordinator about other ways to decrease the need for a blood transfusion.

Can family members donate blood for me?

This is called a directed donation. It is offered in special cases and may be given only by a parent or legal guardian to a child. Sometimes blood from a parent does not match or is not compatible for their child. Talk with your health care provider about directed donations.

If you would like more information about blood transfusions, ask your health care provider or go to: www.transfusionontario.org
