



Press Release
Media Contacts:
IB Communications
Tel +44 (0)20 89434685
terumo@ibcomms.agency

Terumo Blood and Cell Technologies optimizing cell therapy production through industry's first apheresis training for cell therapy manufacturers

Terumo Blood and Cell Technologies presents data on collection efficiency process with Spectra Optia(R) Apheresis System at major conferences

Lakewood, Colorado, US, May 25, 2023 – Terumo Blood and Cell Technologies (Terumo BCT), a medical technology company, launched the first training program of its kind to help cell and gene therapy manufacturers improve their cell collection processes and accelerate the commercialization of therapeutics. The new program trains participants in apheresis. This procedure is used to collect cells — an important step in making cell therapies for patients in need.

The process of isolating patient or donor immune cells involves several steps and can be costly and time-consuming — taking up to four days. But time is crucial for patients: today's approved therapies can be a next-in-line or even a last-resort treatment for patients with critical illnesses. And the next advancements in cell and gene therapies are expected to treat patients suffering from chronic illnesses ranging from genetic disorders such as sickle cell disease, autoimmune diseases, spinal cord injuries and neurological disorders. Improving the apheresis cell collection process aims to shorten development timelines and produce better cell and gene therapies (CGT) that help patients faster.

Terumo Blood and Cell Technologies is a global leader in apheresis, and its Spectra Optia is used for 94 percent of white blood cell collections in the US and 67 percent worldwide.[1] The company's half-day Understanding the Cell Collection Ecosystem training course is already having an impact on participants including CGT developers.

"As leaders in the cell and gene therapy space, it is imperative that we work collaboratively with our industry partners and treatment center colleagues to build our knowledge in cell collections," said Dan Leberfingher BS, MT, HP (ASCP), Director, Apheresis Operations, bluebird bio. "In a unified effort to improve patient experience and outcomes, partnering together we can drive innovation and make data-driven decisions which can accelerate the improvement of processes and the advancement of technologies."

"This training course reflects our commitment to the cell and gene therapy industry", says Veerle d'Haenens, General Manager of Global Therapeutic Systems and Cell Therapy Technologies, Terumo Blood and Cell Technologies. "We train participants on how to shorten, streamline and standardize the cell collections process. These three things can help reduce costs and scale cell manufacturing," d'Haenens said. "Each patient's or donor's characteristics may impact the quality or quantity of cells collected during the procedure, so we help participants use data analytics services to show how they may reduce collection days and advance treatments more quickly for patients in need."

Key Principles in the Course Generate Evidence: Posters and Case Study Demonstrate Higher CD34+ Collection Efficiency at Boston Children's Hospital for Sickle Cell Disease Patients

Using the over 40 years of experience and expertise in apheresis and as a cell therapy device manufacturer, Terumo Blood and Cell Technologies provides a prediction algorithm analysis service that can help cell collectors determine the volume of blood to process during an apheresis collection to achieve the targeted cell yield based on the patient's cell precount. By using different types of data inputs such as patient parameters, measured product data and apheresis device data, the company can provide data analytics that help hospitals and cell manufacturers optimize and predict outcomes of apheresis procedures. The goal is to improve the efficiency and safety of apheresis by tailoring the procedure to each patient's individual needs and characteristics.

The company presented recent findings at the American Society for Apheresis (ASFA) congress in two posters, one featuring cell collection procedures with sickle cell disease (SCD) patients at Boston Children's Hospital.

The SCD patient population is undergoing an increased number of hematopoietic stem cell (HSC) collections for cell and gene therapies. It is critical to ensure collection targets are achieved for these high-stakes procedures and patients. Cell collections may require multiple days and cycles of collection to meet target yields. In some cases, the challenges with HSC collections for SCD patients at Boston Children's Hospital had previously resulted in inadequate yields, preventing patients from receiving their cellular therapy.

By reviewing patient, apheresis procedure and collected product data, Terumo Blood and Cell Technologies provided optimization services to improve collected product outcomes. An analysis of twenty completed procedures on SCD patients using data collected on Spectra Optia was conducted to identify opportunities for optimization in future collections.

A recommendation to collect cells from a deeper layer within the buffy coat than in a typical HSC collection was implemented, increasing the mean CD34+ collection efficiency 32 percentage points from 4.9 percent to 36.8 percent.[2]

Data analytics can guide operator performance during cell collection procedures and may increase collection efficiency, increasing the chance of success for HSC collections and related gene therapies.

An industry literature review of the value and impact of prediction algorithms for cell collection will also be featured at the International Society for Cell and Gene Therapy (ISCT) conference in Paris this month.

Understanding the Cell Collections Ecosystem helps educate cell manufacturers about the intricacies of apheresis cell collections and learn how to maximize collection efficiency and overcome common challenges, with the shared goal of getting therapies to market faster. The training covers the most critical factors for successful apheresis, including cell collection processes and protocols, collection site operation and management, and how data can be used to optimize procedures. Attendees also receive a live demonstration of Spectra Optia cell collection procedures.

As part of its mission to improve and accelerate the field of cell and gene therapy, Terumo Blood and Cell Technologies will expand its training program offerings to cover other vital patient/donor factors that commonly cause failure or delay in cell collections, including future courses to help with vascular access best practices.

To learn more, visit: <https://reach.terumo-bct.com/cell-collection-eco-system-training>

[1] Data on file at Terumo BCT.

[2] Lewandowski S, Howard C, Justus D, Manis, J. Spectra Optia(R) Apheresis System collection data drives an increase in hematopoietic stem cell yield and CD 34+ collection efficiency for sickle cell disease patient procedures. Presented at: 2023 North America American Society for Apheresis (ASFA) meeting; April 2023; Minneapolis, MN.

About Terumo Blood and Cell Technologies

Terumo Blood and Cell Technologies is a medical technology company. Our products, software and services enable customers to collect and prepare blood and cells to help treat challenging diseases and conditions. Our employees worldwide believe in the potential of blood and cells to do even more for patients than they do today. This belief inspires our innovation and strengthens our collaboration with customers.

Terumo Blood and Cell Technologies' customers include blood centers, hospitals, therapeutic apheresis clinics, cell collection and processing organizations, researchers and private medical practices. Our customers are based in over 130 countries across the globe. We have 750+ granted patents, with more than 150 additionally pending.

We have global headquarters in Lakewood, Colorado, U.S.A., along with five regional headquarters, seven manufacturing sites and six innovation and development centers across the globe. Terumo Blood and Cell Technologies is a subsidiary of Terumo Corporation (TSE: 4543), a global leader in medical technology.