



CCBC Connection

Cleveland Cord Blood
CENTER

Save a Cord. Save a Life.



Spring 2018

Ten years of lifesaving work

Mary J. Laughlin, M.D., who performed one of the world's first successful umbilical cord blood stem cell transplants on an adult leukemia patient in 1995, launched the Cleveland Cord Blood Center (CCBC) in 2008. Since the organization's founding as an Ohio-based public cord blood center 10 years ago, CCBC has grown in reach, service and innovation, all the while remaining faithful to serving the unmet needs of a diverse population for whom well-matched stem cell grafts are not generally available in the adult donor registry.

A mission with global reach

Over the years, the addition of hospital partners in the south and on the west coast has strengthened the Cleveland Cord Blood Center's ability to maintain a diverse cord blood unit inventory for transplantation and research. Since 2008, cord blood units have been distributed to transplant centers throughout the United States and 17 countries.

Research with cord blood at its heart

Four years ago, CCBC researchers began exploring the use of cord blood-derived cells as regenerative cell therapies to address unmet medical needs, and are now conducting research in a variety of areas including Parkinson's disease, diabetes, HIV/AIDS and those with wound healing issues.

An uncompromising commitment to quality

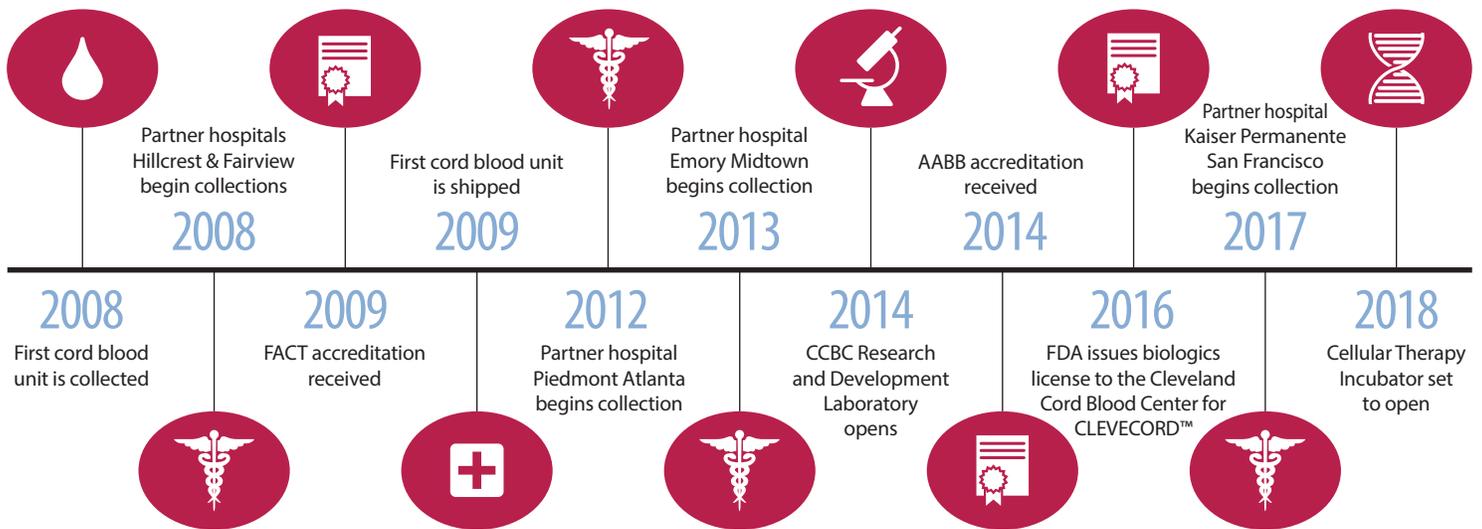
In 2016, the Cleveland Cord Blood Center became one of only seven nationally licensed cord blood banks in the country to receive a biologics license from the U.S. Food and Drug Administration for CLEVECORD™, a stem cell product derived from umbilical cord blood for use in stem cell transplants.

