Canadian Stroke Congress | Congrès Canadien de l'AVC

Frontiers in Stroke:

Innovation. Action. Impact

Banff Centre for Arts and Creativity
Banff, Alberta

Pre-Congress Workshops
23 rd

Canadian Stroke Congress
24 - 25 th
May 2026

CanStroke Recovery Trials | StrokeCog

Program at a Glance

Registration: 7:00 am - 6:00 pm

Exhibits: 10:00 am - 4:00 pm

SUNDAY, MAY 24, 2026

BREAKFAST 7:00 am - 8:00 am *Jenny Belzberg Theatre Foyer*

WELCOMING REMARKS
8:00 am - 8:20 am
Jenny Belzberg Theatre (JBT)

PLENARY LECTURE
The Next Frontier of Stroke Care: Emerging Innovations Across the Continuum
8:20 am - 10:00 am
Jenny Belzberg Theatre (JBT)

REFRESHMENT BREAK 10:00 am - 10:30 am *Kinnear Centre Foyers*

Stroke in the Young **10:30 am - 11:30 am** *KC 303*	*International Multi-Site Rehabilitation Trials* **10:30 am - 11:30 am** *KC 301*	*Oral Talks #1* **10:30 am - 11:30 am** *KC 105*	*Symposium: Falls after stroke* **10:30 am - 11:30 am** *KC 101 & 103*

TRANSITION TIME 11:30 - 11:45 am

Cerebellar Stroke **11:45 am - 12:45 pm** *KC 303*	*Brain Computer Interface* **11:45 am - 12:45 pm** *KC 301*	*Oral Talks #2* **11:45 am - 12:45 pm** *KC 105*	*Brag 'N Steal* **11:45 am - 12:45 pm** *KC 101 & 103*

LUNCH 12:45 pm - 1:45 pm *Vistas Dining Room*

POSTER SESSION #1
1:45 - 2:45 pm
KC 201 203 205

Communication Disorders **2:45 pm - 3:45 pm** *KC 303*	*Symposium: Integrating patient-reported outcome measures into stroke care across the continuum* **2:45 pm - 3:45 pm** *KC 301*	*Oral Talks #3* **2:45 pm - 3:45 pm** *KC 105*	*Symposium: Robotics in stroke rehabilitation* **2:45 pm - 3:45 pm** *KC 101 & 103*

TRANSITION TIME & REFRESHMENT BREAK 3:45 - 4:15 pm *JBT foyer*

PLENARY LECTURE
Delivering Innovation: Action and Impact for Real-World Stroke Implementation
4:15 pm - 5:35 pm
Jenny Belzberg Theatre (JBT)

DALE CORBETT TRANSLATIONAL LECTURESHIP
5:35 pm - 6:15 pm
Jenny Belzberg Theatre (JBT)

WELCOME RECEPTION
6:15 pm - 7:30 pm
Jenny Belzberg Theatre Foyer

MONDAY, MAY 25, 2026

Registration: 7:00 am - 6:00 pm

Exhibits: 9:15 am - 4:15 pm

BREAKFAST 7:00 am - 8:00 am *Jenny Belzberg Theatre Foyer*

DEBATES

DEBATE #1: *Can AI-based prehospital triage identify patients suitable for EVT?*
DEBATE #2: *Should recovery prediction tools be used to determine who receives rehabilitation?*
8:00 am - 9:00 am
Jenny Belzberg Theatre (JBT)

Accreditation Canada – 2026 Stroke Distinction Awards 9:00 am - 9:15 am

TRANSITION TIME 9:15 am - 9:30 am

Stroke Prevention Trials update **9:30 am - 10:30 am** *KC 303*	*The Future of Stroke Trials in Canada: AI-Embedded Clinical Trials* **9:30 am - 10:30 am** *KC 301*	*WORKSHOP: Non-Invasive Brain Stimulation for Stroke* **9:30 am - 10:30 am** *KC 305*	*Microvascular Dementia* **9:30 am - 10:30 am** *KC 105*	*Symposium: Vision rehabilitation after stroke* **9:30 am - 10:30 am** *Max Bell Auditorium Theatre (MBT)*

REFRESHMENT BREAK 10:30 am - 10:45 am *Kinnear Centre Foyers*

Acute Stroke Update **10:45 am - 11:45 pm** *KC 303*	*Heart-Brain Connection* **10:45 am - 11:45 pm** *KC 301*	*WORKSHOP: Delivering Remote Therapies* **10:45 am - 11:45 pm** *KC 305*	*Symposium: High dose walking after stroke* **10:45 am - 11:45 pm** *KC 105*	*Symposium: Post-stroke Fatigue, Sleep Disorders & Stroke* **10:45 am - 11:45 pm** *MBT*

TRANSITION TIME 11:45 am - 12:00 pm

Stroke Systems of Care Update **12:00 pm - 1:00 pm** *KC 303*	*Stroke Rehabilitation Trials Update* **12:00 pm - 1:00 pm** *KC 301*	*WORKSHOP: Novel Rehabilitation Technologies* **12:00 pm - 1:00 pm** *KC 305*	*Symposium: Quantifying the less quantified in stroke care and recovery* **12:00 pm - 1:00 pm** *KC 105*	*Symposium: Stroke coffee and cases* **12:00 pm - 1:00 pm** *MBT*

LUNCH 1:00 - 2:30pm *Vistas Dining Room*

ACCREDITED LUNCH SYMPOSIUM
1:00 - 2:30 pm
KC 101 & 103 **Registration Required*

POSTER SESSION #2

2:30 pm - 3:30 pm
KC 201 203 205

Stroke in Pregnancy **3:30 pm - 4:30 pm** *KC 301*	*Life After Stroke and Community-Based Supports* **3:30 pm - 4:30 pm** *KC 303*	*WORKSHOP: Robotics* **3:30 pm - 4:30 pm** *KC 305*	*Innovations in Neurointervention: From Thrombectomy to Flow Diversion* **3:30 pm - 4:30 pm** *KC 105*	*Symposium: From bench to bedside* **3:30 pm - 4:30 pm** *Max Bell Auditorium Theatre (MBT)*

TRANSITION TIME & REFRESHMENT BREAK 4:30 pm - 5:00 pm *JBT foyer*

2026 HNATYSHYN & NIEBOER LECTURE

5:00 pm - 6:30 pm
Jenny Belzberg Theatre (JBT)

ORAL & POSTER AWARDS & CLOSING STATEMENTS

6:30 pm - 6:45 pm
Jenny Belzberg Theatre (JBT)

FAREWELL RECEPTION

6:45 pm - 7:45 pm
Jenny Belzberg Theatre Foyer

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Host

Hosted jointly by the CanStroke Recovery Trials Platform and the StrokeCog Clinical Trials Training Platform, the 2026 Canadian Stroke Congress continues a tradition of excellence. Established in 2010, this uniquely Canadian forum brings together researchers, trainees, clinicians, allied health, administrators, policymakers, and people with lived experience to share new discoveries and innovations, the latest science and therapies, and to build relationships for future collaborations. The Canadian Stroke Congress continues to be the go-to meeting for Canada's stroke community.

The CanStroke Platform acknowledges support from a Brain Canada platform grant, financial support from Health Canada, through the Canada Brain Research Fund, and its funding partners the University of Calgary and Sunnybrook Research Institute. The StrokeCog Platform is funded by the Canadian Institutes of Health Research (CIHR) with partnered funding from the Canadian Partnership for Stroke Recovery and the Ottawa Heart Institute Research Corporation.

Learning Objectives

By the end of the 2026 Canadian Stroke Congress, participants will be able to:

- **Share** current evidence-based best practices in care across the full stroke continuum;
- **Network** among inter-professional individuals and groups working in stroke research, clinical care and system planning and improvement;
- **Highlight** Canadian achievements and contributions to stroke diagnosis, care and recovery;
- **Identify** emerging new technologies that will have an impact on the future of stroke care, such as artificial intelligence, neuromodulation and the brain-computer interface;
- **Raise** the bar on stroke standards of care by providing education, implementation knowledge, and practical skills to be incorporated into daily practice working in stroke care;
- **Integrate** principles of person-centered stroke care into their practice and work environments.

Accreditation

This event is an accredited Group Learning Activity (Section 1) Continuing Professional Development activity as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada. The program was developed for the 2026 Canadian Stroke Congress by the CanStroke Recovery Platform and StrokeCog Clinical Trials Training Platform and planned to achieve scientific integrity, objectivity and balance. It was approved by the Canadian Neurological Sciences Federation for a maximum of 15.75 credit hours.

Scientific Program Committee

The Scientific Program Committee for the 2026 Canadian Stroke Congress brings together a diverse group of experts dedicated to advancing stroke care and research. Members include leaders in acute stroke, rehabilitation, prevention, and preclinical research, alongside specialists in neurology, OT, PT, SLP, primary care, and health systems. The committee also integrates perspectives from knowledge translation, hospital administration, health economics, stroke systems, and people with stroke lived experience to ensure a program that is innovative, multidisciplinary, and patient-centered.

- Co-Chair: **Dr. Sean Dukelow** *University of Calgary*
- Co-Chair: **Dr. Jodi Edwards** *University of Ottawa Heart Institute*

- **Dr. Craig Brown** *University of Victoria*
- **Dr. Jacqueline Cochrane** *University of Ottawa*
- **Dr. Marika Demers** *Université de Montréal*
- **Ms. Sharon Gilroy-Dreher** *Person with Lived Experience*
- **Dr. Brett Graham** *University of Saskatchewan*
- **Dr. Noreen Kamal** *Dalhousie University*
- **Mr. Farrell Leibovitch** *Sunnybrook Research Institute*
- **Mr. Kevin Lindland** *Alberta Health Services*
- **Dr. Patrice Lindsay** *Health Systems and Engagement Consultant*
- **Dr. Cindi Morshead** *University of Toronto*
- **Dr. Michelle Nelson** *University of Toronto*
- **Dr. Kanjana (Sashi) Perera** *McMaster University)*
- **Dr. Elizabeth Reimer** *Alberta Health Services*
- **Dr. Nishita Singh** *University of Manitoba*
- **Dr. Ada Tang** *McMaster University*
- **Dr. Vignan Yogendrakumar** *University of Ottawa*
- **Dr. Amy Yu** *Sunnybrook Research Institute*

Planning Committee

The Planning Committee for the 2026 Canadian Stroke Congress is led by team members at the University of Calgary and Sunnybrook Research Institute to help ensure a well-coordinated, thoughtfully planned, and seamlessly executed event. We are also supported by Podium Conference Management.

Mr. Farrell Leibovitch *Sunnybrook Research Institute*
Ms. Karen Truong *Sunnybrook Research Institute*
Ms. Holly Vogel *University of Calgary*

Endorsement

The **Heart and Stroke Foundation of Canada** is a supporter of the Canadian Stroke Congress.

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The **World Stroke Organization** endorses this meeting and encourages all its members to attend.

Abstract Publication

All presented abstracts will be published in the International Journal of Stroke following the meeting.

General Conference Information

Congress Venue

Banff Centre for Art & Creativity

107 Tunnel Mountain Drive
Banff, Alberta, Canada T1L 1H5

Banff Centre is truly one of Canada's most unconventional venues for meetings. Hosting over 20,000 conference delegates from around the world every year, the Centre combines professional meeting facilities and breathtaking mountain vistas to create unforgettable experiences for attendees.

Conferences at Banff Centre provide delegates from all around the world with exceptional meeting facilities in an environment that fosters inspirational learning.

Dining options at the Banff Centre: for meals not included with the conference, please note the following options & times to consider for your arrival and departure days.

Vistas Dining Room hours of operation are:

Breakfast: 7:30am – 9:30am
Lunch: 11:30am – 1:30pm
Dinner: 5:30am – 7:30pm

Maclab Bistro hours of operation are:

8:00am – 11:00am Take away café (open daily)
11:00am – 11:00pm Full service
11:00pm – 12:45am Bar service

Grab and go items, specialty coffees, and take away meals are available here along with sit-down lunch and dinner service. Reservations for dinner are recommended. *Please note that your CanStroke name badge does not include service from the bistro.*

Pre-congress workshops will take place on the campus of the Banff Centre for Art & Creativity in the Kinnear Centre Building.

Detailed pre-congress workshop agendas will be sent to those that have pre-registered for the workshops (*Pre-Congress Workshops*)

Congress sessions will take place in various buildings across the campus:

Plenary sessions, breakfast, and receptions: Jenny Belzberg Theatre (JBT)

Concurrent sessions: 1st and 3rd floor meeting rooms in the Kinnear Centre Building & in the Max Bell Theatre (MBT) Auditorium

Poster sessions & exhibits: 2nd floor of the Kinnear Centre Building

Lunch: Vista's Dining Room (name badge is required for access to CanStroke's included lunch)

Congress registration fees include access to all sessions including plenary talks, concurrent sessions, and poster sessions. Registration also includes breakfast, daily coffee breaks, lunches, and the Welcome & Farewell receptions.

Name Badges

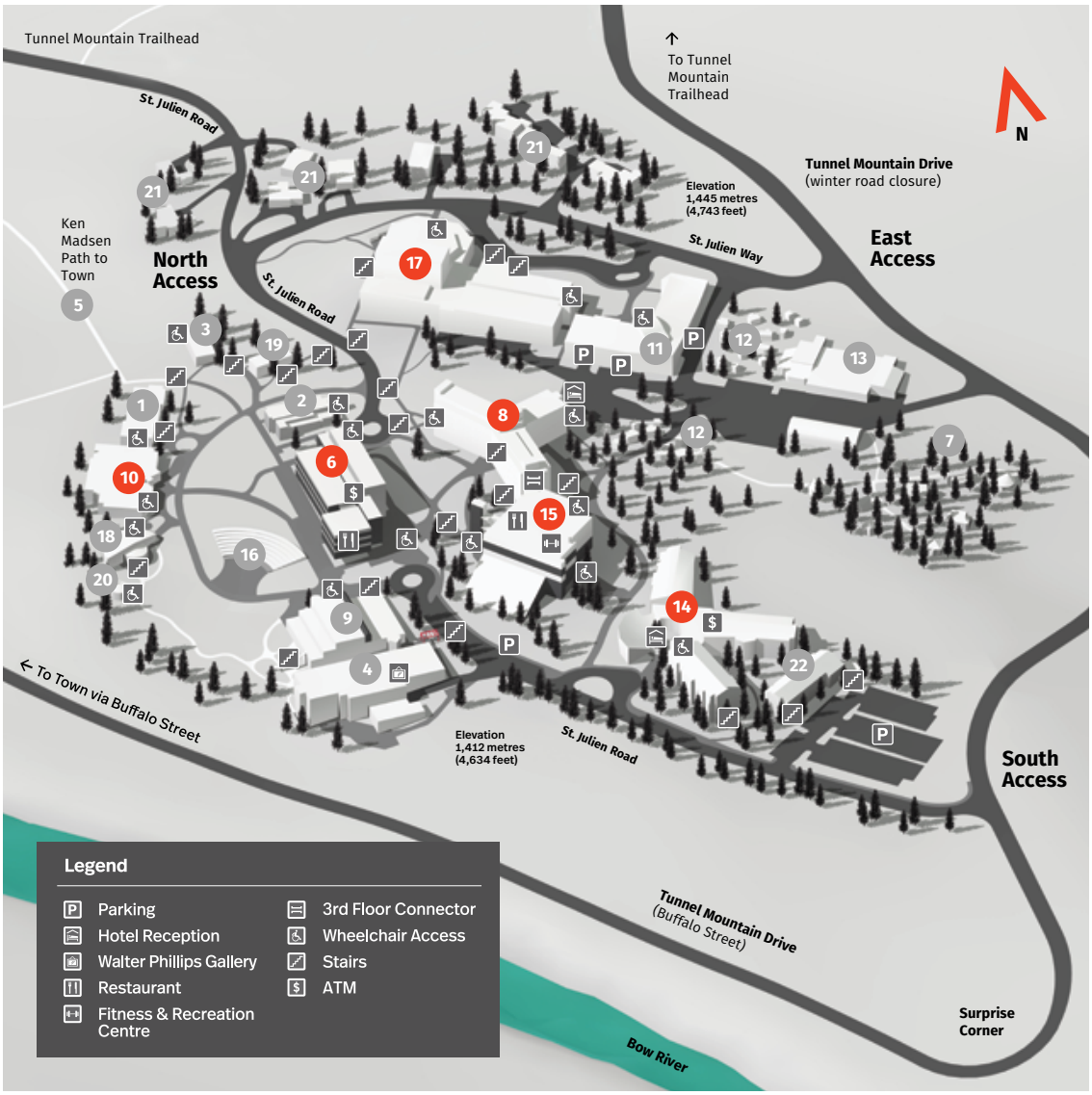
Your name badge is your admission ticket to the congress sessions, coffee breaks, meals, and receptions. Please always wear it. At the end of the congress, we ask that you recycle your name badge in one of the name badge recycling stations that will be set out or leave it at the Registration Desk.

