

SCIENTIFIC PROGRAM

QUÉBEC CITY
CONVENTION CENTRE

15th International Donor
Registry Conference

JOINT
WITH

Cell Therapy Transplant Canada
(CTTC) Annual Conference

Québec City • May 19–22, 2025



PARTNERS IN INNOVATION

In collaboration with Héma-Québec





MESSAGE DU **PREMIER MINISTRE**

Notre belle capitale nationale est heureuse d'accueillir la communauté scientifique du Canada et du monde à ce congrès conjoint qui réunit des médecins, des chercheurs et des experts de la transplantation de cellules souches et de thérapie cellulaire. Ces professionnels sont réunis chez nous pour échanger sur les meilleures pratiques et les dernières avancées scientifiques dans ces secteurs spécialisés du milieu de la santé. Notre gouvernement espère qu'ils trouveront ici un cadre propice à l'avancement de leurs travaux et à de futures découvertes porteuses d'avenir et d'espoir.

En prenant part à l'organisation de cet événement d'envergure, Héma-Québec poursuit sa mission et son travail indispensable en regard de la gestion des produits biologiques d'origine humaine chez nous. Elle participe également à la collaboration nationale et internationale dans le domaine des cellules souches. Toute la nation québécoise lui est reconnaissante pour ses réalisations!

Bienvenue à toutes les personnes inscrites aux colloques de Cell Therapy Transplant Canada (CTTC) et de World Marrow Donor Association (WMDA). Je vous souhaite un bon séjour à Québec.

François Legault

Québec's beautiful Capitale-Nationale is pleased to welcome the scientific community from Canada and around the world to this joint conference assembling physicians, researchers, and stem cell and cell therapy experts. They have assembled here to discuss best practices and the latest scientific advances in these specialized health sectors. Our government hopes that they will find here an environment conducive to the advancement of their deliberations and future discoveries that offer promise and hope.

By taking part in the organization of this major event, Héma-Québec is pursuing its mission and essential work from the standpoint of the management of biological products of human origin in Québec. It is also involved in national and international collaboration in the field of stem cells. Québec is grateful to it for these achievements.

Welcome to all the registrants in the Cell Therapy Transplant Canada (CTTC) and World Marrow Donor Association (WMDA) joint conference. Best wishes for a pleasant stay in Québec City.

MESSAGE DU MINISTRE DE LA SANTÉ



C'est avec plaisir que je vous souhaite chaleureusement la bienvenue au rassemblement CTTC IDRC 2025, un événement unique qui réunit la communauté de Cell Therapy Transplant Canada et celle de la World Marrow Donor Association. La présence de personnes provenant de plus de 30 pays à cet événement est une preuve éloquent de l'importance de la collaboration, tant à l'échelle nationale qu'internationale.

Je suis fier de vous souhaiter la bienvenue à Québec, au Québec, et de vous accueillir pour ce congrès organisé en partenariat par Héma-Québec, CTTC et la WMDA. J'espère sincèrement que vous profiterez pleinement de votre séjour dans la capitale nationale du Québec, un joyau classé au patrimoine mondial de l'UNESCO, et que vous aurez l'occasion de découvrir la culture québécoise tout au long de votre passage.

Au cours des quatre prochains jours, l'innovation sera à l'honneur alors que vous échangerez sur les avancées et les meilleures pratiques dans le domaine essentiel des cellules souches. J'espère que votre expérience sera des plus enrichissantes et agréables!

Bon congrès!

Christian Dubé

Ministre de la Santé du Québec

I am pleased to extend my warmest greetings to everyone attending CTTC IDRC 2025, a unique event bringing together both the Cell Therapy Transplant Canada and the World Marrow Donor Association communities. With representatives from over 30 countries, this event is a testament to the importance of both national and global collaboration!

I am thrilled to welcome you to Québec city, Québec, and to the meeting hosted through the partnership between Héma-Québec, the CTTC, and the WMDA. I truly hope you enjoy your stay in Québec's capital, a UNESCO World Heritage treasure, and that you will immerse yourself in the vibrant Québécois culture.

Over the next four days, innovation will take centre stage as you share advancements and best practices in the vital field of cell therapies from both patient and donor perspectives. I wish you a productive and enjoyable time!

MESSAGE DU MAÎRE DE QUÉBEC



En tant que maire de Québec, je suis très heureux de vous accueillir au nom de tous mes concitoyens et concitoyennes dans notre ville pour l'événement CTTC IDRC 2025!

C'est pour nous un plaisir et un honneur qu'un événement aussi unique que celui-ci puisse se dérouler chez nous. Nous pouvons ainsi prendre part, à notre manière, à l'avancement des connaissances dans le champ aussi pointu qu'essentiel des thérapies cellulaires et de la greffe de cellules souches.

Nous tirons une grande fierté, à Québec, d'accueillir chaque année de nombreux grands événements d'envergure internationale comme celui-ci. Il s'agit d'autant d'occasions de faire découvrir à de nouvelles personnes non seulement le cœur historique du Vieux-Québec, mais aussi nos différents quartiers, qui débordent de restaurants, de cafés et de boutiques – le tout facilement accessible à pied, à vélo ou en transport en commun!

J'espère que les prochains jours seront pour vous instructifs, mais aussi inspirants, et que vous aurez l'occasion de vous imprégner de la culture québécoise.

Bon congrès et bon séjour chez nous!

Bruno Marchand
Maire de Québec

A handwritten signature in black ink, appearing to be 'B. Marchand'.

As the Mayor of Québec City, on behalf of my community, it is my pleasure to welcome you to our fair city for the CTTC and IDRC Joint 2025 Conference!

We are delighted and honoured to be the backdrop to such a special event, and to contribute in our own small way to the advancement of knowledge in a field as specialized and critical as cell therapy and stem cell transplantation.

Québec City is proud to host many major international events like this conference every year. These events offer an opportunity for new visitors to explore not only the historic heart of Old Québec, but also to our various neighbourhoods, which boast restaurants, cafés and shops aplenty—all easily accessible on foot, by bike or by public transit!

I hope the next few days will be both educational and inspiring, and that you will get the chance to immerse yourself in the wealth of culture that Quebec has to offer.

Enjoy the conference and your stay!



TABLE OF CONTENTS

A Message from the Presidents	6
A Message from the Organizational Committee	7
Leadership	8
General Conference Information	11
Social Events Information	12
Venue Map	13
Program	14
Session Summaries	21
Oral Abstracts	39
Poster Abstracts Index	45



A MESSAGE FROM THE PRESIDENTS OF CTTC, WMDA AND HÉMA-QUÉBÉC

Dear Colleagues,

On behalf of our three organizations, we welcome you to CTTC & IDRC 2025, a joint event in partnership with Héma-Québec!

Partners in innovation: this theme sums up the idea behind this unique event. For the first time ever, the Cell Therapy Transplant Canada Annual Conference and the International Donor Registry Conference, a flagship event of the World Marrow Donor Association, will be held simultaneously.

The scientific planning committee, led by Mélanie Dieudé, PhD, Diane Fournier, PhD, Wilson Lam, MD, FRCPC and Mona Shafey, MD, FRCPC, has planned a full and diverse program: workshops, committee meetings, educational sessions, panel discussions, multi-disciplinary and discipline-specific sessions, plenary symposia, oral and poster abstract presentations, as well as corporate symposia.

The two-day pre-conference, filled with multiple concurrent workshops and committee meetings, will be followed by two days of CTTC and IDRC joint and concurrent scientific sessions, for a total of 12 symposia. You will get to connect with colleagues and interact with poster presenters during the Networking and Poster Reception on the evening of Wednesday, May 21. To cap things off in style, we will celebrate together at our closing Social Event & Gala Dinner, held at the Museum of Civilization on the evening of Thursday, May 22.

We would like to thank our sponsors, without whom this event would not be possible. Their support is vital to the advancement of hematopoietic cell transplantation and cell therapy.

Have a great conference!

Kylie Lepic, MD, FRCPC
President of CTTC

Nathalie Fagnan, FCPA, ICD.D
President and CEO of Héma-Québec

Jay Feinberg
President of WMDA

A MESSAGE FROM THE CONFERENCE CO-CHAIRS

Dear Colleagues,

On behalf of the CTTC & IDRC 2025 scientific planning committee, we are excited to welcome you to this unique joint event!

This conference will offer participants numerous opportunities to share their knowledge and expertise. It presents a great opportunity to network with peers and contribute to the advancement of hematopoietic cell donation, transplantation, and cell therapy, both here in Canada and internationally.

More than 30 countries will be represented by the attending delegates over the next few days. Of course, Canada, with its vast delegation from coast to coast, is no exception! We hope you will find this integrated formula a unique opportunity to broaden your horizons and deepen your knowledge of the donor-recipient axis.

The conference will present recent scientific and medical advancements in areas such as the use of artificial intelligence in donor selection, prevention and treatment of acute GvHD, novel immune cell therapies, ethical considerations and patient access to cell therapy, gene therapy for hemoglobinopathies, innovative donor outreach strategies, and optimal donor selection.

You are also invited to participate in the corporate symposia taking place during meal times, and to visit the Exhibit Hall whenever possible to learn more about the innovative and exciting offerings from our exhibitors.

Enjoy the conference!

Mélanie Dieudé, PhD

Diane Fournier, PhD

Wilson Lam, MD, FRCPC

Mona Shafey, MD, FRCPC

LEADERSHIP

CTTC BOARD OF DIRECTORS

Kylie Lepic, MD, FRCPC

President
Hamilton, ON

Nicole Prokopishyn, PhD

President-Elect
Calgary, AB

Kirk R. Schultz, MD, FCAHS

Past-President
Vancouver, BC

Mahmoud Elsayy, MD, MSc

Treasurer
Halifax, NS

Mohamed Elemery, MD, PhD

Secretary
Saskatoon, SK

Jonas Mattsson, MD, PhD

Director-at-Large, Research
Toronto, ON

Wilson Lam, MD, FRPCPC

Director-at-Large, Education
Toronto, ON

Harminder Kaur-Singh, SSGB, CPHQ

Director-at-Large, Quality
Montréal, QC

Daniel Demers, BEd, MA

Director-at-Large, Patient, Family & Caregiver
Halifax, NS

CTTC WORKING COMMITTEES

ADVANCED PRACTITIONERS

Janell Wohlgemut, Juliana Roden

DONOR AND COLLECTIONS

Kareem Jamani

EDUCATION

Wilson Lam

HEMOGLOBINOPATHIES

Greg Guilcher, Rajat Kumar

INFECTIOUS DISEASES

Sasan Hosseini, Shahid Husain

LABORATORY

Karin Hermans, Nicole Prokopishyn

NURSING

Cheryl Page

PATIENT, FAMILY AND CAREGIVER ADVISORY GROUP

Daniel Demers

PEDIATRICS

Amanda Li, Greg Guilcher

PHARMACY

Chris Tse

QUALITY AND REGULATORY

Harminder Kaur-Singh, Cheryl Liverpool

RESEARCH NETWORK

Jonas Mattson

LEADERSHIP

WMDA

WMDA CEO

Lydia Foeken

WMDA NON-EXECUTIVE COUNCIL

Christine Beerepoot, Chair

Vincent The, IT

Jaap Dijkman, Finances

WMDA MEMBERSHIP BOARD

Jay Feinberg, President

Matt Seftel, Immediate Past-President

Hans-Peter Eberhard, Member, representing Pillar 1

Ann O'Leary, Member, representing Pillar 2

Heather Stefanski, Member, representing Pillar 3

Garth Healey, Member, representing Pillar 4

Lydia Foeken, non-voting member

WMDA COMMITTEE CHAIRS

Pillar 1

James Robinson, Bio-Informatics & Innovation Committee

Jürgen Sauter, Data Dictionary & Data Quality Committee

Julia Pingel, Search, Match & Connect Steering Committee

Virgilio Cervantes, Security & Privacy Committee

Guy Parkes, User Group Search, Match & Connect

Pillar 2

Sigal Manor, Registry Operations & Regulation Committee

Hirasine Sengomona, Courier Companies Certification Committee

Alexandra Ross, Cord Blood Operations Committee

Marti Freund, Donor Recruitment & Donor Retention Committee

Valerie Stewart, Education Committee

Pillar 3

Thilo Mengling, Cell & Gene Therapy Committee

Chloe Anthias, Donor Medical Suitability Committee

Meghann Cody, Medical Committee

Tigran Torosian, SPEAR Committee

Pillar 4

Felix Bussmann, Certification Committee

Carolyn K. Hurley, Certification Steering Committee

Ingrid Tistl, Standards Committee

Pillar 5

Thilo Mengling, Regulatory Affairs Committee

Jeff Szer, Impartiality Committee

CTTC & IDRC 2025 PLANNING COMMITTEE

CHAIRS

Mélanie Dieudé, PhD

Diane Fournier, PhD

Wilson Lam, MD, FRCPC

Mona Shafey, MD, FRCPC

COMMITTEE MEMBERS

Imran Ahmad, MD, MSc

Frédéric Barabé, MD, FRCPC

Henrique Bittencourt, MD

Daniel Demers, BEd, MA

Gregory Guilcher, MD, FRCPC, FAAP

Kareem Jamani, MD, MPH, FRCPC

Susie Joron, BSc, EMBA

Harminder Kaur-Singh, BSc, BA, SSGB, CPHQ

Christopher Lemieux, MD, FRCPC

Kylie Lepic, MD, FRCPC

Stephanie Maier, PhD

Jonas Mattsson, MD, PhD

Luciana Melo-Garcia, MD

Cheryl Page, RN, BScN, MEd

Gizelle Popradi, MD, FRCPC

Gregor Reid, PhD

Matthew Seftel, MD, MPH

Mégane Tanguay, MD

Charles Yin, MD, PhD

GET OUR OFFICAL CONFERENCE APP!

Make sure to download the conference app to your mobile device! You will need the app to take part in any live polling during our conference. The mobile app also gives you easy access to the conference schedule, scientific and corporate programs, and more.

ACCESS YOUR PHONE'S STORE:

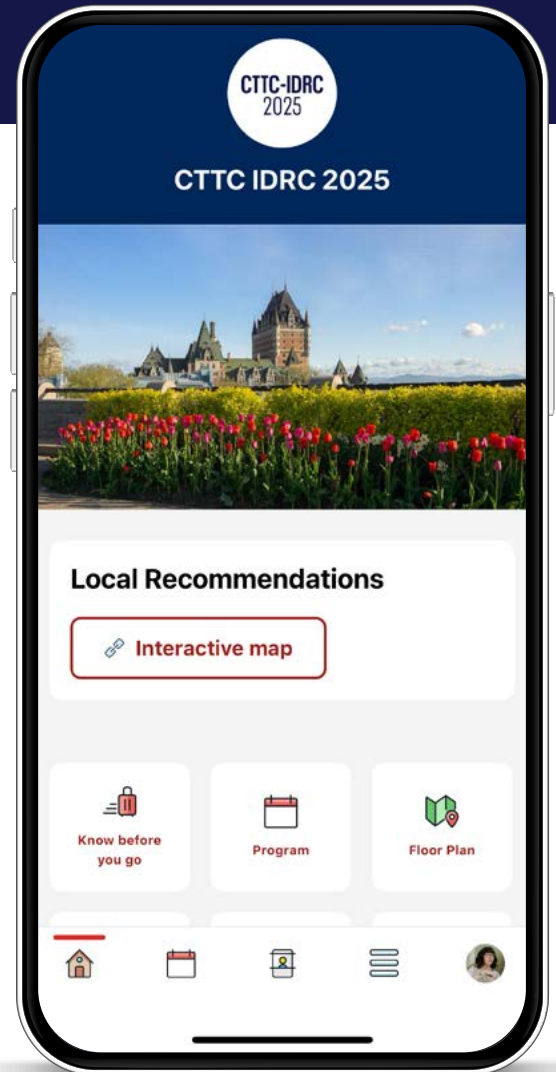
Apple iOS devices: Access the App Store

Android devices: Access the Google Play Store

INSTALL THE APP:

Search for our app provider, **Cvent Events**, and tap Get/Install.

