



HÉMA-QUÉBEC

**Blood donation
goes digital!**

page 6

**Héma-Québec
saves a young
boy's sight**

page 4

**Two new blood
donor centres
coming soon**

page 8

TESTIMONIAL

**Andy:
stem cell
donor**

page 10



Photo: Fotografika

HÉMA-QUÉBEC

An evolving mission

Efficiently provide adequate quantities of safe, optimal blood components and substitutes, human tissues, cord blood, breast milk and cell products to meet the needs of all Quebecers; provide and develop expertise along with specialized and innovative services in the field of human biological products.

Héma-Québec's new mission statement reflects what we have become over the years: an organization that affirms and assumes its role as an expert in the field of human biological products.

This mission is replete with challenges, especially the creation of the Public Mothers' Milk Bank. Since operations began in April 2014, the bank has distributed 1,780 bottles of breast milk for very premature babies. We sincerely thank the 543 donor mothers whose generosity has made the bank possible.

In December, however, Héma-Québec notified Québec hospitals that it was halting the distribution of units of breast milk from its bank. Donor recruitment activities and the collection of breast milk continued, since milk can be preserved for a year.

The temporary halt of activities at the milk bank is related to the withdrawal from service of two pasteurization machines used by Héma-Québec. Quality control results fluctuated, with 39.5% of products not meeting compliance standards and being rejected. This rejection rate — much higher than the anticipated rate of 8% — prevented Héma-Québec from providing a stable supply of breast milk to its clients.

All distributed products meet compliance standards. Since these products are intended for a vulnerable client group, Héma-Québec preferred to avoid any risks and opted for a cautious preventive approach. Corrective measures are under way. The processing and distribution of breast milk should resume in spring 2015.

Adapting quickly

The ever-changing environment in which we operate requires that our mission and actions adapt to keep pace. This is also true with

our main area of activity: blood products. In this issue of *Info Héma-Québec*, you will read about changes to the blood donation process that will make it a paperless experience.

For several months now, Héma-Québec has also had to deal with a decrease in deliveries of labile blood products for transfusion. Packed red blood cells and platelets, the two components in greatest demand, have dropped significantly. The same is true for plasma used in transfusions. Conversely, there has been an increase in demand for plasma used in the manufacture of pharmaceuticals.

Significant efforts have been made to increase the amount of plasma collected for the manufacture of pharmaceuticals. We opened the first permanent plasma donor centre in Trois-Rivières under the PLASMAVIE banner. Two new permanent donor centres will also be opened in the near future, one in Saguenay in 2015 and another one in Sherbrooke in the months to come.

These new realities ultimately depend on the generosity and commitment of donors and volunteers. Thank you for supporting us in this time of change!



Smaranda Ghibu

Acting President
and Vice-President,
Corporate Affairs



Marco Décelles

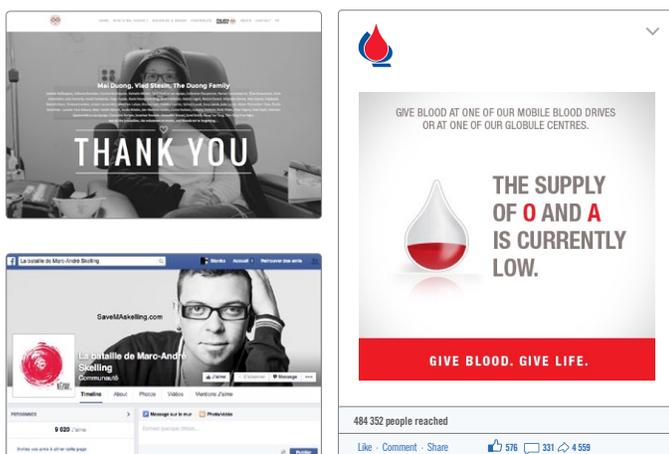
Acting Chief Executive Officer
and Vice-President and Chief
Operating Officer

HÉMA-QUÉBEC'S DONORS, RECIPIENTS AND VOLUNTEERS

You are nearly 25,000 strong on Facebook!



In 2014, thanks to you, the stories of Mai Duong, Jean-Gilles Gadoury and Marc-André Skelling—all searching for a compatible stem cell donor—took off on social media. These widely publicized campaigns were picked up on other platforms and had a direct impact on Héma-Québec's Stem Cell Donor Registry: the number of enrollments almost doubled in one year!