Registration and Information Desk Hours

The Canadian Stroke Congress Registration and Information Desk, will move to different locations during the conference. Please be sure to note the times & locations below.

Saturday, May 23	7:45am - 6:00pm	Kinnear Centre Building
Sunday, May 24	7:00am - 9:30am	Jenny Belzberg Theatre foyer
	10:00am - 3:15pm	Kinnear Centre Building
	3:45pm - 6:00pm	Jenny Belzberg Theater foyer
Monday, May 25	7:15am - 8:45am	Jenny Belzberg Theatre foyer
	9:15am - 3:30pm	Kinnear Centre Building
	3:45pm - 6:00pm	Jenny Belzberg Theater foyer

If you need assistance during the conference, please visit the Registration Desk.



1 **Corbett Hall**

2 **Donald Cameron Centre**
Administration Offices

3 **Farrally Hall**

4 **Glyde Hall**
Walter Phillips Gallery

5 **Ken Madsen Path to Banff Townsite**

6 **Kinnear Centre for Creativity & Innovation**
Maclab Bistro — Workshops, Concurrent Sessions, Poster Sessions
Meeting Rooms & Banquets
Paul D. Fleck Library & Archives

7 **Leighton Artists Studios**

8 **Lloyd Hall**
Hotel Reception — Accommodations

9 **Jeanne & Peter Lougheed Building**

10 **Max Bell Building** — Monday Concurrent Sessions

11 **Music Building**
Bentley Chamber Music Studio
Rolston Recital Hall

12 **Music Huts**

13 **Physical Facilities Building**
Print Shop
Shipping & Receiving

14 **Professional Development Centre**
Hotel Reception — Accommodations

15 **Sally Borden Building**
Fitness & Recreation Centre
Participant Resources
Three Ravens Restaurant
Vistas Dining Room — Sunday & Monday Lunch

16 **Shaw Amphitheatre**

17 **Theatre Complex**
Box Office
Jenny Belzberg Theatre — Plenary & Keynote Sessions, Breakfast & Receptions
Laszlo Funtek Teaching Wing
Margaret Greenham Theatre
The Club

18 **TransCanada PipeLines Pavilion**
Banff International Research Station

19 **Vinci Hall**

20 **Yurt**

21 **Staff Housing**

22 **Staff Housing**
Becker Hall

Poster Information

There are two Poster Sessions during the congress and posters will CHANGE on day 2. *Please note, poster presenters are not required to stand at their poster during the coffee break or lunch, but it is encouraged to have the poster up and be available should someone wish to discuss prior to the scheduled poster session.*

Posters will be located in the Kinnear Centre Building – room 203 and 205

Poster Session 1:	**Sunday, May 24**
Set up:	Between 10:00am - 12:45pm
Session Time:	1:45pm - 2:45 pm
Take down:	Between 2:45pm - 4:00pm
Poster Session 2:	**Monday, May 25**
Set up:	Between 10:30am - 1:00pm
Session Time:	2:15pm - 3:15 pm
Take down:	Between 3:15pm - 4:00pm

Tear Down: Please tear down immediately following the conclusion of the poster session Removal of posters at the end of the display period is the responsibility of the author(s). Posters not removed by the deadline will be removed and disposed of by conference staff. *Please note that the posters will be held at the registration desk until the end of the conference, after which time they will be recycled.*

Staff

Canadian Stroke Congress staff from Podium Conference Specialists can be identified by orange ribbons on their name badges. Feel free to ask any one of our staff for assistance. For immediate assistance please visit us at the Registration Desk.

Internet Services

Wireless Internet is available to Canadian Stroke Congress delegates across the Banff Centre's campus. Kindly note, the WiFi strength is ideal for checking emails and websites but is not strong enough for streaming videos or heavy social media use.

Detailed Program

DAY 1 SUNDAY, MAY 24, 2026

07:00 - 9:15am
Jenny Belzberg Theatre

REGISTRATION DESK OPEN

After 9:15am, the registration desk will relocate to the **Kinnear Centre Building ground floor**. It will reopen at approximately 9:45am

07:00 - 08:00am
Jenny Belzberg Theatre Foyer

BREAKFAST

An enhanced continental style breakfast is provided prior to the start of the session. Please arrive early in order to network and enjoy breakfast.

Please note that food is not permitted in the Jenny Belzberg Theatre. Beverages are permitted.

OPENING SESSION

08:00 - 08:20am
Jenny Belzberg Theatre

WELCOMING REMARKS

Dr. Sean Dukelow, *Canadian Stroke Congress Co-Chair, CanStroke Platform Principal Investigator*

Dr. Jodi Edwards, *Canadian Stroke Congress Co-Chair, StrokeCog Platform Principal Investigator*

Ms. Tina Fox, *Indigenous Elder*

Mr. Farrell Leibovitch, *CanStroke & StrokeCog Platform Director*

08:20 - 10:00am
Jenny Belzberg Theatre

PLENARY LECTURE

The Next Frontier of Stroke Care: Emerging Innovations Across the Continuum

Speakers: **Ms. Sharon Gilroy-Dreher, Dr. Molly Shoichet, Dr. Stephen Davis, Dr. Grant Mair, Dr. Milos Popovic**

Moderators: **Dr. Geert Verheyden, Ms. Sharon Gilroy-Dreher**

Patient Partner Introduction **(Ms. Sharon Gilroy-Dreher)**

Preclinical Innovations **(Dr. Molly Shoichet)**

Prehospital Innovations **(Dr. Stephen Davis)**

Artificial Intelligence Innovations for Acute Stroke **(Dr. Grant Mair)**

Technological Innovations for Rehabilitation **(Dr. Milos Popovic)**

Upon completion of this session, participants will be able to:

1) Describe the latest evidence regarding the application of emerging innovations across the stroke continuum, including stroke prevention, diagnostics, treatment, and recovery.

2) Explore the next frontier in stroke care including preclinical, prehospital, artificial intelligence innovations and technological innovations for recovery.

10:00 - 10:30am
Kinnear Centre Foyers Level 2 & 3

REFRESHMENT BREAK & EXHIBIT HALL

10:30 - 11:30am

CONCURRENT SESSIONS

Kinnear Centre Building

Room KC 303

Stroke in the Young - Unique challenges of young stroke

Speakers: **Mr. Graham Bull, Dr. Stephanie Reiter, Dr. Jennifer Yao, Dr. Hayley Thornton**

Moderators: **Dr. Amy Yu, Mr. Graham Bull**

Patient Partner Introduction **(Mr. Graham Bull)**

Clinical considerations in diagnosis and management of stroke in young patients **(Dr. Stephanie Reiter)**

Rehab considerations and return to work **(Dr. Jennifer Yao)**

Sex specific risk factors that affect young women **(Dr. Hayley Thornton)**

Upon completion of this session, participants will be able to:

1. Describe the scope of existing artificial intelligence (AI) software used to support imaging review for patients with acute stroke.
2. Discuss the challenges and unique aspects of post-stroke rehabilitation for younger adults.
3. Describe the return to work (RTW) considerations for young adult stroke survivors, including implementation of a RTW plan.
4. Identify key sex-specific stroke risk factors that disproportionately affect young women, including adverse pregnancy outcomes, early menopause, and hormonal factors.

10:30 - 11:30am
Room KC 301

International Multi-Site Rehabilitation Trials

Speakers: **Dr. Stefan Engelter, Dr. Emily Ramage, Dr. Geert Verheyden**

Moderator: **Dr. Sean Dukelow**

Enhancement of STroke REhabilitation with Levodopa (ESTREL) - a clinical trial and a research platform **(Dr. Stefan Engelter)**

Involving end-users in the design of international trials: Challenges and opportunities **(Dr. Emily Ramage)**

Multi-Centre RCTs: Reflecting on Collaborative Teamwork **(Dr. Geert Verheyden)**

Upon completion of this session, participants will be able to:

1. Describe potential challenges of designing international rehabilitation clinical trials.
2. Explore opportunities for engagement of end-users in international clinical trial design to facilitate impact.
3. Identify the opportunities and challenges that can arise when conducting research across multiple sites.
4. Reflect on general principles that support effective collaboration and coordination within larger research teams.
5. Discuss the Enhancement of STroke REhabilitation with Levodopa (ESTREL) clinical trial and research platform.

10:30 - 11:30am
Room KC 105

Oral Talks #1

Speakers: **Ms. Franziska Hildesheim, Dr. Seyed Mojtaba Hosseini, Dr. Kevin Moncion, Dr. Nitzan Letko Khait**

Moderator: **Dr. Marika Demers**

Predicting language and motor recovery after stroke using structural connectivity disruption **(Ms. Franziska Hildesheim) (P1.B.28)**

Sex-related Variation in Carotid Plaque Features and their Impact on Major Adverse Cardiovascular event in MESA study **(Dr. Seyed Mojtaba Hosseini) (P1.A.3)**

Carotid-femoral pulse wave velocity is associated with post-stroke cognitive impairment **(Dr. Kevin Moncion) (P1.A.4)**

Sustained-release Chondroitinase ABC delivery enables neural progenitor cell survival and functional recovery in a preclinical model of ischemic stroke **(Dr. Nitzan Letko Khait) (P1.F.43)**

Upon completion of this session, participants will be able to:

1. Discuss current and emerging evidence in stroke.
2. Describe application of emerging evidence in stroke research and care.

10:30 - 11:30am
Rooms KC 101 & 103

Symposium: Falls after stroke: Determining priorities and solutions through partnership with people with lived experience of stroke

Speakers: **Ms. Elaine Walmsley, Ms. Jennifer Mawhinney, Mr. Ron Reddam, Mr. Barry Wong**

Moderator: **Miss Catherine George**

Priorities among hemorrhagic stroke survivors in Alberta **(Ms. Elaine Walmsley)**

Priorities among stroke survivors from Maritime/ Atlantic Canada **(Ms. Jennifer Mawhinney)**

Priorities among stroke survivors from Ontario **(Mr. Ron Reddam)**

Implementation of a co-designed solution: a P2P Rinse n Repeat Rehab group **(Mr. Barry Wong)**

Upon completion of this session, participants will be able to:

1. Summarize the process of conducting a participatory action research project through which people with lived experience of stroke from different Canadian provinces engaged in virtual group discussions.
2. Contrast the top priorities identified by people with lived experience of stroke regarding falls, risk factors and their implications in everyday lives with their own experiences (lived, clinical or research or administrative).
3. Evaluate the benefits and challenges of applying the solutions co-designed by the people with lived experience of stroke to their own contexts and propose recommendations.

11:30 - 11:45 am
Kinnear Centre Building

TRANSITION TIME TO NEXT SESSION

11:45 - 12:45 pm CONCURRENT SESSIONS
Kinnear Centre Building

Room KC 303

Cerebellar Stroke - Beyond Balance and Movement

Speakers: **Dr. Jurgen Konczak, Dr. Christopher Striemer, Dr. Suresh Subramanian**

Moderator: **Dr. Brett Graham**

How current models of the cerebellum aid our understanding of cerebellar symptoms and inform the neurorehabilitation after cerebellar injury **(Dr. Jurgen Konczak)**

The cognitive consequences of cerebellar stroke **(Dr. Christopher Striemer)**

Ocular signs & Impact of Vision Retraining Therapy **(Dr. Suresh Subramanian)**

Upon completion of this session, participants will be able to:

1. Explore knowledge of the current models of cerebellar function.
2. Describe how overt symptoms of cerebellar ataxia are linked to cerebellar neuroantomy and the assumed functions of the cerebellum within a cortico-cerebellar network.
3. Identify some of the common cognitive consequences of cerebellar stroke.
4. Describe which regions of the cerebellum are thought to be involved in cognitive functions.

11:45 - 12:45 pm
Room KC 301

Brain Computer Interface

Speakers: **Dr. Eli Kinney-Lang, Dr. Sean Dukelow**

Moderator: **Dr. Kori Zachrison**

Making brain-computer interfaces (BCIs) inclusive for children **(Dr. Eli Kinney-Lang)**

Brain computer interfaces for stroke recovery in adults **(Dr. Sean Dukelow)**

Upon completion of this session, participants will be able to:

1. Describe what a brain-computer interface (BCI) is and how these systems work.
2. Identify advancements in the technology to facilitate use by children living with medically complex needs.

11:45 - 12:45 pm
Room KC 105

Oral Talks #2

Speakers: **Dr. Victor Ezeugwu, Mr. Henry Xie, Dr. Victrine Tseung, Ms. Neha Jaswal, Dr. Alexander Thiel**

Moderators: **Dr. Stefan Engelter**

Predictors of favourable modified Rankin scale outcome during inpatient rehabilitation for subacute stroke: A secondary analysis of the Walk 'n Watch trial **(Dr. Victor Ezeugwu) (P1.A.2)**

Sleep-related arousals during polysomnography are associated with white matter hyperintensity burden and cerebral microbleeds after first-ever minor stroke or transient ischemic attack **(Mr. Henry Xie) (P1.A.5)**

Stroke family caregiver participation restriction over a two-year period: impact of sex and care recipient cognitive and depressive comorbidity status **(Dr. Victrine Tseung) (P1.G.49)**

Effect of dwell time on cerebral hypoperfusion in hyperacute ischemic stroke patients treated in a mobile stroke unit **(Ms. Neha Jaswal) (P1.A.8)**

CONtralesional inhibitory rTMS for Recovery of Arm function after stroke (ConTRAstroke): A Canadian Feasibility Trial **(Dr. Alexander Thiel) (P1.A.9)**

Upon completion of this session, participants will be able to:

1. Discuss current and emerging evidence in stroke.
2. Describe application of emerging evidence in stroke research and care.

11:45 - 12:45 pm
Rooms
KC 101 & 103

Brag 'N Steal

Speakers: **Ms. Ruth Whelan, Mrs. Katie Jacobson-Lang, Ms. Lisa Fronzi, Dr. Stanley Hung, Ms. Tina Sahota, Dr. Louis-Pierre Auger, Dr. Rosemary Martino, Ms. Foujan Minooei Saberi**

Moderator: **Dr. Patrice Lindsay**

Improving Influenza Vaccination Uptake in Acute Stroke Inpatients **(Ms. Ruth Whelan) (P1.E.38)**

Therapeutic recreation as a bridge to community rehabilitation and reintegration after stroke **(Mrs. Katie Jacobson-Lang) (P1.A.1)**

Improving Access to the Stroke Prevention Clinic by Direct Emergency Department Booking **(Ms. Lisa Fronzi) (P1.H.52)**

Scaling-Up the Implementation of a Community Exercise Program for People Living with Stroke in British Columbia **(Dr. Stanley Hung) (P1.D.33)**

Advancing stroke-informed practice in long-term care settings through partnerships and targeted education **(Ms. Tina Sahota) (P1.C..31)**

Services-Level Effects of a Multifaceted Knowledge Translation Intervention in Post-Stroke Sexual Rehabilitation: A Multisite Study in Québec **(Dr. Louis-Pierre Auger) (P1.H.53)**

Stakeholder and learner perceptions of the new online independent training program for TOR-BSST© dysphagia screeners **(Dr. Rosemary Martino) (P1.C.32)**

Co-designing a sustainable stroke awareness and prevention toolkit for the African, Caribbean and Black (ACB) community through community partnership **(Ms. Foujan Minooei Saberi) (P1.G.47)**

Upon completion of this session, participants will be able to:

1. Discuss current and emerging evidence in stroke research.
2. Describe application of emerging evidence in clinical practice and patient care.