Once downloaded, open and search for "CTTC IDRC 2025" in the bar. Tap the name of the event, then tap on the Download icon to open it. Follow the instructions on the screen to sign in with the name & e-mail address you registered with.



GENERAL CONFERENCE INFORMATION

REGISTRATION

Registration is located in **Foyer 2**.

REGISTRATION HOURS:

Sunday, May 18: 15:00 – 17:00

Monday, May 19: 7:00 – 16:00

Tuesday, May 20: 7:00 – 16:30

Wednesday, May 21: 6:30 – 16:00

Thursday, May 22: 6:30 – 15:30

SPEAKER SERVICES

Speaker Services is located in **201A**.

All speakers are asked to visit **Speaker Services** to review their slides and upload their presentation via USB. Please visit Speaker Services at least 24 hours before your presentation time (or as soon as you arrive on-site), to ensure your presentation is loaded onto the system and ready for your session start time.

SPEAKER SERVICES HOURS:

Monday, May 19: 7:00 – 16:00

Tuesday, May 20: 7:00 – 16:30

Wednesday, May 21: 6:30 – 16:00

Thursday, May 22: 6:30 – 15:30

EXHIBIT HALL

The Exhibit Hall is located in **200C**.

EXHIBIT HALL HOURS:

Tuesday, May 20: 13:00 – 16:30

Wednesday, May 21: 9:00 – 18:45

Thursday, May 22: 9:00 – 15:30

POSTER ABSTRACT PRESENTATIONS

The poster presentation hour is taking place Wednesday, May 21, from 17:30 to 18:45 in the Exhibit Hall (Room 200C), as a part of the Networking and Poster Reception.

Delegates are invited to network with poster presenters during this hour.

Poster Installation: Tuesday May 20: 13:00 – 16:30

Poster Take-Down: Thursday May 22: 15:00 – 16:00

Poster presenters are asked to ensure their poster is put up during the installation time and taken down during the tear-down times. Posters not taken down during tear-down times will be removed and disposed of by staff.

Conference Learning Objectives:

1. Review innovations in basic and clinical research in hematopoietic transplantation and in cellular therapy.
2. Discuss key considerations in donor selection, outreach, engagement, and registry development.
3. Consider health equity, patient access, and the role of artificial intelligence as it relates to donor selection, transplantation, and cellular therapy.

SOCIAL EVENTS INFORMATION

Sugar Shack Experience at l'Île d'Orléans

Tuesday, May 20, 2025 – 18:30 onwards
(shuttle at 18:00, dinner at 18:30)

Relais des pins

2013, chemin Royal, Sainte-Famille (Québec) GOA 3P0

IDRC only. Pre-registration was required for this event.
Please note this event is now sold out.

Dress code: Casual.

Transportation: Shuttles will leave the Convention Centre at 18:00 and begin returning to the Convention Centre after dinner (21:30 – 22:00 – 23:00). Delegates are asked to meet at the Convention Centre main entrance (1000, boulevard René Lévesque Est) for shuttle service.

Gala Dinner at the Museum

Thursday, May 22, 2025 – 18:00 onwards
(shuttle at 17:30, cocktail at 18:00, dinner at 19:00)

Musée de la civilisation

85, rue Dalhousie, Québec (Québec) G1K 8R2

Registration: Preregistration is required as space is limited.

Dress code: Semi-formal attire.

Transportation: Transportation is available to bring delegates to and from the social event venue. Delegates are welcome to take the shuttle or make their own transportation arrangements. The venue is within 25 minutes walking distance from the Convention Centre. Shuttles will begin at 17:30 and begin returning to the Convention Centre after dinner. Delegates are asked to meet at the Convention Centre main entrance (1000, boulevard René Lévesque Est) for shuttle service.

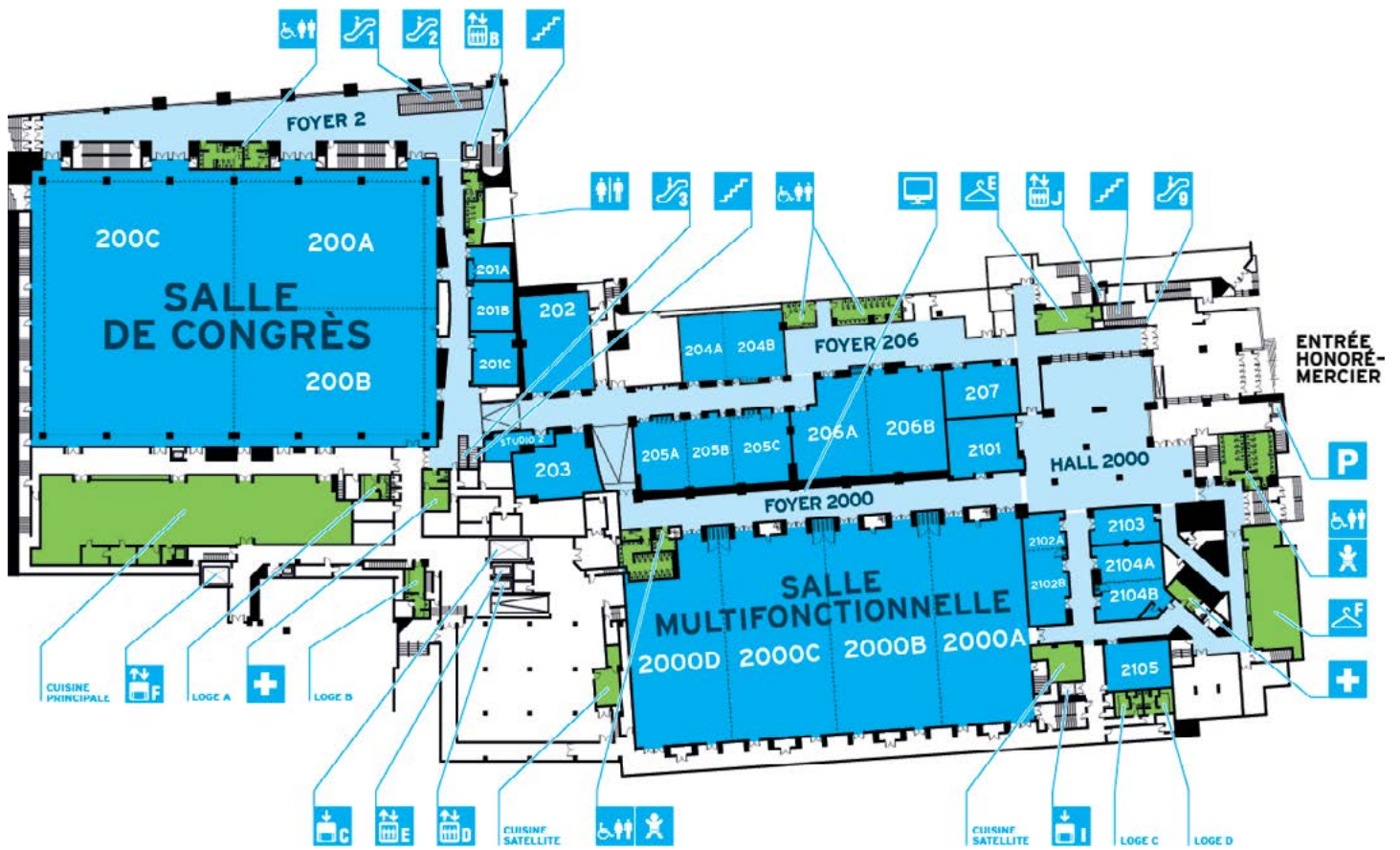
ACCREDITATION

This activity is accredited by the Office for Continuing Professional Development, Faculty of Medicine and Health Sciences, McGill University, which is accredited by the Committee on Accreditation of Canadian Medical Education (CACME) of which the Collège des médecins du Québec (CMQ) is a partner.

This Group Learning program meets the accreditation criteria as defined by the Maintenance of Certification program of the Royal College of Physicians and Surgeons of Canada and has been approved for up to 9.75 MOC Section 1 credits/hours.

Through an agreement between the Royal College of Physicians and Surgeons of Canada and the American Medical Association, physicians may convert Royal College MOC credits to AMA PRA Category 1 Credits™. Information on the process to convert Royal College MOC credit to AMA credit can be found at www.ama-assn.org/go/internationalcme

VENUE MAP



PRE-CONFERENCE DAY 1 – MONDAY, 19 MAY 2025



TIME	SESSION	ROOM	REGISTRATION	DESCRIPTION
08:00 – 11:00	Match-Connect Implementation Workshop	205A	Open to all	This interactive workshop promises to bring the abstract concepts of API communication to life through clear visualisation of the registry-to-registry communication solution.
	Donor Selection Workshop	205C	Pre-registration required*	Enhance your expertise in selecting the best donors for transplantation.
08:00 – 12:00	Medical Committee Meeting: Advancing Donor Well-Being	203	Open to all	At this meeting we will review donor mental health survey outcomes, explore a new project on the use of plerixafor in healthy donors and begin work on developing an updated statement on subsequent donations. These discussions contribute to ongoing efforts to provide international guidance on the medical and ethical aspects of HPC, marrow, and blood cell donation.
	FACT – WMDA Quality Standards & Regulatory Workshop (all day)	202	Pre-registration Required*	This workshop focuses on driving excellence in Cellular Therapy Programs and will include information on accreditation, certification, audits, deviation management, transport incidents and traceability, deficiency correction, and maintaining compliance.
09:00 – 12:00	Donor Recruitment & Retention Committee Workshop	205B	Open to all	Passionate about expanding the donor pool and keeping donors engaged? Our committee focuses on innovative strategies to recruit new donors and ensure long-term commitment. Collaborate with experts and share best practices.
10:00 – 10:30	HEALTH BREAK	CORRIDOR 204		

* Pre-registration for these sessions is made via the main registration process.

PRE-CONFERENCE DAY 1 – MONDAY, 19 MAY 2025

TIME	SESSION	ROOM	REGISTRATION	DESCRIPTION
9:30 – 14:30	Patient, Family and Caregiver Session – Stem Cell Donation, Transplantation and CAR-T	204	Open to all Pre-registration requested*	An educational session for patients, caregivers and healthcare providers, on donor considerations, CAR-T therapy, non-cancer indications for transplant, and graft-versus-host disease (GvHD).
11:00 – 12:00	Match-Connect Steering Committee Meeting	205C	By invitation only	Closed committee meeting to review member feedback and align on next steps.
	Donor Work-up Coordination Workshop	205A	Open to all	Join this session and collaborate with other members towards a standardised donor work-up process for future automation opportunities through Match-Connect.
12:00 – 13:00	LUNCH BREAK			FOYER 2
12:00 – 13:00	WMDA Membership Board Meeting – Extended	201C		
13:00 – 14:00	Match-Connect Security Compliance Panel Discussion	205C	Open to all	Join this session to learn how WMDA and its members intend to secure your data in transit based on international standards such as ISO and GDPR.
13:00 – 14:30	Data Dictionary and Data Quality Committee Meeting	205B	Open to all	Accurate and standardised data is key to successful donor searches and transplants. Join our Data Dictionary & Data Quality initiatives to improve consistency.
13:00 – 15:00	Donor Work-up Coordination Workshop – Continued	205A	Open to all	Join this session and collaborate with other members towards a standardised donor work-up process for future automation opportunities through Match-Connect.
13:00 – 17:00	Cell & Gene Therapy Committee Round Table	203	Open to all	The WMDA Cell & Gene Therapy Committee is shaping the next era of innovative treatments, and we want YOU to be part of the conversation!
	FACT-WMDA Quality Standards & Regulatory Workshop – Continued	202	Pre-registration required*	Workshop on driving excellence in Cellular Therapy Programs.
14:00 – 15:00	Security & Privacy Committee Meeting	205C	Closed session	Closed committee meeting to plan the implementation and long-term sustainability of the compliance programme.
14:30 – 15:00	HEALTH BREAK			CORRIDOR 204
15:00 – 17:00	Nursing Professional Development Session	204	Open to all	This Hematology Nursing session will discuss: – Malignant Hematology Nursing: How to keep loving what you are doing! – Hand in hand: HSC Coordination and the HSCT Donor Journey
	Registry Operations & Regulation Committee Meeting	205A	Open to all	This committee focuses on optimizing operational processes, ensuring regulatory compliance, and enhancing global collaboration.
15:30 – 17:00	Asia-Pacific Registries Meeting	205C	Open to all	All WMDA Asian-Pacific Registries are invited to join this get-together.

* Pre-registration for these sessions is made via the main registration process.

PRE-CONFERENCE DAY 2 – TUESDAY, 20 MAY 2025

TIME	SESSION	ROOM	REGISTRATION	DESCRIPTION
08:00 – 10:00	WMDA Standards Committee	203	Closed session	Committee meeting to work towards the development of the new WMDA Standards.
08:00 – 10:30	WMDA SPEAR Committee Meeting	205C	Closed session	Closed committee meeting to discuss adverse events and reactions reported to WMDA.
08:00 – 12:00	Gene Therapy for Hemoglobinopathies Collaboration Meeting	201C	By invitation only	Closed collaboration meeting to plan the implementation and long-term sustainability of gene therapies in Canada.
	Bio-Informatics & Innovation Committee Meeting	205B	Open to all	Data drives better matches! Join our Bio-Informatics & Innovation Committee to enhance data analysis, improve donor matching algorithms, and develop the most relevant haplotype frequencies.
08:00 – 15:30	Laboratory Workshop (offsite at Hema-Quebec)	Offsite	Pre-registration required*	Discussion will focus on preparing the laboratory for more than minimal manipulation processing. Bus departs at 07:30 from QCCC.
08:30 – 10:30	Discussion on Inclusive Practices for Safe and Equitable Donor Assessment	205A	Open to all	Join the conversation on optimizing the recruitment, verification typing and workup of donors from vulnerable populations and to overcome structural barriers to donation. Aimed at harmonizing global practices for donor assessments, and concurrently advance health equity and donation safety for patients and donors, we will use this meeting to discuss the development of WMDA recommendations on inclusive practices for safe and equitable donor assessments.
09:00 – 12:00	Workshop for CEOs of WMDA Member Registries	202	By invitation only	What should we be preparing for now, to ensure the success and resilience of the global transplant registry community over the next 30 years?
	Pharmacy & Advanced Practitioners Session	204	Open to all	A session including: a pharmacy-focused talk, joint talks on outpatient care and off-label medication use, and an AP-focused GvHD talk.
10:15 – 12:00	Ask Your Questions to the WMDA Certification Body	203	Open to all	Interactive session where you can directly connect with representatives from the WMDA Certification Body. Get answers to all your questions regarding certification processes, requirements, and best practices. Whether your organisation is new to certification, already certified, or a WMDA reviewer or aspiring to become one, this session will offer valuable insight and clarity on the certification journey.
10:30 – 11:00	HEALTH BREAK			FOYER 2
11:00 – 12:00	Open Discussion: Serious Events in Stem Cell Donation – Insights, Best Practices & Lessons from WMDA's Biovigilance Service: SPEAR	205C	Open to all	Join our open session to explore serious incidents in stem cell donation. Gain insight into 2024 reported cases, discuss notable case studies, and continue conversations on tools to improve reporting quality and ease.
12:00 – 13:00	LUNCH BREAK			FOYER 2

* Pre-registration for these sessions is made via the main registration process.