In the same way, when the blood supply for O+, O-, A+ and A- blood groups was at a low point in October 2014, the call for donors launched on Facebook reached close to 500,000 Internet users, becoming Héma-Québec's most watched message on this social network!

Events relayed to our online communities also helped us surpass our donation goals. This was the case with the announcement of activities celebrating the first anniversary of the GLOBULE DIX30 Centre in February.

Something else that blood donation supporters can be proud of: in the past three years, more than 1,700 photos have been shared on the Instagram photo app using the hashtag #hemaquebec.

In short, whether on Instagram, Twitter, Facebook, LinkedIn, Google+, YouTube or another medium, social networks are an opportunity for us to reach out to you, listen to your concerns and share our mission.

Through your actions up to now, you, our valued partners, have shown yourselves to be true ambassadors. Your comments, shared postings, "likes", congratulations and encouragement are advancing the cause of saving lives. Thank you! •

Follow us:



Héma-Québec's researchers save a young boy's sight

A toddler has been spared from blindness thanks to a biological treatment developed by Héma-Québec's researchers. The researchers formulated an eye drop concentrate from plasminogen, a protein contained in plasma that helps with healing.



Little Étienne suffers from severe ligneous conjunctivitis, an extremely rare eye disease that affects one out of 100,000 individuals. The disease is caused by plasminogen deficiency and mainly affects the eyes and eyelids, leading to the formation of membranes that become hard and take on the appearance of wood, hence the qualifier "ligneous". Serious forms of the disease cause vision loss due to scarring of the cornea.

Attempts to treat Étienne with blood plasma drops failed. The membranes forming in his eyes would always return after a week. Faced with this disappointing outcome, Dr. Isabelle Laliberté, a pediatric ophthalmologist at CHUL's *Centre mère-enfant Soleil*, turned to Héma-Québec's spe-

cialists, specifically Louis Thibault, Director of Research Operations.

"We tried every possible option, including transfusing fresh plasma to compensate for the plasminogen deficiency in our young patient. After a year of treatments and surgeries, we were almost back at square one. The scientific literature talked about treatments with plasminogen drops but, because of the rare nature of the disease, the drops were not commercially available. That was when I approached Héma-Québec, which managed to formulate the drops within a few months. Administering the drops had immediate and convincing results and helped prevent complications that would otherwise have led to the patient's blindness," Dr. Laliberté explains.





Étienne with his mother, Audrey Lepage.

Photo: Viviane Asselin

Today, three-year-old Étienne and his parents are enjoying a much better quality of life. All he needs now is eye drops twice daily, compared with the previous treatment that required the administration of eye drops every 15 minutes.

This success story reaffirms Héma-Québec's expertise and know-how as a supplier of human biological products, a leadership role that was recognized with a 2014 Innovation Award from the *Association pour le développement de la recherche et de l'innovation du Québec* in the category of Product Innovation. •



