

Cord blood transplants

Umbilical cord blood is playing an important and growing role in the treatment of leukemia, lymphoma and other life-threatening blood diseases. If you have been told a bone marrow transplant is a possible treatment for your disease, a cord blood transplant may be an option.

Cord Blood Basics

Umbilical cord blood is one of three sources for the blood-forming cells used in transplants. The other two sources are bone marrow and peripheral (circulating) blood. The first cord blood transplant was done in 1988. Cord blood plays an important role in transplant today. Doctors are still learning about the ways cord blood transplants are similar to and different from marrow or peripheral blood transplants.

Umbilical cord blood is collected from the umbilical cord and placenta after a baby is born. This blood is rich in blood-forming cells. The donated cord blood is tested, frozen and stored at a cord blood bank for future use. The stored cord blood is called a cord blood unit.

The National Marrow Donor Program's (NMDP) Be The Match RegistrySM includes more than 90,000 cord blood units. Doctors search the registry of adult marrow or peripheral blood cell donors and cord blood units to find a suitable match for their patients who need a transplant. If selected, the matching cord blood is transplanted to a patient. The transplant process is the same as for marrow and peripheral blood cell transplants.

Patients Treated with Cord Blood Transplants

The use of cord blood transplants has grown for both children and adults. Cord blood is used more often in children because an umbilical cord holds a limited amount of blood forming cells. Smaller patients need fewer cells and larger patients need more cells so more than one unit

may be combined for larger patients. Some cord blood units may not have enough blood-forming cells for some patients.

Another method being studied is to grow the number of cells in a cord blood unit in a laboratory before giving it to the patient.

Reasons Doctors May Choose Cord Blood

When your doctor searches the Be The Match Registry, he or she will choose the best cell source for you. That may be marrow or peripheral blood from an adult donor or it may be a cord blood unit. A doctor might choose cord blood because of some of the ways it differs from marrow or peripheral blood.

More Tolerant Matching

A close match between the patient and the donor or cord blood unit can improve a patient's outcome after transplant. Even though a closely matched cord blood unit is preferred, clinical studies suggest the match may not have to be as close as is needed for marrow or peripheral blood transplants. If you have an uncommon tissue type, your doctor may not find a closely matched adult donor. However, a cord blood unit may be an option.

More Quickly Available

Cord blood units are stored and ready to use. A cord blood unit can be selected and delivered to the transplant center in less than two weeks whereas it can take two months or more to find an unrelated marrow or peripheral blood donor. Your doctor may choose cord blood if you need a transplant quickly.

Less Graft-Versus-Host Disease

Graft-versus-host disease (GVHD) is a common complication after an allogeneic transplant (which uses cells from a family member, unrelated donor or cord blood unit). GVHD can range from mild to life-threatening. Studies

have found that after a cord blood transplant, fewer patients get GVHD than after marrow or peripheral blood transplants. Patients in the studies who did get GVHD after a cord blood transplant tended to get less severe cases.

Reasons Doctors May Not Choose Cord Blood

There are also reasons a doctor may choose not to use cord blood for a transplant including:

Number of Cells

There may not be enough blood-forming cells in a cord blood unit for the size of the patient.

Time to Engraft

It usually takes longer for cord blood cells to engraft (begin to grow and create new blood cells and an immune system). Until the cells engraft, the patient is at a high risk for infection.

Backup Cells

Patients cannot get backup cells from the same cord blood unit. If a patient's transplanted marrow or peripheral blood cells do not engraft or the patient relapses, the patient may be able to get a second donation from the same adult

donor. After a cord blood transplant, this option is not available. However, doctors may be able to use a different cord blood unit or a backup adult donor instead.

Newer Option

Cord blood is a newer treatment approach for transplant. Doctors do not have as much information about patients' long-term results after cord blood transplants as they do for marrow transplants.

Cord blood transplants also have all the same risks as marrow and peripheral blood transplants. The risk of infection may be higher after a cord blood transplant because of the longer time to engraft. The risk of GVHD may be lower, but the risk is still there.

If you have questions about whether a cord blood transplant is right for you, talk with your transplant doctor. Every patient's situation is different. Your transplant doctor knows your situation and can help you make choices about your treatment.

For more information about diseases treatable by transplant, please visit marrow.org/patient.

Available in the following languages: English, Chinese (simplified and traditional), Korean, Portuguese, Spanish, Tagalog, Vietnamese.

The National Marrow Donor Program® (NMDP) helps people who need a life-saving marrow or cord blood transplant. We connect patients, doctors and researchers to the resources they need to help more people live longer and healthier lives. Be The Match RegistrySM is the new name of the NMDP's registry. If you do not have a matching donor in your family, your doctor can contact the NMDP to search our Be The Match Registry and other registries worldwide to access more than 12 million donors and 300,000 cord blood units. In addition to growing the registry, Be The Match also recruits volunteers to support our mission, and raises funds through Be The Match FoundationSM to help patients and their families.

The NMDP's Office of Patient Advocacy (OPA) offers resources and services to help patients and their families throughout the transplant process. OPA can help you:

- Understand your treatment options
- Answer your questions about the transplant process
- Choose a transplant center
- Learn about insurance coverage and financial options
- Prepare for life after transplant

In addition to print, audio and visual materials (offered in several languages), OPA has bilingual (Spanish/English) case managers and LanguageLine interpreter services available for callers. All OPA materials and services are free and confidential.

To Contact the Office of Patient Advocacy:

Call toll-free at 1 (888) 999-6743
Outside the United States call (612) 627-8140

Reach by e-mail at patientinfo@nmdp.org
Visit online at marrow.org/patient