

North Bay Regional Health Centre

Surgery Blood Transfusion Information

Questions you may have about Blood Transfusion:

The following common questions have been answered to help you understand the treatments you may receive and why they may help you.

What is a transfusion?

It is a blood product given to a patient through a needle. Many blood products are made by Canadian Blood Services from a person's blood donated by volunteers across Canada. Common products are red cells, platelets and plasma.

Why are they needed?

Blood and blood products are given to patients who need them. Blood and its products are used to replace what has been lost because of sickness, surgery or injury. It is important to remember that getting blood products when they are needed can save a life.

What can be given?

- **Red Blood Cells:** carry oxygen from the lungs to the body's main organs such as the heart. It may be needed to stop harm from a lack of oxygen. There is no other option available for blood if it is needed quickly.
- **Platelets:** blood cells needed for the body to form a blood clot and avoid or stop bleeding at the site of injury. It may be needed if the patient's count is at a low level or if they are not working right.
- **Plasma:** contains many substances, such as proteins. These substances help fight infections and help the blood to clot.
- **Blood products made from plasma:** it may be further broken into a number of blood products that can be used to help blood clot, avoid infection or keep blood volume.

What are the risks?

Risks range from common minor reactions to very rare but life-threatening reactions or problems caused by infection or wrong units of blood.

They include:

- Allergic Reaction: common and usually mild and easily treated by a doctor. Some patients have itching or a rash. Severe allergic reactions such as breathing problems are rare.
- Fever Reaction: uncommon and usually occurs during or shortly after getting the blood.
- Patients may have a fever, chills or flushing. Patients who have had this in the past should tell their doctor so steps can be taken to stop it from happening again.
- Hemolytic Reaction: serious and sometimes life threatening, occurs when the patient's blood destroys the new blood cells, and can result in kidneys that stop working. It doesn't happen often and usually caused by use of the wrong unit of blood product. The blood the patient gets is carefully tested for blood type by the Lab and checked by the nurse, to ensure it is the correct blood product.
- Transfusion Related Acute Lung Injury (TRALI): The cause of TRALI is not well understood but probably results from antibodies in donor blood that damage the patient's white blood cells in the lungs, causing fluid build-up in the lungs. TRALI occurs in roughly 1 in 12,000 transfusions.
- Infection: Canada's blood comes from volunteer donors and there are many ways that Canadian Blood Services makes sure it is safe. As well as answering questions, donors are checked and meet with a nursing staff member before giving blood. The risk of infection for each unit of blood transfused is:

HIV (AIDS) - about 1: 8 million
 Hepatitis B – about 1:1.7 million
 Hepatitis C - about 1:6.7 million
 HTLV - about 1:2.5 million

For comparison, the following statistics may be helpful:

Risk of cause of death in Canada from:

Motor vehicle accident for all ages:	1:10,000
Lung Cancer from Smoking 1 package of cigarettes a day:	1:10

Other infectious agents that are routinely checked for in all donations include Syphilis and West Nile Virus. More recently Canadian Blood Services has started to screen blood donors for Chagas Disease.

What are the risks of not having a transfusion?

Red blood cells carry the oxygen in blood to body parts such as the brain and heart, without oxygen they could be harmed. Platelets and plasma help the blood to thicken. Without these cells, a lot of bleeding can happen causing a high loss of red blood cells. When getting blood or blood products are needed depends on the case.

Are there other options?

Sometimes medicine can be used to help avoid the need for blood or blood products. The patient should ask the doctor about this. *Iron pills and some vitamins such as Folic Acid or Vitamin B12 needles may be helpful.* A hormone called *Erythropoietin* may also be helpful in some cases.

Can I use my own blood or blood from someone in my family?

- Self Donation: the use of a patient's blood for themselves. Blood is taken before surgery and can be stored for up to 42 days. Only patients having surgery that normally need transfusion are suited for this option and must meet donation rules. Donations start about four weeks before surgery. Your doctor or nurse can answer questions about this.
- Directed Donation: This is when a parent donates blood for their child.

Blood Conservation

A Blood Conservation program is designed to reduce the need for patients to receive blood or blood components donated from another person during or after their surgery. This program may include:

- Self Donation
- Medication (to boost the patient's blood levels before surgery)
- Medication to reduce blood loss during surgery
- Special surgical techniques that can decrease blood loss.
- Other fluids that can be used for a short time to replace blood loss.

All these options carry some risks. Please discuss the alternatives with your doctor. This will help you understand and decide which is best for you.

Informed Consent

Patients, or their substitute deciders, need to understand why a transfusion is necessary. It is important to understand the benefits and the risks. After you have read this pamphlet and had a discussion with your doctor, you should have all the information you need to "consent" to the transfusion. Your doctor will answer any questions you might have.

In the event that you require a blood transfusion while in hospital, you will be notified by mail that you have received a transfusion. This is an important part of your medical records.

Websites for Patient Information:

- <http://www.transfusionontario.org/patients/index.html>
- www.blood.ca

References:

1. Bloody Easy 2. Blood Transfusions: A Guide to Transfusion Medicine, 2nd Ed. JL Callum & P Pinkerton 2006.
2. Blood Transfusions. Vol. 2. Ontario Regional Blood Coordinating Office Publication. March 2015. Retrieved March 19, 2015 from www.transfusionontario.org
3. Clinical Guide to Transfusion. Canadian Blood Services. 2011. Retrieved March 19, 2015 from <http://www.transfusionmedicine.ca/resources/clinical-guide-transfusion>
4. Public Health Agency of Canada. Transfusion Transmitted Injury. 2012. Retrieved March 19, 2015 from <http://www.phac-aspc.gc.ca/hcai-iamss/ttiss-ssit/index-eng.php>

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