12:45 - 01:45pm
Vista's Dining Room Building

LUNCH BREAK

Lunch is included for all attendees in the Vista dining room building. Please show your name badge for access to the dining area. The lunch offerings in Vista's are diverse and include vegan, vegetarian, gluten-free, halal, and dairy-free options. Please inquire with one of the dining room staff should you require assistance.

Kinnear Centre Building

SATELLITE MEETINGS OVER LUNCH BREAK

For those attending satellite meetings over the lunch period, lunch will be provided at the location of the satellite meeting. Please contact your satellite meeting organizer for location in the Kinnear Centre Building and with any questions.

01:45 - 02:45 pm
Kinnear Centre Building
Room 203-205

POSTER SESSION #1

Join us at Poster Session 1 for an engaging academic poster session at Congress, featuring a diverse array of research in stroke. This session will provide an excellent platform for researchers to present their latest findings and foster collaborative discussions. Don't miss this opportunity to connect with fellow researchers, exchange ideas, and explore new avenues for advancing stroke research.

02:45 - 03:45 pm CONCURRENT SESSIONS
Kinnear Centre Building

Room KC 105

Oral Talks #3

Speakers: **Mr. Youngbin Choi, Dr. Anna Kalisvaart, Dr. Aya Ebdalla, Mr. Josh Garland, Mr. Ben Shi**

Moderator: **Dr. Patrick Lyden**

Driving Equity in Stroke Research: ORDERed Recruitment Protocol for Informed Decision-Making **(Mr. Youngbin Choi) (P1.G.48)**

Crosstalk between sarmoptosis and ferroptosis identifies a novel therapeutic target for intracerebral hemorrhage **(Dr. Anna Kalisvaart) (P1.F.41)**

An international survey to understand clinical trial ecosystem in primary stroke centres **(Dr. Aya Ebdalla) (P1.D.34)**

Deficits in adapting to novel forces during reaching are common in early stroke recovery **(Mr. Josh Garland) (P1.A.6)**

Virtual Reality Perimetry as a Portable Alternative to the Humphrey Field Analyzer **(Mr. Ben Shi) (P1.A.7)**

Upon completion of this session, participants will be able to:
1. Discuss current and emerging evidence in stroke.
2. Describe application of emerging evidence in stroke research and care.

02:45 - 03:45 pm
Room KC 303

Communication Disorders

Speakers: **Mr. Kevin Lindland, Dr. Tijana Simic, Dr. Rosemary Martino**

Moderator: **Dr. Michelle Nelson**

Multi-Modality Aphasia Therapy for Poststroke Aphasia **(Mr. Kevin Lindland)**

Constraint-Induced Language Therapy: Principles and Current Best-Evidence **(Dr. Tijana Simic)**

Dysphagia Management **(Dr. Rosemary Martino)**

Upon completion of this session, participants will be able to:
1. Provide an overview of Multi-Modality Aphasia Therapy (M-MAT) including a summary of evidence supporting its clinical efficacy.
2. Contrast M-MAT with Constraint-Induced Language Therapy (CILT) treatment approaches.
3. Describe CILT and underlying principles for the treatment of post-stroke aphasia.
4. Evaluate current best evidence pertaining to CILT efficacy, and the potential mechanisms driving treatment effects.

02:45 - 03:45 pm
Rooms
KC 101 & 103

Symposium: Robotics in stroke rehabilitation: using robotic tools to measure upper limb impairments, track recovery, and deliver interventions

Speakers: **Mr. Léandre Gagné-Pelletier, Dr. Beverley Larssen, Ms. Lydia Kuhl, Dr. Urvashy Gopaul**

Moderator: **Dr. Catherine Mercier**

Differences in pattern of recovery between unilateral and bilateral capacities during the subacute phase after stroke **(Mr. Léandre Gagné-Pelletier)**

Contributions of explicit strategy use and implicit adaptation to reach adaptation after stroke **(Dr. Beverley Larssen)**

The homogeneity of eye movement impairments post-stroke **(Ms. Lydia Kuhl)**

Exploring the Kinarm exoskeleton as an intervention delivery tool for upper limb improvement after stroke **(Dr. Urvashy Gopaul)**

Upon completion of this session, participants will be able to:

1. Identify advantages and limitations of robot-based interventions for upper-limb rehabilitation after stroke.
2. Describe the potential of the standardized robotic tasks as tools to quantify impairments across multiple domains of recovery including cognitive, motor and somatosensory impairments after stroke, explain their strengths and limitations, how they complement traditional clinical assessments, and how they can inform precision rehabilitation.
3. Explain how custom robotic assessments enable the evaluation of diverse impairments including motor control and learning, vision, and sensory integration, and discuss how these measures advance understanding of mechanisms underlying dysfunction and recovery after stroke.

02:45 - 03:45 pm
Room KC 301

Symposium: Integrating patient-reported outcome measures into stroke care across the continuum

Speakers: **Dr. Nishita Singh, Dr. Tolulope Sajobi, Dr. Richard Swartz, Dr. Sarah Ahmed, Dr. Nancy Mayo**

Moderator: **Dr. Nishita Singh**

Putting PROMs to the test: Evidence, gaps, and clinical relevance in stroke care **(Dr. Nishita Singh)**

Beyond Functional Independence: Patient-Reported Cognitive Outcomes After Stroke **(Dr. Richard Swartz)**

Bridging the gap: Using PROMs to strengthen neurorehabilitation services **(Dr. Sarah Ahmed)**

From measurement to meaning: Integrating PROMs into stroke recovery and long-term care **(Dr. Nancy Mayo)**

StrokePRO: A digital platform for scalable, patient-centred outcome capture **(Dr. Tolulope Sajobi)**

Upon completion of this session, participants will be able to:

1. Understand the role of PROMs in improving patient-centred stroke and neurological care across the continuum.
2. Identify practical strategies for implementing PROMs in clinical practice and rehabilitation settings
3. Apply lessons learned from other neurological conditions to advance PROM use in stroke care
4. Recognize how PROMs can support equity, lived experience, and health system improvement

03:45 - 04:15 pm
Jenny Belzberg Theatre

TRANSITION TIME & REFRESHMENT BREAK

04:15 - 05:35 pm
Jenny Belzberg Theatre

PLENARY LECTURE

Delivering on Innovation: Action and Impact for Real-World Stroke Implementation

Speakers: **Mrs. Shannon Bayluk, Dr. Patrick Lyden, Dr. Kori Zachrison, Dr. Michelle Nelson**

Moderators: **Mrs. Shannon Bayluk & Dr. Stephen Davis**

Patient Partner Introduction **(Mrs. Shannon Bayluk)**

Preclinical translation of research to practice **(Dr. Patrick Lyden)**

State of the art in prehospital stroke evaluation and management **(Dr. Kori Zachrison)**

Delivering on innovation: Why implementation is key to delivering impact at scale **(Dr. Michelle Nelson)**

Upon completion of this session, participants will be able to:

1. Identify key considerations in the preclinical translation of research to practice.
2. Review guideline recommendations for prehospital care and emerging technologies for prehospital stroke management.
3. Explain why stroke rehabilitation innovation without implementation is insufficient for population-level impact and identify how trial design creates barriers to real-world delivery.
4. Recognize the equity implications when stroke rehabilitation innovations fail to reach diverse stroke survivor populations and describe how implementation gaps perpetuate exclusion from evidence-based care.

05:35 - 06:15 pm
Jenny Belzberg Theatre

PLENARY LECTURE

DALE CORBETT TRANSLATIONAL LECTURESHIP

Speaker: **Dr. Frederick Colbourne**

Moderators: **Dr. Sean Dukelow and Dr. Jodi Edwards**

Translational Challenges With Evaluating Cytoprotective and Rehabilitative Treatments In Rodent Stroke Models

Animal models of stroke, mostly using rodents, have greatly improved our understanding of ischemic and hemorrhagic stroke, and they are essential to developing and evaluating many cytoprotective and rehabilitative interventions. Using examples from my research and that of others, I will illustrate ongoing challenges with scientific rigor and translational relevance in preclinical work. I will also highlight potential solutions for improving translational success rates.

The Dale Corbett Translational Award recognizes a researcher or clinician who has made an exceptional contribution to translational stroke recovery science—advancing discoveries from basic or pre-clinical research through to clinical practice, programs, or policies that improve outcomes for people affected by stroke.

Upon completion of this session, participants will be able to:

1. Exemplify the importance of engaging preclinical and clinical researchers and those with lived experience in the formulation of preclinical and clinical research questions as well as the design of preclinical experiments and clinical trials.

06:15 - 07:30 pm
Jenny Belzberg Theatre Foyer

WELCOME RECEPTION

This reception for the Canadian Stroke Congress is designed to foster connections and celebrate achievements in the field of stroke research and care. Delegates, speakers, distinguished award winners, trainees, and people with lived experience gather in a warm, inviting atmosphere, providing ample opportunities for networking and sharing insights. Attendees can enjoy meaningful conversations, make valuable professional connections and exchange ideas with leaders and peers in stroke research. Light food will be provided along with a cash bar. A complimentary drink ticket is included in the back of your name badge.

DAY 2 MONDAY, MAY 25, 2026

07:00 - 9:00am
Jenny Belzberg Theatre Foyer

REGISTRATION DESK OPEN

After 9:00am, the registration desk will relocate to the **Kinnear Centre Building ground floor**. It will reopen at approximately 9:30am

07:00 - 08:00 am
Jenny Belzberg Theatre Foyer

BREAKFAST

An enhanced continental style breakfast is provided prior to the start of the session. Please arrive early in order to network and enjoy breakfast.

Please note that food is not permitted in the Jenny Belzberg Theatre. Beverages are permitted.

08:00 - 09:00 am
Jenny Belzberg Theatre

DEBATES

DEBATE #1: *Can AI-based prehospital triage identify patients suitable for EVT?*

Speakers: **Dr. Joanna Ospel (PRO), Dr. David Volders (CON)**

Moderators: **Dr. Steve Cramer & Dr. Robert Teasell**

DEBATE #2: *Should recovery prediction tools be used to determine who receives rehabilitation?*

Speakers: **Dr. Steve Cramer (PRO), Dr. Robert Teasell (CON)**

Moderators: **Dr. Joanna Ospel & Dr. David Volders**

Upon completion of this session, participants will be able to:

1. Summarize the benefits and drawbacks of utilizing artificial intelligence-based pre-hospital triage to identify patients suitable for endovascular thrombectomy (EVT).
2. Summarize the benefits and drawbacks of utilizing recovery prediction tools to determine who received rehabilitation after stroke.

09:00 - 09:15am
Jenny Belzberg Theatre

ACCREDITATION CANADA 2026 STROKE DISTINCTION AWARDS

Speaker: **Mrs. Erin McHattie**

Accreditation Canada will present the 2026 Stroke Distinction Awards, recognizing excellence in stroke care. This program honors organizations that meet the highest standards based on the Canadian Stroke Best Practice Recommendations, with a focus on stroke-specific protocols, education, and innovation in acute and inpatient rehabilitation services.

Upon completion of this session, participants will be able to:

1. Summarize key components of the Canadian Stroke Best Practice Recommendations and their application in stroke care.

09:15 - 09:30 am **TRANSITION TIME TO KINNEAR CENTRE BUILDING & THE MAX BELL THEATRE**

09:30 - 10:30 pm CONCURRENT SESSIONS
Kinnear Centre Building

Room KC 303

Stroke Prevention Trials Update

Speakers: **Dr. Roopinder Sandhu, Dr. Ashkan Shoamanesh, Dr. Mike Sharma**

Moderator: **Dr. David Volders**

Atrial fibrillation **(Dr. Roopinder Sandhu)**

Intracerebral hemorrhage **(Dr. Ashkan Shoamanesh)**

Secondary Stroke Prevention **(Dr. Mike Sharma)**

Upon completion of this session, participants will be able to:

1. Describe the latest evidence-based strategies and interventions for stroke prevention, including new guidelines and research findings.
2. Identify important future directions and research priorities in stroke prevention to address the needs of diverse populations.

09:30 - 10:30 am
Room KC 301

The Future of Clinical Trials in Canada: Impact of AI - Embedded Clinical Trials - are the potential cost efficiencies worth the risk?

Speakers: **Ms. Wanda Stoltz, Dr. Johanna Ospel, Dr. Mitchell Elkind, Dr. Jodi Edwards**

Moderator: **Dr. Grant Mair**

Patient Partner Introduction **(Ms. Wanda Stoltz)**

Impact of AI - Embedded Clinical Trials - are the potential cost efficiencies worth the risk? **(Dr. Johanna Ospel)**

Efficiencies and Opportunities **(Dr. Mitchell Elkind)**

ARCHIMEDES: A National Multi-Model Health Data Platform **(Dr. Jodi Edwards)**

Upon completion of this session, participants will be able to:

1. Describe the use of artificial intelligence in acute trials including efficiencies, opportunities, and implementation considerations.

09:30 - 10:30 am
Room KC 305

WORKSHOP: Non-Invasive Brain Stimulation for Stroke

Speakers: **Dr. Lara Boyd, Dr. Alexander Thiel**

Motor and Cognitive Recovery, Aphasia **(Dr. Lara Boyd)**

Motor and Cognitive Recovery, Aphasia **(Dr. Alexander Thiel)**

Upon completion of this session, participants will be able to:

1. Summarize the evidence and clinical guidelines in the use of non-invasive brain stimulation for stroke.
2. Explain how these innovative stimulation methods can be translated into clinical practice to optimize recovery in stroke patients.

09:30 - 10:30 am
Room KC 105

Microvascular Dementia

Speakers: **Dr. Fanny Elahi, Dr. Phillip Barber, Dr. Ashwani Bhat**

Moderator: **Dr. Craig Brown**

Modeling cerebral small vessel disease based on monogenic disease **(Dr. Fanny Elahi)**

Imaging Small Vessel Disease **(Dr. Phillip Barber)**

Microvascular Dementia: The Big Deal about Small Vessels **(Dr. Ashwani Bhat)**

Upon completion of this session, participants will be able to:

1. Identify key features of microvascular dementia / vascular cognitive impairment (VCI) epidemiology and their management principles.
2. Distinguish between the different types of microvascular dementia based on presentation and imaging.
3. Apply the Boston Criteria Version 2.0 to clinical cases for CAA diagnosis.
4. Describe the use of human biospecimen for discovery of molecular pathologies with a lifespan approach.

09:30 - 10:30 am
Max Bell Theatre Auditorium

Symposium: Vision rehabilitation after stroke: integrating prism optics and eye scanning therapy into interdisciplinary care

Speakers: **Dr. Sal Jivraj, Mrs. Michelle Edwards, Ms. Ashley Smith, Ms. Kelly DeBruyn**

Moderator: **Dr. Sal Jivraj**

Visual–spatial deficits after stroke: clinical recognition and impact **(Dr. Sal Jivraj)**

Functional implications of visual neglect and hemianopia in daily living **(Mrs. Michelle Edwards & Ms. Ashley Smith)**

Integrating vision strategies into mobility and balance training **(Ms. Kelly DeBruyn)**

Upon completion of this session, participants will be able to:

1. Describe the prevalence, functional impact, and clinical presentation of visual–spatial deficits following stroke.
2. Demonstrate how Side Vision Awareness Glasses and EyeSearch scanning therapy can be implemented within interdisciplinary stroke rehabilitation pathways.
3. Identify practical strategies for patient education, adherence, and knowledge translation to support long-term functional vision outcomes.

