



Cord Blood Banking

The blood that remains in your baby's umbilical cord after it has been cut is called cord blood, and it is rich in stem cells. These valuable cells, which are genetically unique to your baby and family, can only be collected immediately after your baby's birth. With the option to save these cells, expectant parents have many questions about this one-time opportunity. New uses for cord blood stem cells are being discovered rapidly; however, banking cord blood does not guarantee that the cells will provide a cure or be applicable for every situation. Ultimate use will be determined by the treating physician. Here are some of the most common questions:

Why do families choose to collect and store their babies' cord blood?

Most families bank their babies' cord blood stem cells for peace of mind, knowing that these stem cells may be lifesaving to their baby and other family members.

Your baby's cord blood stem cells may be used by your family in transplant medicine to treat nearly 80 serious diseases, including leukemia, lymphoma, other cancers, and blood disorders.

Cord blood stem cells have also shown promise in regenerative medicine for treating medical conditions such as brain injury, cerebral palsy, and juvenile diabetes.

Any family may benefit from cord blood banking, but some situations make it even more important for families to consider:

- **Family History** – Cord blood banking is a prudent choice if you, your spouse, or partner has any family history of a disease that is treatable with stem cells, such as leukemia, lymphoma, or myeloma. It is important to remember, however, that for many cancers and diseases, the causes are unknown and they occur even when there is no family history of the disease.
- **Ethnic Background or Mixed Ethnicity** – Ethnic minorities and families of mixed ethnicity have greater difficulty finding stem cell donors when needed.
- **Newborn Adoption** – Families preparing to adopt a newborn choose cord blood banking because, if ever needed, the cord blood may be the only available genetically related source of stem cells for the adopted baby.
- **In Vitro Pregnancies** – Couples using fertility treatments bank cord blood because they face the possibility of not having another opportunity to secure a genetically related sample of cord blood stem cells for their child.

How is cord blood used in medical treatments?

Cord blood stem cells are used in two areas of disease and injury treatment: transplant medicine and regenerative medicine.

- **Transplant Medicine** - Cord blood stem cells may be used to treat nearly 80 serious diseases. First found in bone marrow, stem cells have been used for decades in lifesaving treatments for diseases including leukemia, other cancers, and blood disorders. In transplant medicine, a patient generally will undergo chemotherapy and then receive an infusion of cord blood stem cells to regenerate a healthy blood and immune system.

- **Regenerative Medicine** - Regenerative medicine focuses on using stem cells to repair damaged tissues and organs, which may help your baby in case of disease or injury. Doctors believe that the stem cells may travel to the site of injury and begin repair or release substances that promote healing. Use in regenerative medicine is still considered experimental.

How is the cord blood collected?

Cord blood collection is a simple, safe, and painless procedure that usually takes less than five minutes and can be performed after vaginal or cesarean births. After your baby has been born and the cord has been clamped and cut, the blood is drawn from the umbilical cord before it is discarded. The baby's cord blood is then sent to a laboratory for processing and storage.

What are my options for saving my baby's cord blood?

There are two types of banks: family banks, which store for one's own family for a fee, and public donor banks, which store for donation to an anonymous patient. With family banking, the cord blood is saved exclusively for your family — for your child or another family member. Public donation is not available everywhere, and there is no guarantee that donated cord blood will be saved. If the cord blood is saved, it is available for use by anyone, so it may not be available if your family needs it.

How do I find a cord blood collection company?

Many companies provide this service. A list can be obtained at www.parentsguidecordblood.com. When choosing, look for a well-established bank that has the best technology to collect, process, and save the most stem cells for your family. Having more cells can lead to better treatment options. Also, look for a company that has a strong reputation with Ob/Gyns and has a long history of providing samples for transplant and treatment.

Cord Tissue Banking

Cord tissue banking is now available as a collection option. Saving a segment of your baby's umbilical cord (cord tissue) may offer new treatment options for families. Cord tissue is one of the richest sources of valuable stem cells called mesenchymal stem cells (MSCs), which create structural and connective tissue. Medical treatments using cord tissue are still under development and have not yet been used in humans.

Are cord tissue stem cells different from cord blood stem cells?

Yes, the stem cells in cord tissue (mesenchymal stem cells) are different from the stem cells in cord blood (hematopoietic stem cells). Cord tissue stem cells create structural and connective tissue while cord blood stem cells turn into all of the cells in the body's blood and immune system. These two types of stem cells can help repair the body in different ways so each offers potential treatments for different diseases and injuries. Cord tissue stem cells may be easily replicated, providing the potential for multiple treatments. MSCs show tremendous promise for a broad range of applications, including treatment for spinal cord injury, heart repair following a heart attack, bone repair, and cartilage regeneration.

How is cord tissue banking done?

After the baby's umbilical cord has been clamped and cut, and after cord blood collection, your doctor collects a 4-to 8-inch segment of the umbilical cord and places it in a container provided. The collection will then be sent to a laboratory for storage with the cord blood.