

How the First Cord Blood Transplant Saved a 6-Year-Old from a Deadly Disease

We tend to think of stem cell therapy as new, but in fact it's been used successfully since 1988. That was the year that an international collaboration saved the life of a 6-year-old boy through the world's first successful umbilical cord blood transplant.

In 1988, Matthew Farrow of North Carolina had been diagnosed with Fanconi anemia, a rare, inherited blood disorder. Fanconi anemia frequently results in potentially fatal cancers, such as leukemia and head and neck cancers. Before his baby sister was born, Matthew's parents had her amniotic fluid cells analyzed. They found that she was unaffected by Fanconi anemia and was HLA-identical to her brother. (HLA typing is done before transplantation to determine the degree of compatibility between donor and recipient.) At birth, her umbilical cord blood was cryopreserved. This made a bone marrow transplant from the newborn girl unnecessary.

At the time, cord blood had never before been used in humans, and a cord blood transplant was considered an unknown, possibly high-risk procedure. However, the French National Ethics Committee gave permission for the cord blood transplant because Matthew's life was at risk, and his sister would not have to be put under general anesthesia.

An international collaboration made the cord blood transplant possible. Dr. Arleen Auerbach of Rockefeller University, New York, described a method of diagnosing prenatal Fanconi anemia. Dr. Hal Broxmeyer of the Sloan-Kettering Institute, New York, banked the cord blood. The frozen cord blood was flown from a lab in Indianapolis to Paris, where Dr. Eliane Gluckman of the Hôpital Saint-Louis performed the actual transplant operation on **October 6, 1988**.

The transplant proved a complete success, curing Matthew of a disease generally considered incurable. Today, 27 years later, Matthew Farrow is alive and well, a husband and a father—and the lucky recipient of the world's first cord blood transplant.

Reference: <http://americordblood.com/cord-blood-blogs/2015/04/28/how-the-first-cord-blood-transplant-saved-a-6-year-old-from-a-deadly-disease/>