

CORD BLOOD: TIPS FROM THE DELIVERY ROOM SUMMARY GUIDE

Current and Potential Future Uses of Cord Blood

More than **35,000 transplants** have been performed with cord blood. Yet, out of the 4-million births every year in the U.S., **only about 5% of cord blood is saved.**¹ Cord blood transplants use **hematopoietic stem cells** – not embryonic stem cells.

In the past decade or so, the number of diseases treated with cord blood has doubled to nearly **80.**² Learn about cord blood donation frequently asked questions at <https://bethematch.org/support-the-cause/donate-cord-blood/cord-blood-faqs/>.

We're now seeing cases where cord blood can be used in **regenerative medicine**, currently in the clinical trial setting. Potential uses include regenerating damaged tissue and restoring lost function, as well as with conditions like stroke, autism and cerebral palsy.²

Public vs. Private Cord Blood Banking

Public cord blood banking, also called "**donation**," is an option readily available at the time of birth **to those mothers delivering at a hospital affiliated with a public cord blood banking program.** Options for donation outside of this affiliated program are available only through two of the public cord blood banks. Information on how to donate cord blood can be found at <https://bethematch.org/support-the-cause/donate-cordblood/how-to-donate-cord-blood/>.

Private banking, also known as "family banking," is where **a family stores cord blood for their own baby or family member to use in the future should they ever need it.**

Examples of Best Practice Techniques

Reducing Potential Contamination:

When preparing for a delivery, place the bag on both the vaginal delivery cart and the OR table, using sterile techniques. Make sure the cleansing tool for the cord prior to the collection is used by the provider and used correctly.³

Maximize Cord Blood Volume:

Volume is Vital – Good cord blood collections depend heavily on the volume of the cord blood collected.⁴

Just like peripheral blood, **cord blood clots.** A few techniques that have been recommended by some of the country's best collectors include:

- **Wiggling the needle** side to side slightly or forward and backwards slightly, without removing it from the vein
- **Taking the needle out and re-inserting** it into another well-cleansed area further up the cord, above the area where a clot may be
- **Lowering the bag more**, lifting it up and lowering it again to increase the pressure behind the needle in case of a clot
- **Inverting the bag** a few times after the cord is blanched and the collection is complete to mix the anti-coagulant with the cord blood and prevent clots from forming in the bag

As a final touch, open the air vent and hold the tubing straight up so that every drop of cord blood has the chance to make it down the tubing into the bag. Invert the bag a few times again to mix the blood and anti-coagulant.

Adjust for Delayed Cord Clamping:

Delayed clamping does affect volume, but **it doesn't have to eliminate the option of collecting cord blood.** Encourage the collector to **completely empty the whole cord** to aid in collecting the highest volume – and highest number of cells – into the collection bag.

Accurate Labeling of Blood Samples and Cord Blood Units:

There are a few preventable reasons why collected cord blood doesn't make it to the registry for public availability. The most common reason is **incorrect or incomplete labeling.** Be sure everything is labeled and matches the paperwork, and that paperwork is filled out correctly, including getting the needed signatures from providers.

References

1. Challenges to the Sustainability of the U.S. Public Cord Blood System. K. Kapinos, B. Briscoe et al. Rand Corporation Report 2017. www.rand.org/t/rr1898.
2. Optimal Practices in Unrelated Donor Cord Blood Transplantation for Hematologic Malignancies. J. Barker, J. Kurtzberg, K. Ballen et al. Biology of Blood and Marrow Transplantation, June 2017; vol. 23, Issue 6, 882-896. National Marrow Donor Program/Be The Match 2017 reports and statistics.
3. Umbilical Cord Blood: Counselling, collection and Banking. B. Armson, D. Allan, R. Casper. J. Obstet Gynaecol Can. September 2015, 37(9): 832-844.
4. Volume is critical when collecting umbilical cord blood for transplants, regenerative research. H. Brown. Contemporary OB/GYN supplement, 2018.

Additional Resources

Listen to the Podcast: Network.BeTheMatchClinical.org/cbpodcast

Cord Blood Donation Can Save Lives: <https://www.youtube.com/watch?v=byPTlqYuZ70>

Babies are Amazing: <https://www.youtube.com/watch?v=doxVFKXKcPw>

Technique Video: <https://bethematchclinical.org/resources-and-education/techniquevideo/>