

Evaluating Nurse and Patient Education Approaches for T-Cell Engager Therapy

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Cancer Care Manitoba (CCMB)

- Provincial Cancer Agency
- Ambulatory care – 34,926 individual seen in 2025
- 4 sites within Winnipeg, 1 site in Brandon
- 2 sites provide RT, 1 for brachytherapy
- 16 rural sites, shared care model
- Population 1.5 million people
- Many rural, remote and northern communities



Plan for Session



Review of T Cell Engagers (TCE)



Development of tools and education for Hematology Nurses



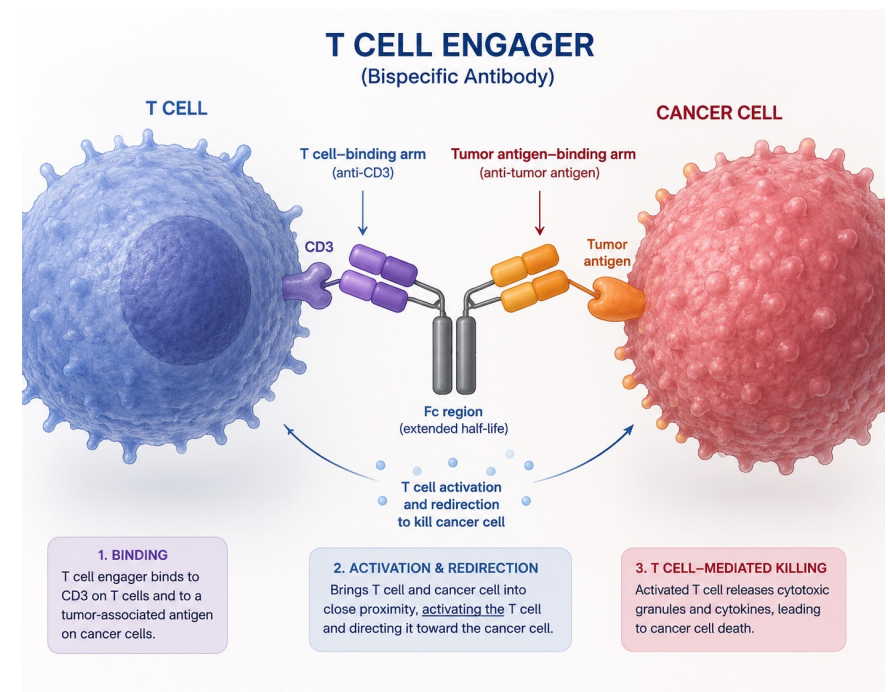
Describe study and results to evaluate the perceived effectiveness of these tools by nurses and patients at CCMB



Discuss lessons learned and implications for the future

T Cell Engagers

- Monoclonal antibody that can bind to two target proteins on the surface of different cells
- T-cell engagers bind to a certain protein on healthy T cells and, at the same time, to a different protein on cancer cells
- This brings the T cells and cancer cells close together so the T cells can more effectively kill the cancer cells



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(Lejeune et al., 2020)

T Cell Engagers Continued

Causes an immediate anti-tumor immune response that could result in adverse events such **cytokine release syndrome (CRS)** & **Immune effector cell-associated neurotoxicity syndrome (ICANS)**

CRS

Fever, hypotension, myalgia / arthralgia, hypoxia, O2 support mechanical ventilation, inotrope support, organ failure

**ICU and
possible death**

ICANS

confusion, tremors, handwriting changes, difficulty with speech seizures, coma, or cerebral edema

(Montoro-Lorite, et al., 2024)

Building a Process



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- Many different pieces to be considered in caring for these patients
- Patients are admitted for initial doses and dose escalation for monitoring – CRS, ICANS
- CRS algorithm and standing orders
- Process if patient has S&S of CRS/ICANS at home
- Patient and Nurse education
- Standardized assessment & documentation templates

The Tools and Processes Created

PATIENT INFORMATION

T-cell Engager Therapy

T-cell Engager Therapy - Patient Teaching Appointment Checklist

REMOVE THIS CHECKLIST FROM FOLDER

MEDICAL ALERT 

Patient Name: _____

Has received T Cell Engager Therapy on: _____

Possible Side Effects:

1. Severe cytokine release syndrome (CRS)
2. Immune effector cell-associated neurotoxicity syndrome (ICANS)

Hematologist/Oncologist: _____

These reactions can be life-threatening.
See the reverse side for more information.

Caution: May cause severe side effects like fever, low blood pressure, low oxygen, kidney and heart issues, confusion, muscle weakness, seizures, and brain swelling. Treatment includes steroids, anti-CRS/ICANS meds, and supportive care.