PRE-CONFERENCE DAY 2 – TUESDAY, 20 MAY 2025

TIME	SESSION	ROOM	REGISTRATION	DESCRIPTION
13:00 – 14:45	WMDA Reviewers Training	203	Open to all	Ready to play a key role in WMDA Certification Programme? The WMDA Reviewers Training will enhance your skills and knowledge. Engage with experts, learn from each other, and work together to make an impact on patients and donors.
13:00 – 16:00	101 Educational Session for Healthcare Professionals	204	Open to all Pre-registration required*	This session will cover: Donor-focused case studies – Dr. Tommy Alfaro-Moya, Dr. Joerg Krueger Making the Match: Understanding Search Algorithms and Optimising Donor Search Report – Dr. Valerie Stewart, Alicia Venter CAR T-Cell Therapy for Multiple Myeloma – Dr. Sita Bhella, Steve and Suzanne Romanowitch Emerging Pathogens - Challenges and Considerations for Recipient and Donor Safety - Dr. Thilo Mengling Hematopoietic Stem Cell Mobilization in Donors: Safety and Efficacy Considerations – Dr. Matthew Seftel
	Cord Blood Operations Committee Meeting	205A	Open to all	Efficient cord blood banking saves lives! Join our Cord Blood Operations discussions to streamline logistics and explore innovative concepts.
13:00 – 16:30	Workshop for CEOs of WMDA Member Registries – Continued	202	By invitation only	What should we be preparing for now, to ensure the success and resilience of the global transplant registry community over the next 30 years?
	Donor Medical Suitability Committee Meeting	205C	Open to all	Join us for an important discussion aimed at refining the criteria for donor suitability. As physicians, your insights are crucial in establishing guidelines.
	Bio-Informatics & Innovation Committee Meeting – Continued	205B	Open to all	Data drives better matches! Join our Bio-Informatics & Innovation Committee to enhance data analysis, improve donor matching algorithms, and develop the most relevant haplotype frequencies.
14:30 – 15:00	HEALTH BREAK			EXHIBIT HALL 200C
14:45 – 16:15	CTTC Board of Directors Meeting	201C	Closed meeting	
14:45 – 16:30	Match-Connect User Group Meeting	203	Open to all	Join this session to learn about the most recent developments in Match-Connect and get the opportunity to voice your opinion on future changes.
16:30 – 17:30	Welcome Symposium 1: The Role of Artificial Intelligence in Strategy, Efficiency, Communication CME credit: 0.75	200A	Open to all Start of the main conference	Welcome message from the Conference Planning Committee Co-chairs AI/ML Applications for Donor Registries and Transplant Research: NMDP/CIBMTR – Dr. Yung-tsi Bolon Investigating the Role of Genetic and Environmental Factors on the T-cell Receptor Repertoire Composition in the Context of Hematopoietic Stem Cell Transplant – Dr. Assya Trofimov Moderator: Dr. Maude Dumont-Lagacé
18:00 – 23:00	OFF-SITE SOCIAL EVENT – SUGAR SHACK (WMDA DELEGATES ONLY) Pre-Registration required*			

* Pre-registration for these sessions is made via the main registration process.

CONFERENCE DAY 1 – WEDNESDAY, 21 MAY 2025

TIME	SESSION	ROOM	DESCRIPTION
7:00 – 8:30	BREAKFAST SYMPOSIUM		ROOM 200B
8:30 – 9:30	Symposium 2: Hans Messner Lectureship CME credit: 0.75	200A	Welcome presentations by the leaders of CTTC, Héma-Québec, and WMDA Allogeneic Stem Cell Transplantation for Children with ALL: The FORUM Concept – Dr. Christina Peters Moderator: Dr. Wilson Lam
9:30 – 10:30 Concurrent Session	Symposium 3A: Prevention and Treatment of Acute GvHD CME credit: 1.00	200A	Treg Engineered Donor Products in Hematopoietic Stem Cell Transplantation to Prevent GvHD and Improve Immune Tolerance – Dr. Everett Meyer Acute GvHD: Hope, Achievement, and Challenges – Dr. Sylvie Lachance Moderator: Dr. Imran Ahmad
	Symposium 3B: Donor Registry Developments CME credit: 1.00	200B	Cell and Gene Therapies: Development Opportunities for Registries – Nicola Alderson Challenges Facing Registries: Long-Term Stability and Strategies for the Future – Dr. Sergi Querol Moderators: Dr. Oliver Kürsteiner, Dr. Sigal Manor
10:30 – 11:00	HEALTH BREAK		EXHIBIT HALL 200C
11:00 – 12:15	Symposium 4: Till & McCulloch Lectureship & CTTC Research Award Reports CME credit: 1.25	200A	Cellular Therapy Strategies to Increase Anti-Leukemia Activity and Overcome GvHD – Dr. Denis-Claude Roy Utility of Circulating Tumour DNA in Lymphoma Patients Treated with CD19 CAR-T Cells – Dr. Kevin Hay Quality of Life and Comorbidities of Adult Survivors of Allogeneic Hematopoietic Cell Transplant versus their Siblings – Dr. Kareem Jamani Moderator: Dr. Kylie Lepic
12:15 – 13:45	LUNCH SYMPOSIUM		ROOM 200B
13:45 – 15:15	Symposium 5: Health Equity, Ethical Considerations, and Patient Access in Cell Therapy CME credit: 1.50	200A	Considering Patient and Donor Intersectionality in Allogeneic Transplantation – Dr. Warren Fingrut Sustaining Access to Promising Academic Cell and Gene Therapy Products – Dr. Rebecca Gardner Removing Barriers to Transplantation Using Mismatched Unrelated Donors – Dr. Steve Devine Moderator: Dr. Mélanie Dieudé
15:15 – 15:45	HEALTH BREAK		EXHIBIT HALL 200C
15:45 – 17:15 Concurrent Session	Symposium 6A: Novel Immune Effector Cell Therapies CME credit: 1.50	200A	CAR T-Cells for the Treatment of T Cells Leukemias – Dr. Waseem Qasim CD3 ⁺ CD4 ⁻ CD8 ⁻ Double-Negative T Cells: A Novel Adjuvant Therapy for the Holy Grail of Allo-HSCT – Dr. Jongbok Lee Moderator: Dr. Mona Shafey
	Symposium 6B: Innovation in Cell Therapy Products and Services CME credit: 1.50	200B	Epigenetic Rejuvenation of Hematopoietic Stem Cells for Better Transplants – Dr. Elisa Tomellini The Expanding Role of the Blood Services in the Provision of ATMP – Dr. Allison Waters Moderators: Dr. David Allan, Dr. Sergi Querol
17:15 – 18:45	NETWORKING RECEPTION & POSTER PRESENTATIONS		EXHIBIT HALL 200C

CONFERENCE DAY 2 – THURSDAY, 22 MAY 2025

TIME	SESSION	ROOM	DESCRIPTION
7:00 – 8:30	BREAKFAST SYMPOSIUM		ROOM 200B
8:30 – 9:30	Symposium 7: Shirley Nolan Lecture	200A	An Important ABC for HSC Donor Registries – Dr. Carlheinz Müller Moderator: Henny Braund
9:30 – 10:45 Concurrent Session	WMDA General Membership Meeting	200A	Restricted to WMDA members
	CTTC Annual General Meeting	200B	All are welcome to observe; only registered CTTC members can participate in official business
10:45 – 11:15	HEALTH BREAK		EXHIBIT HALL 200C
11:15 – 12:15 Concurrent Session	Oral Abstract Presentations	200A	CME credit: 1.00
	Development and implementation of an awareness campaign to attract young donors for the Swiss registry – Franziska Kellenberger Spanish bone marrow donor registry: How big is enough? – Dr. Sergi Querol Acceleration of VTs by automating the processes of donor verification typing at DKMS laboratory – Carolin Schwarz Inclusive Practices for Safe and Equitable Donor Assessment – Dr. Warren Fingrut Moderator: Jay Feinberg		
	Oral Abstract Presentations	200B	CME credit: 1.00
	Collaborative development of structured support pathways for patient partners in cellular therapy – Dr. Karine Bilodeau Re-envisioning the autologous hematopoietic stem cell transplant as an immunotherapeutic tool – Cora Geiger Matched Unrelated Donor Hematopoietic Cell Transplantation: Increased Usage and Improvements in Clinical Outcomes in Canada – Dr. Matthew Seftel Results of a Phase I/II Study of EBV-Specific T Cells for the Treatment of EBV Reactivation and EBV-Related Lymphoproliferative Disorders – Dr. Lorne Schweitzer Moderator: Dr. Kylie Lepic		
12:15 – 13:45	LUNCH SYMPOSIUM		ROOM 200B
14:00 – 15:00 Concurrent Session	Symposium 8A: Gene Therapy for Hemoglobinopathies – Understanding and Addressing Barriers CME credit: 1.00	200A	Implementation of First CRISPR Gene Therapy for Hemoglobinopathies in Canada – Dr. Rajat Kumar Summary from 2024 National Hemoglobinopathy and Stem Cell Transplant Experts Meeting – Dr. Tanya Petraszko CTTC Hemoglobinopathies Working Committee and CanHaem Partnerships – Dr. Gregory Guilcher Moderator: Dr. Nancy Robitaille
	Symposium 8B: Innovative Donor Outreach and Engagement Strategies CME credit: 1.00	200B	Using New Technologies and Digital Media to Attract New Donors – Patrice Lavoie Ghosted by Gen Z? Wins & Fails in Donor Recruitment – Mai Duong Moderators: Catherine Viau, Dr. Marti Freund
15:00 – 15:30	HEALTH BREAK		EXHIBIT HALL 200C
15:30 – 16:30	Symposium 9: Debate: Choosing the Optimal Donor CME credit: 1.00	200A	Cord Blood: The Untold Advantage – Because the Youngest Donor is Better – Dr. Sandra Cohen Haplo and Related: Choosing the Best Donor – Dr. Joerg Krueger Moderator: Dr. Christopher Lemieux
17:30 – 18:00	SHUTTLE SERVICE		
18:00 – 23:00	OFF-SITE SOCIAL EVENT – GALA DINNER, MUSEUM OF CIVILIZATION Pre-Registration required*		

SESSION SUMMARIES

PRE-CONFERENCE SESSIONS

PATIENT, FAMILY, AND CAREGIVER SESSION

Stem Cell Donation, Transplantation and CAR-T – an educational session for patients, caregivers and healthcare providers

The CTTC Patient, Family and Caregiver (PFC) Advisory Group is pleased to host this special session during the CTTC & IDRC 2025 Joint Conference. All patients, their family members, caregivers and healthcare professionals who are interested in learning about hematopoietic stem cell donation, transplantation and cell therapies (i.e. CAR-T) from the patient perspective are invited to attend this educational session. PFC Advisory Group members will moderate each of the four sections planned for this program, and the presentation titles and speakers within each section are outlined below:

Donor Considerations

Moderator & Opening Remarks – Daniel Demers, BEd, MA, PFC Chair

- **Welcome Remarks** – Kylie Lopic, MD, FRCPC, CTTC President
- **Characteristics of an Ideal Donor/Graft** – Kareem Jamani, MD, MPH, FRCPC
- **Recruiting and Retaining Donors from Diverse Populations** – Warren Fingrut, MD, MPH

CAR-T Therapy

- **Moderator & Patient Story** – Camille Leahy
- **Understanding CAR-T: Access, Eligibility, and Outcomes that Matter to Patients** – Christopher Lemieux, MD, FRCPC
- **Cell Therapy Manufacturing of Designer Cells** – Nicole Prokopishyn, PhD

Non-Cancer Indications

- **Moderator & Patient Story** – Boachie Acheampong
- **Exploring Options for Treating Non-Cancerous Indications with Stem Cells** – Rajat Kumar, MBBS, MD, FRCP, FRCPC, DRCPC

Transplant Complications - GvHD

- **Moderator & Patient Story** – Cathy Spence, MD
- **Graft-versus-Host Disease** – Tommy Alfaro Moya, MD, MPH
- **Psychological Impacts of GvHD** – Meredith Cowden, MA, LPCC-S

NURSING PROFESSIONAL DEVELOPMENT SESSION

Malignant Hematology Nursing: How to keep loving what you are doing!

Tammy Degelder, RN(EC), MN, CON(C) and Mansi Lal, RN, BScN

This presentation will share an overview of the malignant hematology patient population, providing a description of the personal experiences of a junior nurse in transplantation and cellular therapy, while focusing on the joys and challenges of working in malignant hematology. This talk will discuss what millennial nurses are looking for from their job and strategies to aid nursing retention in this specialty, as well as describe what nurses can do to help themselves and their colleagues to prevent burnout.

Learning Objectives:

- Identify the joys and challenges of nursing in complex malignant hematology
- Discuss narratives of how nurses are feeling and coping in their position
- Develop strategies to keep your love of hematology oncology nursing

SESSION SUMMARIES

Hand in Hand: The Donor Coordination Journey - HST Coordination

Johanne Richer, RN, Elizabeth Gorth, BSc, Sabine Augustin, BSc

Getting to infuse an allogeneic stem cell product to a patient would not be possible without the help of hundreds of dedicated persons who share a common motivation: Saving the life of someone in need of a stem cell transplant. This presentation will highlight the collaboration between Transplant Centers, Registries and Collection Centers..

Learning Objectives:

- Become familiar with steps to get from initial indication to actual transplant
- Identify obstacles on the pathway: The ones we can control and the ones that we can not.
- Identify the challenge in identifying the perfect donor
- Discuss the role of HLA typing
- Define advantages and disadvantages of each cell source (CBU-PBSC-BM)

HSCT Donor Journey

Clementine Beucher, B.Sc., PharmD, M.Sc.

This talk will present the process of a stem cell donation from a donor's perspective.

PHARMACY & ADVANCED PRACTITIONERS SESSION

The Role of the Pharmacist in Pediatric Cell Therapy: Improving Patient Care 1 mg/kg at a Time

Flaviu Adrian Mosora, PharmD, MSc

The role of the pharmacist has significantly evolved over the past two decades, expanding to include prescribing responsibilities and managing increasingly complex patient populations. Hematopoietic stem cell transplant (HSCT) and cellular therapy are rapidly growing fields, with advancements in pharmacological treatments and

expanding indications steadily increasing the number of potential patients. In this presentation, we will explore the evidence supporting the integration of specific activities into an HSCT pharmacist's practice, based on FACT requirements. These activities include quality management and direct patient care. We will then highlight the unique needs of pediatric HSCT patients and the critical role pharmacists play in addressing these needs. We will introduce a care plan model tailored to HSCT and cellular therapies, emphasizing high pharmacist involvement. This model divides the components of a classic HSCT conditioning regimen into four sections: supportive care, conditioning, blood bank elements, and graft-versus-host disease prophylaxis. It also incorporates a treatment plan shared within the multidisciplinary team. Drawing from our institutional practices, we will detail the pharmacist's role in managing personalized pediatric treatments, such as immunosuppressants, fludarabine, and busulfan. We will also discuss the challenges of pediatric medication accessibility and drug administration, highlighting how pharmacists can improve outcomes. Finally, we will underscore the importance of pharmacist involvement in both patient and professional education. We will reflect on ways to break the routine by pursuing activities that align with our personal interests, thereby enhancing job satisfaction and professional growth.

Learning Objectives:

- Review the role of pharmacists in pediatric bone marrow transplant and cellular therapy and review existing literature
- Describe the involvement of the pharmacist in an era of personalized medicine and complex patient care plans
- Describe the role of the pharmacist in patient and professional education

Allogeneic Transplant at Home: Challenges, Criteria, and Best Practices

Dorothy Law, MN, BMTCN, CON(C)

This presentation explores the feasibility and key considerations for conducting allogeneic stem cell

SESSION SUMMARIES

transplants in a home-based setting. It will cover admissible regimens, comparing Myeloablative Conditioning (MAC) versus Reduced-Intensity Conditioning (RIC), and how regimen choice impacts patient eligibility and home care feasibility. Patient-specific criteria such as age, frailty, comorbidities, and caregiver availability will be discussed, along with accommodation-specific factors like proximity to the transplant center, access to emergency services. Strategies for managing infectious hazards at home will be reviewed, including family screening, hygiene practices, and minimizing public exposure. The pharmacist's role will be highlighted, focusing on medication counselling, reconciliation, and monitoring, with attention to how often pharmacists should engage with patients and participate in daily rounds. The importance of caregiver education will be emphasized, including recognizing early signs of complications (e.g., infection). The presentation will conclude with key takeaways and future directions for expanding home-based transplant programs.

