Acknowledgments

The original development team (2008):
Sunnybrook Health Sciences Centre:
▲ Jeannie Callum
▲ Peter Pinkerton
▲ Ana Lima

The revision team (2014):
▲ Nadia Naraine, ONTraC, The Hospital for Sick Children
▲ Margaret Hodgins, ONTraC, Health Sciences North (HSN)
▲ Marianne de Bretan-Berg, ONTraC, Southlake Regional Health Centre
▲ Cathy Lariviere, Laboratory Medicine, Bluewater Health

Graphics
▲ Lana Kosterewa

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This pamphlet is a shortened version of the original document that can be found on ORBCoN's website at www.transfusionontario.org

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Blood Basics

Blood is important to your health. Blood is made up of three types of cells: red blood cells, white blood cells and platelets. These cells are in a salty protein solution called plasma. Blood carries nutrients and oxygen to your tissues and takes waste products and carbon dioxide away from them. Blood is also responsible for your clotting system and helps to fight infection.

Why You May Need a Blood Transfusion

You might need a blood transfusion because:
- You bleed during surgery
- You are badly hurt in an accident
- Your blood cells don’t work the way they should
- You don’t have enough red blood cells or platelets
- You are taking medicine that affects your blood like drugs to treat cancer
- Your body doesn’t make antibodies to fight infection
- Your blood won’t clot
Blood Collection

Canadian Blood Services and Héma-Québec collect blood in Canada. They must meet Health Canada standards for blood collection. Canadian donors are not paid for their donation. To protect donors and patients, donors are asked very important questions before donating blood. Each donation is tested for different diseases such as HIV and Hepatitis B and C that may be spread by blood transfusion.

Canadian Blood Services and Héma-Québec are always looking for blood donors. For information on clinic locations, or to book an appointment at Canadian Blood Services call: 1-888-236-6283.

Blood Components and Products

The most common blood components are red blood cells, platelets and plasma. Plasma can be made into other products to give you the part of the plasma product you require.

- Red blood cells are used to carry oxygen to your tissues and organs.
- Platelets are used to prevent or stop bleeding.
- Plasma is used when your blood will not clot.
- Intravenous Immunoglobulin (IVIG) is used to treat people who cannot make their own antibodies or whose antibodies don't work the way they should.
- Rh Immune Globulin (Rhogam) is used to stop Rh negative moms from making an antibody that could harm their babies.
Blood Groups and Compatibility

Both red blood cells and plasma play very important roles in blood group compatibility (matching). The red blood cells have proteins called antigens that determine your ABO type. You may be Group A, B, O or AB. You have “naturally occurring” antibodies to the red blood cell antigens that you do not have on your red blood cells.

Group O red blood cells do not have any ABO antigens, so group O red blood cells can be given to anyone. Group O is the universal donor for red blood cells. Group AB plasma does not have any ABO antibodies, so group AB plasma can be given to anyone. Group AB plasma is the universal donor for plasma.

Your Rh type is determined by the D antigen. If you have the D antigen on your red blood cells this means you are Rh positive and if you do not have the D antigen on your red blood cells, you are Rh negative.

The Risks of Transfusion

Blood transfusion, like all other medical procedures is not without risk. As a patient, you should know: how a transfusion will help you, what your choices are, and the risks of a transfusion.

<table>
<thead>
<tr>
<th>Non-Infectious Complications</th>
<th>Estimated Risk of Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor allergic reaction (hives or rash)</td>
<td>1 in 100</td>
</tr>
<tr>
<td>Fluid overload</td>
<td>1 in 100</td>
</tr>
<tr>
<td>Fever or chills</td>
<td>1 in 300</td>
</tr>
<tr>
<td>Lung injury</td>
<td>1 in 12,000</td>
</tr>
<tr>
<td>Incompatible blood reaction</td>
<td>1 in 40,000</td>
</tr>
<tr>
<td>Serious allergic reaction</td>
<td>1 in 40,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infectious Complications</th>
<th>Estimated Risk of Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteria</td>
<td>1 in 10,000 platelet pools</td>
</tr>
<tr>
<td>West Nile Virus</td>
<td>Less than 1 in 1 million</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>1 in 1.7 million</td>
</tr>
<tr>
<td>Human T-lymphotropic virus (HTLV)</td>
<td>1 in 2.5 million</td>
</tr>
<tr>
<td>Chagas Disease</td>
<td>1 in 4 million</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>1 in 6.7 million</td>
</tr>
<tr>
<td>Human Immunodeficiency Virus (HIV)</td>
<td>1 in 8 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Transfusion Risk Event</th>
<th>Estimated Risk of Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death from Motor Vehicle Accident</td>
<td>1 in 10,000</td>
</tr>
<tr>
<td>Death from being struck by lightning</td>
<td>1 in 5 million</td>
</tr>
</tbody>
</table>
What to Look for During and After a Transfusion

The following is a list* of signs and symptoms that can be a result of a reaction to your transfusion:

- Fever
- Chills (Shaking)
- Pain in head, chest or back
- Anxiety or agitation
- Rash, hives and or itching
- Nausea and or vomiting
- Difficulty breathing and or shortness of breath
- High or low blood pressure
- Red or dark urine

If you have any of these signs or symptoms, report them to your nurse or doctor right away.

