

BLOOD TRANSFUSION

Answers to Some Common Questions



What is a transfusion?

A transfusion is a treatment that adds whole blood or parts of blood (called blood products) to your blood system. These products come from people who give blood (volunteer donors) or from your own blood (autologous blood).

What are blood and blood products?

Blood is made up of different parts.

Red blood cells are the best known part of blood. They give the blood its red colour and carry oxygen around the body.

Platelets are cells that are sticky. They help the blood to clot and so prevent bleeding.

The cells are carried in a liquid called **plasma**. Plasma has many substances used by the body. Some of these can be separated from the plasma and transfused in a concentrated form.

Some examples are:

- ▶ albumin – replaces fluid that has been lost
- ▶ immunoglobulins that fight infection

Why is transfusion necessary?

Your body must have the right amount of each blood part to be healthy. An injury, disease, surgery or cancer treatment can cause the loss of so much blood that your body cannot keep all its organs working. A transfusion puts back into your body some of the blood or blood product it needs to help you recover.

Where does donor blood come from?

Canadian Blood Services collects and tests blood from volunteer donors. Blood donors are asked many questions about their lifestyle and medical history. Blood is not taken from anyone who may have an illness of any kind.

All blood is tested for several different infections. Blood that is infected is thrown away.

No more blood is collected from that donor.

The blood, which the tests show to be disease free, is separated into parts called blood products. These are sent to the hospital laboratory where they are stored.

Is transfusion safe?

No one can guarantee that any treatment is 100% safe. Every treatment has risks, some more than others. Blood products and transfusion are, however, safer today than they have been because the screening tests are improving all the time.

Going without a needed treatment also has risks.

Your doctor will only advise you to have a transfusion if it is absolutely necessary.



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What are the risks of transfusion?

1. The Risk of Infection

Although the risk is very small, some diseases can still be passed on to you by blood transfusion. This happens when the test does not “see” the infection. A donor may carry a virus and not feel sick at the time they give blood.

The infections that cause the most concern are Hepatitis B, Hepatitis C, Human T-Cell Lymphotropic virus (HTLV), Human Immunodeficiency virus (HIV), West Nile virus and Creutzfeldt - Jakob disease (CJD).

The risk* of getting one of these infections after transfusion is:

Hepatitis B virus	1 per 31,000 to 82,000; risk of clinical disease is 1 per 1.2 million
Hepatitis C virus	1 per 3.1 million
HIV (Aids virus)	1 per 4.7 million - 10 million
West Nile virus	Rare
HTLV	Very rare
Creutzfeldt-Jakob disease (CJD)	Rare cases of CJD possibly related to transfusion have been reported

*This is the risk per unit of blood transfused.

Note: The more units of blood a person receives, the greater the risk. A transfusion of 10 units increases the risk 10 times.

New and Unknown Infections

Blood may also carry new and unknown viruses such as new types of Hepatitis and other agents that we cannot test for.

2. Transfusion Reactions

There may be other complications which are not life threatening. You may:

- ▶ Feel hot or cold or develop a **fever**. This happens more often in those who have had many transfusions or pregnancies.

- ▶ Have an **allergic** reaction and feel itchy or have hives or wheezing.
- ▶ Have a serious reaction called a **hemolytic reaction**. Each transfusion you have has more risk of this type of reaction than the one before. This is because the blood you receive never exactly matches your own. Your body may produce antibodies that fight against the “foreign” blood. The more transfusions you have, the more chance you have of developing antibodies that can destroy the red blood cells.

3. Other Complications

A very rare condition called **Transfusion Associated Graft Versus Host Disease** can occur after you have large doses of cancer therapy or after a bone marrow transplant. Transfusion associated GVHD can cause death. We prevent this problem by giving specially treated products.

Please tell your nurse if you feel any changes during or after your transfusion. You should let your doctor know if you have had a reaction from a blood transfusion in the past. We can take steps to prevent this from happening again.

Can you donate your own blood?

Autologous blood donation is when you donate your own blood before your surgery and have it stored.

C&W has a program that allows certain patients to donate their own blood. The blood is stored (for up to five weeks) and given back if you need it during or after your surgery. If your blood is not needed, it is thrown out.

We provide this service only for surgeries or pregnancies with a high risk of bleeding that may require transfusion.

Can your friends or your family donate for you?

Family members sometimes ask if they can donate blood for you. This is called a **Directed Donation**. Directed donations can only be given by parents for their child who has a high risk of needing a red cell transfusion.

In certain situations, Canadian Blood Services will collect blood from parents for their child. They will not collect blood from other family members or from friends. Our hospital is willing to transfuse this blood if it meets the Canadian Blood Services standards and tests for regular blood donors. The process for directed donation can take up to two weeks.

Note: Even if directed donor blood is collected you may still need a blood product, which cannot come from the directed blood, e.g. albumin.

There is evidence that a directed donation may be less safe.

- ▶ Directed donors, who are often first time blood donors, are more likely to carry viruses than regular, frequently tested, Canadian Blood Services donors. This is because frequent donors have been found to be virus free many times.
- ▶ Children who receive a transfusion from a family member have a much greater risk of developing Graft Versus Host Disease (GVHD) – see earlier section. To prevent this problem, the parent’s blood must be specially treated.

Do you need to give consent before receiving blood and/or blood products?

Your doctor will ask you to sign a Consent form after you have discussed information about blood transfusion and you have had your questions answered.

If you refuse to receive transfusion of blood and/or blood products, you must sign a Refusal to Consent form.

What happens when you need a transfusion?

We take a blood sample from you and send it to the C&W Transfusion Medicine Laboratory. They test it and match it to donor blood to make sure that the blood you receive is compatible with your blood. The donor blood is then labelled with your name.

The blood (or blood product) is given to you through a needle into a vein usually in your arm. During your transfusion, a nurse will take your temperature, blood pressure and pulse.

What are the alternatives to transfusion?

Alternatives are sometimes available:

- ▶ Special surgical techniques can decrease blood loss.
- ▶ Other fluids can be used for a short time to replace blood loss.
- ▶ Certain drugs can help prevent bleeding or help your body make new blood cells.

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.

Where can you get more information?

Please talk to your doctor if you want more information or still have questions.

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