Photo: Viviane Asselin

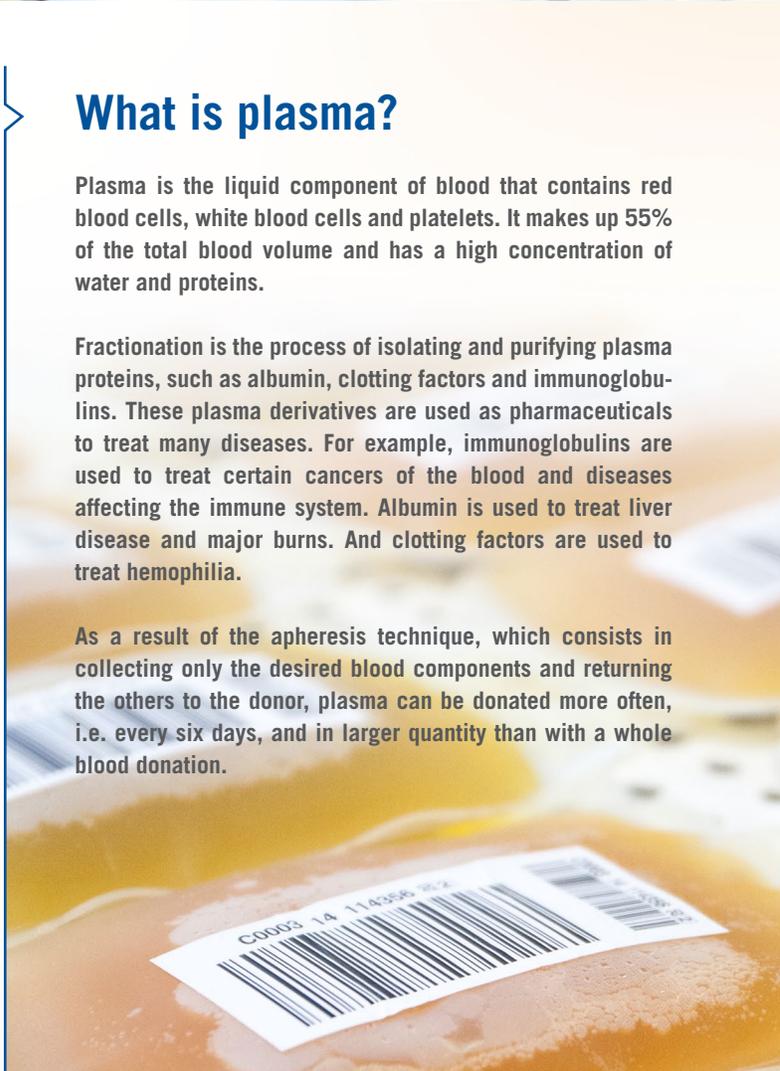
Louis Thibault, Director of Research Operations at Héma-Québec. His team came up with a product specifically tailored to little Étienne's needs.

What is plasma?

Plasma is the liquid component of blood that contains red blood cells, white blood cells and platelets. It makes up 55% of the total blood volume and has a high concentration of water and proteins.

Fractionation is the process of isolating and purifying plasma proteins, such as albumin, clotting factors and immunoglobulins. These plasma derivatives are used as pharmaceuticals to treat many diseases. For example, immunoglobulins are used to treat certain cancers of the blood and diseases affecting the immune system. Albumin is used to treat liver disease and major burns. And clotting factors are used to treat hemophilia.

As a result of the apheresis technique, which consists in collecting only the desired blood components and returning the others to the donor, plasma can be donated more often, i.e. every six days, and in larger quantity than with a whole blood donation.



NEW PROCESS FOR DONATING BLOOD

Blood donation goes digital!

Beginning in May, blood donors will be experimenting with a new fully computerized blood donation process. Gone are the paper copies needed at each stage of the process. Welcome to the digital age! Whether presenting proof of ID, filling in the medical questionnaire or signing the consent form, everything will be done electronically.

Among the major new changes: a photo will be taken and kept in the donor's file. A bracelet will then be issued to new donors or to those who have forgotten their donor card. Donors will only need to place the bar code of their donor card or bracelet under an optical scanner to identify themselves.

Donors will also be given a touch screen to answer the medical questionnaire. An audio version of the questionnaire will also be offered. Frequent donors will be able to use a shortened version of the questionnaire based on specific criteria. Eventually, it will even be possible to fill in the questionnaire online (remotely) on the day of the blood donation.

These technological changes will not only streamline the blood donation process and reduce the number of errors that can occur during data entry but will also save some 50 trees a year!



HÉMA-QUÉBEC

1 RECEPTION



- Bring proof of ID or your donor card with you
- Familiarize yourself with the selection criteria

2 READING



8 SNACK



- Drink at least 500 ml of water or juice

7 REST



- Apply pressure to the puncture site
- A volunteer will remove the bracelet



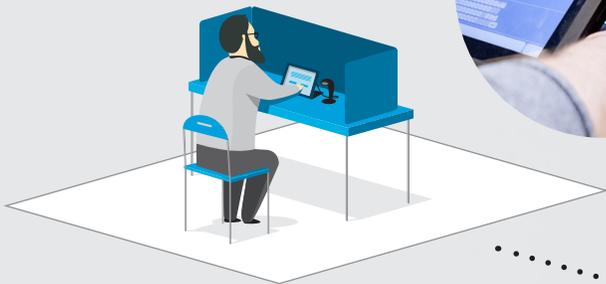
- ▶ Read the pamphlet *Blood Donation: What you need to know*

3 REGISTRATION



- ▶ Present proof of ID and receive a bracelet or present your donor card
- ▶ Have your hemoglobin level checked
- ▶ Have your photo taken