10:30 - 10:45 am
Kinnear Centre Foyers Level 2 & 3 & MBT Auditorium

REFRESHMENT BREAK & EXHIBIT HALL

10:45 - 11:45am CONCURRENT SESSIONS
Kinnear Centre Building & Max Bell Theatre

Room KC 303

Acute Stroke Update

Speakers: **Dr. Vignan Yogendrakumar, Dr. Craig Anderson, Dr. Nishita Singh**

Moderator: **Dr. Noreen Kamal**

Emerging Adjuvant and Standalone Thrombolytic Strategies **(Dr. Vignan Yogendrakumar)**

ICH Protocol **(Dr. Craig Anderson)**

Modern Thrombolysis: Expanding Evidence in Traditionally Excluded Patients **(Dr. Nishita Singh)**

Upon completion of this session, participants will be able to:

1. Make informed decisions over the benefit–risk profile of intravenous thrombolysis in clinical "grey zone" scenarios, including patients on anticoagulation, with frailty, or in extended time windows.
2. Consider emerging thrombolytic and adjunctive therapies in acute ischemic stroke, including intra-arterial approaches and novel pharmacologic agents.
3. Apply evidence-based strategies for blood pressure management, supportive care, and enhance early secondary prevention.
4. Integrate recent clinical trial evidence to optimize individualized treatment decisions in acute ischemic stroke across diverse clinical settings.

10:45 - 11:45am
Max Bell Theatre Auditorium

Symposium: Post-stroke Fatigue, Sleep Disorders & Stroke

Speakers: **Dr. Mark Boulos, Dr. Jing Shi, Dr. Patrice Lindsay**

Moderator: **Dr. Mark Boulos**

Overview on post-stroke fatigue & sleep disorders, links with cerebrovascular disease, and treatment approaches **(Dr. Mark Boulos)**

Post-stroke fatigue & practical real-world management strategies **(Dr. Jing Shi)**

Current evidence-based stroke guidelines on fatigue, sleep disorders, and perspectives of individuals with stroke **(Dr. Patrice Lindsay)**

Upon completion of this session, participants will be able to:

1. Characterize the incidence and epidemiology of post-stroke fatigue and sleep disorders, as well as their impact on functional outcomes and recurrent stroke.
2. Discuss treatment strategies for managing post-stroke fatigue & sleep disorders, including non-pharmacological and behavioural interventions.
3. Describe current evidence-based guidelines for managing post-stroke fatigue & sleep disorders.

10:45 - 11:45am
Room KC 305

WORKSHOP: Delivering Remote Therapies

Speakers: **Dr. Nancy Salbach, Dr. Brodie Sakakibara**

Delivering remote therapies: Considerations for assessment, client engagement, and self-management **(Dr. Nancy Salbach)**

Demonstration of telerehabilitation delivery **(Dr. Brodie Sakakibara)**

Upon completion of this session, participants will be able to:

1. Characterize the delivery and implementation of virtual rehabilitation and its key components, including the technologies and platforms used in practice.
2. Outline the role of client engagement and self-management support in virtual rehabilitation.
3. Describe experiences with selecting and administering performance-based measures of balance and mobility in the context of virtual rehabilitation.

10:45 - 11:45am
Room KC 105

Symposium: High dose walking after stroke: What works, what gets in the way, and how to move forward

Speakers: **Dr. Sue Peters, Dr. Stanley Hung, Dr. Suzanne Ackerley. Dr. Janice Eng**

Moderators: **Dr. Janice Eng**

More Steps, Better Outcomes: A Pragmatic Trial of Intensive Walking Practice in Subacute Stroke Rehabilitation **(Dr. Sue Peters)**

Frontline Facilitation: Addressing barriers to empower therapist-led higher-intensity walking rehabilitation **(Dr. Stanley Hung)**

From Trials to Teams: System-Level influences to implementing higher-intensity walking exercise protocols **(Dr. Suzanne Ackerley)**

Upon completion of this session, participants will be able to:

1. Interpret trial findings demonstrating clinically meaningful improvements in walking endurance at 4 weeks compared with usual care, without an increase in safety concerns, and consider the relevance of these findings for real world inpatient practice.
2. Describe key real world implementation factors experienced by therapy staff that influence higher walking intensity practice in inpatient stroke rehabilitation settings and identify practical strategies to address barriers and facilitators for implementing higher intensity walking practice at the individual, therapist level.
3. Summarize system-level factors that affect implementation of higher intensity walking exercise protocols, including readiness for change, staffing pressures, leadership support, and adaptability of protocol delivery.

10:45 - 11:45am
Room KC 301

Heart-Brain Connection

Speakers: **Ms. Jennifer Monaghan, Dr. Patrick Lyden, Dr. Mitchell Elkind, Dr. Jodi Edwards**

Moderators: **Dr. Ada Tang, Ms. Jennifer Monaghan**

Introduction **(Ms. Jennifer Monaghan)**

Preclinical Innovations **(Dr. Patrick Lyden)**

Multidisciplinary heart brain clinics **(Dr. Mitchell Elkind)**

Brain Heart Guidelines Implementation **(Dr. Jodi Edwards)**

Upon completion of this session, participants will be able to:

1. Identify pre-clinical innovations in heart-brain research.
2. Outline the impact of multidisciplinary heart-brain clinics in practice.
3. Describe the Brain Heart Guidelines and their implementation.

11:45am - 12:00pm
Kinnear Centre Building & MBT

TRANSITION TIME TO NEXT SESSION

12:00 - 01:00 pm CONCURRENT SESSIONS
Kinnear Centre Building

Room KC 105

Symposium: Quantifying the less quantified in stroke care and recovery

Speakers: **Dr. Nishita Singh, Dr. Zaid Al Saraan, Dr. Richard Swartz**

Moderator: **Dr. Nishita Singh**

More than just getting old: frailty, cognition, comorbidity, mental health, social support, and financial context as drivers of recovery **(Dr. Nishita Singh)**

Imaging success is not recovery: why stroke outcomes diverge after reperfusion **(Dr. Zaid Al Saraan)**

From intuition to structure: integrating context into prognostication, trials, and policy **(Dr. Richard Swartz)**

Upon completion of this session, participants will be able to:

1. Describe how systemic and socioeconomic factors—including cognition, frailty, mental health, social support, and financial vulnerability—independently influence stroke recovery beyond imaging, stroke severity, and chronological age.
2. Recognize gaps in current trials and registries related to contextual data collection and equity.
3. Identify practical, feasible approaches to incorporating contextual factors into prognostication, research, and health system planning.

12:00 - 01:00 pm
Room KC 301

Stroke Rehabilitation Trials Update

Speakers: **Ms. Patricia Bukowsky. Dr. Lynden Rodrigues, Dr. Steve Cramer, Dr. Mark Bayley, Dr. Marc Roig**

Moderator: **Dr. Emily Ramage**

Patient Partner Introduction **(Ms. Patricia Bukowsky, Dr. Lynden Rodrigues)**

Ongoing Device Trials in Stroke Recovery **(Dr. Steve Cramer)**

Ongoing Drug Trials in Stroke Recovery **(Dr. Mark Bayley)**

Exercise Trials **(Dr. Marc Roig)**

Upon completion of this session, participants will be able to:

1. Characterize the many types of stroke recovery/rehabilitation therapies under study.
2. Evaluate how to use biomarkers to predict which patients are most likely to respond to a therapy.

12:00 - 01:00 pm
Room KC 305

WORKSHOP: Novel Rehabilitation Technologies

Speakers: **Dr. Courtney Pollock, Dr. Jessica D'Amico**

Integrating Wearable Sensors in Stroke Rehabilitation: Current Applications and Emerging Technologies **(Dr. Courtney Pollock)**

Non-Invasive Spinal Cord Stimulation for Motor Recovery: Mechanisms, Evidence, and Clinical Applications Session **(Dr. Jessica D'Amico)**

Upon completion of this session, participants will be able to:

1. Explain the neurophysiological mechanisms through which non-invasive spinal cord stimulation modulates spinal and corticospinal circuits to enhance motor output.
2. Discuss current clinical evidence and practical considerations for integrating non-invasive spinal cord stimulation with rehabilitation to promote motor recovery across neurological conditions including stroke.

12:00 - 01:00 pm
Room KC 303

Stroke Systems of Care Update

Speakers: **Dr. Patrice Lindsay, Dr. Dylan Blacquiere, Dr. Noreen Kamal**

Moderator: **Dr. Jacqueline Cochrane**

Update on Best Practices Guidelines **(Dr. Patrice Lindsay)**

Stroke Systems of Care - Implementation Across the Continuum **(Dr. Dylan Blacquiere)**

Best Practices for Stroke Registries **(Dr. Noreen Kamal)**

Upon completion of this session, participants will be able to:

1. Review the Canadian Stroke Best Practice recommendations on development and implementation of stroke systems of care.
2. Discuss the challenges and opportunities in implementing these recommendations across various contexts.
3. Describe the benefits and mpact of stroke registries and apply best practices in their implementation.

12:00 - 01:00 pm
Max Bell Theatre Auditorium

Symposium: Stroke coffee and cases: Virtual provincial round

Speakers: **Ms. Ruth Whelan, Dr. Sanchea Wasyliw, Dr. Sarah Donkers**

Moderator: **Dr. Brett Graham**

Building Capacity Through Tailored Two-way Knowledge Mobilization: The Saskatchewan Stroke Coffee and Cases Initiative **(Ms. Ruth Whelan)**

Saskatchewan's Hub and Spoke system of care: current state and ongoing challenges **(Dr. Sanchea Wasyliw)**

Designing a Provincial Education Initiative **(Dr. Sarah Donkers)**

Upon completion of this session, participants will be able to:

1. Describe how a provincial stroke program can use virtual rounds, site-specific education, and interprofessional collaboration to address gaps in rural and remote stroke care within a hub-and-spoke system.
2. Discuss approaches for integrating culturally responsive, community-informed content into stroke education to support more equitable and patient-centred care.
3. Identify how structured, province-wide interdisciplinary education can influence provider competence, confidence, and system-level improvements across the stroke spectrum of care.

01:00 - 02:30pm
Vista's Dining Room Building

LUNCH BREAK

Lunch is included for all attendees in the Vista dining room building. Please show your name badge for access to the dining area. The lunch offerings in Vista's are diverse and include vegan, vegetarian, gluten-free, halal, and dairy-free options. Please inquire with one of the dining room staff should you require assistance.

SATELLITE MEETINGS OVER LUNCH BREAK

For those attending satellite meetings over the lunch period, lunch will be provided at the location of the satellite meeting. Please contact your satellite meeting organizer for location and with any questions.

01:00 - 02:30 pm
Kinnear Centre Building – Rooms KC 101 & 103

ACCREDITED LUNCH SYMPOSIUM

A New Chapter in Secondary Stroke Prevention: Clinical Insights from Phase III FXIa Inhibitor Trials.

Speakers: **Dr. Mike Sharma** (chair)**, Dr. Ashkan Shoamanesh, Dr. Laura Gioia**

Moderator: **Dr. Mike Sharma**

This lunchtime symposium will explore emerging advances in secondary stroke prevention, with a focus on recent Phase III clinical trial data evaluating factor XIa (FXIa) inhibitors and their potential implications for Canadian practice. Through expert-led presentations, real-world case discussions, and interactive audience engagement, participants will examine evolving strategies aimed at optimizing efficacy while preserving safety. The session will also address how new evidence may be integrated into Canadian stroke care pathways to support clinical decision-making and improve patient outcomes.

Upon completion of this session, participants will be able to:

1. Describe limitations of current secondary stroke prevention strategies, including the balance of ischemic risk reduction and bleeding, and efforts to improve the risk–benefit profile.
2. Evaluate the role of Factor XIa inhibition with antiplatelet therapy as a novel antithrombotic strategy for secondary prevention of non-cardioembolic stroke/TIA.
3. Interpret efficacy and safety outcomes from recent late-phase trials of Factor XIa inhibitors, including relevant subgroup analyses.
4. Apply emerging evidence to Canadian stroke care pathways to optimize acute and early secondary prevention, while addressing implementation considerations.

As seating is limited, pre-registration is strongly advisable. An email will be sent to confirm your spot.

Register here

02:30 - 03:30 pm
Kinnear Centre Building Room 203-205

POSTER SESSION #2

Join us at Poster Session 2 as we welcome a new group of researchers for an engaging academic poster session at Congress, featuring a diverse array of research in stroke. Once again, this session will provide an excellent platform for researchers to present their latest findings and foster collaborative discussions. Don't miss this opportunity to connect with fellow researchers, exchange ideas, and explore new avenues for advancing stroke research.

03:30 - 04:30 pm CONCURRENT SESSIONS

Kinnear Centre Building & Max Bell Theatre

Room KC 301

Stroke in Pregnancy - Update on Best Practices Guidelines

Speakers: **Dr. Olena Bereznyakova, Dr. Noor Ladhani, Dr. Kara Nerenberg**

Moderator: **Dr. Richard Swartz**

Acute Stroke Management in Pregnancy **(Dr. Olena Bereznyakova)**

Management of pregnancy in people with a history of stroke **(Dr. Noor Ladhani)**

Hypertension & Other Complications **(Dr. Kara Nerenberg)**

Upon completion of this session, participants will be able to:

1. Review management considerations in pregnancy for people with a history of stroke.
2. Describe initial emergency management and diagnostic imaging for suspected stroke in pregnancy or early postpartum.
3. Summarize acute treatment strategies (thrombolysis, thrombectomy, hemorrhagic stroke management) and key peripartum considerations

03:30 - 04:30 pm

Room KC 303

Life After Stroke and Community-Based Supports

Speakers: **Dr. Katrine Sauve-Schenk, Dr. Jing Shi, Ms. Sharon Gilroy-Dreher**

Moderator: **Dr. Steve Cramer**

Financial challenges after stroke: supporting return to participation **(Dr. Katrine Sauve-Schenk)**

Update on community-based supports post-stroke **(Dr. Jing Shi)**

My Life After Stroke **(Ms. Sharon Gilroy-Dreher)**

Upon completion of this session, participants will be able to:

1. Discuss evidence-informed strategies that prioritize “life after stroke” as a core focus of stroke rehabilitation.
2. Examine linkages between clinical healthcare teams and community-based supports to facilitate seamless transitions and long term recovery.
3. Describe how financial challenges can influence return to participation after stroke.
4. Discuss clinical and system-level strategies to better support people living with stroke in a low income context.

03:30 - 04:30 pm

Room KC 305

WORKSHOP: Robotics

Speakers: **Dr. Marika Demers, Dr. Jaime Gillespie & Mr. Phil Astrachan**

Next-Generation Hand Rehabilitation: Soft Robotic Gloves for Stroke Rehabilitation **(Dr. Marika Demers & Ms. Katherine Samuel)**

Redefining mobility after stroke: Self-balancing exoskeletons in rehabilitation **(Dr. Jaime Gillespie** & **Mr. Phil Astrachan)**

Upon completion of this session, participants will be able to:

1. Explain the use of self-balancing exoskeletons to support mobility recovery after stroke as well as appropriate patient profiles and key considerations for integrating into stroke rehabilitation workflows.
2. Describe the design, function, and therapeutic rationale of soft exoskeleton gloves in post-stroke hand rehabilitation.
3. Identify potential individuals who could benefit from this technology, clinical indications, and limitations for integrating soft robotic gloves into stroke rehabilitation programs.

