

Cord Blood Preservation Frequently Asked Questions

1. What is cord blood?

Cord blood, or umbilical cord blood is the blood remaining in your child's umbilical cord following birth. It is a rich, noncontroversial source of stem cells that must be collected the time of birth.

2. What are stem cells?

Stem cells are the building blocks of our blood and immune systems. They are found throughout the body including in bone marrow, cord blood and peripheral blood. They are particularly powerful because they can treat, repair and/or replace damaged cells in the body.

3. Why do families choose to collect and store their baby's cord blood?

- Today, cord blood stem cells have been used successfully in the treatment of over 70 diseases.
- For most families, banking their baby's cord blood offers peace of mind, knowing their family's stem cells are readily available should the need arise. Others save their cord blood because of emerging treatments for type 1 diabetes, cerebral palsy and the potential of treating heart disease and stroke.
- Stem cells from a related source are the preferred option for treatment. Transplants using cord blood from a family member are twice as successful as transplants using cord blood from a non-relative (i.e., a public source).

4. How is cord blood collected?

The collection process is safe, easy and painless for both the mother and the baby and does not interfere with the delivery.

- After the baby is born, but before the placenta is delivered, a medical professional cleans a 4-to-8 Inch area of the umbilical cord with antiseptic solution and inserts a needle connected to a blood bag in the umbilical vein.
- The blood flows in the bag by gravity until the umbilical vein is emptied. The blood bag is clamped, sealed, labeled and shipped by courier to a processing lab. The collection typically takes about 2 to 4 minutes.

5. Who can use my newborn's cord blood stem cells?

- Your newborn's cord blood stem cells have the potential to be used for the child, and if there is an adequate match, for siblings and sometimes parents.
- An adequate match using related cord blood is defined as a 3 of 6 HI-A Match. HLA, or Human Leukocyte Antigens, are proteins located on the surface of the white blood cells and other tissues in the body. When two people share the same HLAs, they are said to be a 'match' which means their tissues are immunologically compatible.

' With your newborn's cord blood, there is a 100% probability of an adequate match for the child and a 75% probability for siblings.

- It is, however, important to understand that there are many genetic diseases that cannot be treated with one's own stem cells. In this case, a transplant physician would first look for an adequate match in a sibling or other family member. With emerging treatments for diabetes and cerebral palsy, the current clinical practice requires a child's own cord blood.

6. How long do cord blood stem cells last?

- At this point in time it is well-established that cells are still viable after 15 years of storage.
- Although there is no definitive data on how long cord blood cells last, the New York State Health Department Guidelines for cord blood banking state, "there is no evidence at present that cells stored at -196°C in an undisturbed manner lose either in-vitro determined viability or biologic activity."

7. What are the odds of having a stem cell transplant?

- The latest statistics suggest that by the age of 70 there is a 1 in 217 chance for a given individual to undergo a stem cell transplant.
- It is, however, important to understand that the transplant physician will make the choice of treatment options. The use of your family's cord blood stem cells may or may not be the recommended treatment plan for a particular diagnosis.

8. How much does it cost to preserve cord blood with a Family Bank?

Generally, the cost for cord blood stem cell preservation has a one-time charge ranging from \$1800-to-\$2200 and an annual charge for storage of \$125. Some companies offer extended payment terms for as little as approximately \$50/ month.

9. Can I donate my newborn's cord blood stem cells to a Public Bank?

- Currently, the options for publicly donating cord blood are limited. There are certain regions of the country where this option is available. For more information on public banking, visit the Bone Marrow Foundation at www.bonemarrow.org.
- Looking ahead, the Federal Government, through the Institute of Medicine, has proposed a National Cord Blood Stem Cell Banking System, giving an option to those that do not have stem cells from a related source (the preferred option).

10. If we donate our baby's cord blood to a public bank, will we be able to access the unit if needed?

- Unfortunately, it is very unlikely. When you donate your cord blood unit to a public bank, you relinquish all rights to that unit. Additionally, because of public banking's acceptance criteria (e.g. collection volume and HI-A type) approximately 70% of donated cords are discarded and never made available for patients in need of a transplant.
- Regardless, public banks often can help you procure an unrelated cord blood unit that may be suitable for transplant.

11. What features should I look for in a cord blood preservation company?

You want your family's cells to have the greatest therapeutic value. Therapeutic value is likely to be determined by the quality of the cells and the probability these cells will be able to take advantage of future technologies. Three of the critical features you should evaluate when assessing a company's quality are:

- A) Transplant Results: Published transplant results with comparable or superior outcomes (survival, engraftment and GvHD) to industry norms is a good indicator of a company's quality.
- B) Well-Established and Validated Processes: Collection, processing and cryopreservation methods used by the leaders in cord blood transplantation and supported by industry regulations are another good indicator of quality.
- C) Industry approvals
 - American Association of Blood Banking (AABB) accreditation.
 - FDA-approved/cleared materials and systems.