

Cord This Be Happening?

The Problem

It was noted by the Stem Cell Processing Laboratory that paperwork accompanying HPC, Cord Blood products used for transplantation lacked standardization and often contained clerical discrepancies. If these discrepancies were not identified and corrected prior to bone marrow transplant patient conditioning, patient safety was at risk.

Aim/Goal

Since HPC, Cord Bloods are obtained through the National Marrow Donor Program as well Cord Blood Registries around the world a system of checks and double checks needed to be implemented to ensure patient safety.

The Team

Richard Haspel, MD., PhD Director of Stem Cell Laboratory

Amy Powers M.D.

Lynne Uhl, M.D.

Deborah Lamontagne MT (ASCP) Pathology Team Leader

Andrea Tripp MT (ASCP)

Shufen Meng MT

Claire MacNamara MT

Denise Hurley R.N., Bone Marrow Transplant Nurse Coordinator

The Interventions

The Stem Cell Laboratory working in conjunction with the Bone Marrow Transplant Team:

- Review paperwork from the NMDP or Cord Blood Registry prior to shipment of product for clerical discrepancies, infectious disease testing, HLA typing and donor eligibility documentation.
- Upon arrival two processing laboratory technologist and the Stem Cell Medical Director compares the paperwork that arrives with product to paperwork that was obtained prior to shipment. Product integrity is also examined at this time.
- The Stem Cell Medical Director discusses any issues or concerns with the transplant physician prior to patient conditioning.
- Any discrepancies must be resolved prior to patient conditioning.

The Results/Progress to Date

Upon review of the data collected 44% of the cord blood products received at our institution had quality issues. See Table 1.

NMDP member	Issue
No	HLA typing discrepancy*
No	• Tilting during transport
	• 42% postthaw viability reported in shipping papers; product thawed but not infused; postthaw viability 18%†
No	No date recorded for infectious disease testing*
No	• Break at thaw†
	• Collection date discrepancy*
No	Processing method not recorded*
Yes	Postthaw recovery 57% (reconstituted)†
No	Break at thaw†
No	• Could not open canister before thaw†
	• Processing method not recorded*
	• Total nucleated cell count could not be read accurately*

* Able to obtain or clarify.
† Issue potentially affecting potency or sterility.

Lessons Learned

Products from NMDP member cord blood banks were less likely to have issues. The team members cooperating, communicating and working together to review and resolve issues in a timely manner results in improved patient care.

Next Steps/What Should Happen Next

The Stem Cell Laboratory will continue to monitor accompanying HPC, Cord Blood product paperwork and communicate issues to the transplant physicians. Regulatory and accrediting agencies such as NetCord-FACT International Standards for Cord Blood Collection, Banking, and Release for Administration and the FDA are developing guidelines for HPC, Cord Blood products.

Reference: Haspel, R. Lamontagne, D, Prethaw predictors of cord blood unit quality, Transfusion 2010, Vol.50, No.1,265.



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

THE SILVERMAN INSTITUTE
For Healthcare Quality and Safety

Pathology Team Leader/ dlamonta@bidmc.harvard.edu

For More Information Contact

Deborah Lamontagne, MT (ASCP)