

Development of a Canadian Pediatric CAR T-Cell Network

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GOAL

To Improve Access and Innovation in Pediatric CAR T-Cell Therapy for Canadian Children and Youth

AIM 1

Objective: Develop Pediatric Point-of-Care CAR T-Cell Manufacturing

Cellular Therapy Laboratory Co-Leads: Dr. Nicole Prokopishyn, Dr. Michael Chu

Methods:



Impact/Outcomes:

- Develop local infrastructure and technical expertise to perform CAR T-cell manufacturing on a closed cellular manufacturing system
- Foundational preparation for a Canadian CD19-CAR T-cell pediatric trial

Project Timelines and Progress:

	2024-2025	2025-2026
Tasks and Events	<ul style="list-style-type: none"> • Establishment of national cellular therapy (CT) Cell Facility/Laboratory group • Benchmarking and international expert consultations for vector choice • Assessment, comparison and determination of needs of all participating pediatric cellular therapy facilities • Applications by each participating site to Health Canada for Biohazard Import License 	<ul style="list-style-type: none"> ☐ CT Lab Training Workshop, Calgary – <i>Spring 2026, co-sponsored by Cell Therapy Transplant Canada [CTTC]</i> ☐ Three manufacturing runs at each decentralized site ☐ Validation of CAR T-cell product quality to Health Canada clinical trial use standards, Edmonton

AIM 2

Objective: Development of Canadian Pediatric CAR T-cell Network

Sub-Aim 1: Improve loco-regional access to CAR T-cell therapy, decrease barriers to CAR T-cell therapy referrals and across provinces, and increase clinical support of CAR T-cell referral and CAR T-cell delivery centres

Method:



- **Impact/Outcomes:** To develop training and educational resources specific to the areas identified by Pediatric Oncology and Cellular Therapy referral and delivery centers. Explore standardization of pre- and post- CAR T-cell Therapy supportive care practices.

- **Project Timelines:** Data Collection and Analysis - ongoing. Anticipated completion: 2026

Sub-Aim 2: Provide Opportunity for Patient With Lived Experience (PWLE) – Led Advocacy and Education

Method:



- **Impact/Outcomes:** To provide educational material written by a patient, for other patients, at all C17 pediatric oncology sites.

- **Project Timelines:** Final draft in preparation for printing and distribution. Anticipated completion: 2026

Sub-Aim 3: Establish the Canadian Pediatric CAR T-Cell Network

- **Method:** Monthly meeting of pediatric cellular therapy physicians as a Steering Committee to communicate and strategize around the Canadian pediatric CAR T-cell initiatives and clinical trials

- **Impact/Outcomes:** Examination of barriers to CAR T-cell clinical trials in Canada

- **Project Timelines:** Ongoing

AIM 3

Objective: Improve Detection of Disease post-CAR T-cell Therapy

Co-Leads: Dr. Karen Sherwood, Dr. Jack Bartram, Dr. Ravi Shah

Methods:



- **Impact/Outcomes:** To allow access to NGS MRD testing for children in Canada. To develop a better understanding of which patients face higher risks of post-treatment relapse.

- **Project Timelines:** Protocol in development. Anticipated completion: March 2027