Cellular Therapy Incubator

As a member of the rapidly advancing cellular therapy industry, CCBC is now moving forward with yet another new chapter in the organization's mission, with the launch of the new, state-of-the-art Cellular Therapy Incubator set to open later this year.

"To the donating parents, transplant physicians, dedicated researchers, generous funders and so many others that have helped achieve a decade of growth and success, we extend a heartfelt and humble 'thank you,' and invite you to continue with us on our journey into our next decade of lifesaving work," said Marcie Finney, Executive Director, Cleveland Cord Blood Center.

A decade of saving cords and saving lives



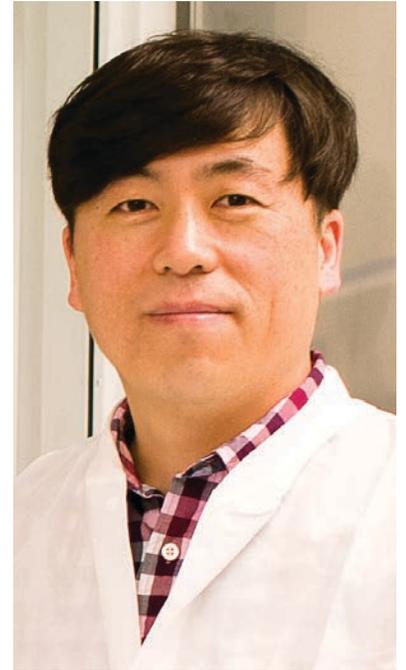
Researchers explore cord blood treatment for Type 1 Diabetes

Approximately 1.25 million American children and adults have Type 1 Diabetes, with about 70,000 children diagnosed with the disease each year. Adolescents with Type 1 Diabetes do not have a normal number and function of Foxp3+ regulatory T cells (Tregs), a type of white blood cell that is a critical immune regulator to maintaining tolerance and limiting autoimmunity.

Cleveland Cord Blood Center researchers, under the direction of Jeong-su Do, Ph.D., are studying T cells from normal newborn babies' umbilical cord blood, which was highlighted in the May issue of Bone Marrow Transplantation. Cord blood Tregs have a very strong T regulatory capacity that is likely related to immune tolerance between the baby and the mother during pregnancy. The CCBC researchers are applying the cell biology knowledge gained in investigating neonatal immune tolerance to the understanding of a baby's Tregs to treat patients with Type 1 Diabetes.

The current pre-clinical studies suggest that Tregs from umbilical cord blood can suppress abnormal T cell immune activity against beta cells in the pancreas and re-establish normal insulin/glucagon production. The treatment approach envisioned by CCBC researchers would include: isolating particular cells from an umbilical cord blood unit that is HLA matched to the patient; generating inducible Tregs (iTregs); and growing these cells for three weeks in sterile culture conditions uniquely developed by the team to maintain T regulatory function. These expanded umbilical cord blood Tregs would then be infused into a patient with Type 1 Diabetes.

The CCBC researchers expect the Tregs to safely suppress the ongoing abnormal T cell attack on the patient's islet cells in the pancreas, allowing beta cell recovery, and improvement or resolution of the disease.



Jeong-su Do, Ph.D., leads CCBC Type 1 Diabetes study



Tonya Beach-Fuller and daughter, Jordyn offer an inspiring story of cord blood donation.

Gift of cord blood helps save another child's life

Like many expectant parents given the opportunity to donate their baby's umbilical cord blood to a public cord blood bank, Tonya Beach-Fuller and her husband, Bill, responded with a resounding "yes" in preparation of their firstborn daughter Jordyn's birth at Fairview Hospital in 2010.

Around Thanksgiving in November 2017, Beach-Fuller learned that her daughter's cord blood was a 100 percent match with a child in need of a cord blood transplant. "My daughter felt special that she helped save another's life."

Ironically, just one month earlier, Beach-Fuller's sister-in-law had been diagnosed with two blood cancers. Following several rounds of chemotherapy, her sister-in-law received a stem cell transplant in February 2018.

"I'm amazed that something so simple can be such a gift from God to save someone's life," she said.