03:30 - 04:30 pm
Room KC 105

Innovations in Neurointervention: From Thrombectomy to Flow Diversion

Speakers: **Dr. Vitor Mendes Pereira, Dr. Jai Shankar, Dr. Bill Wang**

Moderator: **Dr. Kanjana (Sashi) Perera**

Remote Robotic Thrombectomies **(Dr. Vitor Mendes Pereira)**

Embolization of middle meningeal artery for chronic subdural hematoma: current evidence and path forward **(Dr. Jai Shankar)**

Interventional management of ICAD **(Dr. Bill Wang)**

Upon completion of this session, participants will be able to:

1. Describe major recent advances in neurointervention, from mechanical thrombectomy to flow diversion and related endovascular technologies, and the potential impact of emerging neurointerventional innovations on outcomes, access to care, and future practice.
2. Discuss how evolving devices, imaging, and procedural strategies are changing treatment approaches for stroke and cerebrovascular disease.
3. Define patient selection and timing for rescue stenting versus elective revascularization.
4. Apply evidence-based strategies to optimize outcomes across acute and chronic intracranial atherosclerotic disease (ICAD) cases.
5. Outline evidence for Embolization of Middle Meningeal Artery (EMMA) for Chronic Subdural Hematoma including current status and future directions.

03:30 - 04:30 pm
Max Bell Theatre Auditorium

Symposium: From bench to bedside: Current insights into stroke injury, plasticity, and repair

Speakers: **Dr. Frederick Colbourne, Dr. Craig Brown, Dr. Anna Kalisvaart, Dr. Roger Thompson, Dr. Douglas James Cook**

Moderator: **Dr. Anna Kalisvaart**

Brain Volume Adaptations to Hemorrhagic Stroke in Animal Models and Patients **(Dr. Frederick Colbourne)**

Exploring the functional significance of cell specific fibrinolytic signalling and the regulation of cerebral blood flow beyond the hyperacute phase of ischemic stroke **(Dr. Craig Brown)**

From Cell Death to Repair: Ferroptosis, White Matter Vulnerability, and Therapeutic Opportunities in Stroke **(Dr. Anna Kalisvaart)**

A surprising role for stroke induced spreading depolarization in learning and memory **(Dr. Roger Thompson)**

Bridging the Gap in Translational Stroke Research: Non-Human Primate Models of Stroke **(Dr. Douglas James Cook)**

Upon completion of this session, participants will be able to:

1. Describe recent advances in the cellular and molecular mechanisms underlying ischemic and hemorrhagic stroke injury, including cell death and dysfunction, inflammation, and neural plasticity.
2. Explain how recent preclinical discoveries are shaping conceptual frameworks for stroke recovery and guiding the development of next-generation therapeutic strategies.
3. Appraise emerging preclinical approaches and their potential for integration as adjuvant therapies or rehabilitation strategies alongside established clinical interventions.

04:30 - 05:00 pm
Jenny Belzberg Theatre

TRANSITION TIME & REFRESHMENT BREAK

05:00 - 06:30 pm
Jenny Belzberg Theatre

PLENARY LECTURES

2026 RAMON J. HNATYSHYN LECTURE: DR. MIKE SHARMA

Moderator: **Ms. Katie White**

2026 LOUISE AND FRANK NIEBOER LECTURE: MS. SHARON GILROY-DREHER

Moderator: **Ms. Katie White**

Join us to honor the 2026 awardees of two prestigious stroke lecture awards. The Nieboer Lecture recognizes an exceptional member of the stroke community who has been personally affected by stroke and has selflessly dedicated their experiences to helping others on similar journeys.

The Hnatyshyn Lecture celebrates a stroke researcher whose lifetime service has made a significant positive impact on stroke and brain health. These awards are selected by an evaluation committee consisting of members from Heart & Stroke, the CanStroke Recovery Trials Platform, the Canadian Stroke Consortium, and the Canadian Neurological Sciences Federation.

Upon completion of this session, participants will be able to:

1. Explain the importance of engaging people with stroke lived experience in research, advocacy, and care.
2. Outline innovations in stroke prevention, treatment, and systems of care.

06:30 - 06:45 pm
Jenny Belzberg Theatre

ORAL & POSTER PRESENTATION WINNERS & CLOSING STATEMENTS

Dr. Sean Dukelow, *Canadian Stroke Congress Co-Chair, CanStroke Platform Principal Investigator*

Dr. Jodi Edwards, *Canadian Stroke Congress Co-Chair, StrokeCog Platform Principal Investigator*

Mr. Farrell Leibovitch, *CanStroke & StrokeCog Platform Director*

06:45 - 07:45 pm
Jenny Belzberg Theatre Foyer

FAREWELL RECEPTION

Join us for this Farewell reception to congratulate our award winners and to network and share insights over the past days with your fellow attendees. Light food will be provided along with a cash bar. *A complimentary drink ticket is included in the back of your name badge.*

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Poster Sessions

The Canadian Stroke Congress is pleased to present a wide range of current research through the poster sessions. Two poster sessions are scheduled with different posters and presenters each day.

POSTER SESSION 1 (P1)
Sunday, May 24 1:45 – 2:45pm

POSTER SESSION 2 (P2)
Monday, May 25 2:15 – 3:15pm

The poster numbers are identified by theme and a unique number.

THEMES

A – CLINICAL & INTERVENTION STUDIES
B – DATA SCIENCE & TECHNOLOGY
C – EDUCATION
D – HEALTH SYSTEMS
E – POPULATION HEALTH
F – PRECLINICAL AND MECHANISTIC STUDIES
G – PWLE, FAMILY & COMMUNITY INVOLVEMENT
H – QUALITY IMPROVEMENT

POSTER SESSION 1

A – CLINICAL & INTERVENTION STUDIES

P1.A.1 *Therapeutic recreation as a bridge to community rehabilitation and reintegration after stroke*

Katie Jacobson-Lang [1]
[1] *City of Ottawa*

The City of Ottawa's Inclusive Recreation unit partnered with the Ontario Brain Institute (OBI) through the Gaining Expertise in Evaluation Knowledge (GEEK) program to strengthen evaluation capacity within its existing acquired brain injury (ABI) and post -stroke therapeutic recreation day programs that have been in existence since 1999. This partnership supports community-based therapeutic recreation (TR) services that align with Canadian Stroke Best Practice Guidelines and extend rehabilitation beyond hospital discharge.These innovative programs serve adults living with ABI, including dedicated programming for stroke survivors, bridging inpatient rehabilitation, outpatient services, and meaningful community reintegration. Programming is guided by the Flourishing Through Leisure (FTL) model, holistically supporting cognitive, physical, social, psychological, spiritual, and leisure functioning. A strengths-based approach centers participant-identified goals focused on identity, participation, and quality of life, translating clinical recovery into sustained community engagement.Two delivery models increase access and flexibility. Ottawa East focuses on physical and cognitive rehabilitation and adapted leisure exploration. Ottawa Central Link emphasizes strengths discovery, values clarification, and supported transition to independent, meaningful leisure, including structured one-to-one goal meetings. Services are delivered by an interprofessional team including Therapeutic Recreation Specialists, adapted fitness instructors, and consulting physiotherapy and nursing supports. In 2024 to 2025, 52 participants were served across both programs, with demand exceeding capacity.

GEEK funding of $95,000 over two years supported a formal evaluation to strengthen scalability, accountability, and knowledge translation. The study aimed to: build sustainable evaluation capacity; improve measurement of qualitative and quantitative outcomes (e.g., wellbeing, life satisfaction);streamline documentation and progress tracking; and demonstrate the effectiveness of a therapeutic recreation–led model for post-stroke rehabilitation.

With the support of Prairie Space Consulting, a logic model aligned to FTL domains was developed. The existing Individual Strength-Based Plan (ISBP) tool was redesigned to reduce duplication and integrate assessment, planning, and evaluation. Standardized measures were identified and included emotional health, mobility, endurance, and cognitive functioning. Early outcomes show improved staff efficiency, clearer documentation, and stronger visibility of participant progress. Participants achieved meaningful goals, with some transitioning fully into independent community leisure such as fitness programs, arts groups, choirs, and peer-led social activities. A final evaluation report and implementation toolkit will be completed by March 2026 to support knowledge translation and replication across Canada. The toolkit will include a program logic model, ISBP tool including sample goals, objectives and suggestions for adaptations, standardized measurement tools, FTL model and background information, and a sample schedule including programming resources.

P1.A.2 *Predictors of favourable modified Rankin scale outcome during inpatient rehabilitation for subacute stroke: A secondary analysis of the Walk 'n Watch trial*

Victor Ezeugwu [1], Sue Peters [2], Stanley Hung [3], Mark Bayley [4], Krista Best [5], Louise Connell [6], Sarah Donkers [7], Sean Dukelow [8], Marie-Hélène Milot [9], Brodie Sakakibara [3], Lisa Sheehy [10], Hubert Wong [3], Yuwei Yang [3], Jennifer Yao [11], Janice J. Eng [3]
[1] University of Alberta, [2] Western University, [3] University of British Columbia, [4] Toronto Rehabilitation Institute, [5] Laval University, [6] Lancaster University, [7] University of Saskatchewan, [8] University of Calgary, [9] University of Sherbrooke, [10] Bruyère Health Research Institute, [11] Vancouver Coastal Health

Background/Purpose: Identifying prognostic factors associated with favourable outcomes in early subacute stroke may support targeted rehabilitation interventions. This study examined admission clinical characteristics associated with favourable modified Rankin Scale (mRS ≤2) outcome at discharge following inpatient rehabilitation for early subacute stroke and assessed whether predictors differed by rehabilitation intensity.

Methods: This secondary analysis included 267 participants within 12 weeks post-stroke from the Walk 'n Watch (WnW) stepped-wedge cluster randomized trial conducted across 12 Canadian inpatient rehabilitation sites. Eligible participants were medically stable adults (≥18 years) able to walk ≥5 steps with no more than one-person assistance at admission. Participants received either usual care (n=139; 30–60 minutes/day of physical therapy) or the WnW protocol (n=128), which delivered a similar therapy duration but emphasized higher-intensity walking (40–60% heart rate reserve) guided by activity trackers. Assessments were conducted at admission to inpatient rehabilitation and 4 weeks later (discharge). Admission characteristics included age, sex, time since stroke onset, stroke type, admission mRS, depression (Patient Health Questionnaire-9), cognitive function (Montreal Cognitive Assessment; MoCA), and walking endurance (6-minute walk test; 6MWT). Sequential multivariable logistic regression models examined associations between admission characteristics and favourable mRS outcome at discharge, stratified by rehabilitation intensity. Model performance was evaluated using Area Under the Curve (AUC), Nagelkerke's pseudo-R^2, and Akaike's Information Criterion (AIC).

Results: Participants mean age was 67.9±12.5 years; 39.3% were female, 81.7% had ischemic stroke, and mean time since stroke was 28.3±17.4 days. Mean admission MoCA score was 21.4±6.1 and 6MWT distance was 148.4±107.2 meters. Admission characteristics did not differ between groups. Favourable mRS outcomes at discharge were achieved by 40% of usual care and 44% of WnW participants. Predictors varied by rehabilitation intensity. In usual care, shorter time since stroke, hemorrhagic stroke, and lower admission mRS were associated with favourable mRS ($p<0.05$). In contrast, higher MoCA score was associated with favourable mRS in the WnW group ($p<0.05$), with trends for greater walking endurance and male sex. Model discrimination was high and stable in usual care (AUC 0.81–0.82; Nagelkerke R^2 0.36–0.39), whereas WnW models showed progressive improvements in model fit (AUC 0.69–0.77) and explained variance (Nagelkerke R^2 0.14–0.26) with added variables.

Conclusion: Admission characteristics associated with favourable mRS outcome differed by rehabilitation intensity. Our findings suggest that rehabilitation intensity modifies the relevance of admission characteristics and underscore the importance of considering both patient factors and therapeutic dose in subacute stroke rehabilitation.

P1.A.2a *A pilot randomized trial of a behavioural intervention with guided stepping training early post-stroke (BIG STEPS)*

Victor Ezeugwu [1], Mona Iyizoba [2], Asya Shiloff-Rogers [2], Joy Ezeugwa [1], Sophia Pawelko [1], Andrew Chan [2], Jake Hayward [1], Carmen Tuchak [2], Jaime Yu [1]

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Background: Prolonged sedentary time is common after stroke and is associated with poor health outcomes. Following hospital discharge, access to rehabilitation is often reduced and fragmented, making the transition to home a particularly vulnerable period for people with stroke and their care partners. This pilot study evaluated the feasibility and preliminary effects of a home-based behavioural intervention with guided stepping training early after stroke (BIG STEPS).

Methods: In this single-blind (assessor) randomized waitlist-controlled trial, adults (≥18 years) within 3 months of ischemic or hemorrhagic stroke were enrolled. Eligible participants were able to walk ≥5 meters with or without a gait aid and were recruited prior to or shortly after discharge home from hospital. Exclusion criteria included pre-existing mobility-limiting conditions, bedrest orders, or cognitive impairments limiting the ability to follow instructions. Participants were randomized to early BIG STEPS (n=14) or waitlist control (n=14). The 12-week BIG STEPS intervention targeted reducing prolonged sedentary time and increasing daily steps using behaviour change strategies, including education, outcome expectations, self-monitoring, and action planning. The waitlist group received the intervention after a 12-week delay. All participants received usual care. Primary outcomes were feasibility, adherence, and safety. Exploratory outcomes assessed at baseline, 3, and 6 months included accelerometer-derived sedentary time and daily steps, timed walking tests (6-minute walk test, Timed Up and Go, gait speed), and patient-reported outcomes. Data were analyzed using linear mixed-effects models with restricted maximum likelihood and Kenward–Roger adjusted degrees of freedom, including fixed effects for group, time, and group-by-time interaction.

Results: Twenty-eight participants with ischemic or hemorrhagic stroke were enrolled (13 female [46%]; mean age: 67.8 ±13.3 years). Recruitment averaged 2.3 participants per month. Retention exceeded the a priori threshold of 80% at weeks 12 and 24 (86-93%). No intervention-related serious adverse events occurred. At week 12, the early BIG STEPS group accumulated a mean of 6534 ± 2773 steps/day compared with 4031 ± 2072 steps/day in the delayed BIG STEPS group. Sedentary time decreased by approximately 1.4 hours/day in the early BIG STEPS group and 0.7 hours/day in the delayed BIG STEPS group. Between-group effects favoured the early group for daily steps (Hedges' g = 1.4) and sedentary time (Hedges' g = −1.1). At week 24, outcomes converged after the delayed BIG STEPS group received the intervention. Between-group differences for timed walking tests and patient-reported outcomes were small.

Conclusion: A behavioural intervention combined with guided stepping training early after stroke was feasible and safe, with preliminary effects supporting progression to a fully powered randomized controlled trial.

P1.A.3 *Sex-related variation in carotid plaque features and their impact on major adverse cardiovascular event in MESA study*

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Background: Sex differences influence atherosclerosis, vascular structure, and plaque characteristics. Sex-specific associations between carotid artery structure, plaque features, and cardiovascular outcomes were examined.

Methods: Participants were drawn from the Multi-Ethnic Study of Atherosclerosis (MESA), a prospective, population-based cohort. Carotid ultrasound measures included wall area (mm^2), intima-media thickness (IMT, mm), remodeling index, normalized wall index, and Young's elastic modulus (kPa), assessed separately for the internal (ICA) and common carotid arteries (CCA). A subset underwent carotid MRI to characterize plaque features (lipid core presence, calcium presence, fibrous cap thickness [mm]). Associations between imaging features and major adverse cardiovascular events (MACE: myocardial infarction, stroke, angina, coronary revascularization, or cardiovascular death) were examined using Cox proportional hazards models. Models were adjusted for age, body mass index, systolic blood pressure, diastolic blood pressure, hypertension, diabetes, total cholesterol, alcohol intake, smoking status, pack-years, cigarettes/day, and time since quitting.