4 MEDICAL QUESTIONNAIRE



- ▶ Scan your bracelet or donor card to identify yourself and access the questionnaire
- ▶ Request headphones, if necessary, to access the audio version
- ▶ Answer the questionnaire

6 DONATION



- ▶ The puncture site is disinfected
- ▶ Blood is collected



5 ELIGIBILITY



- ▶ Scan your bracelet or donor card to identify yourself and enable the nurse to access your file
- ▶ Go over certain questions with the nurse, if necessary
- ▶ Have your vital signs checked (blood pressure and temperature)
- ▶ Sign the consent form

BLOOD DONOR CENTRES

In every corner of Québec

A PLASMAVIE-GLOBULE in the Saguenay this summer

Héma-Québec has chosen the Ville de Saguenay as the site of the next Plasma Donor Lounge, PLASMAVIE. This permanent centre, which will be open seven days a week, will also feature GLOBULE, an area dedicated to blood donation and will begin its operations in summer 2015. It will be located at 2096 Talbot Boulevard.

The people of the Saguenay–Lac-Saint-Jean region are generous blood donors. Their rate of participation in blood drives is 3.5%, compared with an average rate of 3% for Québec. Each year, more than 15,000 blood donations are collected in the Saguenay–Lac-Saint-Jean during 90 collection days.

The Saguenay–Lac-Saint-Jean region is the seventh largest agglomeration in Québec and the regional centre for a vast territory. The new centre will create 25 to 30 jobs. To complete the project, Héma-Québec will draw on the technical and financial support of the Ville de Saguenay. •

650 new donors sought in Trois-Rivières



During the 12 months following the opening of the PLASMAVIE Plasma Donor Lounge in Trois-Rivières, the first centre of its kind in Québec, close to 6,700 plasma donations were made, with 30% of donors accounting for more than eight donations each.

In spite of the enthusiastic response of the citizens of Trois-Rivières, a total of 650 new donors will need to be recruited for the centre to reach its annual target of 13,500 donations.

PLASMAVIE was created to reduce the supply of foreign plasma used in the manufacture of pharmaceuticals. The ultimate goal of Héma-Québec is to increase its rate of self-sufficiency by more than double, by increasing the volume of this type of collection to 145,000 litres by 2020 and to reduce the cost of producing one litre of plasma by 53%. •



For more information about blood donor centres: www.hema-quebec.qc.ca, *Blood > Blood Donors > Where to donate?* section



Photo: Robert Côté

Donors embrace Brossard's GLOBULE DIX30 Centre



Montérégie blood donors have overwhelmingly embraced the newest member of the family of GLOBULE Blood Donor Centres in Brossard's Quartier DIX30. During its first year of operation, the centre recorded a total of 9,100 donations, including 5,300 whole blood donations and 3,800 apheresis donations.

To mark the one-year anniversary, the centre distributed snacks and a small gift to donors between February 9 and 15. The mascot *Osez le don* was also on hand from Friday to Sunday, inviting passers-by to learn their blood group.

Something new in the GLOBULE Centres

The GLOBULE Centres will progressively start collecting plasma to be used to manufacture pharmaceuticals during the fall of 2015 and the winter of 2016. •

A PLASMAVIE coming soon to Sherbrooke

Héma-Québec will be opening a plasma donation centre in Sherbrooke in the coming year. The 12-bed facility, which will employ some 20 staff, will be the third centre to open under the PLASMAVIE banner since its creation in 2013.

"Sherbrooke is the sixth largest agglomeration in Québec and the regional centre for the vast Estrie region, so it was logical to set up a plasma donation centre there. The people of Sherbrooke are also very committed blood donors," explains Marco Décelles, Vice-President and COO, and interim CEO of Héma-Québec.

The new centre will be located in a facility with an area of approximately 400 square meters to which Héma-Québec will make major physical improvements. The anticipated investment will be \$1.7 million, including equipment. The project will be carried out with the technical and financial support of Sherbrooke Innopole. •

TESTIMONIAL

Andy: stem cell donor

Andy is lucky. At 28, he found out that he was compatible with a patient who was waiting for a stem cell transplant. He immediately agreed to become a donor. Andy saw it as a normal thing to do. He speaks modestly about this experience that changed his life... and that of another human being!

What prompted you to enroll in the Stem Cell Donor Registry?

