

PUBLIC CORD BLOOD BANK

Donor Recruitment Help Guide
for Health Professionals

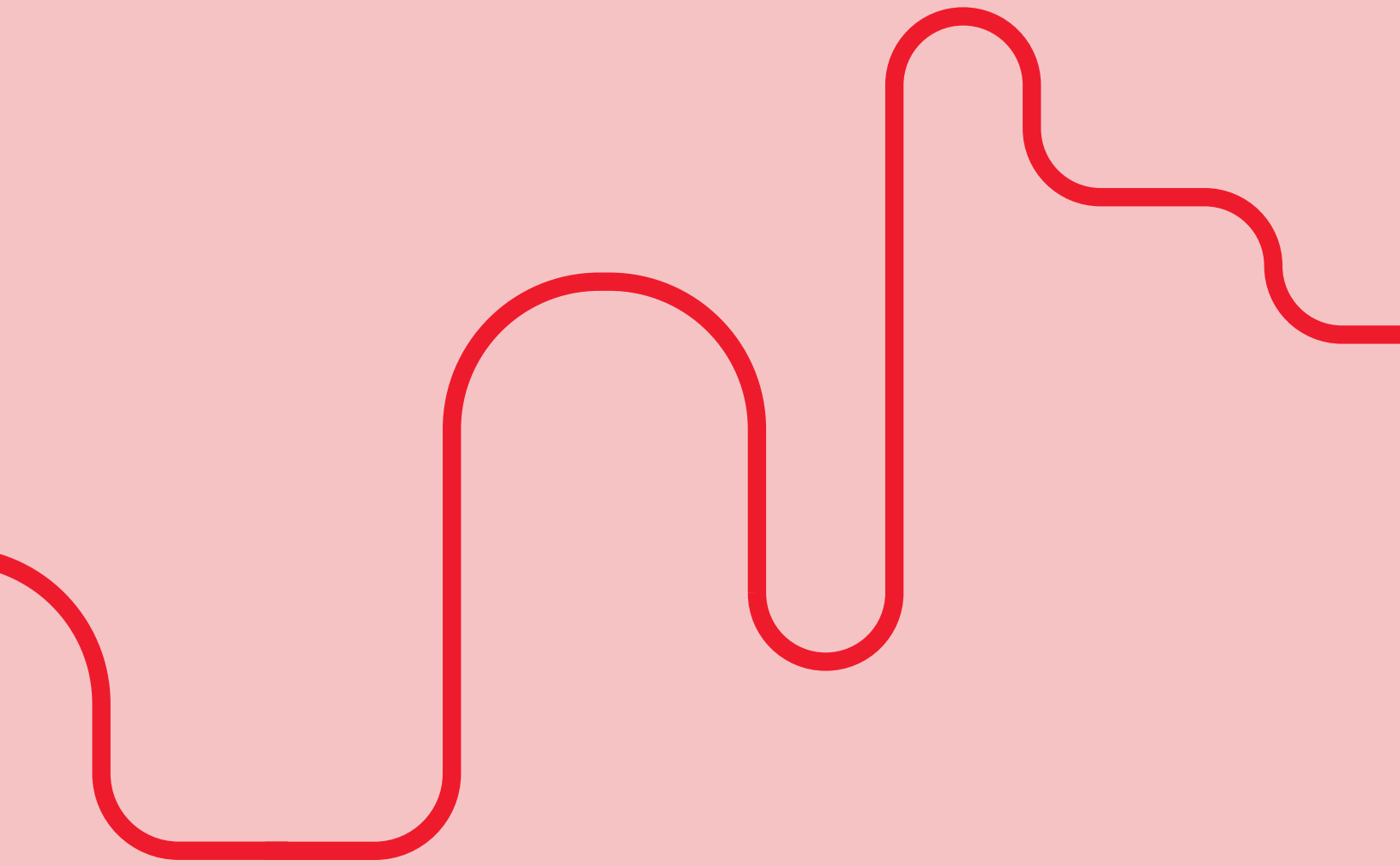


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INTRODUCTION

One of the main roles of bone marrow is to produce hematopoietic stem cells. These vital cells have the unique characteristics of lodging inside bone marrow, dividing and differentiating into red blood cells, platelets and white blood cells to reconstitute a new blood system.

Hematopoietic stem cells are present in large numbers in bone marrow but are also found in umbilical cord blood.

Umbilical cord blood has all the characteristics of normal blood. Hematopoietic stem cells are non-specialized cells that produce all blood cells (red blood cells, white blood cells and platelets). They play a key role in the treatment of several diseases, including certain hereditary diseases, such as sickle cell anemia, and cancers, such as leukemia.

This guide is intended for health professionals who perform pregnancy follow-ups. It will help you get to know Héma-Québec's Public Cord Blood Bank and raise awareness among your patients of the usefulness of cord blood donation and compatibility issues. It will also help you better understand the route a donation takes and your role in recruiting donors.

As a frontline worker, your support is crucial to helping expand the Public Cord Blood Bank. You can help save lives!