Learning Objectives:

- Differentiate between Myeloablative Conditioning (MAC) and Reduced-Intensity Conditioning (RIC) regimens and assess their suitability for home-based allogeneic transplant
- Identify key patient-specific criteria (e.g., age, frailty, caregiver support) and accommodation-specific factors (e.g., proximity to care, emergency resources) that influence eligibility for home-based transplants
- Develop strategies to manage infectious hazards in a home setting, including infection prevention and early identification of complications
- Outline the pharmacist's role in home-based transplant care, including medication counselling, reconciliation, and monitoring frequency
- Review the importance of caregiver education and support in ensuring successful home-based transplant outcomes

Stronger Together: Coordinating Cellular Therapy in a Complex Landscape

Jennifer Bartels, RN, CONC and Trish Burnett, RN

Coordinating outpatient cellular therapy requires collaboration among interdisciplinary teams, referring centers, and third-party organizations. This presentation will highlight Hamilton Health Sciences' approach to cellular therapy, with the goal of promoting collaboration and information sharing between cellular therapy sites across Canada.

Learning Objectives:

- Review the nurse coordinator's role in cellular therapy
- Identify the challenges in cellular therapy coordination
- Discuss the importance of the interdisciplinary team approach
- Explore the opportunity for increased collaboration between treating sites

A Review on Outpatient CAR T-Cell Therapy

Michelle Delbaere, BA, BSP, ACRP and Janell Wohlgemut, MN:NP(Adult), CON(C)

A pharmacist and a nurse practitioner collaborate to review their experience in outpatient CAR T-cell in Hamilton and Ottawa and provide insight into challenges and future state in Canada.

Learning Objectives:

- Describe the setting for outpatient CAR T-cell programs in Ottawa and Hamilton
- Review current literature on outpatient CAR T-cell
- Explain required criteria for outpatient treatment and challenges
- Review toxicity monitoring and management in the outpatient setting
- Highlight future considerations for CAR T-cell therapy in Canada

SESSION SUMMARIES

Off-Label Use of Medication: Sailing in a Sea of Uncertainty

Christopher Tse, PharmD, ACPR and Flaviu Adrian Mosora, PharmD, MSc

Off-label medication use – prescribing drugs for indications, doses, or populations not approved by regulatory agencies – is common yet complex. This presentation explores key challenges, including defining adequate evidence, securing informed patient consent, and ensuring clinical benefit. It will cover pharmacokinetic adjustments for off-label use, strategies for monitoring outcomes, and navigating access barriers like insurance and institutional policies. Special focus will be given to CART therapy and pediatric medications. By addressing these issues, the presentation aims to equip clinicians with practical strategies for responsible and effective off-label prescribing.

Learning Objectives:

- Define off-label medication use and describe its prevalence and regulatory considerations
- Evaluate the adequacy of evidence supporting off-label use and apply clinical judgment in decision-making
- Explain the importance of informed patient consent for off-label use and implement strategies for effective communication
- Apply pharmacokinetic principles to adjust drug dosing and optimize treatment outcomes in off-label scenarios
- Identify strategies for monitoring clinical benefit and adjusting therapy based on patient response
- Navigate access challenges related to off-label use, including insurance and institutional policies
- Analyze case examples in CART therapy and pediatric care to understand the practical implications of off-label use in specialized treatments

Chronic Graft Versus Host Disease Post Allogeneic Stem Cell Transplant: Guidelines and Management Strategies

Kayla Madsen, MN-NP, CON(C)

Chronic graft-versus-host disease (cGVHD) remains a significant complication following allogeneic hematopoietic stem cell transplantation (allo-HSCT), affecting patient morbidity, quality of life, and long-term survival. This presentation will provide an in-depth review of cGVHD, beginning with its pathophysiology, clinical manifestations, and impact on transplant outcomes. We will explore the Canadian Consensus Guidelines for cGVHD management, emphasizing the standard-of-care treatment strategies, including corticosteroids and steroid-sparing agents. Additionally, we will discuss the role of second-line therapies for steroid-refractory cases and supportive care measures essential for optimizing patient outcomes. The session will also highlight therapeutic approaches, such as JAK inhibitors, and other emerging targeted therapies. Finally, we will delve into real-world applications of these guidelines and therapies, addressing challenges in clinical practice, personalized treatment approaches, and patient-centered management strategies. This presentation aims to equip healthcare providers with the latest evidence-based insights to enhance the management of cGVHD in post-transplant patients.

Learning Objectives:

- Define and describe cGVHD
- Review Canadian consensus guidelines and treatment strategies
- Discuss emerging advances and real-world applications

SESSION SUMMARIES

Laboratory Workshop - Preparing the Laboratory for More than Minimal Manipulation Processing (Point of Care (POC) Cellular Therapy Manufacturing) – Minimal vs More than Minimal Manipulation of Cellular Therapy Products

Karin Hermans, PhD

This presentation will define the differences between minimal and more than minimal manipulated cellular therapy products.

Learning Objectives:

- Identify the differences between minimal manipulated and more than minimal manipulated cellular therapy products
- Define what makes a more than minimal manipulated cellular therapy product

An Overview of Regulatory Requirements for POC Manufacturing for Clinical Trials

Harminder Kaur-Singh, BSc, BA, SSGB, CPHQ

Setting up the Prodigy CCS manufacturing for viral-specific T-cells in a clinical lab

Isabelle Louis, PhD and Nicole Prokopishyn, PhD

The Miltenyi CliniMACS Prodigy® platform enables closed-system, GMP-compliant generation of virus-specific T cells (VSTs) in a single, automated workflow that spans leukapheresis enrichment to final formulation, infusion ready. These selected positively selected T cells have been reported as showing rapid in-vivo expansion, durable antiviral immunity, and a favorable safety profile with low graft-versus-host-disease incidence.

This Miltenyi platform offers a scalable, point-of-care strategy to personalize cellular immunotherapy against refractory viral infections while meeting stringent cGMP and time-to-patient demands. Our cell therapy processing laboratory is currently setting up this assay in line with a clinical research project we will be submitting to Health Canada by the end of the year. We will be presenting our journey, and our challenges, through this process.

Learning Objectives:

- Understand the Biological Rationale, why adoptive transfer of virus-specific T cells (VSTs) is effective for controlling post-transplant viral infections and how antigen-driven antigen-driven IFN expression distinguishes functional VSTs from naive or alloreactive T-cell subsets.
- Outline, very succinctly, the CliniMACS Prodigy Workflow for VST generation
- Interpret Quality Control Readouts and release criteria (cell count, viability, CD4:CD8 ratio, purity, sterility, etc)

Developing CAR-T Manufacturing in a Clinical Laboratory

Susan Berrigan, MLT

What is involved with setting up CAR T Cell Manufacturing in a Clinical CTL Laboratory. Purchasing equipment, reagents and supplies. How do you staff a clinical CAR T cell therapy laboratory? What training is required for the staff. Testing of the end products, is it done in house or off site. And last but not least, securing funding, who is going to pay for all of it.

Learning Objectives:

- Gain a better understanding on how to bring CAR T cell manufacturing into your clinical lab
- Discuss the biggest challenges with CAR T Cell manufacturing

Manufacturing CAR-T cells in Canada

Kevin Hay, MD, MSc, FRCPC

101 EDUCATIONAL SESSION FOR HEALTHCARE PROFESSIONALS

Donor-focused Case Studies

Tommy Alfaro Moya, MD, MPH

This session will provide trainees with a comprehensive overview of the key considerations in donor selection for allogeneic hematopoietic stem cell transplantation (alloHCT) through real-world case studies. The discussion will cover

SESSION SUMMARIES

the principles of donor selection, including HLA matching, the use of haploidentical donors, and alternative donor sources. It will also explore how donor characteristics can impact both short- and long-term transplant outcomes.

Learning Objectives:

- Review the principles of donor selection in allogeneic hematopoietic stem cell transplantation (alloHCT)
- Describe the importance of HLA matching and the use of alternative donor sources.
- Analyze real-world donor-focused case studies to explore complex clinical decision-making
- Identify key factors influencing donor selection, including GVHD risk, donor availability, and patient-specific considerations
- Recognize the impact of donor characteristics on post-transplant outcomes
- Assess how donor-related factors influence engraftment, immune reconstitution, and long-term survival
- Apply practical strategies to optimize donor selection and improve patient outcomes in both adult and pediatric alloHCT settings
- Incorporate emerging approaches such as haploidentical transplantation and post-transplant cyclophosphamide into clinical practice

Emerging Pathogens - Challenges and Considerations for Recipient and Donor Safety

Thilo Mengling, MD

In this session, we will discuss the impact of new and re-emerging infectious diseases on donor eligibility and stem cell donor safety. Drawing from real-world cases and regulatory experience, he will highlight how both transplant physicians and donor registries can respond to new pathogen threats, balancing timely access to transplantation with robust risk mitigation. The presentation will cover key considerations such as risk assessment frameworks, coordination with health authorities, communication strategies, and recent examples including COVID-19 and regionally emerging infections.

Learning Objectives:

- Identify which emerging pathogens can impact donor suitability and availability, and how to differentiate between medical and regulatory aspects
- Balance risks of transmission and not having access to the best suited donor as soon as possible
- Deduce communicative approaches to mitigate harm to patients and donors

Our Experience with Undergoing CAR T-cell Therapy for Multiple Myeloma

Steve and Suzanne Romanowitch

Steve and Suzanne Romanowitch will discuss their experiences undergoing treatment for multiple myeloma, including CAR T-cell therapy, from a patient and caregiver perspective.

CAR T-Cell Therapy for Multiple Myeloma: Current Evidence, Future Directions and What You Need to Know

Sita Bhella, MD, MEd, FRCPC

This presentation will provide a comprehensive overview of chimeric antigen receptor (CAR) T-cell therapy in the treatment of multiple myeloma. The session will begin with a patient and caregiver experience presentation. We will then review the basics of how CAR T-cell therapy works and its role in the treatment landscape of multiple myeloma. We will explore current evidence and future potential directions. We will review common adverse events to be aware of post CAR T-cell in multiple myeloma through case based discussion.

Learning Objectives:

- Learn about the lived experience of patients and caregivers undergoing CAR T-cell therapy for multiple myeloma
- Understand the mechanism of action of CAR T-cell therapy in multiple myeloma
- Summarize the current role of CAR T-cell therapy in the evolving treatment landscape of multiple myeloma
- Identify common and rare adverse events associated

SESSION SUMMARIES

with CAR T-cell therapy in multiple myeloma, such as cytokine release syndrome and neurotoxicity

- Explore future directions for CAR T-cell therapy in myeloma

Making the Match: Understanding Search Algorithms and Optimising Donor Search Reports

Valerie Stewart, MS, PhD, Alicia Venter

While many physicians rely on coordinators or registry teams to run donor searches, understanding the science behind search algorithms can empower better clinical decision-making. This 20-minute session offers a concise, physician-friendly overview of how WMDA's Search & Match algorithms estimate donor compatibility, highlighting the probabilistic calculation presented by Valerie Stewart. Using a real-world case study, Alicia Venter will walk through how a search unfolds in practice—from initial query to final report—and share practical tips for interpreting results and optimising search strategies. Designed for transplant physicians who don't run the reports themselves but want to engage more confidently with the data, this talk will bridge the gap between algorithmic logic and clinical application.

Learning Objectives:

- Describe the basic principles behind probabilistic donor search algorithms used in WMDA Search & Match services
- Interpret key elements of a donor search report, including match grade, mismatch types, and donor availability
- Identify common filters and criteria that influence the prioritization of donor options
- Apply practical strategies to collaborate more effectively with search coordinators and improve donor selection outcomes

Hematopoietic Stem Cell Mobilization in Donors: Safety and Efficacy Considerations

Matthew Seftel, MD, MPH, MRCP, FRCPC, DRCPSC

In allogeneic hematopoietic transplantation, by far the most frequent source of stem cells is peripheral blood collected by apheresis. Mobilization of hematopoietic progenitor cells in sufficient numbers is achieved by GCSF, of which there are now several biosimilar agents. There is also interest in the use of plerixafor as an adjunctive or alternative mobilization agent. This presentation will summarize the efficacy safety, cost and ethical considerations regarding the use of these drugs in health donors.

Learning Objectives:

- Summarize pharmacologic techniques to mobilize hematopoietic progenitor cells
- Review the safety and efficacy profile of these mobilization agents in healthy donors
- Propose an approach to the use of GCSF biosimilars in healthy donors

SESSION SUMMARIES

MAIN CONFERENCE SESSIONS

SYMPOSIUM 1: THE ROLE OF ARTIFICIAL INTELLIGENCE IN STRATEGY, EFFICIENCY, COMMUNICATION

AI/ML Applications for Donor Registries and Transplant Research: NMDP/CIBMTR

Yung-tsi Bolon, PhD

The rise of Artificial Intelligence (AI) and Machine Learning (ML) has led to an increase in its application across many arenas. Here, we delineate AI/ML capabilities and historical limitations and identify several applications for donor registry and cellular therapy arenas. Donor responses, product assessments, and transplant outcomes are commonly referenced. However, handling critical problems for data gaps, quality, and consent through imputation and synthetic data generation are also potential use cases. We also outline ways to put data, computational tools, and community resources to work for you.

Learning Objectives:

- Name AI/ML capabilities and limitations
- Identify and assess existing AI/ML applications in donor registry and cellular therapy arenas
- Propose further applications and improvements for the use of AI/ML in your work

Investigating the Role of Genetic and Environmental Factors on the T Cell Repertoire Composition in the Context of Hematopoietic Stem Cell Transplant

Assya Trofimov, PhD

In the context of hematopoietic stem cell transplantation (HSCT), T cells are the main mediators of both curative graft-versus-leukemia (GVL) effect and graft-versus-host disease (GVHD), a deadly complication of HSCT. T cells recognize

short peptides presented on the surface of the cell by Human Leukocyte Antigen (HLA) proteins. It is thought that a complete HLA allele match between donor and recipient nixes GVHD occurrence since individuals sharing HLA are thought to have similar T cell receptor repertoires. However, TCR repertoires are found to be plastic, depending not solely on genetics but also on sex, age and even recent immune challenges. Here, we investigated how genetic variation and past infections shape the T-cell receptor (TCR) repertoire and influence GVHD risk in a cohort of 666 healthy HLA-matched sibling HSCT donors. We found that while HLA haplotypes contribute to broad TCR repertoire differences, recent viral infections significantly impact repertoire composition. To quantify the genetic imprint of HLA on an individual's TCR features, we introduced TCR-HLA coherence, a metric assessing how strongly an individual's TCR repertoire reflects their HLA haplotype. Notably, donors with higher TCR-HLA coherence exhibited greater HLA heterozygosity and an increased incidence of severe acute GVHD in their transplant recipients. Moreover, combining TCR sequencing with a viral serology assay, we isolated *in silico* virus associated TCRs (vaTCRs). Some vaTCR were found to predict severe aGVHD occurrence, while other were found to be protective. Taken together, these findings suggest that beyond genetic compatibility based on HLA allele matching, donor-specific immune history and repertoire characteristics contribute to GVHD risk. Accounting for factors such as sex, age, and prior infections may improve donor selection strategies and enhance transplant outcomes.

Learning Objectives:

- Analyze the TCR repertoires of HSCT graft donors
- Estimate the effect of genetic or environmental variables on the TCR repertoire
- Reflect on a better way to estimate graft versus host disease risk based on donor characteristics

SESSION SUMMARIES

SYMPOSIUM 2: HANS MESSNER LECTURESHIP

Allogeneic Stem Cell Transplantation for Children with ALL: The FORUM concept

Christina Peters, MD

Total Body Irradiation (TBI) has been a cornerstone of conditioning regimens for acute lymphoblastic leukemia (ALL) patients undergoing allogeneic stem cell transplantation (HSCT) for decades. However, concerns about its long-term effects in children, such as growth impairments, cognitive deficits, and secondary malignancies, prompted an international research initiative to explore safer alternatives while maintaining leukemia-free survival. Over the past decade, nearly 2,000 young patients were enrolled in the multinational prospective FORUM 1 trial. This study examined the impact of conditioning regimens, donor selection, stem cell sources, and graft-versus-host disease (GVHD) prophylaxis on transplantation outcomes. The results of the FORUM 1 trial demonstrated that TBI combined with etoposide is significantly superior to chemoconditioning for transplants from both sibling and matched unrelated donors in the randomized strata. Notably, non-relapse mortality was higher in patients who underwent chemoconditioning, further solidifying the efficacy and safety profile of TBI-based regimens. Additionally, the study identified key risk factors for relapse post-transplantation, including high leukemia burden pre-transplant, advanced stages of leukemia, and patient age below two years. Interestingly, no significant differences were observed in outcomes between transplants from HLA-identical sibling donors and matched unrelated donors, underscoring the robustness of modern donor selection strategies. Building on the insights from FORUM 1, the next phase of research will be the FORUM 2 study. This new trial will randomize ALL patients to receive either 8 or 12 gray TBI, aiming to demonstrate a reduction in early and late complications associated with the conditioning regimen. The goal is to refine TBI-based approaches further, balancing their potent anti-leukemic effects with minimizing long-term toxicities.

