



CORD BLOOD GROWS AS STEM CELL OPTION OF CHOICE IN COVID-19 ERA

In the midst of the COVID-19 environment, a new spotlight shines on the effectiveness and versatility of the lifesaving properties of cord blood – from its increased selection as a stem cell transplantation treatment of choice to its use in the development of new life-enhancing therapeutics.

Transplant physicians, in need of procuring high-quality stem cell sources quickly, turned increasingly to cord blood banks for the safely stored and ready-to-use cord blood units as coronavirus-related risks increased the complexity of obtaining other stem cell options, such as bone marrow donations.

- The use of cord blood in research has increased exponentially as investigators tap into the therapeutic and curative potential of cord blood's versatile cells in relation to potential COVID-19 treatment options and beyond.
- Clinical manufacturing facilities, such as the Cleveland Cord Blood Center's Cell Therapy Incubator, enlist Good Manufacturing Practice (GMP) in the advancement of cord blood and other cellular therapy products on the path to development.
- We are in the midst of an exciting new era for cord blood. Researchers are exploring the expansion power of a single cord blood unit for the treatment of many. Transplant physicians have discovered significant advantages of cord blood over other stem cell transplantation options in particular patient populations.

We invite you to learn more about the Cleveland Cord Blood Center and the amazing power of cord blood in this issue.

Join the Cleveland Cord Blood Center on our exciting cord blood journey

- Visit the new Cleveland Cord Blood Center (CCBC) website at clevelandcordblood.org
- Keep up with the latest CCBC updates on Facebook, Twitter and LinkedIn

BANKING BLOOD IN THE ERA OF COVID-19

A conversation with Executive Director Marcie Finney on the challenges the Cleveland Cord Blood Center is addressing



Executive Director Marcie Finney

Q: Has CCBC been able to continue to collect cord blood during COVID-19?

A: Cord blood donations have continued at close to normal levels, with donors carefully screened for COVID-19 exposure possibilities prior to the birth of their babies. In addition, to help ensure the safety of all involved, we limit the contact as much as possible between donors and personnel who help coordinate the donation.

Q: Have there been any issues with cord blood collection?

A: Diligent screening and reviews of donor medical records have helped ensure that we have not collected cord blood from a donor who tested positive for COVID-19.

Q: Does CCBC have procedures in place for quick turnaround of cord blood in response to a transplant request?

A: What makes the Cleveland Cord Blood Center unique is that we always have a container ready to ship with as little as a 24-hour notice to help ensure that the cord blood cells arrive in a timely fashion for transplantation.

Q: Have requests for umbilical cord blood been impacted by the current situation?

A: Because our cord blood units are ready to ship immediately, we actually experienced an increase in shipments during the early months of the pandemic. Since that time, we've continued to meet demand, which includes the vast majority of our cord blood units taken from donations received before COVID-19.

Q: Are there advantages to a cord blood donation over, for example, a bone marrow transplant in the current COVID-19 environment?

A: A bone marrow transplant, for example, bears the added risk of requiring an adult donor to have their bone marrow or peripheral blood harvested in a hospital. Because umbilical cord blood has already been safely processed and stored at the time of donation, there is no COVID-19 exposure for the donor. With cord blood, we can send a unit that has been fully tested with as little as 24-hours' notice.

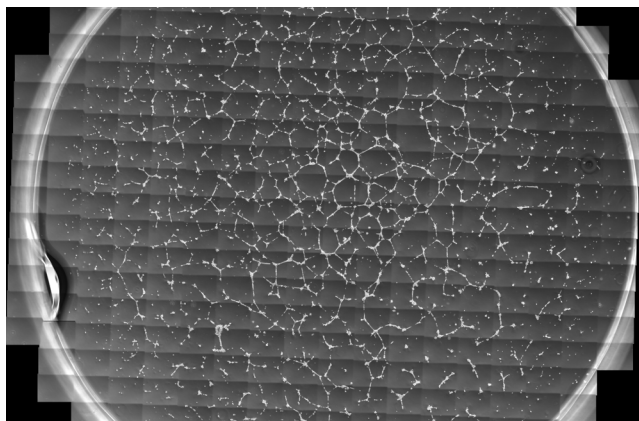
Q: Has CCBC partnered with any researchers for therapeutic solutions to COVID-19?

A: Several of our partners are working on COVID-19 mitigation and have approved trials where they use cord blood as a source. Our donors have the ability to choose whether or not they would like to participate in research or donate their cord blood exclusively for transplantation.

Q: How has the CCBC team been able to serve through the pandemic?

A: With a priority on keeping team members safe, we've been able to continue serving our constituents with quality cord blood units by breaking into smaller on-site teams. We've been able to send as many units as needed as soon as possible without compromising team member or community safety.

NEW PATH FOR TREATING DIABETIC RETINOPATHY



Vascular tube formation assay showing umbilical cord blood-derived iTreg cells are able to suppress vasculogenesis

Research Associate Jonathan Kenyon, Ph.D., the newest member of the Cleveland Cord Blood Center's research team, is exploring applying umbilical cord blood-derived induced regulatory T (iTreg) cells for the prevention and treatment of diabetic retinopathy.

In patients with this condition, the reduction in the patients' original Treg cells leads to a cycle of inflammation and abnormal growth of blood vessels in the retina. As the inflammatory response increases unchecked, abnormal blood vessel growth occurs, causing additional inflammation – a destructive cycle for individuals with either Type 1 or Type 2 diabetes. Eventually, cumulative damage disrupts light-sensitive tissues in the retina, leading to a loss of vision.