At the age of 9, Éliane's life was saved thanks to a stem cell transplant from cord blood. She had acute lymphoblastic leukemia.

Héma-Québec's Public Cord Blood Bank

Created in 2004, Héma-Québec's Public Cord Blood Bank is the first of its kind in Canada. Its aim is to make hematopoietic stem cells from umbilical cord blood a diversified collective resource that reflects the people of Québec, and to provide a supply of optimum quality stem cells to meet the needs of patients awaiting a transplant in Québec and elsewhere in the world.

The Public Bank is a source of stem cells that is complementary to that of cells found in bone marrow and peripheral blood. As with Héma-Québec's Registry of Adult Donors, it is an integral part of the World Marrow Donor Association's International Registry.

While Héma-Québec is responsible for registering and qualifying donors, the collection itself is done by partner hospitals. Upon receipt of the collected cells, Héma-Québec oversees the processing, testing and cryopreservation of the cord blood units.

Safety and quality remain absolute priorities for Héma-Québec. The organization ensures that products comply with Health Canada requirements, CSA standards and the NetCord-FACT standard, from collection to distribution for transplantation.

Stem Cells

Hematopoietic stem cells play a key role in the treatment of several diseases, such as sickle cell anemia, primary immune deficiency, thalassemia major and aplastic anemia, as well as certain cancers, such as leukemia. When standard treatments are no longer effective, a stem cell transplant is often the last chance to overcome a serious illness.

While hematopoietic stem cells are present in large number in bone marrow, they are also found in umbilical cord blood, which has all the characteristics of normal blood.

Cord Blood

Besides helping to expand the pool of potential donors, one of the advantages of stem cells is that their use in transplantation can reduce the probability of graft-versus-host disease (commonly called GVHD).

However, the use of cord blood can be limited by the small number of cells that it contains, based on the quality of the sample. Calculating the dose of cells for transplantation depends on the weight of the person receiving the transplant. It is vital that the blood be collected to obtain the maximum amount of cells. Without this, Héma-Québec will not be able to accept the donation and make it available for transplantation.

The quantity of stem cells normally collected is sufficient for a transplant in persons weighing less than 50 kg, mostly children. Units of cord blood that are exceptionally high in stem cells can be used to treat adults.

Compatibility

For a transplant to be successful, there must be compatibility between the person receiving the transplant and the person donating the stem cells. This verification is done through Human Leukocyte Antigen (HLA) typing, a blood test that identifies antigens present on the surface of the cells.

If no member of a patient's family is compatible, a search must be initiated to find an unrelated source of stem cells. In the absence of a compatible adult donor, cord blood is a valid therapeutic approach that does not require perfect compatibility between donor and recipient.

A patient's ethnic origin plays a role in determining compatibility. Since the chances of finding a compatible donor for a patient are greatest within his or her ethnic group, this issue is especially difficult for persons who belong to an ethnic minority or are of mixed ethnic origin.

For this reason, it is important to ensure that the cord blood banked comes from mothers of diverse ethnic origins. This helps make the transplant accessible to a greater number of patients. ●

THE DONATION ROUTE — FROM COLLECTION TO TRANSPLANTATION

Collection

Cord blood is collected at the birth of baby by a doctor trained by Héma-Québec. When the umbilical cord is sectioned and before the placenta is expelled, approximately 100 to 150 ml of blood is collected through the umbilical vein using a needle connected to a collection bag. The procedure is simple and carries absolutely no risk for the mother or child. When not collected, the umbilical cord, like the placenta, is discarded with the biological waste.

Collection Centres

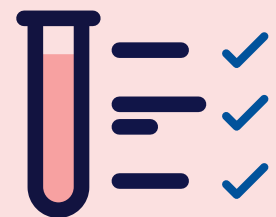
Coaching and training are provided in hospitals that act as partner collection centres of Héma-Québec's Public Cord Blood Bank. To provide support adapted to the needs of each centre, a profile is drawn up of partner centres based on the following indicators:

- Ethnic diversity of the women who give birth there;
- Yearly number of births and trend;
- Number of mothers registered;
- Percentage of donations collected that are qualified and banked;
- Compliance with regulatory requirements.

Health Professionals

Health professionals working in collection centres are important players in the program and actively contribute to the expansion of the Bank. As partners, they must:

- Follow regulatory training;
- Be recertified annually;
- Recruit female donors from among their patients;
- Collect cord blood;
- Securely package the cord blood and plan its transport to Héma-Québec.



Qualification

Once the cord blood is collected, it is quickly sent to Héma-Québec's Stem Cell Laboratory in accordance with strict procedures. There, the donation will be assessed to determine if it qualifies to be banked. The most common causes for disqualification are the low amount of blood collected or the presence of blood clots.

A donation that does not qualify for banking can be used for research in university hospitals if the donor gives her consent at the time of registering online. If the donor has not consented for the donation to be used for research, it is destroyed.

Storing of the Donation

If the donation meets the banking criteria, a member of Héma-Québec's team will contact the donor to:

- Plan the collection of a blood sample (mother only);
- Fill out a medical questionnaire.