Learning Objectives:

- Identify the purpose and mechanisms of TBI and chemoconditioning in HSCT for ALL.
- Summarize the FORUM 1 findings on the superiority of TBI with etoposide and key relapse risk factors.
- Compare non-relapse mortality rates and outcomes between sibling and matched unrelated donors.
- Recognize the long-term effects of TBI and the need for safer conditioning alternatives.
- Review the objectives of FORUM 2 in comparing 8 gray vs. 12 gray TBI to reduce complications.

SYMPOSIUM 3A: PREVENTION AND TREATMENT OF ACUTE GVHD

Treg Engineered Donor Products in Hematopoietic Stem Cell Transplantation to Prevent GvHD and Improve Immune Tolerance

Everett Meyer, MD, PhD

Dr. Meyer will pre-clinical data and clinical studies of T regulatory cell therapy in hematopoietic stem cell transplantation in and discuss donor graft engineering strategies for the prevention of GVHD and for the induction of immune tolerance in combined kidney and HSCT.

Learning Objectives:

- Review the rationale and supporting data for T regulatory cell therapy approaches in hematopoietic stem cell transplantation
- Review different graft engineering approaches for GVHD prevention.
- Review combined kidney and HSCT as a strategy for immune tolerance induction.

Acute Graft versus Host Disease: Hope, Achievement and Challenges

Silvie Lachance, MD, FRCPC, DRCPC

Despite a better understanding of the different mechanisms involved in its pathophysiology and triggering factors of its

SESSION SUMMARIES

development, acute graft-versus-host disease remains a significant complication following allogeneic hematopoietic cell transplantation, fueled by the increased selection of mismatched donors, widespread use of peripheral blood stem cells as the source of graft and the older age of the recipients. Several innovative approaches have been developed to limit the incidence of GVHD and predict its severity. Despite this, once diagnosed, aGVHD and its treatment have a significant impact on transplant outcomes. This conference will review the pathophysiology of aGVHD highlighting therapeutic interventions targeting the different pathways involved. Standard of care approaches will be discussed as well as new therapeutic interventions and innovative approaches. The importance of supportive measures will be addressed as well as the impact of aGVHD on transplant outcomes and quality of life. Finally, the importance of implementing a personalized approach to transplantation, from donor selection, to graft source, conditioning regimen and GVHD prophylaxis and treatment based on disease risk and recipient factors will be proposed.

Learning Objectives:

- Review the pathophysiology of acute graft-versus-host disease (aGVHD) and therapeutic interventions targeting the different pathways involved
- Review the standard of care and innovative approaches
- Implement essential supportive therapies impacting on evolution
- Review the impact of aGVHD on the outcomes of transplantation and recipients quality of life

SYMPOSIUM 3B: DONOR REGISTRY DEVELOPMENTS

Cell and Gene Therapies: Development opportunities for Registries

Nicola Alderson, BSc

This session explores the significance of donor registries in the evolving landscape of cell and gene therapies. There

will be a focus on the current challenges and opportunities and an overview of how Anthony Nolan has responded and evolved in response to the new treatment landscape. This will include how cell and gene therapies have impacted the demand for starting material and what is being asked of donors, the infrastructure to deliver therapies, the research being undertaken and the information and services donors and patients require.

Learning Objectives:

- Consider the impact of cell and gene therapies on donor registries and the opportunities this presents
- Review how Anthony Nolan has responded to the change in treatment landscape

Challenges Facing Registries: Long-Term Stability and Strategies for the Future

Sergio Querol, MD

The presentation will address the medium- and long-term sustainability of registries and future strategies to ensure it. In this regard, I will share how the Spanish registry REDMO is developing a five-year plan to adapt to this, including the recruitment of young donors and other strategies to maintain its relevance and financial stability in a changing landscape. Aspects such as the size of the registry and the prospects for conventional transplantation will also be addressed, as well as the role of registries in the face of the emergence of new advanced therapies and their impact on sustainability.

Learning Objectives:

- Consider the challenges registries are facing
- Consider variables influencing the sustainability and financial stability of registries, including the balance between delivering essential services for patient care and maintaining the financial viability of stem cell donor registries.
- Review role of the new five-year national bone marrow plan in Spain
- Review size and characteristics of registries

SESSION SUMMARIES

- Review regulatory aspects such as EU regulation on SoHO
- Consider relevance of the WMDA in ensuring the long-term stability of registries in a changing cell therapy landscape

SYMPOSIUM 4: TILL & MCCULLOCH LECTURESHIP

Cellular Therapy Strategies to Increase Anti-Leukemia Activity and Overcome GVHD

Denis-Claude Roy, MD, FRCPC

Cellular therapy has emerged as the new paradigm for the treatment of cancers and other diseases that are often refractory or incurable by standard therapies. The graft-vs-leukemia (GVL) effect observed after allogeneic hematopoietic stem cell transplantation (HSCT) is a key feature of this rapid evolution, but donor cells can also cause graft-versus-host disease (GVHD). We have pioneered a selective photodepletion (SPD) strategy that enables the elimination of alloreactive T cells present in the donor cell graft and preserves T cells with the ability to respond to infectious agents and leukemia cells. The T cell product photodepleted of anti-host reactive cells (ATIR) was found in clinical trials to generate anti-infection activity and low relapse rates. Interestingly, it is also possible to use SPD to treat patients with chronic GVHD. To generate potent and selective anti-leukemia activity, we have also been working on the ex vivo generation of T cells targeting minor histocompatibility antigens (MiHAs) preferentially expressed on hematopoietic cancer cells. In a first in human open-label, multi-center phase I clinical trial, patients with hematologic malignancies who relapsed after an allogeneic HLA-matched HSCT were treated with GLIDE: donor-derived, ex vivo-expanded T cells selected for reactivity toward recipient MiHAs. This pilot study demonstrated the feasibility of GLIDE generation and safety of its administration to patients relapsing after HSCT. We have recently developed ex vivo strategies to potentiate the immune reactivity of GLIDE and are also developing genetic approaches to generate T cells

with targeted activity toward multiple MiHAs. The need for cell manufacturing capability has led to the creation of C3i, an organization with the ability to facilitate the translation of laboratory discoveries into clinical application. Improving anti-cancer activity through cell manufacturing is most appealing and will increase our ability to save lives.

Learning Objectives:

- Compare different translational efforts and cell manufacturing strategies to increase anti-leukemia activity
- Review the selective elimination of alloreactive T lymphocytes to prevent and treat graft-versus-host disease
- Contrast the specific targeting of malignant cells using photodynamic and immunological therapies

CTTC RESEARCH AWARD REPORTS

Utility of Circulating Tumour DNA in Lymphoma Patients Treated with CD19 CAR-T Cells

Kevin Hay, MD, MSc, FRCPC

CD19 CAR-T cell therapy is an effective treatment for relapsed/refractory B cell malignancies that have failed to respond to standard chemotherapy. However, early disease response assessments by standard imaging techniques are sub-optimal with this immunotherapy approach, and initial partial responses may subsequently lead to complete responses or progression of disease. Using samples from the made-in-Canada CD19 CAR-T cell therapy trial, CLIC-01, we analyzed circulating tumour DNA pre- and post- CAR-T cell therapy administration, and assessed its utility as an early marker of response.

Learning Objectives:

- Review the use of ctDNA as a biomarker of disease activity in lymphoma
- Review the trajectory of response in ctDNA levels over time in responding vs. non-responding patients to CAR-T

SESSION SUMMARIES

Quality of Life and Comorbidities of Adult Survivors of Allogeneic Hematopoietic Cell Transplant versus their Siblings

Kareem Jamani, MD, MPH, FRCPC

Final results from this CTTC Young Investigator grant-awarded study.

Learning Objective:

- Describe and compare the Quality of Life (QoL) and comorbidities of adults who underwent allo-HCT versus their siblings

SYMPOSIUM 5: HEALTH EQUITY, ETHICAL CONSIDERATIONS, AND PATIENT ACCESS IN CELL THERAPY

Considering Patient and Donor Intersectionality in Allogeneic Transplantation

Warren Fingrut, MD, MPH

This presentation will review recent advances in our understanding of disparities in the provision of allogeneic transplantation, considering patient and donor issues across the intersectionality of sex, race and ethnicity, socioeconomic status, and sexual orientation and gender identity.

Learning Objectives:

- Review disparities in provision of allogeneic transplantation
- Determine unique barriers to donation impacting vulnerable populations
- Develop an approach to patient and donor intersectionality in allogeneic transplantation
- Apply strategies to advance a more inclusive transplant and cell therapy system.

Sustaining Access to Promising Academic Cell and Gene Therapy Products

Rebecca Gardner, MD

This presentation will review the current state of academic products that enter into the Valley of Death. These products have shown early evidence of efficacy and tolerability but lack an industry partner to continue clinical development towards commercial approval, thus limiting access. It will cover current state as well as to provide brainstorming around possible future state(s).

Learning Objectives:

- Review the barriers to academic centers in the US obtaining commercial approval of cell and gene therapies
- Recognize the current abilities to utilize cost recovery from FDA to financially support expanded access programs in the view of the academic medical center

Removing Barriers to Transplantation Using Mismatched Unrelated Donors

Steve Devine, MD

Dr. Devine will present how there are disparities in access to blood and marrow transplantation if a fully matched donor is required and these barriers are based on the race and/or ethnicity of the patient. He will demonstrate how these barriers could be overcome using less than fully matched unrelated donors and will discuss clinical trials conducted by CIBMTR and NMDP that are designed to improve outcomes in recipients of mismatched unrelated donors.

Learning Objectives:

- Identify reasons why there are disparities in access to transplantation based on race and ethnicity
- Compare and contrast outcomes using both matched and mismatched unrelated donors
- Interpret results of recent clinical trials focused on improving outcomes in recipients of mismatched donor transplantation

SESSION SUMMARIES

SYMPOSIUM 6A: NOVEL IMMUNE EFFECTOR CELL THERAPIES

CAR T-cells for the Treatment of T-cell Leukemias

Waseem Qasim, MBBS, PhD

Adding genome editing steps into the production of chimeric antigen receptor (CAR) T cells is providing new therapeutic strategies to improve access and outcomes for haematological malignancies. We previously applied Transcription activator-like effector nucleases (TALENs) to generate “universal” CAR-T cells without HLA matching and then developed CRISPR/Cas9 iterations for paediatric B-ALL. Next generation applications using base editing have been extended to T-cell leukaemia and acute myeloid leukaemia using highly precise cytidine deamination to generate “off-the-shelf” universal cell therapies. Phase I trials of base edited CAR T cells are currently underway for T-ALL while development work is investigating further applications and strategies for cell-based approaches.

Learning Objectives:

- Review allogeneic CAR T-cell approaches to improve transplant outcomes
- Discuss overview of genome editing technologies and platforms reaching clinical stage testing
- Discuss future developments and applications of engineered T cells

CD3+CD4-CD8- Double-Negative T Cells: A Novel Adjuvant Therapy for the Holy Grail of Allo-HSCT

Jongbok Lee, PhD

Double-Negative T cell (DNT) therapy is a novel immune cell-based treatment for leukemia. Dr. Lee's work highlights the promising potential of DNT therapy to improve outcomes for patients with acute myeloid leukemia (AML), especially following allogeneic hematopoietic stem cell transplantation (allo-HSCT). The presentation underscores the ongoing challenge of balancing graft-versus-leukemia (GvL) effects

against the risk of graft-versus-host disease (GvHD). Dr. Lee's findings demonstrate that donor-derived DNT cells exhibit potent anti-leukemic activity both in vitro and in patient-derived xenograft models, significantly reducing AML engraftment without triggering GvHD. Notably, recent research from Dr. Lee's group indicates that beyond their direct cytotoxicity toward AML cells, DNT cells can enhance the anti-leukemic activity of CD8+ T cells through an unconventional mechanism. This DNT-mediated activation enables CD8+ T cells to effectively target AML without increasing GvHD risk. Importantly, DNT cells selectively target leukemic cells while sparing healthy hematopoietic stem cells. Clinical data from Phase I trials confirm the safety and preliminary efficacy of allogeneic DNT therapy, with no severe adverse events reported and encouraging complete remission rates observed. Additionally, the dual role of DNT cells in simultaneously enhancing anti-leukemic responses of conventional T cells and suppressing GvHD suggests context-dependent functionality. Beyond their therapeutic potential as an unmodified immune cell therapy, DNT cells offer a promising platform for off-the-shelf CAR-T therapies. Overall, this innovative DNT approach holds significant promise for transforming leukemia treatment by maximizing therapeutic efficacy and minimizing associated risks.

Learning Objective:

- Discuss double negative T cell as novel immune-cell based therapy for allo-HSCT patients.

SYMPOSIUM 6B: INNOVATION IN CELL THERAPY PRODUCTS AND SERVICES

Epigenetic Rejuvenation of Hematopoietic Stem Cells for Better Transplants

Elisa Tomellini, PhD

Hematopoietic stem cell (HSC) transplantation is a curative treatment for hematological disorders, with success influenced by immune reconstitution, donor-recipient matching, GVHD prevention, and infection control.

SESSION SUMMARIES

However, HSC aging, often overlooked, skews HSC toward a proinflammatory, myeloid-restricted state (My-HSCs). This shift, influenced by cell culture and donor age, contributes to immune dysfunction and long-term complications. The small molecule UM171 enhances ex vivo HSC expansion by acting as a molecular glue, promoting ubiquitin-proteasome-mediated degradation of the CoREST1 complex, preserving HSC self-renewal and multilineage potential, and reducing My-HSC emergence. ECT-001-CB, a UM171-expanded umbilical cord blood (UCB) product, has been evaluated in five clinical trials in hematological malignancies (n=116). Results show that ECT-001-CB enables rapid neutrophil and platelet engraftment, robust immune reconstitution and enhanced T-cell repertoire, leading to low transplant-related mortality and nearly 100% engraftment while preserving the benefits of unmanipulated UCB transplantation and improving donor-recipient HLA matching by enabling access to small UCB. Long-term follow-up confirms its safety, with no increased risk of secondary malignancies. Beyond UCB, UM171-mediated expansion of adult HSCs from peripheral blood and bone marrow has also been investigated. UM171 increases the frequency of phenotypically defined HSCs regardless of donor characteristics. Preclinical studies, including CITE-seq analysis and in vivo transplants, confirm that UM171-expanded adult HSCs retain multilineage differentiation, expanding cells with lympho-myeloid potential, with the greatest benefits seen in poor-engrafting donor samples (>70% of cases). In conclusion, UM171-based expansion enhances HSC availability and function across multiple graft sources, offering a promising strategy to improve transplant outcomes and mitigate age-related complications.

Learning Objectives:

- Evaluate the impact of ex vivo culture on HSCs
- Recognize the potential impact of HSC aging on transplant outcomes: (1) Differences between young balanced HSCs and myeloid-restricted HSCs (My-HSCs). (2) How aging affects immune homeostasis and long-term complications

The Expanding Role of the Blood Services in the Provision of ATMP

Allison Waters, PhD, MPH, FRCPath

This presentation will provide a summary of the various ways in which the blood and tissue services can be leveraged to support the provision of ATMP.