Results: Of 3,447 participants included, 1,826 (52.97%) were women (median age 69 years [IQR 62-77]) and 1,621 (47.02%) were men (median age 70 years [IQR 62-77]). Over approximately 10 years of follow-up, total MACE occurred in 20.6% of men and 13.8% of women ($p<0.01$). On ultrasound, men had higher common carotid IMT than women (0.80 ± 0.37 vs 0.69 ± 0.29 mm, $p<0.01$) and lower arterial elasticity (Young's modulus 175.22 ± 112.55 vs 201.22 ± 143.98 kPa, $p<0.01$). In adjusted,

sex-stratified Cox models, higher ICA IMT and normalized wall index were associated with increased risk of total MACE in both men and women. In contrast, ICA wall area was associated with total MACE in women (adjusted HR 1.19, 95% CI 1.08-1.32) but not in men (adjusted HR 1.06, 95% CI 0.97-1.17). Tests for heterogeneity by sex did not indicate statistically significant differences in these associations (all p-interaction >0.05).For individual outcomes, significant sex heterogeneity was observed for ICA wall thickness in relation to myocardial infarction (women adjusted HR 1.26, 95% CI 1.08-1.46 vs men adjusted HR 0.99, 95% CI 0.82-1.18; p-interaction = 0.041). Among MRI-derived ICA vulnerable plaque features, lipid core presence was strongly associated with angina in men (adjusted HR 2.44, 95% CI 1.50-3.98) but not in women, with a significant sex interaction (p-interaction = 0.012), while no other plaque feature demonstrated consistent sex-specific associations across outcomes.

Conclusions: Carotid structural and plaque features were associated with cardiovascular events in both sexes. Although some associations differed in magnitude, formal interaction testing did not confirm significant sex heterogeneity. These findings support cautious interpretation of sex-specific associations and highlight the importance of comprehensive risk adjustment when evaluating carotid imaging biomarkers.

P1.A.3a *Baseline Stroke severity predicts clinical outcome after thrombolysis in acute ischemic stroke: Results from the AcT trial*

Seyed Mojtaba Hosseini [1], Mohammed Almekhlafi [2], Aravind Ganesh [2], Luciana Catanese [3], Brian Buck [4], Aleksander Tkach [5], Richard H. Swartz [6], Tolulope T. Sajobi [2], Bijoy Menon [2], Nishita Singh [1]

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Background: Baseline stroke severity, measured by the National Institutes of Health Stroke Scale (NIHSS), is associated with outcomes after acute ischemic stroke. We evaluate the association between baseline NIHSS categories with functional, safety outcomes, and health service outcomes among patients enrolled in the Alteplase compared to Tenecteplase (AcT) trial, a pragmatic, multicenter randomized trial.

Methods: Patients were stratified by baseline NIHSS into mild (0-7), moderate (8-15), and severe (³16). Baseline characteristics were compared across groups. Outcomes at 90 days included functional independence (modified Rankin Scale [mRS] 0-1, 0-2), ordinal shift in mRS, return to baseline function, length of hospital stay, and discharge disposition. Safety outcomes included intracranial hemorrhage (ICH), radiological hemorrhage subtypes, and 90-day mortality. Logistic regression was used for binary outcomes, ordinal logistic regression for mRS shift, and negative binomial regression for length of stay, adjusting for age, sex, onset-to-needle time, occlusion location, thrombolytic type, and the interaction between baseline NIHSS and thrombolytic type. Effect sizes are reported as adjusted odds ratios from logistic and ordinal logistic regression models, and incidence rate ratios from negative binomial regression. Interaction between baseline NIHSS strata and thrombolytic type was tested within the fully adjusted models for functional outcomes.

Results: Of 1,570 patients with available baseline NIHSS, 619 (39.4%) had NIHSS 0-7, 504 (32.1%) NIHSS 8-15, and 447 (28.5%) NIHSS ³16. Functional recovery worsened progressively with increasing NIHSS. Compared with NIHSS 0-7, the odds of achieving mRS 0-1 at 90 days were significantly lower for NIHSS 8-15 (aOR 0.46; 95% CI 0.32–0.66) and NIHSS ³16 (aOR 0.38; 95% CI 0.24-0.59). Similar patterns were observed for mRS 0-2 and return to baseline function. Ordinal mRS shift analyses demonstrated worse overall disability with increasing stroke severity (NIHSS 8-15: adjusted common OR 2.14; 95% CI 1.59–2.88, NIHSS ³16: adjusted common OR 3.27; 95% CI 2.87–4.47) when compared with NIHSS 0-7. Length of stay increased with stroke severity, with longer stay in moderate (aIRR 1.21, 95% CI 1.01–1.45) and severe NIHSS groups (aIRR 1.75, 95% CI 1.41–2.18). No significant interaction between baseline NIHSS strata and thrombolytic type was observed for functional outcome (Table 1). Ninety-day mortality was higher with increasing baseline stroke severity (aOR 2.00; 95% CI 1.17-3.45), and NIHSS ³16 (aOR 3.06; 95% CI 1.71-5.56), compared with NIHSS 0-7. Severe parenchymal hemorrhage (PH2) was significantly more frequent with increasing stroke severity, with markedly higher adjusted odds in NIHSS ³16 compared with NIHSS 0-7 (aOR 5.58; 95% CI 1.36-29.42).

Conclusion: Baseline NIHSS independently predicts functional recovery, mortality, and severe hemorrhagic complications after thrombolysis. Compared with mild stroke, moderate and severe stroke have worse outcomes, highlighting NIHSS as a prognostic tool for clinical decision-making and trial interpretation.

P1.A.4 *Carotid-femoral pulse wave velocity is associated with post-stroke cognitive impairment*

Kevin Moncion [1], Lynden Rodrigues [1], Bernat De Las Heras [1], Adam Sutoski [1], Kira Sikorska [1], Juliano Abreu [2], Ada Tang [2], Marc Roig [1]
[1] McGill University, [2] McMaster University

Background: Cardiovascular risk factors are highly prevalent post-stroke and are associated with increased risk of post-stroke cognitive impairment (PSCI). Carotid-femoral pulse wave velocity (cfPWV), the gold-standard measurement of arterial stiffness, may be a sensitive biomarker for vascular aging and PSCI. This study evaluated the association between cfPWV and global cognitive function as measured by the Montreal Cognitive Assessment (MoCA) among individuals ≥6 months post-stroke.

Methods: This cross-sectional analysis is a secondary analysis of baseline data from an exercise-based randomized controlled trial. Demographic and clinical data were collected, including age, biological sex, medical history, time post-stroke, stroke type, and stroke severity as measured by the National Institutes of Health Stroke Severity Scale (NIHSS). The MoCA was administered by a trained assessor. Resting cfPWV was measured non-invasively using applanation tonometry on the non-paretic side. Logistic regression analyses evaluated the associations between cfPWV and MoCA, adjusting for participants' age, sex, resting systolic blood pressure, type 2 diabetes status, and NIHSS. The primary outcome was cognitive impairment defined as a MoCA score of <26/30, with secondary cutpoints at <24/30 and <22/30 as more sensitive cognitive impairment cutpoints on the MoCA.

Results: Sixty-seven participants (45 males, age 64.7 ± 9.6 years, 1.8 ± 1.2 years post-stroke) with mild to moderate stroke severity (median NIHSS [IQR] = 1 [2], min-max 0-11) were included in this analysis. cfPWV was 10.3 ± 2.9 m/s at baseline. Of the 67 participants included, 33 (49.3%) were classified as scoring <26/30 on the MoCA. Each 1 m/s increase in cfPWV was significantly associated with 31% greater odds of cognitive impairment at the MoCA <26/30 cutpoint (adjusted OR [aOR] = 1.31; 95% CI 1.03, 1.73; p = 0.04; Area Under the Curve [AUC] = 0.73, 95% CI 0.61, 0.86). Consistent associations were found at both secondary MoCA cutpoints, including <24/30 (aOR = 1.36; 95% CI 1.02, 1.86; p = 0.04; AUC = 0.87, 95% CI 0.76, 0.97) and <22/30 (aOR = 1.30; 95% CI 1.01, 1.72; p = 0.05; AUC = 0.81, 95% CI 0.67, 0.95).

Conclusions: Higher cfPWV is independently associated with PSCI across clinically relevant cutpoints of the MoCA in individuals in the chronic phase of stroke recovery. These findings provide preliminary evidence that cfPWV is a potential biomarker for both vascular events and PSCI. Larger scale studies are needed to corroborate our findings and explore further mechanistic links between vascular biomarkers and cognitive outcomes post-stroke.

P1.A.5 *Sleep-related arousals during polysomnography are associated with white matter hyperintensity burden and cerebral microbleeds after first-ever minor stroke or transient ischemic attack*

Henry T.H. Xie [1], [2], Mark Boulos [2], Laavanya Dharmakulaseelan [2], Preston Tse [2], Ryan Muir [1], Joel Ramirez [1], Fuqiang Gao [1], Richard Swartz [1], Brian Murray [1], Sandra Black [1]
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Background: Sleep fragmentation has been implicated in cerebrovascular injury, yet the relationship between specific arousal subtypes and radiographic markers of cerebral small vessel disease (CSVD) remains unclear. Arousals may arise due to a variety of factors, including respiratory disturbances and limb movements, and can also occur during different sleep stages, potentially reflecting distinct pathophysiologic processes. We examined whether specific arousal indices were independently associated with CSVD burden following first-ever minor stroke or high-risk transient ischemic attack (TIA).

Methods: We analyzed prospectively collected data from 79 patients with first-ever minor ischemic stroke (NIHSS ≤3) or high-risk TIA who underwent technologist-monitored in-laboratory polysomnography and brain MRI. Arousal indices were quantified as the total arousal index (events/hour) and stratified by subtype (respiratory- vs limb movement–associated) and sleep stage (REM vs non-REM). White matter hyperintensity burden was quantified using the Age-Related White Matter Changes (ARWMC) scale and analyzed using linear regression. Cerebral microbleeds were quantified using the Microbleed Anatomical Rating Scale (MARS) and analyzed using negative binomial regression. Full adjustment controlled for age, sex, body mass index (BMI), diabetes, hypertension, smoking, and apnea-hypopnea index. False discovery rate correction was applied to account for multiple comparisons.

Results: The mean (standard deviation) age was 62 (15) years, 34% were female, and the median (interquartile range, IQR) BMI was 27.1 (24.2–30.5). The median (IQR) total arousal index was 24.6 (15.6–33.0). In fully adjusted models, non-REM respiratory-associated arousals (β = 0.172, 95% CI 0.053–0.290; q = 0.026) and non-REM limb movement–associated arousals (β = 0.469, 95% CI 0.230–0.708; q = 0.003) were independently associated with higher ARWMC scores.For cerebral microbleeds, non-REM respiratory-related arousals were associated with a higher MARS score (IRR 1.071, 95% CI 1.012–1.134; q = 0.035). The total arousal index, but not limb movement–associated arousal indices, was associated with cerebral microbleed burden. REM-specific indices were not associated with ARWMC or MARS scores.Conclusion: Physiologic arousal subtypes demonstrate differential associations with radiographic markers of cerebral small vessel disease after minor stroke or TIA. Non-REM respiratory- and limb movement–associated arousals were independently associated with white matter hyperintensity burden, whereas respiratory-related arousals, particularly during non-REM sleep, were associated with higher cerebral microbleed burden. These findings suggest that physiologic arousal subtypes may represent distinct pathways linking sleep disturbance to cerebrovascular injury and that arousal subtype characterization, rather than total arousal index alone, may be important in understanding cerebrovascular injury.

P1.A.6 *Deficits in adapting to novel forces during reaching are common in early stroke recovery*

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Background: Motor adaptation is the process of recalibrating movement in response to sensory feedback about changes in the body or environment that cause movement errors. During stroke rehabilitation, therapists often use task-specific practice in which survivors experience movement errors and learn to correct them. For example, when reaching to place a coffee cup on a table, the arm may deviate off target. The nervous system uses the incoming proprioceptive feedback about these errors to adapt movement. While adaptation is a tenet of rehabilitation, most evidence comes from healthy adults or chronic stroke, long after rehabilitation is usually complete. Here, we investigated proprioception-driven adaptation in early stroke recovery, and whether adaptation is correlated with scores on clinical assessments of sensorimotor and functional impairment.

Methods: Forty-five adults with first-time, unilateral stroke (13[3-26] days post-stroke) and 139 control participants completed a motor adaptation task in a Kinarm robotic exoskeleton. In the task, participants made 150 reaching movements to virtual targets presented in their workspace. While reaching, the robot applied small forces to the arm perpendicular to the direction of the reach. Participants completed 24 reaches without forces (Baseline phase), 108 with forces (Adaptation), and 18 without forces (Washout). Stroke participants completed the task with their more affected arm, while controls completed the task with either their dominant or non-dominant arm.We used three metrics to quantify motor adaptation: the mean peak lateral deviation (PLD) of the hand from a straight line connecting the targets during the first 15 Adaptation trials (Early Adaptation), the mean PLD during the last 15 Adaptation trials (Late Adaptation), and the number of trials needed to adapt to the applied forces (Trials to Adapt). We constructed normative models using healthy control performance, with age, sex, and dominance of the tested arm included as predictors. On each metric, stroke participants were considered impaired if their performance exceeded 95% of the normalized control distribution.

Results: 47% of stroke survivors were impaired in Early Adaptation, 47% in Late Adaptation, and 38% in Trials to Adapt. Performance on each metric showed moderate-to-strong correlations (ρ = -0.62 to -0.41) with the Fugl-Meyer Assessment-Upper Extremity, Medical Research Council strength scale, and Functional Independence Measure (p-values<0.01), but not the Thumb Localization Test (p>0.05).Conclusion: Adaptation using proprioceptive feedback was impaired in early stroke recovery, and adaptation was correlated with clinical assessments of motor function, strength, and functional independence. These results further our understanding of motor adaptation and its relationship with clinical impairments in subacute stroke. In the future, this may help therapists tailor rehabilitation to a patient's specific motor adaptation impairments.

P1.A.7 *Virtual reality perimetry as a portable alternative to the Humphrey Field Analyzer*

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Background: Half of all stroke survivors experience visual field deficits ranging from partial to near-complete field loss. These deficits can reduce mobility and safety and limit participation in rehabilitation. Accurate assessment of visual field loss is therefore important for effective rehabilitation and recovery. The current gold standard perimetry device, the Humphrey Field Analyzer (HFA), is expensive and requires adequate trunk stability, something that is a challenge for many stroke survivors. This project aims to validate a virtual reality (VR) headset as a cheaper, portable alternative to the HFA.

Methods: First-time stroke survivors (n = 13 [63.7 ± 66.2 days post-stroke, mean ± SD]) completed monocular visual field testing of the left and right eyes (24-2 SITA Standard) and a binocular field test (Esterman) on both the HFA and a PICO 3 VR headset running Retinalogik (Calgary, Canada) software. During testing, participants fixated on a central target and pressed a button when a target flashed in their peripheral vision. Both devices were run within 48 hours of one another, with the starting device counterbalanced across participants. For the 24-2 SITA Standard, the starting eye was randomized between participants but remained constant within each participant. The VR 24-2 SITA Standard was validated using intraclass correlation coefficients (ICC) and Bland–Altman analyses. The Esterman was analyzed using the number of targets detected. Additional metrics, including test duration, fixation losses, and false positive and false negative rates, were compared for both tests using a Wilcoxon signed-rank Test.

Results: ICC(3,1) intraclass correlation revealed moderate-to-good pointwise agreement between the VR and HFA devices (left eye: ICC = 0.732, p < .001; right eye: ICC = 0.762, p < .001) on the 24-2 SITA Standard. Bland–Altman analyses demonstrated a negative pointwise bias, indicating higher mean sensitivity values on the VR device, of –2.40 dB (95% LOA –6.59 to 1.78 dB) for the left eye and –2.29 dB (95% LOA –6.17 to 1.58 dB) for the right eye. When comparing the devices, the VR had significantly shorter test durations (L eye: 305 ± 45 s vs 400 ± 88 s, p = .02; R eye: 292 ± 42 s vs 372 ± 41 s, p = .01, mean ± SD) and lower fixation losses (L eye: 5 ± 6% vs 39 ± 32%, p = .04; R eye: 3 ± 5% vs 29 ± 23%, p = .005, mean ± SD). For the Esterman test, the mean number of targets seen did not differ significantly between devices, but the test durations were significantly shorter for the VR (165 ± 11 s vs 395 ± 85 s, p = .002, mean ± SD). The VR device had a significantly higher mean false negative rate in the Esterman (7 ± 5% vs 2 ± 6%, p = .046, mean ± SD).