I heard about the Registry when I was donating blood. When I learned that a stem cell transplant could be someone's last chance for survival, I thought: "Wow! That's important. Where do I sign up? It seemed like a natural thing to do, like helping a friend who has fallen in the street. The difference here is that you're helping a stranger."

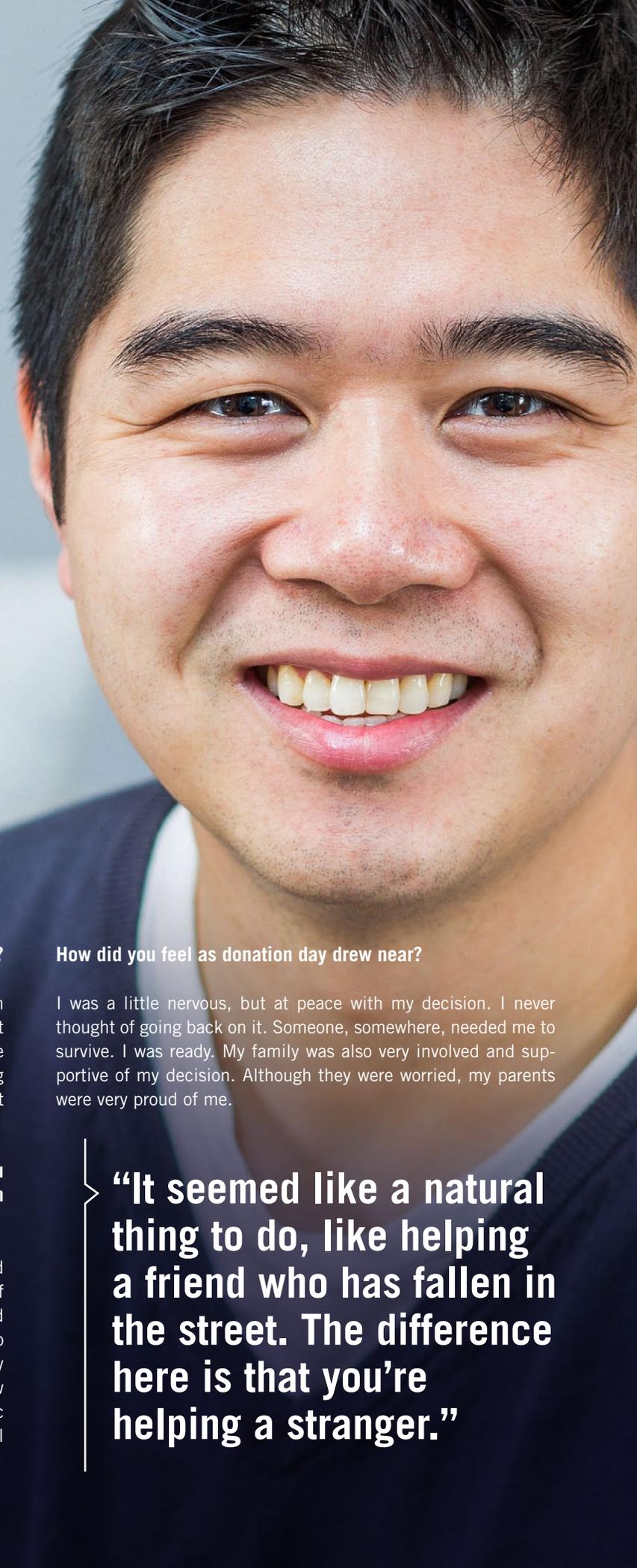
What was your reaction when Héma-Québec told you that you were compatible with a patient who was waiting for a stem cell transplant?

I was very surprised! Four years or so had passed since I had enrolled. When I was reminded how slim the chances are of finding a similar genetic profile between an unrelated donor and a patient and how few people have the opportunity one day to donate stem cells, I felt like I had won the lottery. I was really happy that I could help someone in need. I also understood how important it is for the Registry to have donors from all ethnic backgrounds. Genetic compatibility is very complex; it's crucial that the donor and recipient share a similar genetic profile.

How did you feel as donation day drew near?

I was a little nervous, but at peace with my decision. I never thought of going back on it. Someone, somewhere, needed me to survive. I was ready. My family was also very involved and supportive of my decision. Although they were worried, my parents were very proud of me.

"It seemed like a natural thing to do, like helping a friend who has fallen in the street. The difference here is that you're helping a stranger."