Learning Objectives:

- Summarize various ways in which the blood and tissue services can be leveraged to support the provision of ATMP.
- Discuss challenges in the provision of ATMP Benefits of Blood and Tissue Services Re-purposing 'bi-products' of donation for manufacturing

SYMPOSIUM 7: SHIRLEY NOLAN

An Important ABC for HSC Donor Registries

Carlheinz Müller, MD, PhD

SYMPOSIUM 8A: GENE THERAPY FOR HEMOGLOBINOPATHIES - UNDERSTANDING AND ADDRESSING BARRIERS

Implementation of First CRISPR Gene Therapy for Hemoglobinopathies in Canada

Rajat Kumar, MBBS, MD, FRCP, FRCPC, DRCPSC

The first CRISPR gene therapy for Sickle Cell Disease (SCD) and transfusion dependent thalassemia (TDT), which increases the fetal hemoglobin (HbF), has been approved in Canada. It has a number of eligibility criteria and patients with matched sibling donors are not eligible. While gene therapy may appear simple, as patients own stem cells are modified, the process is complex and requires a coordinated approach by hematologists, transplant physicians, blood transfusion and apheresis services and social support teams. There are challenges in collecting adequate stem cells in SCD. G-CSF cannot be administered in SCD and patients

SESSION SUMMARIES

require plerixafor. Hydroxyurea has to be stopped prior to mobilization. Patients need red cell transfusions to keep HbS <30%. The efficiency of collection is poor. In patients with TDT, iron overload and organ dysfunction are barriers for eligibility. For gene therapy, patients require myeloablative busulfan, for which pharmacokinetic monitoring and dosing is essential. The risk of veno-occlusive disease (VOD) of the liver is high, especially in TDT. As high dose busulfan leads to sterility, patients are offered fertility preservation, which requires time, finances and logistical coordination. After administration of the edited gene, the time to neutrophil, platelet and red cell engraftment is longer than with conventional transplants. During this prolonged admission, patients need red cell and platelet transfusions, which can be a challenge in the allo-immunized patients. Coordination with the blood bank services is essential. Recently, encouraging results have been reported with haplo-identical transplants in SCD, using less intensive conditioning. While the disadvantage of haplo-identical transplants is graft-vs-host disease and graft failure, the advantage is that most patient would have a donor and most transplant centers have experience with haplo-transplants. Counselling patients on all options is required for informed consent.

Learning Objectives:

- List the eligibility criteria for gene therapy in sickle cell disease (SCD) and transfusion dependent thalassemia (TDT)
- Describe the challenges in collecting adequate stem cells for gene-editing
- Compare the advantages and disadvantages of gene therapy versus haploidentical transplants in SCD

Summary from 2024 National Hemoglobinopathy and Stem Cell Transplant Experts Meeting

Tanya Petraszko, MD, FRCPC

In March 2024, Canadian Blood Services hosted a meeting of national Hemoglobinopathy and Stem Cell Transplant experts to a dialogue about barriers and opportunities facing these treaters with respect to emerging gene therapies. An

overview of the "What We Heard" report will be presented.

Learning Objectives:

- Identify key barriers to the provision of gene editing therapies for hemoglobinopathies in Canada as articulated by key experts
- Consider opportunities that permit equitable access to gene therapies for Canadian patients
- Recognize the unique peri-transplant transfusion requirements of patients with Sickle Cell Disease and the potential systemic impacts

CTTC Hemoglobinopathies Working Committee and CanHaem Partnerships

Gregory Guilcher, MD, FRCPC, DRCPC, FAAP

Curative and transformative therapies are offered increasingly to children and adults in Canada with hemoglobin disorders. In addition to hematopoietic cell transplantation, gene therapy will soon be commercially available for some patients. In response to expanding practice, nuanced supportive care needs and the need for advocacy, CTTC starting a Hemoglobinopathies Working Committee (WC) in 2024. This WC has partnered with CanHaem to harmonize practice guidelines and advocacy efforts.

Learning Objectives:

- Review the goals of the CTTC Hemoglobinopathies WC
- Describe the developing partnership with CanHaem
- Review a CTTC/CanHaem algorithm for curative and transformative therapies for hemoglobinopathies in Canada

SESSION SUMMARIES

SYMPOSIUM 8B: INNOVATIVE DONOR OUTREACH AND ENGAGEMENT STRATEGIES

Using New Technologies and Digital Media to Attract New Donors

Patrice Lavoie, ADM.A, PRP

Learning Objectives:

- Examine effective recruitment and engagement strategies based on experiences with blood and plasma donors
- Explore how innovative approaches, including the use of technology and tailored communication, can help attract and retain donors, and how these strategies can be adapted to improve donor engagement

Ghosted by Gen Z? Wins & Fails in Donor Recruitment

Mai Duong

Recruiting stem cell donors is not for the faint of heart! In this candid and insightful presentation, Mai Duong, leukemia survivor and founder of the Swab The World Foundation, takes you behind the scenes of real campaigns, real conversations, and real challenges in donor recruitment. You'll hear about what worked, what flopped, and what we've learned along the way - with no shame in failing. From creative outreach to community trust-building, this talk offers both inspiration and practical takeaways for anyone trying to mobilize people around a cause, build equity in healthcare, or drive lasting social change.

Learning Objectives:

- Reflect on what works (and what doesn't) when recruiting and mobilizing diverse stem cell donors
- Consider how to build trust and relevance in outreach, especially with Gen Z and BIPOC communities
- Review practical strategies to engage and retain student ambassadors as long-term changemakers

SYMPOSIUM 9: DEBATE: CHOOSING THE OPTIMAL DONOR

Cord Blood: The Untold Advantage – Because the Youngest Donor is Better

Sandra Cohen, MD, FRCP(C)

Cord blood transplantation has long been an underutilized yet highly effective option for patients in need of hematopoietic stem cell transplants. Despite significant advancements in alternative donor sources, cord blood remains a powerful choice in specific clinical scenarios. This session will explore the optimal selection of cord blood units, the key factors that determine when it is the superior donor source, and the critical role of donor age in transplant success. Unlike adult-derived grafts, cord blood contains highly proliferative, naive stem cells that can overcome certain HLA mismatches and reduce the risk of graft-versus-host disease. However, selecting the right unit is crucial to maximizing these benefits. This talk will provide practical guidance on cord blood unit selection, considering factors such as cell dose, HLA matching, and banking standards. Another critical aspect of donor choice is understanding when cord blood is the best option. In specific patient populations - particularly those lacking fully matched adult donors, those with high-risk hematologic malignancies, or pediatric patients' cord blood can offer a survival advantage. We will review the latest data and clinical scenarios where cord blood should be prioritized over other donor sources. Finally, we will examine why age truly matters in stem cell transplantation. Younger donors provide superior engraftment kinetics and a reduced incidence of transplant-related complications. Cord blood, derived from the youngest possible donors - newborns - offers unique biological advantages that make it an attractive choice when conditions align. By the end of this session, attendees will gain a deeper understanding of how to optimize cord blood selection, recognize when it is the best donor source, and appreciate the critical role of donor age in transplant success.

SESSION SUMMARIES

Learning Objectives:

- Optimize Selection: Review how to select cord blood units for transplantation to maximize clinical benefits
- Identify specific situations where cord blood outperforms other donor sources
- Review why donor age matters and how cord blood stem cells impact transplant success

Haplo and Related: Choosing the Best Donor

Joerg Krueger, MD

Learning Objectives:

- Identify situations where haplo and easily accessible related donors outperforms other donor sources.

ORAL ABSTRACT 1

Category: Donor recruitment and retention

DEVELOPMENT AND IMPLEMENTATION OF AN AWARENESS CAMPAIGN TO ATTRACT YOUNG DONORS FOR THE SWISS REGISTRY

Franziska Kellenberger¹, Simona Triet¹, Sarah Tran¹

¹Blutspende SRK Schweiz, Swiss Blood Stem Cells, Bern, Switzerland

Background: Since April 2020, the Swiss registry has focused on young donors up to the age of 40 (previously up to 55). This adjustment resulted in a higher quality of registrations and an increase in collections. At the same time, however, a decline in new registrations was observed, which the previous communication measures were unable to counteract.

Purpose: Only 3.8% of the ideal target group (under 30 years) in Switzerland are currently registered. At the same time, more than 30,000 persons will drop out over the next ten years due to age (Graph 1). A significant increase in new registrations through increased awareness of blood stem cell donation and the registry among the Swiss population is therefore essential.

Methods: A representative online pre-study was conducted with the aim of determining the knowledge, attitudes and behavioral intentions of the Swiss population regarding blood stem cell donation and the registry. The results served as the basis for a strategically developed, multi-year communication campaign. After three months of the campaign, the effect on awareness was examined by means of a representative post-study.

Results: The pre-study (611 respondents, 18-49 years) revealed that half of the survey group had little to no knowledge about blood stem cell donation, and only 40% of them were aware of the registry. The main barriers were

fears, health concerns and a lack of information. Based on these findings, "The Perfect Match" recruitment campaign was developed with an innovative, emotional online dating analogy approach, based on the business framework "SEE-THINK-DO". The campaign was validated within the target group before implementation.

After three months of the campaign, the post-study (with the same study design as the pre-study) showed a significant increase in awareness of 7%. The campaign was seen by 20% of respondents, with 18 to 25-year-olds showing the highest awareness values. Over half of respondents rated the campaign positively. By the end of 2024, registrations had increased by 22.3% compared to an equivalent period before the campaign.

Conclusions: Registering to donate blood stem cells is a decision that requires time and information ("SEE- and THINK"-phase) in order to overcome hurdles and fears. Continuous visibility through a basic noise on low-threshold channels (e.g. social media and digital platforms) is essential. These always-on measures are supplemented by targeted recruitment campaigns ("DO"-phase) with clear calls to action (CTAs) (Graph 2). The increase in awareness and new registrations shows the importance of a stringent communication strategy across all phases in order to compensate for the age-related drop-out from the registry in the coming years.

ORAL ABSTRACT 2

Category: Donor search and selection

SPANISH BONE MARROW DONOR REGISTRY: HOW BIG IS ENOUGH?

Sergi Querol¹, Mar Sanchez¹, Mark Melchers², Alejandra Martinez-Trillos¹, Felipe Macias¹, Cristina Fusté¹, Nuria Marieges¹, Anna Giner¹, Ana Pertusa¹, Alberto Miguez¹, Antoni Garcia-Prat¹, Dolores Hernández-Maraver³, Enric Carreras¹

¹REDMO- Fundación Internacional Josep Carreras, Barcelona, Spain, ²World Marrow Donor Association, Leiden, Netherlands, ³Organización Nacional de Trasplantes (ONT), Madrid, Spain

Background: Use of domestic donors offers significant logistical advantages. Current transplantation strategies primarily require young donors, who have limited optimal availability. This creates a growing need for renewal, which strains the sustainability of registries. Each country should determine the maximum achievable size, supported by activity returns, to ensure sustainability.

Purpose: This study focuses on analysing the potential growth limit of a national registry.

Methods: We made some assumptions for our calculations. First, self-sufficiency estimates the number of transplantations using local donors within a country. To determine self-sufficiency, we projected the likelihood of finding a 10 or 9+/10 match for local patients using local donors. Second, the operational pool of a registry consists of donors younger than the average age of donors requested for transplantation (i.e. 30 y/o in Spain). Then, the amortization time of a donor is the average time of them within this age range (i.e. 6.5 years in our study). Third, recruitment costs (new donors) are offset by the savings from using local donors (i.e. we applied a fixed recruitment cost of 100€ per donor and an average savings for using local donors of 21.000€ per donation).

Results: During 2024, 707 unrelated donor transplants were performed in Spain (a rate of 14,6 per million people). Of these, 51% used donors under 30 years of age, 36% used donors up to 40, and only 13% involved older donors. This indicates that the current age of an operational donor is 30 or younger. From a registry with a current size of 505.505 donors, the operational inventory (donors younger than 30) is 111.209 (22%).

Figure 1 projects coverage based on the registry size for Spain, considering a 10/10 or 9+/10 match. For this case study, a full match was assumed to predict self-sufficiency. Table 1 illustrates the growth potential of the current and various target registry sizes. The coverage study projected the number of local donors used and their corresponding savings, determining the capacity for recruitment of new donors. This was compared to the number of donors needed to maintain the registry size, resulting in the expected annual growth rate. As shown, with current activity, Spain's inventory can grow by 15.257 donors per year. Growth is feasible up to an operational pool of 262.144 young donors. Beyond this, further growth would be unsustainable.

Conclusions: Each country has a maximum sustainable registry size. According to our model, this depends primarily on the number of transplants performed in that country, their recruitment costs and their savings from using local donors. Achieving the goal of finding "a donor for all" will still require global collaboration. If transplantation with a 9+/10 match becomes the standard of care, it could enhance the sustainability of local registries.

ORAL ABSTRACT 3

Category: Information technology and artificial intelligence & Laboratory processing and testing

ACCELERATION OF VTS BY AUTOMATING THE PROCESSES OF DONOR VERIFICATION TYPING AT DKMS LABORATORY

Carolin Schwarz¹, Stefan Hartlieb², Stefanie Wehner¹, Henrike Christen¹, Monika Füssel³, Andreas Hapke¹, Julia Pingel¹

¹DKMS Registry gGmbH, Kressbach 1, 72072 Tübingen, Germany ²DKMS Group gGmbH, Kressbach 1, 72072 Tübingen, Germany ³DKMS Life Science Lab gGmbH, St. Petersburger Straße 2, 01069 Dresden, Germany

Background: Delivery times for blood samples and the turnaround time for HLA typing play a significant role in the overall duration of a Verification Typing (VT) request. Especially for oversea shipments, delivery time and customs issues are often not foreseeable. This is particularly relevant for simultaneous VT + workup (VT+WU) requests, where results should be available before the final donor clearance.

Methods: In 2023, DKMS Registry implemented an automated process to commission HLA verification typing at the DKMS Life Science Lab (DKMS LSL). The requesting transplant center (TC) or patient registry simply selects DKMS LSL as laboratory in the VT request. DKMS Registry then commissions the donor center to send the blood sample to DKMS LSL and the DKMS LSL to perform HLA verification typing. No separate agreement is needed between the parties.

HLA results are transmitted from DKMS LSL to DKMS Registry via a secure electronic interface and then shared with the requestor and the DKMS donor center. This process limits the potential for delays and clerical errors during transmission.

Results: From 2023-11-01 to 2024-10-31, 665 VT requests from affiliated and 480 VT requests from international patient registries were commissioned at DKMS LSL. 140 of these were requests as part of a VT+WU request. The requests were received from organizations in 18 different countries.

While some partners chose DKMS LSL as standard laboratory for all VTs at DKMS, other partners used this service primarily for VT or only for VT+WU orders.

Since the duration of the VT is particularly critical for VT+WU requests, we looked at how long it takes on average for the blood sample taken at the donor's physical examination to arrive at the DKMS LSL. For DKMS donors from Europe (Germany, Poland and United Kingdom), the median time between the day of physical examination, when the blood sample for VT was drawn, and sample arrival at DKMS LSL was only 1 day. For donors outside Europe (India, Chile, South Africa) the median time was 5 days. No significant problems with customs were reported.

The turnaround time (time between sample receipt and provision of typing results) for donor VT typing in the DKMS Life Science Lab is 5-7 working days for the NGS shotgun workflow and 1-2 working days for the rSSO Luminex workflow. This means that the HLA results can usually be provided within just 7 working days, even for samples from outside Europe. For blood samples from donors in Europe, the time is even shorter.

Conclusions: We observe a demand for HLA typing at DKMS LSL, especially for time critical VT+WU requests. The main advantages are reliable and fast sample delivery, quick turnaround times, EFI-accredited typing quality, avoidance of typing and transcription errors and affordable pricing. Of course, it depends on the requesting party's regulations and policies if verification typing of the donor can happen in such a setting.