Contact the on-call physician immediately if any of these occur:

- ☐ Hematologist ☐ Medical Oncologist
- ☐ Leukemia / BMT - GD6 (HSC)
- ☐ HSC paging: 204-787-2071
- ☐ St. Boniface paging: 204-237-2053

T-cell Engager Therapy Process – Cheat Sheet

- Clinic process including teaching plan
- Patient alert cards
- Patient Information sheets
- Patient binder including teaching sheets and self monitoring log (temp and BP)
- Treatment Room and Clinic note templates
- UCC Process and Standing Orders
- BP Monitor lending process

BLOOD PRESSURE LOG SHEET

Temperature, Blood Pressure and Oxygen Saturation Log Sheet

Cytokine Release Syndrome (CRS)

Standing Orders for Outpatient Cytokine Release Syndrome Management

HANDWRITING ASSESSMENT LOG SHEET

Patient Handwriting Assessment Log

Evaluating Nurse and Patient Education

Aim

- To evaluate the perceived effectiveness of the education and tools by oncology nurses and patients at Cancer Care Manitoba (CCMB)

Methods

- Surveys were distributed to the Oncology Nurses and Patients via email
 - Inclusion Criteria
 - **Nurses:** Provided education post creation of tools and processes to patients receiving TCE between March 2025 – May 1, 2026.
 - 13 nurses eligible to complete survey
 - **Patients:** Received education between March 2025 – May 1, 2026.
 - 25 patients initially identified as eligible to complete survey
 - Exclusion Criteria
 - Nurses that no longer working at CCMB and patients that were very unwell or deceased

Surveys

Nurses & Patients: 3 parts to survey

Nursing and patient surveys addressed similar concepts, the wording and tone was adapted to reflect the perspective of each group

- Likert scale on education information and tools
 - 3 categories clarity of information, ease of use and relevance
 - Scale - very poor, poor, fair good and excellent
- Confidence questions
 - Improved understanding
 - Confidence in teaching / learning
 - Organization of all steps involved in process
- Challenges and other feedback – free text into survey



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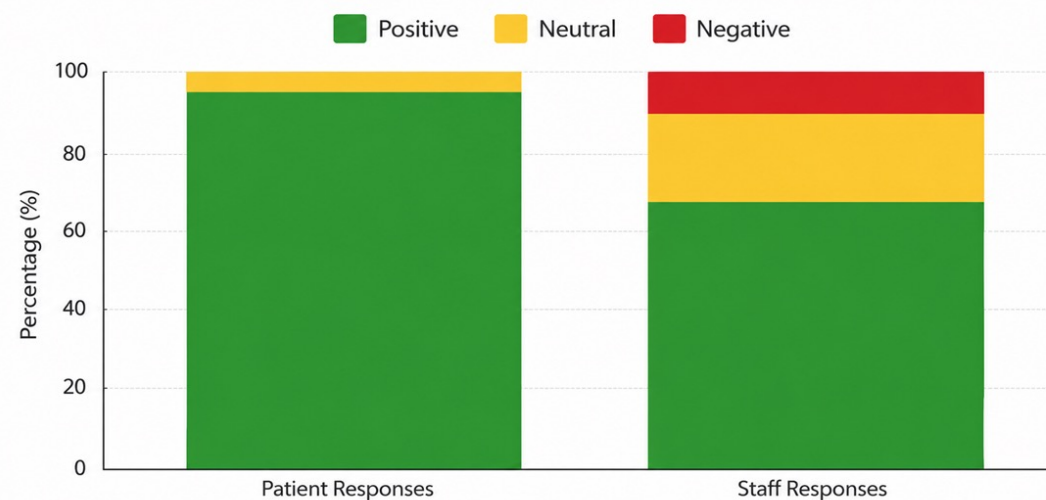
Results

Nurses N=10, 76% response rate

Patients N=8, 62.5% response rate

 Item – resource	 Number of nurse response with rating of good or excellent		
	 Clarity of information	 Ease of use	 Relevance
 Quick reference process guides	5	5	8
 Teaching checklist	7	6	8
 Patient information binder & tools to be provided during education session	7	6	9
 Didactic lecture during Nursing Rounds	7	6	7
 Small group huddles with Educator	6	6	8

Summary of Survey Results



*Tables appearance enhanced by Chat GPT

“Talking through everything always helps understanding before reading, answers any questions and clarifies any confusion. Session very helpful”

Patient

“It was explained very nicely and I now know how to watch for side effects”

Patient

“I find I don't learn well being given a binder to look through. I wish we had an in-person education session to go over this regimen, the teaching materials and what to do as the clinic nurse”

Nurse

“ Most helpful was the binder & patient teaching checklist as it offers the most information”

Nurse

“ More in person group teaching session for nurses”

Nurse

Discussion

Patient Experience

- Excellent ratings for clarity, understanding and ease of use and relevance of patient binder
- High confidence in self monitoring tasks (BP, T, O2 sats)
- Strong perceive value of nurse-led education sessions

Nurse Experience

- Initially not confident in their skill to provide education to patients
- Many nurses expressed that this was steep learning curve and did not feel prepared
- Resources well received and helpful
- Able to identify gaps in knowledge and processes post survey

Key Challenges

- Difficult to accrue patients as many died
- Lack of standardized clinic processes
- Nurses overwhelmed with information overload
- 1 hour in person teaching session difficult to arrange
 - Time management
 - Physical space to meet with patient & caregiver
- Poor communication amongst the interdisciplinary team
 - Standardized processes not always followed
 - Admission difficulties



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Follow Up Interventions & Implications for the Future

- Focus groups with nurses to discuss process improvement, patient teaching and refinement of material and tools
- Work started with Chief Medical Officer to improve communication between team members
- Looking at feasibility of outpatient administration for all doses with the use of tocilizumab
- Proposal for CNC led complex systemic therapy clinic

Conclusion & Take-Home Messages

- Standardized education tools improved nurse and patient confidence in providing and receiving education on the recognition and response to TCE toxicities such as CRS and ICANS
- Ongoing evaluation of educational resources supports continuous refinement of TCE clinic processes and patient education
- Implementation of multi modal education strategies and tools are required to care for people receiving increasingly complex systemic therapies

QUESTIONS



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