There are two ways to donate stem cells, other than cord blood donation:

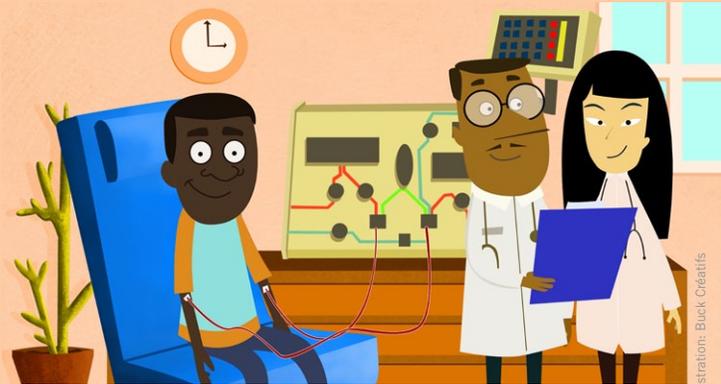
Bone marrow donation (this is the type of donation that Andy made)



Bone marrow donation is performed in the operating room under general anesthetic or epidural. The bone marrow is removed from the hip bones with a syringe.

Andy is a rare gem: only 4% of registered stem cell donors are of Asian descent in Québec. The number drops to less than 1% worldwide.

Peripheral stem cell donation



To collect peripheral stem cells, the donor is injected with a substance that increases the quantity of stem cells circulating in the blood. The cells are then harvested using a process called apheresis. The blood is collected, passed through a device that filters out the stem cells and returns the remaining blood components to the donor.

Did the stem cell harvesting go well?

The surgery went very well. I was confident it would because the procedure had been explained to me beforehand. The few post-operative side effects were minor compared with the benefits that my donation could have on the life of another person.

What have you taken away from the experience?

I've worked hard to raise awareness among those around me not only about stem cell donation but also about cord blood donation, and I continue to do so. When I hear about scientific advances in the field of stem cell research or see someone like Mai Duong leading the fight, raising awareness and explaining the importance of a donor's ethnic background and the challenges that it presents for the Québec Registry, it reminds me of the importance of what I am doing and gives it meaning! •

With both types of donation, the stem cells that have been harvested are transfused to the patient within 24 to 48 hours following the donation.

For more information or to join the Stem Cell Donor Registry: www.hema-quebec.qc.ca, *Stem Cells > Stem Cell Donors* section

Do you really know Héma-Québec?

Did you know that Héma-Québec is much more than blood donations? Thanks to the invaluable contribution of many employees in all areas of operations and the generosity of recipients, donors and volunteers, Héma-Québec has produced a video that showcases its wide range of activities.

Over the years, Héma-Québec has expanded its activities and areas of expertise beyond blood products. While blood products still remain at the core of its daily operations, human tissues, stem cells, breast milk and cell production activities have increased in importance. The *Act respecting Héma-Québec and the Biovigilance Committee* was amended in 2013 to reflect the reality of the organization today as an expert in human biological products.

Héma-Québec has long used the video *The Transfusion Route* to inform people about its activities. Now the organization enthusiastically presents a new video that better reflects what it is today. This 4½ minute video was produced with a musical tract only and no narration.

To watch the video: www.hema-quebec.qc.ca, Publications > Videos section.