ORAL ABSTRACT 4

Category: Quality and process improvement

INCLUSIVE PRACTICES FOR SAFE AND EQUITABLE DONOR ASSESSMENT

Warren B. Fingrut^{1,2,3,4}, Eefke van Eerden¹, Terrie Foster⁵, Caitlin Sarubbi⁶, Felipe Macias Acuña^{1,7}, Isabel Auer^{1,8}, Meghann Cody^{1,9}, Grzegorz Hensler^{1,8}, Charlotte Ingram^{1,10}, Danielli Oliveira^{1,11}, Jonas Rieping^{1,8}, Hung Yang^{1,12}, Jane Ward^{1,10}, Thilo Mengling^{1,8}, Jason Oakes^{1,9}, Chloe Anthias^{1,13}

¹World Marrow Donor Association Donor Medical Suitability Committee, ²Department of Stem Cell Transplantation and Cellular Therapy, The University of Texas MD Anderson Cancer Center, Houston, TX, United States, ³Stem Cell Club, Toronto, Canada, ⁴Saving Lives with Pride, Houston, TX, United States, ⁵Canadian Blood Services, Ottawa, ON, Canada, ⁶Department of Medicine, Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY, United States, ⁷REDMO, Fundación Josep Carreras contra la Leucemia, Barcelona, Spain, ⁸DKMS, Tübingen, Germany, ⁹NMDP, Minneapolis, MN, United States, ¹⁰South African Bone Marrow Registry, Cape Town, South Africa, ¹¹Registro Brasileiro de Doadores Voluntários de Medula Óssea (REDOME), Rio de Janeiro, Brazil, ¹²Australian Bone Marrow Donor Registry, Sydney, NSW, Australia, ¹³Anthony Nolan, London, United Kingdom

Background: Guidance is needed to optimize the recruitment, verification typing (VT) and workup of donors from vulnerable populations and to overcome structural barriers to donation.

Purpose: In 2022, the World Marrow Donor Association (WMDA) Donor Medical Suitability Committee set out to advance health equity in donor suitability guidance (published to <https://share.wmda.info/display/LP/Donor+Suitability+Pages+index>). Our goals were to harmonize global practices for donor assessments, and concurrently advance health equity and donation safety for patients and donors. Expanding on this work, here, we report the development of recommendations on inclusive practices for safe and equitable donor assessments.

Methods: A project group was assembled including representation from donor registries worldwide, specialists in stem cell transplantation, donor care and follow-up, and cellular therapy, and healthcare providers with expertise caring for vulnerable populations, across the intersectionality of race, ethnicity, sex, gender identity, sexual orientation,

socioeconomic status, and disability. The group met regularly to develop consensus recommendations. Guidance developed focused on potential unrelated peripheral blood stem cell, bone marrow, and maternal cord blood donors, with most recommendations also being applicable to related allograft, autologous stem cell, and cell therapy product donors.

Results: We developed a series of recommendations for inclusive practices for safe and equitable assessment of donors from vulnerable populations (Table 1). Recommendations emphasized that health equity should be prioritized alongside donation safety, and provided guidance on donor/ transplant center communication with donors, donor health history questionnaire design, deferral criteria at registration, VT, or workup, reporting requirements for donor centers to transplant centers and to recipients (balancing clinical decision making/patient safety with donor privacy/confidentiality), and equity in laboratory testing and evaluation. Specific recommendations focused on donors who are racialized, transgender or non-binary, facing social (e.g. language) or financial barriers, living with disabilities, or those who are living with HIV, taking HIV pre- or post-exposure prophylaxis, or have a history of high-risk sexual behavior, non-prescription injection drug use, incarceration, or sex work.

Conclusions: These guidelines will support stakeholders across transplantation and cellular therapy, including donor and transplant centers and all medical teams involved in donor assessments, to advocate for donation policies and practices which uplift, include, and support donors from marginalized groups. Implementing these recommendations will help dismantle structural barriers to donation, improve donor well-being and enhance donation experience, and advance a more inclusive healthcare system for donors from vulnerable populations.

ORAL ABSTRACT 5

Category: Quality and process improvement

COLLABORATIVE DEVELOPMENT OF STRUCTURED SUPPORT PATHWAYS FOR PATIENT PARTNERS IN CELLULAR THERAPY

Karine Bilodeau^{1,2}, Ludovic Tamaro², Sandie Oberoi³, Deborah Pascale³, Kelley Kilpatrick^{2,4}, David Ogez^{1,2}, Marie-Pascale Pomey¹, Israel Fortin³, Isabelle Fleury³, Imran Ahmad^{2,3}

¹University of Montreal, Montreal, QC, Canada, ²Maisonneuve-Rosemont Hospital Research Center, Montreal, QC, Canada, ³Maisonneuve-Rosemont Hospital, Montreal, QC, Canada, ⁴McGill University, Montreal, QC, Canada

Background: Cell therapies represent revolutionary treatments that impact patients' lives. Unfortunately, these therapies often come with various symptoms and a feeling of loneliness. Previous studies in hematological oncology have reported the limitations of professional support in fully meeting the diverse needs of patients. In addition to providing a unique shared experience, peer support can offer valuable assistance that complements professional care. Therefore, we developed a structured support pathway delivered by patient partners for individuals undergoing allogeneic hematopoietic cell transplantation (HCT) and CAR-T cell therapy.

Purpose: This presentation aims to share our co-development process and findings, focusing on the barriers and implementation solutions identified by participants.

Methods: Employing a participatory research approach, we co-developed two structured support pathways with input from healthcare professionals, managers, and patients who had undergone HCT or CAR-T cell therapy (N=14). Two working groups met three times to refine the structured support pathway, identify implementation facilitators

and barriers, and discuss implementation strategies. The Knowledge-to-Action Framework was used. Discussions were audio- and video-recorded, transcribed, and analyzed through content analysis.

Results: Two guides summarizing the structured support pathways for the HCT and CAR-T cell therapy experiences were co-developed. Participants noted that the guides effectively outline the topics and information that patient partners should share and discuss. Barriers and solutions were categorized from the patient partners, patients and healthcare professionals' perspectives. According to patient partners, safety nets to prevent compassion fatigue is important, with internal resources such as a patient partner hub, peer support networks, and mentoring programs. Regarding patients, participants noted that not all patients would be willing to receive support from a patient partner and suggested strategies for program introduction, advertising during patient education sessions, and service recommendations from healthcare professionals. According to healthcare professionals, patient partners could reduce some of the care team's burden but also increase the volume of information to manage. Participants highlighted the need for information sessions to clarify the role of patient partners to teams, as well as tailored training programs to equip patient partners with the necessary skills.

Conclusions: As far as we know, this initiative is the first to co-develop a patient-partner program aimed at addressing the needs of individuals undergoing cellular therapies. The next steps include implementing the structured support pathways for HCT and CAR-T cell patients in early spring 2025, followed by an evaluation of its effectiveness and impact.

ORAL ABSTRACT 6

RE-ENVISIONING THE AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANT AS AN IMMUNOTHERAPEUTIC TOOL

Cora Geiger^{1,2}, Chane Choed-Amphai^{2,3}, Chant Katrjian¹, Taylor M. Harris¹, Alexandra Koshyk¹, Karin G. Hermans^{1,2}, Donna A. Wall^{1,2}

¹Developmental & Stem Cell Biology, Peter Gilgan Centre for Research & Learning, SickKids, Toronto, Ontario, Canada, ²Hematology/Oncology, The Hospital for Sick Children and the University of Toronto, Ontario, Canada, ³Department of Pediatrics, Faculty of Medicine, Chiang Mai University, Thailand

Background: Autologous hematopoietic stem cell transplants are a central component of the management of pediatric brain tumours and high-risk neuroblastoma. These cell products are defined solely on the CD34+ hematopoietic stem cell (HSC) content and are infused after high dose chemotherapy. These cells are infused into a highly lymphodepleted and inflamed environment at a time of maximum disruption to the tumour microenvironment, creating a favourable environment for the potential use of immunotherapies.

Purpose: We aimed to investigate the content of the cell products, and to consider not only the CD34+ progenitors and stem cells, but also the number, functionality, and expansion of the immune cell content of the graft. Our goal was to understand the impact of the immune cells on patient outcomes and determine the immunotherapeutic potential of the cell product.

Methods: A custom 40-marker mass cytometry panel was used to characterize the immune cell content of both autologous and allogeneic cell products. We analyzed 98 autologous (autografts) pediatric grafts, which were previously cryopreserved following G-CSF mobilization

with/without chemotherapy. Additionally, 31 healthy G-CSF mobilized allogeneic donors (allografts) were used as a healthy comparator group.

Results: Mass cytometry analysis of the immune cell content revealed that the autografts had a significantly lower percentage of T cells (median 11.3%, range 0.8 - 58.6%) than the allografts (median 39.8%, range 18.5-62.7%, $p < 0.001$). Within the T cell compartment, autografts had significantly less naive CD4 and CD8 T cells and more exhausted/activated T cells (PD1+ TIGIT+). Additionally, the patients that received cell products with more CD8 T cells and fewer effector memory CD4 T cells correlated with improved event free survival post-transplant.

Conclusions: Our data shows that the autologous pediatric cell products contained fewer total T cells than the healthy donor cell products. Additionally, the autologous products had variable percentages of T cells, which were found to be skewed towards more effector memory and exhausted/activated phenotypes. The pediatric patients who received cell products containing higher percentages of naive CD8 T cells were found to have improved event-free survival. Further studies are required to enhance cell collection and mobilization strategies to optimize the cell content of these grafts, specifically the naive T cells, to not only allow for hematopoietic recovery, but to also be used as an immunotherapy tool to improve post-transplant outcomes.

ORAL ABSTRACT 7

Category: Clinical trials and observations

MATCHED UNRELATED DONOR HEMATOPOIETIC CELL TRANSPLANTATION: INCREASED USAGE AND IMPROVEMENTS IN CLINICAL OUTCOMES IN CANADA

Matthew D. Seftel¹, Grace Musto², David Allan¹, Oliver Bucher², Kevin Hay³, Ivan Pasic⁴, Tony Truong⁵, Kristjan Paulson⁶

¹Stem Cells, Canadian Blood Services, Ottawa, ON, Canada, ²Department of Epidemiology, CancerCare Manitoba, Winnipeg, MB, Canada, ³Division of Hematology, Department of Medicine, University of Calgary, AB, Canada, ⁴Hans Messner Allogeneic Blood and Marrow Transplantation Program, Division of Medical Oncology and Hematology, Princess Margaret Cancer Centre, University Health Network, Toronto, ON, Canada, ⁵Division of Pediatric Hematology/Oncology, Department of Pediatrics, University of Calgary, AB, Canada, ⁶CancerCare Manitoba, University of Manitoba, Winnipeg, MB, Canada

Background: In allogeneic hematopoietic cell transplantation (HCT), a minority of patients have access to a suitable human leukocyte antigen (HLA)-matched related donor (MRD). To fill this gap, matched unrelated donors (MUDs) are an increasingly selected donor source. Usage and outcomes after MUD HCT for Canada are not described.

Purpose: To understand whether outcomes after MUD allograft are comparable to those for MRD in malignant and non-malignant diseases, and in pediatric and adult recipients.

Methods: We investigated temporal trends in MUD compared to MRD HCT from 2000 to 2019 using data reported to the Cell Therapy and Transplant Canada (CTTC) Registry.

Results: Of 7571 first allogeneic HCTs between 2000 and 2019, the proportion of MUD HCTs rose from 35.1% to 56.3% in the early (2000–2009) and later (2010–2019) eras, respectively. Comparing the two donor sources, the 5-year overall survival (OS) after MUD HCT for patients with malignant diseases was inferior to MRD HCT in the early era ($p < 0.001$). However, in the later era, OS was comparable for the two donor sources ($p = 0.969$). For patients with non-malignant diseases, the 5-year OS after MUD HCT was inferior to MRD in the early era ($p < 0.001$), but in the later era, the 5-year OS was similar between the two donor sources ($p = 0.209$). Improvements in OS after MUD HCT were accompanied by corresponding reductions in the 2-year non-relapse mortality after MUD HCT.

Conclusions: MUDs are the most common donor source in Canada, and key clinical outcomes after MUD have improved over time.

ORAL ABSTRACT 8

Category: Clinical trials and observations

RESULTS OF A PHASE I/II STUDY OF EBV-SPECIFIC T CELLS FOR THE TREATMENT OF EBV REACTIVATION AND EBV-RELATED LYMPHOPROLIFERATIVE DISORDERS

Lorne Schweitzer^{1,2}, Stéphanie Thiant¹, Cynthia Therien³, Martin Giroux⁴, Sylvie Lachance^{5,6}, Isabelle Fleury^{5,6}, Julie Orio³, Cédric Carli¹, Gabrielle Boudreau¹, Camille Tremblay-Laganière¹, Lynne Sénécal^{6,7}, Simon Dufresne⁸, Luigina Mollica^{5,6}, Suzon Collette^{6,7}, Guy Sauvageau^{5,6}, Thomas Kiss^{5,6}, Sandra Cohen^{5,6}, Léa Bernard^{5,6}, Nadia Bambace^{5,6,9}, Olivier Veilleux^{5,6}, Imran Ahmad^{5,6}, Jean Roy^{5,6}, Denis-Claude Roy^{5,6}, Jean-Sébastien Delisle^{1,5,6}

¹Centre de recherche de l'Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada, ²Division of Infectious Diseases and Medical Microbiology, Department of Medicine, McGill University Health Centre, Montreal, QC, Canada, ³Centre C3i, Montreal, QC, Canada, ⁴Cell Therapy Laboratory, Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada, ⁵Institut Universitaire d'hématologie, oncologie et thérapie cellulaire, Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada, ⁶Department of Medicine, Université de Montréal, Montreal, QC, Canada, ⁷Division of Nephrology, Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada, ⁸Division of Microbiology and Infectious Diseases, Hôpital Maisonneuve-Rosemont and Department of Microbiology, Infectiology and Immunology, Université de Montréal, Montreal, QC, Canada, ⁹Miami Cancer Institute, Miami, Florida, United States of America

Background: Latent Epstein-Barr virus (EBV) infection is asymptomatic in most adults but can be associated with lymphoma, particularly in immunocompromised patients. Options are limited for patients with EBV viremia and EBV-associated lymphoma whose disease is refractory to B-cell depleting antibodies or chemotherapy. Cellular therapies targeted to EBV have shown promise in treating EBV-associated malignancies and restoring anti-EBV immunity.

Purpose: To evaluate the safety and efficacy of EBV-specific T cells in treating patients with refractory EBV viremia and EBV-related lymphoma/post-transplant lymphoproliferative disorder (PTLD).

Methods: Adults with refractory EBV reactivation or EBV-related lymphoma/PTLD, were recruited at a single centre (clinicaltrials.gov: NCT02580539, NCT06391814). Patients were excluded if they had received T cell depleting antibodies or hematopoietic stem cell transplant (HSCT) within 28 days of infusion, a solid organ transplant (SOT) within 3 months or had uncontrolled graft-versus-host disease (GVHD), SOT rejection or if they required more than 0.5mg/kg/day of prednisone equivalent. EBV-specific T cells were produced under good manufacturing practices (GMP) using synthetic peptides derived from EBV antigenic proteins and IL-4/IL-7 for two weeks in a gas-permeable reactor (G-Rex) system. Patients in Group A received 1 or 2 x 10⁷ cells/m², autologous or from their allogenic HSCT donor, while patients in Group B received allogenic cells from a third-party related donor.

Results: Fourteen patients were enrolled, and 11 products were infused (three patients were deemed ineligible prior to infusion). Four patients were HSCT recipients, four were SOT recipients, and three were non-transplant patients (2 unable to receive standard chemotherapy, 1 with hemophagocytic lymphohistiocytosis). Five patients were in Group A and six in Group B. Two manufacturing failures occurred in Group A with autologous cells. The final products contained a mix of mostly memory CD4+ and CD8+ T cells that demonstrated strong and specific reactivity by IFN- γ ELISpot. Six patients achieved or maintained complete responses (3 SOT, 4 HSCT) while four showed disease progression (1 SOT who received autologous infusion, 3 non-transplant patients) resulting in an overall response rate of 60% (88% in transplant patients). Cell infusions were well tolerated with no treatment-related serious adverse events (SAEs) reported.

Conclusions: EBV-specific T cell lines were successfully generated for most patients, with manufacturing failures occurring only when using patient autologous cells. Efficacy was observed in SOT and HSCT patients receiving cells from their original donor or third-party related donor. This supports the further development of EBV-specific T cell therapies to treat refractory EBV reactivation and EBV-associated malignancies in a randomized controlled trial.

