



Saskatchewan
Health Authority

Blood Transfusion

Information for Patients and Family



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saskhealthauthority.ca

What is a blood transfusion, and why do you need one?

A blood transfusion is a procedure where human donor blood cells or blood proteins can be given to you as a part of your treatment. Depending on the blood transfusion recommended to you by your healthcare provider, it may be infused into the vein (most common), or injected into a muscle or under the skin.

Your healthcare provider recommends a blood transfusion when the benefits outweigh the risks for your specific health condition.

Be sure to ask questions if there is any part of your treatment you do not understand.

Where does the blood come from, and how is it chosen for me?

In Saskatchewan, hospitals receive blood and blood proteins for transfusion from Canadian Blood Services from healthy volunteer donors. All donors must be healthy and pass screening questions before donation. All donor samples are tested and must be negative for infectious diseases that could be passed to others through blood, including HIV, Hepatitis B and Hepatitis C.

What are the parts of blood that may be needed for transfusion?

A blood transfusion may include a blood component and/or blood product that your healthcare provider recommends as part of your care. Blood components are red blood cells, platelets, and plasma. Blood products can be made from human plasma collected from blood donors. Although kept in the blood bank, blood clotting factors made using recombinant technology are **not** blood products.

Are there alternatives to blood transfusion?

Some alternatives, such as medications, may or may not be useful in your particular health conditions. Discuss options available to you with your healthcare provider.

Can I refuse a blood transfusion?

Yes, you can refuse. Every patient has the right to choose the treatments that are recommended to them. If you refuse the recommended treatments, your healthcare provider will explain the possible outcomes of this choice and potential alternative solutions you are comfortable with.

Consent

Before a transfusion can be given, you are asked to give consent to receive blood, so it is important that you understand what you are agreeing to. Your healthcare provider explains the possible benefits and risks of a blood transfusion before it is given to you. Ask your healthcare provider any questions you may have.

Possible Risks of a Transfusion

Canada's blood supply is safe, but a blood transfusion is not without risks. Refer to the table below and discuss any questions you have with your healthcare provider.

PROBABILITY	RISK
1 in 13	Development of red blood cell (RBC) antibodies that may cause difficulties for future pregnancy or transfusion
1 in 100	Hives (skin rash) or itching
1 in 100	Heart failure (the heart is not able to pump the blood around the body as well as it should; trouble breathing is often a symptom)
1 in 100	Fever per bag of platelets
1 in 300	Fever per bag of RBC
1 in 2,500	Delayed hemolysis (some of your RBC's broken down due to antibodies formed)
1 in 10,000	Lung injury (temporary damage to the lung due to plasma or platelet transfusion)
1 in 10,000	Bacterial sepsis (infection) per bag of non-pathogen reduced platelets
1 in 40,000	Anaphylaxis (extremely severe, possibly life-threatening but treatable allergic reaction)
1 in 200,000	Death from bacterial sepsis (infection) per bag of non-pathogen reduced platelets
1 in 250,000	Bacterial sepsis (infection) per bag of RBC
1 in 354,000	Wrong ABO (blood) group (does not match your blood) per bag of RBC, this can give a mild or serious reaction
1 in 500,000	Death from bacterial sepsis (infection) per bag of RBC
Less than 1 in 1,000,000	Transmission of West Nile Virus
1 in 2,000,000	Residual risk of hepatitis B
1 in 4,000,000	Transmission of Chagas Disease. Chagas Disease is caused by a parasite.
1 in 12,900,000	Residual risk of human immunodeficiency virus (HIV)
1 in 27,100,000	Residual risk of hepatitis C
Less than 1 in 1 billion	Transmission of human T-cell lymphotropic virus (HTLV) (HTLV may cause a form of cancer in the blood)

1. Callum JL, Pinkerton PH, Lin Y, Cope S, Karkouti K, Lieberman L, Pendergrast JM, Robitaille N, Tinmouth AT, Webert KE. *Bloody easy 5.1 blood transfusions, blood alternatives and transfusion reactions a guide to transfusion medicine*. 5th ed. Toronto: Ontario Regional Blood Coordinating Network; 2022, 2023. 145p.

2. Canadian Blood Services Annual Surveillance Report, 2022.

Reaction to a Blood Transfusion

Occasionally, people can have a reaction to a blood transfusion. Most transfusion reaction signs or symptoms are mild, can be treated and go away quickly.

The most common reactions include fever and allergic reactions. The most serious reactions are fluid overload, causing breathing difficulties, lung injury, and receiving blood that is not 'matched' to you. You are closely monitored during your transfusion, and if you develop symptoms, the transfusion is stopped. In some cases, you may be given medications, and the transfusion may be restarted. If you have had a previous reaction to a blood product, let your healthcare provider know **BEFORE** your next transfusion.

Transfusion Process

BEFORE

Your healthcare provider explains the risks or benefits specific to your health. You are asked to sign a consent form. A sample of your blood is taken, and an intravenous (IV) is started if needed.

Your temperature, blood pressure, pulse and breathing are checked.

DURING

Staff carefully monitor you for any problems during the transfusion. This means measuring your temperature, blood pressure, pulse and breathing at regular times. Most people do not notice any difference in how they feel during a transfusion, but if you experience any of the below symptoms, tell your healthcare provider right away:

- Fever
- Chills
- Hives/Rash
- Itching
- Dark or tea colored urine
- Swelling anywhere on the face
- Throat soreness/swelling
- Trouble breathing or a new cough
- New pain in your chest, back or IV site
- Feeling unwell

AFTER

Your temperature, blood pressure, pulse and breathing are checked.



If you notice any of the symptoms listed above within 4 hours after the transfusion or you have trouble breathing within 24 hours after the transfusion, seek medical attention immediately.

Going Home after a Transfusion

A transfusion reaction can happen during or after a transfusion. Most reactions happen within the first 4 hours after a transfusion, but rarely can occur up to 4 weeks after. You can have a transfusion reaction even if you have never had a reaction in the past.

WHAT TO WATCH FOR	WHAT TO DO
<ul style="list-style-type: none"> • Trouble breathing or have a new cough • Swelling in your eyes, lips or tongue • Wheezing in your chest 	⇒ Call 911 and tell them you recently had a blood transfusion
<ul style="list-style-type: none"> • Feel very unwell • Muscle pain • Yellow skin • Dark or tea colored urine 	⇒ See a doctor <u>Immediately</u> ⇒ If you cannot reach your doctor, go to the nearest Walk-In Medical Clinic or Emergency Department
<ul style="list-style-type: none"> • Chills • Fever 	⇒ Call HealthLine at 811 ⇒ Take your temperature
<ul style="list-style-type: none"> • Rash, hives, or itchy skin 	⇒ Call HealthLine at 811
Additionally, if you received intravenous immunoglobulin (IVIg): <ul style="list-style-type: none"> • headache • sensitivity to bright light • unexpected painful leg swelling 	⇒ See a doctor <u>Immediately</u> ⇒ If you cannot reach your doctor, go to the nearest Walk-In Medical Clinic or Emergency Department

Important Information

If you experience any of these symptoms, it is important that you let the healthcare providers know that you recently had a transfusion. If you regularly receive transfusions, do not wait until your next appointment; notify your healthcare team as soon as possible. If you have questions or concerns, contact HealthLine at 811. You can talk to a Registered Nurse 24 hours a day, 7 days a week. Dial 8-1-1.



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Healthy People, Healthy Saskatchewan

The Saskatchewan Health Authority works in the spirit of truth and reconciliation, acknowledging Saskatchewan as the traditional territory of First Nations and Métis People.

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