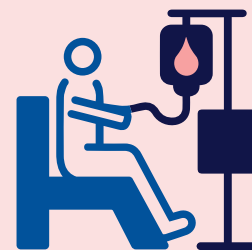
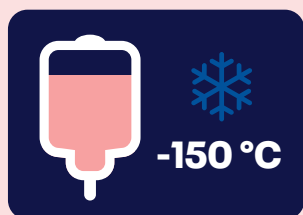
The donation will then be frozen in nitrogen vapour and stored at a temperature below -150°C . It will then be entered into the World Marrow Donor Association's International Registry until a compatible recipient awaiting a stem cell transplant is able to benefit from it. Collections are stored for a minimum of 15 years.

Stem Cell Transplant

If a cord blood donation is compatible and selected for a patient, it will be sent to the requesting physician in preparation for stem cell transplantation. A hematopoietic cell transplant is a treatment recognized for restoring the body's ability to renew blood and immune cells. Once transplanted into the bloodstream, the stem cells travel to the bone marrow where they begin producing new healthy blood cells in a process known as "graft take". ●



Nathalie chose to register with the Public Cord Blood Bank during pregnancy.



Chanel donated her baby's cord blood after giving birth.



DONOR RECRUITMENT

Eligibility Criteria

All pregnant women who are planning to give birth in participating Québec hospitals who wish to donate umbilical cord blood can do so. Since diversity in the Public Bank increases the chances of finding a compatible donor for persons needing a transplant, Héma-Québec recruits donors from all ethnic origins. Eligibility is assessed by Héma-Québec, based on a comprehensive medical questionnaire.

A pregnant woman can donate her cord blood if she:

- Is 18 years of age or older;
- Is carrying only one baby;
- Has no history of cancer (nor does the child's father);
- Has no infectious diseases, such as HIV infection or hepatitis;
- Accepts that the donation can be used for any patient in need.

Recruitment

Be open to listening to your patients' questions about cord blood donation. Below are some key examples of answers that may be useful to you, in addition to the answers found in the *Frequently Asked Questions* annex.

- Donating umbilical cord blood carries no risk for the mother or newborn.
- You can donate cord blood even if the physician wants to wait before cutting the cord (late clamping).
- Currently, cord blood is mainly used to treat cases of leukemia, some immune deficiencies and certain forms of anemia. Thanks to research, cord blood could help treat other diseases.
- Donating cord blood can save a life.

Health professionals are generally successful by drawing on their own experience to convince patients: in this way, the gesture becomes tangible and enables patients to understand the importance of contributing to the Public Cord Blood Bank. ●

Registration

Keep this memory card and use it to give your patient quick access to the online registration form[†] during her visit.



[†]<https://www.hema-quebec.qc.ca/cellules-souches/don-sang-cordon-ombilical/inscription/formulaire.en.html>

SUPPORT STAGES

1st PREGNANCY APPOINTMENT

(between the 10th and 12th week of gestation)

Intervention	Documentation
Give the patient the pregnancy follow-up documents.	Héma-Québec folder
Offer the patient the leaflet inserted in the folder.	Leaflet on cord blood donation FR Version – PUB-00057 EN Version – PUB-00058
Mention to the patient that you believe, following her medical assessment, that she is an excellent candidate for this type of donation (as the case may be). Encourage the patient to register.	Online registration form on Héma-Québec's website

FOLLOW-UP APPOINTMENT AT THE 22nd WEEK OF PREGNANCY

At this appointment, if no problem arises with the pregnancy, do not hesitate to initiate a discussion about cord blood donation.

Intervention	Documentation
Verify the patient's intention regarding donation. Answer the patient's questions and explore her misgivings.	_____
Remind the patient that the procedure carries absolutely no risk for the mother or baby. Encourage the patient to register.	Online registration form on Héma-Québec's website QR code card leading to the online registration form

FOLLOW-UP APPOINTMENT AT THE 28th WEEK OF PREGNANCY

It has been shown that pregnant women at this stage of pregnancy are more inclined to make basic decisions related to giving birth. It is the ideal time to discuss becoming a donor with them.

Intervention	Documentation
Verify if a decision has been made about cord blood donation	Leaflet on cord blood donation FR Version – PUB-00057 EN Version – PUB-00058
Encourage the patient to consent to donation and to fill out Héma-Québec's registration form available online.	Online registration form on Héma-Québec's website

IN SUMMARY

Health Canada recommends donating cord blood to a public bank.

Public banks, such as Héma-Québec's bank, collect, process and store cord blood units in accordance with rigorous standards to benefit patients who are compatible with the transplant.

Donating cord blood to a public bank is completely free.

Offer your patients the leaflet on Héma-Québec's Public Cord Blood Bank (PUB-00058), in paper format in the folder provided to your patient at the beginning of pregnancy or in electronic format on Héma-Québec's website.

CONTACT US

If you have questions about the Public Cord Blood Bank, donor recruitment or the donation process, feel free to contact us.

1-800-565-6635, ext. 5253
cordblood@hema-quebec.qc.ca

Original text in French. In the event of a discrepancy between the English and French versions, the latter will prevail.

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