POSTER ABSTRACTS INDEX

Poster Abstract Presentations will be held on Wednesday, May 21 from 5:30pm to 6:45pm, as part of the Networking Reception.

NUMBER	SUBMISSION TITLE	PRESENTER	PRESENTER ORGANIZATION
1	Pre-Existing Cardiac Conditions as Predictors of Cardiac Events in Haploidentical Stem Cell Transplantation with Post Transplant Cyclophosphamide	Tommy Alfaro Moya	Hans Messner Allogeneic Transplant Program Princess Margaret Cancer Centre
2	Bridging the Gap: Expanding Donor Pools with Haploidentical Stem Cell Transplants	Tommy Alfaro Moya	Hans Messner Allogeneic Transplant Program Princess Margaret Cancer Centre
3	Use Of Induced Pluripotent Stem Cells In Clinical Studies: A Systematic Scoping Review Of The Literature And Registered Ongoing Clinical Trials	David Allan	Ottawa Hospital / CBS
4	Real world selection of patients for allogeneic HCT: a single center review of donor usage and reasons for not proceeding to transplant	David Allan	Ottawa Hospital / CBS
5	Is Preemptive Rituximab for EBV Reactivation Post-Allogeneic Transplant Beneficial? A Comparative Study of Clinical Outcomes.	Eshrak Al-Shaibani	Princess Margaret Cancer Centre
6	Third Line (3L) CAR-T-Cell Therapy in the Golden Years: A Single-Center experience on Outcomes for Elderly Patients in Large B-cell lymphoma	Majed Altareb	Princess Margaret Hospital
7	Increasing recruitment of Younger Donors	Rowena Bentley	Anthony Nolan
8	The Impact Of Allogeneic Stem Cell Transplantation On Patient Outcomes: A Population-based Study	Tobias Berg	McMaster University
9	Delays from Progression to Initial Appointment Occur with External Referrals for CAR T-cell Therapy but Do Not Impact Survival	Sita Bhella	University Health Network
10	The factors affecting work participation after hematopoietic stem cell transplantation: a scoping review	Karine Bilodeau	University of Montreal
11	Reducing The Age Limit Of Donors At Recruitment Is A Mixed Blessing	Amal Bishara	Friends To Marrow
12	Recruiting Donors From Minorities Has Double Beneficial Effect	Amal Bishara	Friends To Marrow
13	Development and implementation of an operational process to use plerixafor in donors who mobilize poorly: NMDP's experience	Meghann Cody	NMDP
14	Cord blood vs. peripheral blood-derived Tregs: A comparative study of phenotype, expansion, and therapeutic potential	Laurie Coutu-Godbout	Hema-Quebec
15	An Enigmatic Tale Of Macrophages In Bone Marrow Causing Inflammation Of The Brain	Uday Deotare	London Health Sciences Centre
16	Patient Oriented Wellbeing Program Implementation In Survivors Of Allogeneic Stem Cell Transplant	Uday Deotare	London Health Sciences Centre
17	A Stitch In Time Saves Nine: Reducing Neupogen Administration Errors For Stem Cell Mobilization	Uday Deotare	London Health Sciences Centre
18	Streamlining Autologous Stem Cell Collection Practices to Reduce Apheresis Procedures and Decrease Costs: A Quality Improvement Project	Uday Deotare	London Health Sciences Centre

POSTER ABSTRACTS INDEX

Poster Abstract Presentations will be held on Wednesday, May 21 from 5:30pm to 6:45pm, as part of the Networking Reception.

NUMBER	SUBMISSION TITLE	PRESENTER	PRESENTER ORGANIZATION
19	Monocyte Recovery Impacts Allogeneic Stem Cell Transplant Outcomes in the Post-Transplantation Cyclophosphamide Era	Nihar Desai	Princess Margaret Hospital
20	Alemtuzumab-based one-day nonmyeloablative conditioning regimen for graft failure after allogeneic hematopoietic cell transplantation	Nihar Desai	Princess Margaret Hospital
21	Post-transplantation cyclophosphamide is associated with improved long-term survival after allogeneic hematopoietic stem cell transplantation	Nihar Desai	Princess Margaret Hospital
22	Reduced dose PTCy is as effective and potentially safer than standard dose in AML patients receiving matched unrelated donor allogeneic stem cell transplants	Nihar Desai	Princess Margaret Hospital
23	Outcomes of Matched Unrelated Donor Allogeneic Stem Cell Transplantation Using PTCy and Low-dose ATG for GVHD Prophylaxis in Older Adults (≥ 65 Years) with Myelofibrosis	Nihar Desai	Princess Margaret Hospital
24	Outcomes Of Allogeneic Stem Cell Transplantation In TP53-mutated Myeloid Malignancies: A Multicenter Canadian Study	Yomna Eissa	Princess Margaret Cancer Center, UHN
25	What does the donor want from us?	Bert Elbertse	Matchis Foundation
26	Pre-emptive Plerixafor with GCSF Alone for Mobilization of Peripheral Blood Stem Cells in Multiple Myeloma	Mohamed Elemary	Saskatoon Cancer Centre
27	Axicabtagene Ciloleucef (Axi-Cel) Versus Standard of Care (SOC) in Patients With Primary Refractory or Early Relapsed Large B-Cell Lymphoma (LBCL)	Mahmoud Elsayy	Dalhousie University
28	Cord Support Services for a Single Transplant Centre: a Case Study	Irina Evseeva	Anthony Nolan
29	Partnering with community advocates to engage sexual and gender minority populations to stem cell donation	Warren Fingrut	Stem Cell Club
30	Analysis of Subsequent donor Infusions following Unrelated Hematopoietic Cell Transplantation (HCT): A 4-Year Experience from REDMO (Spanish BMDR)	Cristina Fusté Giró	REDMO - Spanish Bone Marrow Donor Registry
31	The dynamics of donor Self-Sufficiency rates in Spain: An Analysis of HLA Match selection and its impact over the last five years	Cristina Fusté Giró	Spanish Bone Marrow Donor Registry
32	Correlations of clinician-reported responses with other response measures in patients with chronic graft-versus-host disease: an analysis from the AGAVE-201 trial	John Galvin	Incyte Corporation
33	The effects of prior lines of therapy on clinical outcomes for patients with chronic graft-versus-host disease receiving axatilimab: a post hoc analysis of AGAVE-201	John Galvin	Incyte Corporation
34	Tafasitamab (tafa) plus lenalidomide (len) and rituximab (R) for relapsed or refractory follicular lymphoma (R/R FL): results from a phase 3 study (inMIND)	John Galvin	Incyte Corporation
35	Characterization of granulocyte concentrates prepared with the REVEOS® automated system	Mélissa Girard	Héma-Québec

POSTER ABSTRACTS INDEX

Poster Abstract Presentations will be held on Wednesday, May 21 from 5:30pm to 6:45pm, as part of the Networking Reception.

NUMBER	SUBMISSION TITLE	PRESENTER	PRESENTER ORGANIZATION
36	Results of a national Cell Therapy and Transplant Canada survey on chimerism testing practices	Matthew Gravina	Hamilton Health Sciences
37	Single centre review of Pneumocystis jirovecii pneumonia prophylaxis in patients with lymphoma receiving CAR-T cell therapy & cost comparison of trimethoprim-sulfamethoxazole, pentamidine, atovaquone, and dapsone	Ya Ping Guo	University Health Network
38	Unlocking Gene Therapy for Sickle Cell Disease: Addressing the Resource Gap for Patients	Michele Heffering	Princess Margaret Cancer Centre, UHN
39	Post-thaw Testing: Harmonizing HPC-Cord and HPC-Apheresis Approaches	Jelena Holovati	University of Alberta, Canadian Blood Services
40	COVID-19 among patients receiving bispecific T-cell engager therapy and chimeric antigen T-cell therapy for lymphoma, a single-centre retrospective cohort study	Sasan Hosseini	Transplant Infectious Diseases, Ajmera Transplant Centre, Department of Medicine, University Health Network/University of Toronto, Toronto, ON, Canada
41	The impact of reference sequence for KIR alleles identification pipeline	Lucie Houdova	University of West Bohemia in Pilsen
42	Understanding the donor-facing staff experience with the donor mental health assessment	Kimberly Anne Kasow	University of North Carolina
43	The Effect of Smoking and Pre-Transplant Pulmonary Comorbidity on the Incidence of Lung Graft Versus Host Disease and Post Transplant Outcomes	Mohammed Kawari	Allan Blair Cancer Centre
44	Public Bone Marrow Awareness and Recruitment in different geographical regions in Greece: The volunteer program and training	Annita Koumouli	Centre of Bone Marrow Donor Volunteers - Save a life, University of Patras
45	Hybrid Cord Blood Banking: A Feasibility Study on Combining Private and Public Cord Blood Storage in Switzerland	Oliver Kürsteiner	Blutspende SRK Schweiz AG
46	Optimising Donor and Patient Processes in the Swiss Registry: A Low-Code Platform Development Approach Using Agile Methodology	Oliver Kürsteiner	Blutspende SRK Schweiz AG
47	Efficient autologous PBSC storage management can be achieved by the application of evidence-based discard criteria	Catherine Latour	Héma-Québec
48	Keeping Up with Younger Generations: The Digital Toolbox for Donor Recruitment and Retention at DKMS	Martin Laurie Quarg	DKMS Group gGmbH
49	Real-World Outcomes of Axicabtagene Ciloleucel for Treatment of Relapsed or Refractory Large B-Cell Lymphoma in Canada	Christopher Lemieux	CHU de Québec - Université Laval, Department of Medicine
50	Durable Clinical Benefits in Severe Sickle Cell Disease With Exagamglogene Autotemcel	Amanda M. Li	BC Children's Hospital, University of British Columbia
51	Durable Clinical Benefits in Transfusion-Dependent β -Thalassemia with Exagamglogene Autotemcel	Amanda M. Li	BC Children's Hospital, University of British Columbia
52	Allogeneic Stem Cell Transplantation for Myelofibrosis: A Single-Center Experience	Jia Li Liu	McGill University

POSTER ABSTRACTS INDEX

Poster Abstract Presentations will be held on Wednesday, May 21 from 5:30pm to 6:45pm, as part of the Networking Reception.

NUMBER	SUBMISSION TITLE	PRESENTER	PRESENTER ORGANIZATION
53	Platelet lysate, a natural agent to enhance the antitumor capacity of cord blood NK cells	Lionel Loubaki	Héma-Québec
54	Evaluating the impact of mass media appeals on self-registration of hematopoietic stem cell donors: Insights from two high-profile cases in Galicia, Spain	Felipe Macias	REDMO. Josep Carreras Leukaemia Foundation
55	A Multidisciplinary Approach in Providing CAR-T Therapy to a Patient with Refractory Post-Transplant Lymphoproliferative Disorder Post Double Lung Transplant for Cystic Fibrosis	Kayla Madsen	Cell Therapy & Transplant Program, QEII Health Sciences Centre
56	Expanded cord blood-derived CD34+ cells for development of anti-CD33 CAR-NK cells: a platform for developing "off-the-shelf" immunotherapy.	Harinad Maganti	Canadian Blood Services
57	Adapting Recruitment Strategies For Ultra-orthodox Communities: Insights From The Ezer Mizion Registry	Sigal Manor	Ezer Mizion Bone Marrow Donor Registry
58	Foresight Study - the Possibility of Predicting Hematopoietic Cell Transplantation and Cell Therapies Practices and Its Implications	Danielli Oliveira	REDOME, Ministry of Health
59	The Efficiency among Unrelated Donor Registries – The Perspective of the Brazilian Bone Marrow Donors Registry (REDOME)	Danielli Oliveira	REDOME, Ministry of Health
60	Defining and designing a remote monitoring tool for CAR T-cell therapy patients in Canada	Chimaobi Oyiliagu	University of Toronto
61	New cryopreservation model provides new insights into the sensitivity of hematopoietic stem cell and progenitors to cryostorage	Nicolas Pineault	Canadian Blood Services
62	Adult Donor Cryopreserved Units (ADCU) as option in hematopoietic stem cell transplantation: experiences and challenges	Alexander Platz	DKMS Stem Cell Bank
63	Chimeric Antigen Receptor-Natural Killer (CAR-NK) Cells for Cancer Therapy: A Systematic Scoping Review of Published Studies and Clinical Trials	Simrit Rana	Faculty of Medicine, University of Ottawa
64	The Cost-Effectiveness of Axicabtagene Ciloleucef versus Standard of Care as Second-Line Therapy in Patients with Transplant Non-Eligible Large B-Cell Lymphoma in Canada	Yael Rodriguez Guadarrama	Maple Health Group LLC
65	Endothelial activation and stress index (EASIX) as a risk factor of ruxolitinib failure for steroid-refractory acute graft-versus-host disease treatment	Sergio Rodriguez Rodriguez	Hans Messner Allogeneic Blood and Marrow Transplant Program, Division of Medical Oncology and Hematology
66	The impact of distance to CAR-T centre on CAR-T administration and outcomes: a single-centre retrospective cohort study	Bradley Rutherford	McMaster University
67	Trends in Vitamin Deficiencies Among Indian Stem Cell Donors: Insights from 2021 till 2024	Claudia Rutt	DATRI Blood Stem Cell Donors Registry
68	Increasing CART delivery capacity in Certified Healthcare Facilities: An impact assessment of shifting resources from ASCT to CAR T in second-line treatment of diffuse large B-cell lymphoma	Mona Shafey	University of Calgary

POSTER ABSTRACTS INDEX

Poster Abstract Presentations will be held on Wednesday, May 21 from 5:30pm to 6:45pm, as part of the Networking Reception.

NUMBER	SUBMISSION TITLE	PRESENTER	PRESENTER ORGANIZATION
69	Policy Brief: Enhancing Access to CAR T in the Canadian Healthcare System	Mona Shafey	University of Calgary
70	TCR $\alpha\beta$ T and B cell depleted HLA mismatched transplants in Children with Non-malignant Indications using Treosulfan, Fludarabine, Thymoglobulin and Thiotepa based Conditioning	Ravi Shah	Alberta Children's Hospital
71	New strategy for donor recruitment in Austria	Isabel Stadler-Haushofer	Austrian Bone Marrow Donor Registry, Austrian National Public Health Institute, GÖG
72	HLA_SAVE: A cumulative repository of transplant-associated immunogenetic data	Valerie Stewart	CIBMTR/NMDP
73	G-CSF Side Effects In Unrelated Stem Cell Donors Of Thai National Stem Cell Donor Registry	Rattanun Suwanpusaporn	Thai National Stem Cell Donor Registry (TSCDR)
74	Real-world evaluation of tafasitamab (tafa) in combination with lenalidomide (len) for relapsed or refractory diffuse large B-cell lymphoma (R/R DLBCL): results from a Canadian patient support programme	TBD	TBD
75	Innovative approaches and diversification of on-site development to ensure territorial recruitment coverage at Héma-Québec	Anne Tessie	Héma-Québec
76	Engaging advertising, integrated campaigns: A portrait of the evolution of advertising campaigns for Héma-Québec's Stem Cell Donor Registry.	Anne Tessie	Héma-Québec
77	Peripheral blood stem cell collection in allogeneic donors: how can we predict the feasibility of collection for successful transplantation?	Tigran Torosia	DKMS Foundation
78	Implementation of proficiency testing for Search Coordinators at Matchis Transplant Center Services.	Mark van Boxtte	Matchis
79	Value of performing a chest X-ray on voluntary stem cell donors – a retrospective analysis post-COVID	Thomas van der Velde	Matchis
80	Bone marrow morphology findings in healthy stem cell donors	Isabelle van Sloten	Matchis
81	Drive in a box – the concept and challenges in India	Saranya Vishwakarma	DATRI Blood Stem Cell Donors Registry
82	Focus on the engagement of Young Donors to increase donor availability	Rebecca Whitwick	Anthony Nolan
83	Characterization of an organ donor derived hematopoietic cell bank as a potential alternative graft source for patients with unmet need	Erik Woods	Ossium Health, Inc.

**15th International Donor
Registry Conference**



**Cell Therapy Transplant Canada
(CTTC) Annual Conference**

Québec City • May 19-22, 2025

In collaboration with Héma-Québec