Conclusion: VR is a promising tool for both monocular and binocular visual field testing. Especially after stroke, when physical impairments are common, reliable bedside tools to assess visual field deficits have substantial utility.

P1.A.8 *Effect of dwell time on cerebral hypoperfusion in hyperacute ischemic stroke patients treated in a mobile stroke unit*

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Introduction: Previous studies of patients with hyperacute ischemic stroke (HIS) have demonstrated higher rates of angiographic reperfusion with earlier thrombolysis and longer thrombolysis-to-imaging reassessment time ("dwell time"). However, whether longer dwell time is associated with improved tissue-level perfusion, particularly in patients treated in a mobile stroke unit (MSU) within the golden hour, remains unknown.We hypothesize dwell time would be associated with lower ischemic core, lower penumbral volume and lower hypoperfused tissue in patients thrombolysed in an MSU within golden hour using computed tomography perfusion (CTP) performed on arrival at the emergency department.

Methodology: We included all HIS patients treated with intravenous thrombolysis (IVT) in theMSU, who underwent CTP upon arrival at the emergency department. Ischemic core, penumbra and hypoperfused tissue were defined as relative Cerebral blood flow (rCBF) <30%, time-to-maximum (Tmax) >6s and Tmax>4s, respectively. MSU dwell time (min) was defined as the time between IVT and CTP in the emergency department. Patients were divided into two groups: golden-hour treated (GH) and non-golden-hour treated (NGH) based on onset to thrombolysis time ≤60 min or >60 min, respectively. Multivariate linear regression analysis assessed the relationships between MSU-dwell time (min) and cerebral perfusion parameters (rCBF<30%, Tmax>6s, Tmax>4s) in the GH and NGH groups.

Results: A total of 137 patients who received IVT in MSU had an interpretable CTP; 65 (47.4%) were female, with a median [IQR] age of 72.5 years [58-82], and a median pre-IVT NIHSS of 9.5 [6-15.2]. Thirty-six (26.3%) were treated within GH, 63 (46%) had symptomatic intracranial arterial occlusion, 38 (27.8%) had ischemic core, 73 (53.3%) had penumbral tissue, and

106 (77.4%) had hypoperfused tissue. Median MSU door-to-needle time (min) was shorter in GH vs. NGH (21 [18.5-23]) vs (25 [21-30] minutes; p<0.001), as was MSU-dwell time (47 [39.3-55] vs. 55 [44.5-68.5] minutes; p=0.012). MSU-dwell time was not associated with cerebral perfusion parameters (rCBF<30%, Tmax>6s, Tmax>4s) in patients in the GH and NGH groups after adjusting for age and pre-IVT NIHSS. Median 24-hr NIHSS was similar between GH [1.5 (0.25-5)] and NGH [3 (1-9.5)]. The proportion of patients with excellent functional outcome (modified Rankin scale 0-1) at 90 days was similar between the GH (58.3%) and NGH (46.5%) groups.

Conclusion: In patients treated on the MSU with IVT, 26% were treated in the golden hour, and more than three-fourths of patients had persistent hypoperfused tissue on arrival in the emergency department. We did not find a relationship between dwell time and the cerebral perfusion parameters on CTPs completed in the emergency room in patients with HIS. This study demonstrates that higher dwell times was not associated with differences in tissue-level perfusion volumes on ED CTP in patients receiving early thrombolysis on the MSU.

P1.A.9 *CONtralesional inhibitory rTMS for recovery of arm function after stroke (ConTRAstroke): A Canadian feasibility trial*

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Background and Aims: The Canadian Platform for Trials in Non-Invasive Brain Stimulation (CanStim) developed a standardized consensus protocol for rTMS (repetitive Transcranial Magnetic Stimulation) as an adjunct to standardized therapy for upper limb rehabilitation in sub-acute stroke [Edwards, NNR 2021 35(2)]. Here we report results of ConTRAstroke, a clinical feasibility trial testing the implementation of the CanStim protocol at 8 Canadian sites.

Methods: 83 patients with first ischemic stroke were consented. 77 patients (age 64.0±13.0 years, NIHSS 4.2±2.5, 43% female) were randomized (mean 44.6 days ±20.3). Inclusion criteria were Fugl-Meyer Upper Extremity (FM-UE) score ≤ 56, and ability to perform the Graded Repetitive Arm Supplementary Program (GRASP). Patients received 15 sessions of 1Hz rTMS to contralesional M1 (at 120% RMT) or sham stimulation followed by 60 minutes GRASP, replacing standard-of care upper extremity task-specific therapy. Feasibility and differences in the exploratory co-primary efficacy outcomes FM-UE and Action Reach ARM Test (ARAT) and patient reported outcomes (Canadian Occupational Performance measure, COPM) are reported for the intention to treat population.

Results: 71% completed 15 sessions, 87% 10 or more 17% were lost to follow-up. There was no difference in mean change in measures of functional impairment (FM-UE and ARAT) between active and sham groups but there was and adjusted treatment effect on COPM (mean 0.86 CI 0.04, 1.68).

Conclusions: Implementing the CanStim consensus protocol in a sub-acute in-patient rehabilitation setting controlling the dose of task-specific therapy is feasible, an add-on effect of rTMS was observed for patient reported outcomes but not for motor impairment.

P1.A.10 *Continuous positive airway pressure adherence and depressive symptoms in stroke/TIA patients with obstructive sleep apnea*

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Background: Obstructive sleep apnea (OSA) is highly prevalent among patients with stroke and transient ischemic attack (TIA) and is associated with poorer outcomes including post-stroke depression. Continuous positive airway pressure (CPAP) is the gold standard treatment for OSA; however, adherence remains low. The relationship between CPAP adherence, post-stroke depression, and other outcomes has not been well defined. This study aimed to evaluate whether CPAP adherence was associated with changes in depressive symptoms, daytime sleepiness, functional outcomes, cognition, and stroke recurrence in patients with post-stroke/TIA OSA.

Methodology: This was a retrospective cohort study of 112 patients with imaging-confirmed stroke or physician-diagnosed TIA who were diagnosed with OSA via in-laboratory polysomnography or home sleep apnea testing as part of the SLEAP SMART trial (ClinicalTrials.gov ID NCT02454023). CPAP adherence at the 6-month follow-up was evaluated as a dichotomous (i.e. use of CPAP for ≥4 hours/night for ≥70% of nights) and continuous variable (i.e. number of hours CPAP was used per

week). Changes in outcomes were measured between the baseline and a 6-month follow-up. Outcomes included changes in depressive symptoms (as measured by the Center for Epidemiologic Studies Depression Scale [CES-D]), changes in daytime sleepiness, functional outcomes, cognition, and stroke recurrence. Group comparisons were performed using independent-sample t-tests and chi-square tests. Binary logistic regressions were used to evaluate CPAP adherence dichotomously. Multivariable linear regressions modeled adherence continuously (hours/week), while adjusting for covariates (i.e. age, sex, BMI, stroke severity, hypertension, hyperlipidemia, diabetes, and atrial fibrillation).

Results: Of 112 patients, 36 (32.1%) were adherent to CPAP and 76 (67.9%) were non-adherent. At baseline, groups did not differ significantly in demographics or comorbidities. No significant differences in change in the CES-D or the other outcomes were observed between the adherent and non-adherent groups when CPAP adherence was modeled dichotomously. However, when CPAP adherence was modeled continuously, greater weekly CPAP use was associated with reduced depressive symptoms (β = −0.07 per hour/week; 95% CI −0.14 to −0.003; p=0.04) while controlling for our covariates of interest. Model-based predictions indicated that the estimated change in depressive symptoms became statistically different from no change at approximately 31 hours of CPAP use per week. Stroke recurrence occurred only in the non-adherent group (adherent: 0/36, 0%; non-adherent: 3/76, 3.9%).

Conclusion: A dose-dependent relationship was observed between greater CPAP use and improvement in depressive symptoms, suggesting benefits beyond a conventional CPAP adherence threshold. These findings highlight the importance of encouraging CPAP use in post-stroke/TIA populations as it may confer clinically meaningful mood benefits.

P1.A.12 *Changes in resting-state connectivity after repetitive transcranial magnetic stimulation relates to motor evoked potential onset latency*

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Background: Repetitive transcranial magnetic stimulation (rTMS) is a promising adjunct to post-stroke motor rehabilitation when applied prior to skilled motor practice. rTMS may modulate cortical excitability by reducing contralesional hemispheric inhibition. Continuous theta burst stimulation (cTBS) is a patterned, faster stimulation paradigm; though, individual responses vary. Resting-state fMRI (rsfMRI) has been used to examine sensorimotor network changes following repeated rTMS sessions post-stroke. However, aftereffects of cTBS are not well characterized. Interneuron conduction in the motor cortex (M1) is linked to cTBS response in healthy brains. Single-pulse TMS delivered in the anterior-posterior (AP) direction elicits longer-latency motor evoked potentials (MEPs) than posterior-anterior (PA), reflecting greater synaptic distance from corticospinal neurons. High-intensity lateral-medial (LM) stimulation can index corticospinal activation. Though untested, AP-LM MEP onset latency may help characterize who may benefit from cTBS after stroke. This study examined if cTBS induced changes in rsfMRI is associated with AP-LM MEP onset latency in chronic stroke. We predicted longer contralesional AP-LM MEP latency would be associated with reduced M1-sensorimotor region connectivity after cTBS.

Methods: 32 participants with chronic stroke (10 females; mean age 68.7±12.7 years) completed a TMS mapping session and two MRI sessions consisting of rsfMRI, followed by either active (80% RMT) or sham cTBS over contralesional M1, and a repeat rsfMRI, with session order randomized. AP/PA (110% RMT) and LM (150% RMT) MEPs were assessed to calculate latency differences. Mean MEP onset latencies were calculated and differences between AP-LM were calculated. During rsfMRI, participants rested supine for 10 minutes while fixating their eyes on a cross. Contralesional seed regions (N=4) were defined a priori within the rsfMRI sensorimotor network. Connectivity changes from M1 to the postcentral gyrus, supplementary motor area, superior and middle frontal gyrus were calculated as post-pre cTBS Fisher-Z scores.

Results: A linear mixed-effects model found that AP-LM MEP onset moderated connectivity changes between M1 to the postcentral gyrus (β=0.03, SE=0.015, p=0.023). The interaction did not survive FDR correction for multiple comparisons (padj=0.09); however, a large effect size (=0.15, 95% CI [0.01, 0.39]) suggests a meaningful trend. Conclusion Our data suggest that responses to a single cTBS session, specifically connectivity from M1 to postcentral gyrus, may be associated with AP-LM MEP onset latency. Longer latencies were associated with a trend for reduced connectivity after cTBS. Our findings suggest that immediate cTBS responses and individual variability after stroke may be captured using rsfMRI and MEP onset. Our results support investigation of MEP onset time as a marker of cTBS aftereffects, identifying who may benefit from cTBS as an adjunct to motor rehabilitation.

P1.A.13 *Impact of the personalized Integrated Cognitive-Somatosensory-Motor (iCOSMO) Intervention to improve upper limb recovery after stroke: Three case reports*

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Background: The integrated Somatosensory-MOtor training using a COgnitive approach (iCOSMO) training intervention aims to improve upper limb recovery in people with chronic stroke. The iCOSMO training combines robotic training using the Kinarm Exoskeleton device with haptic perception exploratory tasks through active touch and movement exploratory procedures during goal-oriented tasks. The iCOSMO intervention is delivered three times per week, two hours per session for 6 weeks. This study explores the impact of the iCOSMO intervention on upper limb recovery in people with chronic stroke.

Methods: Three people (Participant A: Male, 60 years; 12 months post-stroke; Participant B: Male, 42 years, 13 months post-stroke; Participant C: Male, 74 years; 20 months post-stroke) have completed the iCOSMO intervention. The clinical tasks and Kinarm robotic tasks were gradually progressed with increasing levels of difficulty to maintain a sufficient level of challenge to optimize movement and somatosensory re-learning and upper limb recovery. Standardized motor and somatosensory clinical assessments included the Fugl-Meyer- upper extremity (FMA-UE), action research motor test (ARAT), Wolf motor function test (WMFT), box and block (BBT), grip and pinch strength, tactile discrimination test (TDT), wrist position sense test (WPST) and functional tactile object recognition (FTORT). The participants were tested at pre- and post-intervention, and at 1-month follow-up. Three additional participants are currently receiving the iCOSMO intervention.

Results: Participant A and C completed 18 sessions (36 hours) of iCOSMO while Participant B completed 16 sessions (32 hours) of iCOSMO. Participant A improved by 2.2-95.5% in all measures at post-intervention. From post-intervention to follow-up, improvements were observed only in the ARAT, WMFT, BBT and pinch strength. Participant B improved by 8.2-90.8% in all measures, except in the TDT at post-intervention. From post-intervention to follow-up, improvements were observed in all measures, except the FMA-UE and ARAT. Participant C improved by 7.6-78.9% in all measures, except FTORT and grip strength at post-intervention. From post-intervention to follow-up, improvements were observed in pinch strength and WPST only.

Conclusion: iCOSMO is a novel intervention combining somatosensory, motor and cognitive training that demonstrates improvements in movement and somatosensation. Thus, iCOSMO could be a promising neurorestoration intervention to improve upper limb recovery after stroke.

P1.A.14 *The personalized integrated COgnitive-somatoSensory-Motor(iCOSMO) intervention to improve upper limb function after stroke: Preliminary data on the perspectives of people with stroke*

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Background: The integrated Somatosensory-MOtor training using a COgnitive approach (iCOSMO) training intervention aims to improve upper limb recovery in people with chronic stroke. The iCOSMO intervention includes two treatment modalities: (1) robotic training in the form of eight graded gaming tasks, using the Kinarm Exoskeleton device and (2) restorative clinical tasks through active touch and movement exploratory procedures during goal-oriented tasks. Cognitive strategies that integrate learning theory and motor acquisition to perform daily activities were emphasized during the integrated motor and sensory training tasks. The iCOSMO intervention is delivered three times per week, two hours per session for 6 weeks. This study aims to explore the perspectives of the recipients of iCOSMO about their perspectives on benefits of iCOSMO and barriers that they faced during their participation in the study.

Method: Three people (Participant A: Male, 60 years; 12 months post-stroke; Participant B: Male, 42 years, 13 months post-stroke; Participant C: Male, 74 years; 20 months post-stroke) completed the iCOSMO intervention. They participated in a semi-structured interview (1 hour) conducted virtually through Microsoft TEAMS. The interview explored their perspectives about the benefits of iCOSMO, the barriers of participation in the iCOSMO trial and their overall level of satisfaction about the iCOSMO intervention. The recordings were transcribed verbatim and analyzed for inductive thematic analysis using implementation theory. Three additional participants are currently receiving the iCOSMO intervention.

Results: The three participants reported improved motor function such as increased range of motion of their upper limbs and fine motor skills of their hands. The participants reported improved tactile touch sensations in their hands. The frequency and duration of the iCOSMO intervention was perceived as sufficient and satisfactory. All three participants found the robotic and exploratory tasks engaging. They reported that the graded challenges of the robotic and exploratory tasks were helpful in improving their upper limb recovery. Two participants reported challenges with accessible public transport to the rehabilitation centre which caused delays in attending appointments in a few instances. The participants were satisfied with the iCOSMO intervention, although they would have preferred to have more sessions of iCOSMO beyond the 18 planned sessions. They also reported that they would recommend the iCOSMO intervention to other people with stroke.

Conclusion: The iCOSMO intervention offers a novel upper limb training integrating cognition, movement and somatosensation for people with stroke. Recipients of iCOSMO are likely to benefit from the intervention by improving movement and touch sensations after stroke. The iCOSMO intervention could be a promising neurorehabilitation program to improve upper limb recovery after stroke.

