Blood Transfusion

Information for patients about benefits, risks and alternatives

What are the benefits of blood transfusion?
A blood transfusion can help treat someone with a serious injury, illness or disease such as cancer. Blood transfusions can replace low levels of blood parts. The body can have low levels of blood parts when it has lost a lot of blood or it can’t produce them, for example after the body receives chemotherapy. In many situations, blood transfusions are life-saving.

Blood can be separated into many different parts called blood products. Each blood product has its own important benefits. Examples include red blood cells, platelets, plasma, albumin, and immune globulin and coagulation factors.

- Red blood cells can bring more oxygen to all parts of your body.
- Platelets and plasma can help to prevent or stop bleeding.
- Albumin, a protein found in plasma, can be used to replace fluids your body has lost.
- Immune globulins from plasma can help your immune system.
- Coagulation factors from plasma can prevent bleeding if you have a blood disorder such as hemophilia.

Some people only need one blood transfusion. Others need many transfusions for long-term treatment.
Your health care provider will tell you more about the type of blood product you need and how you may benefit.

What are the risks of blood transfusion?
Most transfusions are given without any problems. However, like all medical procedures, there are some risks with having a blood transfusion. Most side effects are mild and can be treated with medications. More serious reactions are rare. It is important to tell your nurse or doctor if you develop any of the symptoms described below.

Short-term risks

Fever
Fever is a common side effect. Fever is usually not serious and can be treated with a medication such as acetaminophen (Tylenol).

Rarely, fever occurs because red blood cells are being broken down or the blood product has caused an infection. If these more serious reactions occur, the transfusion will be stopped until more tests can be done.

Rash
A rash, hives or itching is a common side effect. This is usually not harmful. If the itch bothers you, the doctor can prescribe a medication that will help.

In rare cases, the rash may cover a large part of your body or affect your face, mouth, throat or breathing passages. If this happens, the transfusion may need to be stopped.

The most serious type of allergic reaction is called anaphylaxis. When this happens there is usually a dangerous drop in blood pressure or difficulty breathing along with the rash. This is a medical emergency.
**Difficulty breathing**
Difficulty breathing is an uncommon side effect. It can occur due to:

- a severe allergic reaction to the blood product (anaphylaxis), or
- a build-up of fluid in your lungs (pulmonary edema).

If you have difficulty breathing, the blood transfusion will be stopped. You will need tests such as a chest x-ray, and treatment with medications and oxygen until your breathing improves.

The risk of this happening to you also depends on your general health.

**Other**
Other side effects that are possible include:

- chills or shaking
- pain at the intravenous site or elsewhere in the body (patients receiving IVIG may develop headaches during or shortly after their transfusion)
- wheezing (difficulty breathing)
- stomach upset
- bleeding or red-coloured urine

If you develop any of these symptoms tell your nurse or doctor right away.

Patients having transfusion therapy, such as plasmapheresis may get a tingling feeling around their mouth. This is a side effect of the additives used in these blood products. This is usually not serious, and may be treated with calcium.

**Long-term risks**

**Infection**
In Canada, blood transfusions are very safe. Donors are carefully screened and blood is carefully tested. The risk that a blood product will transmit an infection is extremely low. However, it is never possible to guarantee that a blood transfusion will not transmit a disease. New types of infection may be discovered that we do not currently test for.
Here are the most recent estimates for HIV and hepatitis.

<table>
<thead>
<tr>
<th>Type of infection</th>
<th>Risk of infection from a unit of blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Immunodeficiency Virus (HIV)</td>
<td>1 in 12.9 million</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>1 in 27.1 million</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>1 in 1.38 million</td>
</tr>
</tbody>
</table>

Some blood products are made from the plasma of thousands of blood donors. The way they are made removes or destroys most infectious agents. Therefore, these blood products are less likely to transmit disease than other parts of blood such as red blood cells, platelets or plasma.

If you have concerns about a particular infection, please talk with your doctor or ask to speak with the medical director of the blood bank.

**Other**

It is important for you to let your health care team know if you have had previous transfusions. After a blood transfusion, your immune system may make antibodies. Depending on the type of antibody, this may make it more difficult when you receive blood transfusions or an organ transplant in the future. Some antibodies may also harm a future pregnancy. If you develop red cell antibodies, the hospital’s Blood Transfusion Laboratory will give you a card to carry with you. Show this card to the health care team before having a blood transfusion at any health care facility.

If you have frequent transfusions of red blood cells, iron can build up in your blood. This condition may eventually require treatment. This may be a concern if you have received more than 20 units of red blood cells.

**Are there alternatives to blood transfusion?**

Alternatives to red blood cell transfusions may be available for some patients. At this time there are no effective substitutes for platelet or plasma transfusions.
Most blood transfusions replace a part of blood which is low or missing. Certain types of anemia may be corrected by medication, such as iron supplements or vitamin B-12.

If you are having surgery, other ways to conserve blood can be used during surgery to lower the chance that you may need a blood transfusion. For example, your surgeon may be able to collect the blood that you lose during surgery and return it to you. Talk with your doctor to find out if blood conservation options are available to you.

**Note:** If you received a blood transfusion at UHN, we will mail a letter to your home address notifying you of your blood transfusion and the type of blood product you received.

If you have other questions about blood transfusion:

- ask your doctor or nurse
- visit the Ontario Regional Blood Coordinating Network website (www.transfusionontario.org)

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