If you are going home after your transfusion, ask your nurse or doctor for information about what to look for and what to do if you develop any of these symptoms.

Although problems (reactions) during a blood transfusion are rare, it is important for you to understand what could happen. Reactions can occur during the transfusion, soon after, or days or weeks later. Most reactions are mild and easily treated. Because of this, you will be closely watched for the first 15 minutes of your transfusion and at different times during the transfusion. If you have a reaction during the transfusion, the transfusion will be stopped, you may be given some medicine to help you feel better and your doctor will decide if it should continue or not.

* For a complete list of Transfusion Reactions, please go to the Transfusion Ontario website at: www.transfusionontario.org and choose the tab for patients
Alternatives (Options) to Transfusion

Surgical Transfusion Needs
There may be other options that can be used to avoid or reduce the need for blood transfusion. Since some of these take time to work, they need to be planned ahead of time.

For patients having surgery, discuss these steps with your nurse or doctor:
- A thorough medical exam before surgery to address any treatable conditions
- Iron and vitamins to maintain "healthy" blood levels
- Blood tests to determine hemoglobin (red blood cell), iron levels and any risk for transfusion
- When to stop drugs and supplements (e.g., aspirin) that thin your blood and may increase bleeding during surgery
- In some patients, it may be appropriate to use a drug which is the synthetic form of the hormone erythropoietin (EPO) to boost hemoglobin production
- Use of other drugs that may lessen blood loss before, during and after the surgery

Your surgeon and anesthetist will discuss the best treatment for your particular condition.

For more information on your options, speak to your nurse or doctor. You may also visit the Ontario Nurse Blood Conservation Program at www.ontracprogram.com

Non-Surgical Transfusion Needs
Options may also be available to reduce transfusion in patients with non-surgical transfusion issues such as kidney failure or cancer.

Discuss the following with your nurse or doctor:
- When possible, ensure any other conditions that may cause bleeding are treated
- Iron and vitamins to maintain “healthy” blood levels
- Review use of blood thinners (e.g., aspirin), which may cause or increase blood loss
- In some patients, it may be appropriate to use a drug which is the synthetic form of the hormone erythropoietin (EPO) to boost hemoglobin production
- Importance of a balanced diet
Informed Consent

Informed consent for transfusion is a requirement of blood and safety standards in Canada. When consenting to transfusion you should be making an informed choice. You must be able to understand the information presented to you.

Consent has several elements:
- Consent must be voluntary
- You must be mentally competent to give consent
- Consent must be specific to the treatment proposed
- Consent must be “informed” — the patient must understand the risks, benefits and alternatives

The following information should be explained to you:
- Information about the blood product, how it is given and what the expected outcome is
- The reason for the transfusion
- The transfusion associated risks
- The alternatives to transfusion
- The benefits of the transfusion
- What could happen if you do not have the transfusion

You should be able to ask questions about your transfusion and bring up any concerns. You should be given answers to your questions and concerns before you give consent. You can withdraw your consent at any time. If you are unable to give consent, your legal representative or substitute decision maker can act in your place, keeping your best interest and wishes in mind.
Questions to Ask My Doctor

If you are having surgery, ask your nurse or doctor for more information about blood conservation programs in your area.

To find more information about blood transfusion, please visit www.transfusionontario.org

Questions you may want to ask your doctor:
1. How long should I expect the transfusion to take?
2. What happens if I do not consent to the blood transfusion?
3. Are there alternatives to the transfusion?
4. What are the risks of transfusion?
5. What is my blood group?
6. How do I prepare for the blood transfusion?
7. How will I feel during and after the blood transfusion?
8. Can I go home right after the blood transfusion?
9. Will I be able to drive after a blood transfusion?
10. How do you know how much blood to give me?

Other questions for my doctor:

Question 1:

Question 2:

Answer:
Questions to Ask My Doctor (cont’d)

Question 3:

Answer:

Question 4:

Answer:

Question 5:

Answer:
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Ordering Information: Please visit www.transfusionontario.org and visit the ORBCoN Resources tab and complete an online order request form.