WHAT IS APERHESIS DONATION?
This type of donation refers to a collection technique by which components (plasma, platelets, red blood cells, white blood cells) can be collected selectively. Thus, during an apheresis donation, the blood goes through a machine that separates it into its various components. The desired components are collected in a pouch and the other components are returned to the donor.

WHY GIVE THROUGH APERHESIS?
When a person is transfused, he or she receives only the needed blood component. An apheresis donation is a targeted way of responding to the demand. This procedure collects a larger volume of the desired blood component compared to a whole blood donation, thereby maximizing each donation.

FEATURES OF DONATION BY APERHESIS
- The volume of plasma collected depends on the donor’s weight and height. This volume corresponds to less than 16% of the donor’s estimated blood volume.
- Depending on the amount and the products collected, an intravenous fluid may be given to the donor during the procedure to ensure maximum comfort through replacement of lost blood volume.
- At the time of the donation, an anticoagulant is added to the blood to prevent it from clotting once it is outside the donor’s body. A portion of this substance is returned to the donor with the components that are not collected.

SPECIFIC FEATURES BASED ON THE PRODUCT COLLECTED

**Plasma**
- The collection process lasts approximately 45 minutes.
- The body replenishes the plasma collected in only a few days.
- In order to prevent collecting from a donor whose protein levels have declined following repeated plasma donations, the donor’s protein levels must be measured at every donation and a dosage of the types of proteins must be performed every four months for frequent donors.

**Platelets**
- The collection process takes up to 75 minutes.
- The body replenishes the platelets collected generally in a few days.

**White blood cells (granulocytes)**
- The collection process, performed on both arms, takes approximately 90 minutes.
- The body replenishes the granulocytes collected in only a few days.

**Red blood cells**
- The collection process takes up to 25 minutes.
- It generally takes 8 to 26 weeks for the body to replenish the lost iron, depending on the type of donation made (single or double) and the daily intake of iron (from food and supplements).

Simultaneous collection
- Simultaneous collection makes it possible to obtain a combination of specific products in a single donation: red blood cells, plasma or platelets.
- The collection process takes between 25 and 90 minutes, depending on the combination of collected products.

SAFETY ABOVE ALL
Héma-Québec does everything possible to ensure safety of donors and provide products that are safe and of optimal quality to the people of Quebec. It applies the highest standards.

**During the interview**
- We will ask you about your health status and risk behaviors concerning transmissible diseases.
- We will take your blood pressure and your temperature.
- Depending on the type of donation, we will check your hemoglobin (or hematocrit), platelet, white blood cell or protein count.
- We will ask you to sign your record to confirm that you have read and understood the information it contains.

**Tests done**
Héma-Québec analyzes all blood donations it collects in order to screen for diseases that can be transmitted by blood:
- Hepatitis B and C
- Human T-cell lymphomatis virus (HIV-1/2)
- Syphilis
- AIDS virus (HIV)
- West Nile Virus (WNV):
  - This test is systematically performed during the epidemiologic season. Outside this period, it is only performed if you have travelled outside of Canada in the last 56 days.
  - Chagas Disease:
    - This test could be performed if you answer “yes” to question 9c, 9d or 9e of your record.
  - There may be circumstances in which the tests may not be performed (e.g., damaged sample). In this case, the blood donation will be destroyed without any further analysis.

In the event of an abnormal result:
- The donation is destroyed;
- The donor is notified and his or her results are stored in a confidential manner, by applying a sticker to the record. The nurse will explain the procedure to follow.
- Other tests performed
  - ABO, Rh and, if required, other blood groups
  - Cryoglobulins (CML)
  - Bacterial culture of platelets
  - Hemoglobin type, if need be

AIDS and hepatitis
AIDS and Hepatitis B and C are transmitted by blood or body fluids (e.g., during sexual relations1 or when sharing needles or syringes). For this reason, Héma-Québec asks donors questions about these matters.

1. The expression "sexual relations" refers to the following acts, with or without a condom or other means of protection: vaginal penetration (contact of the penis with the vagina); oral-genital relations (contact of the mouth or tongue with the vagina, penis or anus); and anal penetration (contact of the penis with the anus).

There is a risk period (called the “window period”) during which, even if the donor tests well and HIV and Hepatitis B and C tests are negative, he or she may have been recently infected and therefore transmit these viruses to a person who receives a product made from his or her donation.

Some people do not want to tell the nurse that they have participated in activities that put them at risk for transmissible diseases or may feel pressured by their peers into giving blood. For these reasons, it will be possible to make this known, in a confidential manner, by applying a sticker to the record. The nurse will explain the procedure to follow. A blood drive is not the place for a health examination or for human immunodeficiency virus (HIV) or Hepatitis B or C testing.