Happy viewing! •

Donors



Close to 400



16,000 volunteers



Platelets

Cord blood



Tar



10,000 banked units

Stem cells

Mother's milk



registered donors

Corneas



4,000 tissues delivered annually in Canada

Louise

Corneal transplant recipient



Human tissues

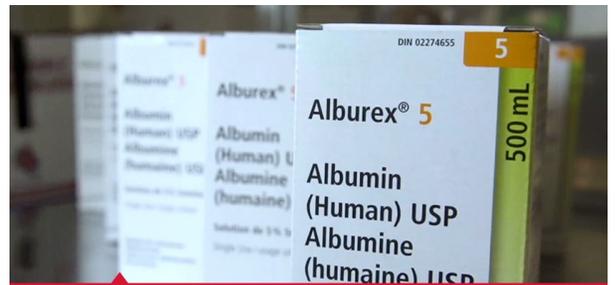
Volunteers

Biological products



targeted collections to meet specific needs

Apheresis



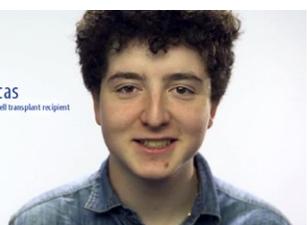
400 000 medications made from plasma

Blood

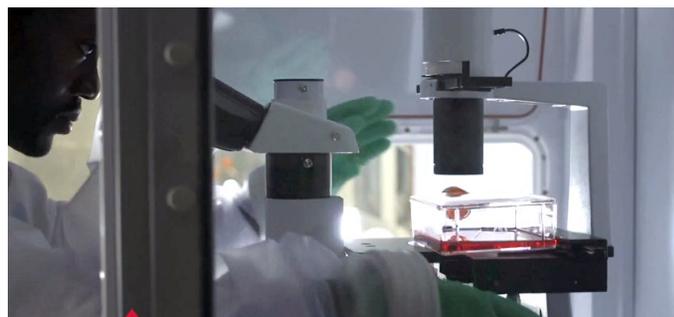
Plasma

Recipients

Cell production



cas
corneal transplant recipient



Supports the development of new treatments

To excel and innovate for better health

Is giving blood good for your health?

Héma-Québec's slogan encourages Quebecers to *Give Blood. Give Life*. It is well known that blood donors selflessly roll up their sleeves to help others. Several of them wonder, however, about the benefits of giving blood for their own health.

According to a study published a decade ago in the *American Journal of Epidemiology*, giving blood is good for your health; in particular it reduces the risk of cardiovascular disease and heart attacks. The authors of the study followed 2,862 men aged 42 to 60 and noticed that those who gave blood every six months had an 88% lower risk of having a heart attack, compared with men of the same age who did not give blood.

In line with this theory, another study that appeared in the *Journal of the National Cancer Institute* in 2008 proposed that the iron lost when giving blood had the effect of reducing the risk of cancer. More than 1,275 blood donors were followed for slightly more than four years. The researchers insisted, however, that these health benefits are found only in regular blood donors and not in those who make occasional blood donations.

Will giving blood help me?

At first glance, giving blood would seem to be good for your health. Héma-Québec's medical affairs team, however, is cautious about the question. A recent study conducted by Héma-Québec would seem to show that giving blood has no effect on the risk of coronary disease.

"A group of eligible donors was followed over a 15-year period, along with a group of donors excluded due to a false negative result on the blood donation qualification test (until 2012, a false positive resulted in permanent exclusion from the blood donation process). No significant difference was observed between the two groups regarding the incidence of coronary disease," explains Dr. Marc Germain, Vice-President of Medical Affairs at Héma-Québec and co-author of the study published in the June 2013 issue of the journal *Transfusion*.



More than 12,355 donors excluded due to a false positive result in one of the blood donation qualification tests and 50,889 eligible donors were followed between 1990 and 2002. Those in the eligible donor group made an average of 0.36 blood donations a year during the study period, while those in the excluded donor group obviously made no blood donations. The rate of hospitalization or death attributable to coronary disease for both groups was essentially the same. This was true even when more frequent donors were examined. These results would not appear,





Photo: Stanko Josimov

Pascal Demers at the time of his 147th donation at the GLOBULE Laval Centre in February.

therefore, to support the hypothesis that giving blood has an effect on the risk of heart disease.

Biased judgment, my dear Watson!

So how do you reconcile the contradictory findings of the various studies? There may be one explanation: those who decide to give blood are generally in better health before becoming regular blood donors. “We call this the healthy donor bias,” says Dr. Germain.

“Being in good health is a prerequisite to giving blood. So a potential bias exists when the health of blood donors is compared to the health of persons who do not give blood. This may explain why some studies measured a lower risk among regular donors of contracting certain diseases. Therefore, donating blood would not be the cause but rather the consequence of this better health.”

Blood donors are sure of one thing: every blood donation they make helps others to regain their health and saves lives! •



HELP US ROLL UP SLEEVES

By supporting the Foundation, you allow Héma-Québec to do more, do it better and do it faster.

HOW TO HELP?

- › Donate (ask about our different programs)
- › Organize a fundraising event
- › Establish an endowment fund, named for you or a loved one
- › Plan a bequest or life insurance donation
- › Donate products or services

THANK YOU FOR GIVING LIFE DIFFERENTLY!

For more information or to make a donation:

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1-888-666-HEMA (4362), ext. 5372

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