

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 viruses
 - HTLV I and II (Human T-cell Lymphotropic Virus)
 - HIV 1 and HIV 2 (Human Immunodeficiency Virus)
 - West Nile Virus, Syphilis, and Chagas Disease
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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
Minor allergic reaction (hives / rash)	1 in 100
Fluid overload	1 in 100
Fever or chills	1 in 300
Lung injury	1 in 10,000
Incompatible blood transfusion	1 in 40,000
Serious allergic reaction	1 in 40,000
Infectious Complications	Estimated Risk
Bacteria	1 in 200,000 platelet pools 1 in 250,000 red cells
West Nile Virus	Less than 1 in 1 million
Hepatitis B	1 in 7.5 million
Human T-lymphocytic virus (HTLV)	1 in 7.6 million
Chagas Disease	1 in 4 million
Hepatitis C	1 in 13 million
Human Immunodeficiency Virus (HIV)	1 in 21 million

Source: Callum, J. L., Pinkerton, P. H., Lima, A., Lin, Y., Karkouti, K., Lieberman, L., Pendergrast, J. M., Robitaille, N., Tinmouth, A. T., & Webert, K. E. (2016). *Bloody easy 4: Blood transfusions, blood alternatives and transfusion reactions: A guide to transfusion medicine* (4th ed.). ORBCoN, Ontario Regional Blood Coordinating Network.
<https://transfusionontario.org/en/bloody-easy-4-blood-transfusions-blood-alternatives-and-transfusion-reactions-a-guide-to-transfusion-medicine-fourth-edition/>

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