This pamphlet provides information about the procedure for apheresis donation and the associated risks. You should read it before your donation to make sure you understand the procedure.
### POSSIBLE UNDESIRABLE EFFECTS

Apheresis collection is a common practice throughout the world, without serious complications for the donor. However, undesirable effects may occur. In this case, the procedure may be interrupted. In the event of weakness, sit down and place your head between your knees or lie down with legs elevated for a few minutes. Depending on the nature of your work or the sport you practice, you may need an additional rest period before returning to your activities (bus driver, heavy equipment operator, etc.).

<table>
<thead>
<tr>
<th>Undesirable effects</th>
<th>Signs and symptoms (not exhaustive)</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Shivering</td>
<td></td>
<td>Frequent</td>
</tr>
<tr>
<td>Reaction to the sodium citrate (anti-coagulant)</td>
<td>Metastatic taste in the mouth</td>
<td>Frequent (5% of donors)</td>
</tr>
<tr>
<td>Ecchymosis or hematoma (bruise) at the puncture site</td>
<td>Occasionally</td>
<td></td>
</tr>
<tr>
<td>Pain or numbness in the arm</td>
<td>Usually short-lasting</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Fatigue the day after the donation</td>
<td>Occasionally</td>
<td></td>
</tr>
<tr>
<td>Nausea, vomiting, burning</td>
<td>Rare</td>
<td></td>
</tr>
<tr>
<td>Hemolysis (destruction of red blood cells)</td>
<td>Pinkish or red urine</td>
<td>Very rare</td>
</tr>
<tr>
<td>Superfi cial phlebitis</td>
<td>Pain or numbness in the arm</td>
<td>Very rare</td>
</tr>
<tr>
<td>Pulmonary embolism (blood clots in the machine tubing)</td>
<td>Rapid breathing, chest pain</td>
<td>Very rare</td>
</tr>
<tr>
<td>Gas embolism (air bubbles in the blood)</td>
<td>Cardiac or neurological complications</td>
<td>Very rare</td>
</tr>
<tr>
<td>Reduction of iron content</td>
<td>Fatigue, reduced stamina, memory or mood problems, anemia</td>
<td>More likely in frequent donors</td>
</tr>
</tbody>
</table>

**Possible undesirable effects**

- Infection to Prophylaxis® (used to increase the quantity of granulocytes collected)
  - Inflammation, allergy, eosinophilia, pruritus, rash
  - Rare

- Allergic reaction to the plasma volume expander used to separate granulocytes from red blood cells (eg. Pentaspan®, Hesperan®)
  - Wheezing, hives, low blood pressure
  - Very rare

**FREQUENCY

- Frequency of undesirable effects: **
- Occasional
- Rare
- Very rare

**Possible undesirable effects**

1. There is a risk of hemolysis during the procedure, although this is very low. If not treated, the hemolysis can have serious, even fatal, consequences. For your protection, close supervision is ensured by our personnel to detect hemolysis. If it is detected, the procedure is stopped immediately.

2. There is a risk of pulmonary or gas embolism during the procedure, although this is very low. Although a low volume of air would probably not cause any problems, a larger volume could have serious, even fatal, consequences. These events have been observed in the past with less sophisticated collection equipment. However, the modern collection equipment that we use has an integrated clot fi lter and air bubble detection system that prevents the risk of embolism. If air bubbles are detected, the machine immediately stops the procedure.

3. There is a risk of transfusion reactions resulting in fever, chills, sweating, diaphoresis, and defervescence. These events have been observed in the past with less sophisticated equipment that we use. An integrated clot fi lter and a bubble detection system prevents the risk of infusion. If infusion reactions are detected, the machine immediately stops the procedure.

4. There is a risk of anaphylaxis (allergic reaction to the components collected). The optimal choice for compensating for iron losses resulting from blood donation may vary. However, a dosage of elemental iron ranging from 19 to 45 mg per day for 12 weeks after a donation, may be sufficient.

### BLIGHTING DONATION ONLY

- **GRANULOCYTES DONATION ONLY**
  - **Possible undesirable effects**
  - **Signs and symptoms (not exhaustive)**
  - **Frequency**

### ADVICE

**Before the donation**

- Drink at least 500 ml (water or juice).

**After the donation**

- Rest and drink enough fluids (500 ml) to replace the liquid that has been lost.
- Exert pressure at the puncture site for about five minutes to stop the bleeding.
- Keep the bandage covering the puncture site in place for six hours.

### NOTES

Any information collected on you will be kept confidential, according to the law.

At any time during the procedure, you can change your mind and decide not to give.

You may consult your record and if needed, have it rectify.

In order to continuously improve our processes, Héma-Québec may use the information collected on you for studies or may contact you in the future.