

## Questions you may have about Blood

### Transfusion:

The following questions and answers have been prepared to help you understand what transfusion treatment you may receive and why it may help you.

### What is a transfusion?

A **transfusion** is the injection of a blood product through a needle inserted into a patient's vein. Many blood products are made by Canadian Blood Services (CBS) from human blood donated by volunteers across Canada. Commonly transfused blood products are red cells, platelets and plasma.

### Why are transfusions needed?

Blood and blood products are given to patients who have specific medical needs. Blood and its products are chosen to replace what has been lost because of disease or injury. It is important to remember that receiving blood products when they are needed can save a life.

### What can be transfused?

#### **Red Blood Cells:**

Red blood cells carry oxygen from the lungs to the body's vital organs such as the heart. A red cell transfusion may be necessary to prevent organ damage caused by a lack of oxygen. Currently there is no proven substitute for blood if it is needed quickly.

#### **Platelets:**

Platelets are blood cells essential for the body to form a blood clot and prevent or stop bleeding at the site of injury. A platelet transfusion may be needed if the platelet count is at a low level or if the platelets are not working properly.

#### **Plasma:**

Plasma is the clear liquid part of the blood. There are many dissolved substances in the plasma. Clotting proteins are among the most important of these. A plasma transfusion may be needed to prevent bleeding or to help stop bleeding which has started because levels of clotting factors are too low.

#### **Blood products made from plasma:**

Plasma may be further separated into a number of blood products that can be used to help blood clot, prevent infection or preserve blood volume.

## What are the risks of transfusion?

As most blood products come from human beings, there are risks. Canadian Blood Services tests for many diseases so the risk of catching a disease from a transfusion is very small. Some "transfusion reactions" that can occur are:

#### **Allergic Reaction:**

This reaction is common and usually mild. Some patients experience itching or a rash. The doctor easily treats most allergic reactions. Severe allergic reactions such as breathing problems are rare.

#### **Fever Reaction:**

This reaction is uncommon and usually occurs during or shortly after the transfusion. The symptoms may include fever, chills or flushing. Patients who have had a fever reaction with transfusion in the past should tell their doctor so steps can be taken to prevent these reactions from happening again.

#### **Hemolytic Reaction:**

This serious and sometimes life threatening reaction occurs when the patient's blood destroys transfused blood cells, and can result in kidney failure. Fortunately such a reaction is rare. It is usually caused by transfusion of an incorrect unit of blood product. The blood the patient receives is carefully tested for blood type by the Transfusion Services Laboratory and identified by the health care worker at the bedside, to ensure it is the correct blood product.

#### **Infection:**

Canada's blood supply comes from volunteer donors and there are several processes by which Canadian Blood Services ensures the greatest possible safety. In addition to a questionnaire, donors are screened and individually interviewed by Canadian Blood Services nursing staff prior to each donation. Every donation is tested for hepatitis, HIV (the AIDS virus), and other infectious agents including the West Nile virus. While this testing makes the chance of catching an infection from a blood transfusion very low, the risk cannot be completely eliminated. Patients are urged to discuss the risks of infection with their doctor.

## What are the risks of not having a transfusion?

As described earlier, red blood cells carry the oxygen in blood to vital organs such as the brain and heart. A decrease in oxygen could result in damage to these organs. Platelets and plasma help the blood to clot. Without these cells, excessive bleeding can result causing a dangerous loss of red blood cells. The point at which transfusion becomes necessary varies from case to case.

## Are there alternatives to a blood transfusion?

In certain circumstances, medications can be used to help avoid the need for blood or blood products. The patient should ask the doctor about this possibility. Iron pills and certain vitamin supplements such as Folic Acid or Vitamin B12 injections may be helpful. A synthetic blood-forming hormone called Erythropoietin may also be helpful in very special circumstances.

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

### ***Autologous Donation:***

Refers to the collection of a patient's blood that may be used for later transfusion. Blood collected before surgery can be stored for up to 35 days. The surgeon helps the patient make this decision. Travel to a larger centre may be necessary for autologous donation.

### ***Directed Donation:***

Refers to the process where a specific donor's blood is assigned to a specific patient. Patients with rare blood types, bone marrow transplant patients and minor age children may qualify to receive blood from this program. Directed donation is not routinely available. The doctor can arrange a directed donation if this is appropriate.

## Can I use my computer to go online and find more information about blood transfusions?

Information on blood transfusion, including benefits and risks is updated frequently. Useful websites to check for current information are:

### **Canadian Blood Services:**

<http://www.bloodservices.ca>

### **Calgary Health Region:**

<http://www.calgaryhealthregion.ca/clin/cme/cpg.htm>

### **Pat Letendre Consulting**

– Transfusion complications:

<http://patletendre.com/tm-reading-complications.html>

### **Alberta Clinical Practice Guideline program:**

<http://www.albertadoctors.org/resources/materials.html>

### **Alberta Health and Wellness:**

<http://www.health.gov.ab.ca>

### **Capital Health Link:**

<http://www.cha.ab.ca>

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