The two existing treatment protocols for diabetic retinopathy target one of these factors but not both. The inflammatory response can be treated with injections of steroids while abnormal blood vessel growth can be treated with antibody injections. Both of these treatment protocols require follow-up injections into the eye every 30 to 90 days, not a pleasant experience for patients.

“The cord blood induced iTreg cell injection shows promise by suppressing both the inflammatory and abnormal blood vessel formation components of this disease,” explained Kenyon. “Rather than receiving the antibody or steroid injections every 30 to 90 days, iTreg cells could establish themselves locally in the tissue. They expand appropriately when inflammation occurs and reduce once the inflammation subsides, meaning a single injection might be sufficient.”

Kenyon's research shows a early positive results, an indication that a new iTreg injection would address both the inflammation response and abnormal blood vessel growth found in diabetic retinopathy. “The prospects of an improved standard of care look very promising,” said Kenyon.

“Dr. Kenyon has a personal perspective on this research as he has family members, including his father, who have dealt with the effects of diabetes,” said Executive Director Marcie Finney. “His commitment to finding new cell therapy solutions in this field is well aligned with the organization's mission of advancing umbilical cord blood cell therapy treatments to save lives, enhance health and expand knowledge, one birth at a time.”

PHYSICIAN SUPPORTS CORD BLOOD DONATION PROGRAM



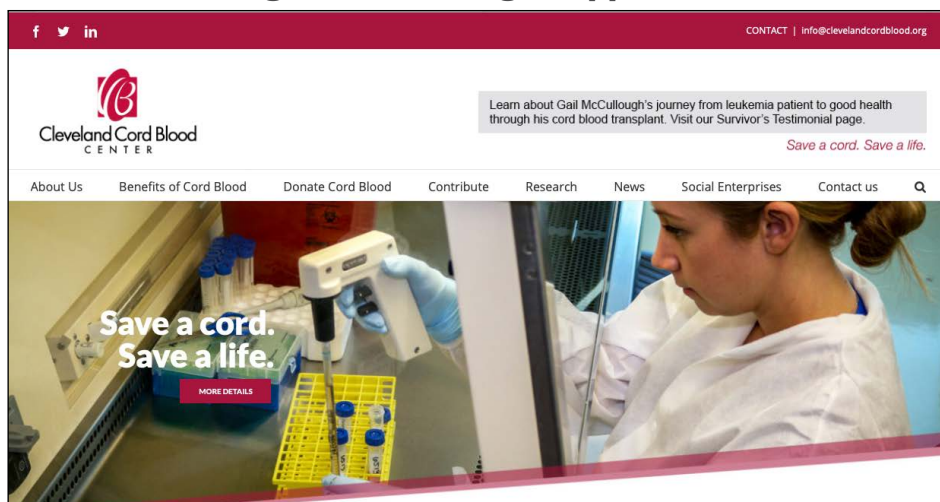
According to Catherine Wilkins, M.D., an OB-GYN Hospitalist at Cleveland Clinic Fairview Hospital, not every hospital provides parents the opportunity to donate umbilical cord blood. “With very little effort on the hospital's or a physician's part, we are able to provide something of great value that would otherwise be disposed.”

“Mothers, even those that have had no personal experience with the need for cord blood transplants, are enthusiastic and are moved when they see the lifesaving potential. Each time we are able to participate is an uplifting experience. CCBC's ability to harness the lifesaving gift of the donation is remarkable,” concluded Dr. Wilkins.

Catherine Wilkins, M.D., OB-GYN Hospitalist, Cleveland Clinic Fairview Hospital

NEWS BRIEFS

New website aligns with next-gen opportunities



Inspired by our mission, vision and values, the Cleveland Cord Blood Center (CCBC) unveiled a new website this autumn. The website reflects CCBC's enhanced role as a key provider, contributor, leader and developer of lifesaving and life-enhancing cord blood stem cell therapies. Take a look at the new design and information by visiting www.clevelandcordblood.org and feel free to give us your feedback.

CCBC welcomes new board member Barb Drobney



The Cleveland Cord Blood Center welcomes Barb Drobney, the Director of Finance for Lifebank, a nonprofit organ and tissue recovery organization, to CCBC's board of directors. As a member of the board, Drobney will focus on CCBC's contributions and efforts to help expand umbilical cord blood's potential as a cell therapy treatment through research and other collaborative opportunities. Drobney received her Bachelor's degree in Finance and her Master's degree in Business Administration in Finance and Human Resources.

CCBC launches digital communications

Along with CCBC's new website, the organization is incorporating an electronic communications initiative into its efforts to keep stakeholders informed. First up is a quarterly e-newsletter.

Interested in staying up to date with us? Request our e-newsletter at ctaddeo@clevelandcordblood.org.

Staff spreads the word regarding Cleveland Cord Blood Center mission

As a leader in research and innovation in the cord blood and cellular therapy industry, several CCBC staff members shared their knowledge and experience throughout the U.S. and globally. Executive Director Marcie Finney, Director Wouter Van't Hof, Associate Director Sara Shields, and Collection Site Manager Kathy Bobik-Kurz offered their expertise and insights to the cord blood industry at the following conferences and publications:

- 2020 Cord Blood Connect International Congress
- Advanced Therapies Congress & Expo
- Annual Arizona Cord Blood Conference
- AABB 2020 Annual Meeting
- Save the Cord Foundation, 2020 World Cord Blood Day
- *Cell & Gene Therapy Insights*

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