



Odds of using Cord Blood

Traditional Stem Cell Transplants

- Umbilical Cord Blood (UCB) is an accepted source of hematopoietic stem cells (HSCs) that is equivalent to those found in the bone marrow.
- UCB stem cells have been used in stem cell transplants to treat hematological diseases and cancers since 1988. To date, there have been **>35,000** cord blood transplants worldwide.¹
- Probability of finding a match for patients in need of an HSC transplant depends on race/ethnicity.²
- Probability of finding an optimal adult bone marrow donor (high resolution match at HLA-A/HLA-B HLA-C and HLA-DRB1):²
 - Highest probability: 75% for whites of European descent
 - Lowest probability: 16% for blacks of South or Central American descent
- The cumulative probability that a person will have some type of stem cell transplant by age of 70 is approximately **1 in 200**.³
- In U.S., odds of:
 - A child using his/her own (autologous) cord blood: 1 : 5,000⁴
 - A child using donor (allogeneic) cord blood: 1 : 2,500⁴
- Parent's Guide to Cord Blood Foundation's confidential survey finds that the world inventory of cord blood in family banks is over 4 million as of the end of 2014.⁵
- World inventory of cord blood in public banks is over 630,000.⁶

Emerging Cell Therapies

The application of cord blood in regenerative medicine is currently under investigation for a variety of indications including cerebral palsy, autism, stroke, hypoplastic left heart syndrome, hypoxic ischemic encephalopathy (HIE), and acquired hearing loss. These trials are at an early stage. The possible benefit(s) of cord blood for these indications will become available once the clinical trials are completed.

Why do parents bank?

Once parents understand all of the benefits of storing their baby's cord blood, there are two options: public donation or family banking. Many parents struggle with this decision, unsure whether or not family banking is worth the cost. The best decision is an educated one. Parents should understand that cord blood stem cells can be used TODAY for a long list of treatments but as stem cell therapy advances...they may hold bigger PROMISE FOR TOMORROW

Table 1 - Emerging Therapies where children use their own Cord Blood

DIAGNOSIS	TRIAL SITE	PHASE	NO. PATIENTS	ANTICIPATED TRIAL COMPLETION	TRIAL ID
Cerebral palsy	Duke (USA)	2	120	Jan 2016	NCT01147653
	Texas Health Science Center (USA)	2	30	May 2017	NCT01988584
	Georgia Regents (USA)	2	40	Mar 2015	NCT01072370
Autism	Duke (USA)	1	20	Jul 2015	NCT02176317
	Sutter Health (USA)	2	30	Apr 2015	NCT01638819
Neonatal oxygen deprivation	Duke (USA)	1	25	Jun 2015	NCT00593242
	Singapore	1	10	Sep 2015	NCT01649648
	Japan	1	6	Feb 2018	NCT02256618
Hypoplastic left heart syndrome	Duke (USA)	1	20	Sep 2015	NCT01445041
	Mayo Clinic (USA)	1	10	Dec 2016	NCT01883076
Acquired hearing loss	Florida (USA)	2	10	Jan 2016	NCT02038972
Complications in preterm neonates	Poland	1	40	Dec 2015	NCT02050971
Type 1 diabetes	Germany	1	18	Sep 2014	NCT00989547

Table 2 - Emerging Therapies using donated Cord Blood

DIAGNOSIS	TRIAL SITE	PHASE	NO. PATIENTS	ANTICIPATED TRIAL COMPLETION	TRIAL ID
Cerebral palsy	Korea	2	120	Jul 2015	NCT01991145
	Korea	1	18	Dec 2015	NCT02025972
Ischemic stroke	Duke (USA)	1	10	Aug 2017	NCT02397018
	Korea	1	5	Dec 2015	NCT01884155
	Hong Kong	1	12	Jul 2017	NCT01673932
Global developmental delay	Korea	1	12	Dec 2014	NCT01769716
Brain injury/neurodegenerative disorders	Korea	1	10	Jul 2016	NCT02236065
Acquired brain injury	Korea	1	3	Dec 2014	NCT01885663
Epidermolysis bullosa	Minnesota (USA)	2	75	Oct 2019	NCT01033552

REFERENCES FOR BODY OF PAGE

1. Aldenhoven and Kurtzberg, Cytotherapy 2015; 17:765-774 Cord blood is the optimal graft source for the treatment of pediatric patients with lysosomal storage diseases: clinical outcomes and future directions.
2. Gragert et al., NEJM 2014; 371:339-348 HLA Match Likelihoods for Hematopoietic Stem-Cell Grafts in the U.S. Registry.
3. Nietfeld, JJ et al., Biol. Blood and Marrow Trans. 2008; 14:316-322.

4. <http://parentsguidecordblood.org/odds.php>
5. <http://parentsguidecordblood.org/newsletters/>
6. <https://www.wmda.info/>

REFERENCES FOR TABLE 1 & 2
clinicaltrials.gov

More questions?

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