P1.A.14a *Self-management of post-stroke recovery: Evidence-based information education resources on parenting young children and managing emotions after stroke*

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Background: Little attention is paid to the management to non-medical aspects of stroke that impact the personal life of a stroke survivor. For instance, people with stroke are often left to manage their emotions and family roles and responsibilities on their own. Therefore, empowering people with stroke with self-managed tools and strategies to manage life-after-stroke is likely to enhance their participation in society and improve their quality of life. However, there is a lack of evidence-based resources to assist people with stroke in the self-management of their emotions and their roles as parents to young children. An information education page (IEP) is an evidence-informed educational resource that is intended to help stroke survivors better understand how stroke impacts their life as well provides self-management strategies to optimize their function and participation.

Methods: Our team constitutes an international multidisciplinary group of rehabilitation professionals including occupational therapists, physiotherapists, speech and language therapists, and physiatrists with expertise in stroke rehabilitation. To progress the development of IEPs, our team had several meetings to: (1) review the literature and identify gaps in self-management resources for non-medical aspects of life-after-stroke to be prioritized; (2) devise and find consensus on clinical translation of evidence-based strategies to consolidate patient-oriented materials for the IEPs respectively; (3) consult people with stroke (patient partners) for their perspectives on the content of the IEPs; and (4) disseminate the IEPs through publication in peer-reviewed journals and through presentation in conferences.

Results: Our team developed information education pages on the following topics: (1) Parenting after stroke. This IEP describes practical strategies to develop an adapted routine for the parent with stroke and the child. This resource also proposes adaptive tools and equipment for parents who have had a stroke for various parenting activity such as feeding and mealtime, mobility aids with children, bathing and hygiene as well as communication and connection; (2) Managing emotions after your stroke. This IEP offers practical strategies to self-regulate emotions focusing on breathing and relaxation techniques, self-reflection, communication with others, physical activity, socialization and creative activities and arts. This IEP also targets feelings of isolation after stroke as well as the role of multidisciplinary rehabilitation professionals in supporting stroke survivors when strong emotions cause physical reactions.

Conclusion: Stroke survivor-oriented accessible resources are essential to ensure the uptake of evidence-based rehabilitation. Empowering stroke survivors with self-management strategies will improve their function, participation and quality of life as well as that of their families.

P1.A.15 *Accelerometer-derived patterns of sedentary and upright behaviours in people with stroke and healthcare workers*

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Background: Contemporary behaviour change and social–ecological theories emphasize the influence of physical and social environments on health behaviours. In rehabilitation settings, healthcare workers shape the care environment and may implicitly model how sedentary and upright activities are accumulated (i.e., bouts) that influence patients' activity patterns. Examining correlations between the sedentary and upright behaviours of healthcare professionalsand stroke survivors may provide insight into mechanisms through which rehabilitation cultures are formed. Such knowledge may support the development of strategies that leverage clinician behaviour to optimize activity behaviours. This study aimed to characterise patterns of sedentary and upright behaviours and examine their correlations in stroke survivors and healthcare workers.

Methods: Thirty-four stroke survivors (15 female; mean age ± SD: 64.6 ± 12.6 years; 3.5 ± 1.1 months post-stroke) and 36 healthcare workers (33 female; mean age: 37.3 ± 9.6 years; 8.5 ± 6.2 years of professional experience) were recruited from a rehabilitation hospital. All participants completed up to seven days of activPAL monitoring. Time spent in sedentary and upright bouts was summarised. Associations between age, body mass index (BMI), and bout characteristics were examined using Spearman's correlation. The effect of age on this characteristic was examined using linear regression.

Results: Time spent in upright bouts <10 min and ≥10 min was lower in stroke survivors than in healthcare workers (103.9 ± 38.2 vs. 124.1 ± 21.4 min, p = 0.007; 137.8 ± 127.1 vs. 252.5 ± 82.6min, respectively). Time spent in sedentary bouts <30 min was also lower in stroke survivors (213.9 ± 84.3 vs. 294.3 ± 46.5 min, p < 0.001), whereas time spent in prolonged sedentary bouts (≥0.5 to <1 h; ≥1 to <2 h; ≥2 to <4 h; <4 h) was higher (162.4 ± 61.9 vs. 133.6 ± 28.5; 161.4 ± 94.1 vs. 69.4 ± 37.0; 85.0 ± 68.7 vs. 39.3 ± 38.4; 21.3 ± 50.6 vs. 13.2 ± 38.1, respectively). The number of sedentary bouts <30 min was lower in stroke survivors (37.6 ± 20.0 vs. 53.1 ± 11.2).Among healthcare workers, moderate correlations were observed between age and time spent in upright bouts (≥10 to <20 min; r = 0.40, p = 0.02) and sedentary bouts (≥1 to <2 h; r = −0.37, p =0.03). In stroke survivors, BMI was moderately negatively correlated with time spent in upright bouts ≥20 min (r = −0.45, p = 0.01). Among healthcare workers, BMI was moderately correlated with time spent in sedentary bouts ≥2 to <4 h (r = 0.41, p = 0.02) and with the number of sedentary bouts <30 min (r = −0.33, p = 0.05). There was no significant effect of age on the upright and sedentary bouts of healthcare workers and stroke survivors.

Conclusion: Stroke survivors accumulated less time in upright activities and more time in prolonged sedentary bouts. These findings underscore the importance of addressing prolonged sedentary behaviour in rehabilitation settings and identified healthcare worker factors that correlate with sedentary and upright behaviour patterns.

P1.A.16 *Cerebral infarction during tyrosine kinase inhibitor therapy for chronic myeloid leukemia*

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Background: Chronic myeloid leukemia (CML) is a clonal myeloproliferative neoplasm characterized by the presence of the BCR-ABL fusion gene. Since the introduction of BCR-ABL tyrosine kinase inhibitors (TKIs) in 2001, these agents have become the cornerstone of CML management. Previous studies have reported an increased risk of cardiovascular events and peripheral arterial occlusive disease associated with second- and third-generation TKIs. However, data regarding cerebrovascular complications—particularly cerebral infarction—during TKI therapy remain limited. In this study, we describe the clinical characteristics and outcomes of patients who developed cerebral infarction while receiving TKI treatment for CML.

Methods: We retrospectively reviewed consecutive patients who presented with cerebral infarction at Seoul St. Mary's Hospital between January 2011 and July 2024 and who had a history of TKI therapy for CML. Clinical records, laboratory data, and neuroimaging findings were analyzed. We characterized the clinical features and outcomes of these patients, focusing on TKI type and treatment duration, concurrent cerebrovascular risk factors, stroke mechanisms, initial stroke severity, and functional outcomes.

Results: A total of 22 patients were included, of whom 9 were women. Nineteen patients had previously received imatinib as first-line therapy, followed by various second- or third-generation TKIs, including radotinib, dasatinib, nilotinib, ponatinib, and bosutinib. At the time of the index stroke, patients were receiving radotinib (n=9), dasatinib (n=5), nilotinib (n=5), ponatinib (n=2), or bosutinib (n=1). All patients developed stroke after several months of exposure to second- or third-generation TKIs. Three patients had a history of coronary artery occlusive disease, and two had peripheral arterial occlusive disease. Stroke mechanisms were classified as large-artery atherosclerosis in 21 patients, while cardioembolism was suspected in one patient. Initial stroke severity was generally mild, and favorable functional outcomes at 3 months (modified Rankin Scale 0–2) were observed in 19 of the 22 patients.

Conclusion: Arterial occlusive events represent important adverse effects associated with TKI therapy in CML. Newer-generation TKIs may contribute to vascular toxicity involving the cerebral arteries. For patients receiving these agents, careful assessment of baseline cerebrovascular risk and intensive management of modifiable vascular risk factors are warranted.

P1.A.17 *Split-belt training with a progressive, individualized, ramped alternating-block approach for adaptation of locomotion in chronic-stroke*

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Background: Following a stroke, between-leg asymmetries commonly impact walking function and speed. Split-belt treadmill interventions use error augmentation to improve step length symmetry (SLS) post-stroke. Recent evidence suggests that incorporating incline and alternating between tied-and split-block conditions may enhance SLS gains. However, this potential benefit has not been evaluated across multiple training sessions. Importantly, exposure to walking challenge has been shown to increase attentional demands and sympathetic arousal linked to decreased balance confidence post-stroke. Thus, this study examined locomotor adaptation, together with perceived stability, sympathetic arousal, cortical activation, and resulting functional gait speed following a progressive, individualized, ramped, alternating-block split-belt treadmill program in people with chronic stroke.

Methods: Ten independent ambulators with chronic stroke resulting in hemiparesis (5M; 5F, 55.9 6.8 yrs, 3.6 3.6 yrs post-stroke) with asymmetrical step lengths (baseline SLS=-0.12) and mild-moderate lower-limb impairment (Chedoke McMaster Stroke Assessment foot: 3.7/7, leg: 5.2/7) completed 12 sessions (3x/week) of split-belt treadmill training (2:1 belt speed ratio; 4x4-minute blocks at 2% ramp). Belt speeds were individualized to over-ground walking speed and increased 5% weekly. SLS, electrodermal activity (sympathetic arousal), prefrontal cortex (PFC) activation (functional near-infrared spectroscopy) and rating of perceived stability (RPS) were measured at pre-, post- and one-month retention. Comfortable and fast gait speeds (CGS, FGS) were assessed using the 10-Meter Walk Test. Linear-mixed effects models assessed changes in each measure by timepoint. Results: Training resulted in increased SLS at slow (Δ=0.049, p=.06) and fast (Δ=−0.115, p=.04) walking speeds at post-training and was maintained at one-month retention. Functionally, training resulted in faster over-ground CGS (Δ=0.19 m/s, p<.001) and FGS (Δ=0.12 m/s, p =.017), also maintained at retention. Participant-reported RPS demonstrated improved perception of stability at post-training and retention (p<.001). Sympathetic arousal response at split onset decreased by 73% following training (p<.001) and was somewhat maintained at retention. Bilateral PFC activation decreased post-training (p<.001) and was maintained at retention, suggesting reduced attentional demand during split-belt walking.

Conclusions: Twelve sessions of progressive, ramped, alternating block split-belt treadmill training resulted in improvements in SLS and gait speed post-stroke that were maintained one-month post training. Patterns of adaptation in SLS showed temporal co-modulation with sympathetic arousal and PFC activation in line with participant-reported decreased perception of challenge associated with split-belt walking. These findings support the potential of split-belt treadmill training as an effective neurorehabilitation intervention.

P1.A.18 *Understanding barriers and facilitators to equitable recruitment in stroke rehabilitation trials: The protocol for the ORDER qualitative sub study*

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Background: Women and individuals with communication challenges remain underrepresented in stroke rehabilitation research. The Optimizing Recruitment to Drive Equitable Research (ORDER) study is a pilot study-within-a-trial embedded in the Canadian Maraviroc Randomized Controlled Trial to Augment Rehabilitation Outcomes after Stroke (CAMAROS). ORDER aims to identify strategies to enhance trial recruitment and includes a qualitative component exploring barriers and facilitators to participation in stroke recovery trials.Research QuestionWhat are the barriers and facilitators to equitable recruitment of people with lived stroke experience in stroke rehabilitation trials?

Methods: The ORDER interview sub-study uses a qualitative descriptive design guided by the Theoretical Domains Framework (TDF). Semi-structured interviews will be conducted with two groups: Individuals with lived stroke experience approached for CAMAROS participation (those who enrolled and those who declined); andSite Coordinators involved in recruitment and consent.Interviews will be co-facilitated by a PhD student and a peer with lived stroke experience. Thirty individuals with lived stroke experience will be interviewed (15 enrolled, 15 declined) along with all Site Coordinators (n=xxx). Purposive sampling will ensure diversity across sex, gender, and race. At least 15 women and 10 participants identifying as Black, Indigenous, or other racialized individuals will be included, reflecting Canadian demographics (Women: 51%; Racialized: ~30%).Interviews (~30–40 minutes) will be conducted via Zoom and will explore perceptions of recruitment and consent processes, comprehension of study materials, environmental and social influences, and decision-making supports. Participants with aphasia will be interviewed using supported communication techniques (e.g., simplified language, written keywords, verification of understanding) to ensure inclusion and accurate expression. All Site Coordinators from active ORDER sites will be invited (N=xxx). Their interviews will explore perceived challenges and enablers to recruitment, the influence of identity (e.g., gender, role, culture), and the impact of ORDER materials on engagement. All interviews will be recorded and transcribed with Otter.ai. Deductive content analysis will map responses to TDF domains. Two researchers will independently code and compare transcripts, reaching consensus through iterative review.

Results: This protocol outlines the qualitative sub-study procedures; no results are yet available. Expected outcomes include identifying multilevel barriers and facilitators shaping equitable recruitment, with particular attention to sex, gender, and contextual factors influencing decision-making in stroke recovery research.

Conclusion: This qualitative component of the ORDER study will enhance understanding of the experiences of individuals living with stroke, particularly perceptions of barriers and facilitators to research engagement. Together with quantitative findings, these results will inform strategies to optimize informed consent and recruitment practices, promoting inclusivity in stroke rehabilitation trials.

P1.A.19 *Adapting the Health Promoting Lifestyle Profile II to measure self-management skills in people with stroke: A psychometric study*

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Background: The Canadian Stroke Best Practices recommend improving self-management abilities and skills after stroke for ongoing recovery and secondary prevention purposes. However, few measures adequately capture the construct of self-management, making it difficult to assess the effects of self-management interventions. The objectives of this study were to: (1) adapt the 52-item Health Promoting Lifestyle Profile II (HPLP-II) to a measure of self-management ability; (2) examine the factor structure of the self-management measure in people with stroke; and (3) to examine the associations between age, sex, education, stroke severity, physical activity levels, and self-management.

Methods: This was a secondary analysis using data of the Stroke Coach randomized controlled trial. Participants were randomized to a telehealth self-management intervention or memory training attention-control. Individuals were eligible for the present study if they had complete data on the HPLP-II. Nineteen items from the HPLP-II were first conceptually chosen to represent self-management ability based on the domains of a conceptual framework: problem solving (4 items), decision making (3 items), resource utilization (3 items), patient-provider relations (3 items), action planning (4 items),

and self-tailoring (2 items). Exploratory factor analysis (EFA) was used to examine the factor structure of the new measure. Univariable analyses explored the relationships between the new measure with age, sex, education, and stroke severity (modified Rankin Scale). Multivariable regression analysis was used to examine the relationships between the final measure with physical activity (steps per day).

Results: All participants in the trial (n=126; age 68.1±9.7 years; time post-stroke 7.1±3.6 months; 31% female) were eligible for the EFA. Parallel analysis, scree plots, and minimum average partial correlations suggested a single factor structure. One item was removed due to low factor loading. The new measure had high internal consistency (alpha=0.86). Univariable analyses showed relationships with sex (female: +4.6 points, 95% confidence interval [CI]: 0.9-8.3, p=0.02), education (r=0.20, p=0.02), and stroke severity (F(3,122)=3.40, p=0.02). There was no relationship with age (r=-0.03, p=0.74). After adjusting for sex, education and stroke severity, the new self-management measure was independently associated with steps per day (b=82.4, 95% CI: 9.9-154.9; p=0.026).

Conclusion: A novel 18-item self-management ability measure was developed. The measure had high internal consistency and was higher in those who were females, more educated, and lower stroke severity. The measure was also independently associated with physical activity levels. Notably, the measure's items were specific to select health domains such as physical activity, nutrition, and spiritual growth. Future research should adapt and test the psychometric properties of a more generic version of the measure.

P1.A.20 *Step targets in inpatient stroke rehabilitation: A secondary analysis of the Walk 'n Watch study*

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Background: The Walk 'n Watch (WnW) protocol provides intense, progressive walking practice during inpatient stroke rehabilitation, and is shown to improve walking endurance, balance and quality of life after stroke compared to usual care. In the WnW protocol, individualized step targets are set based on the patient's baseline 6-minute walk test (6MWT) distance. Steps are measured with sensors and increase over time. Protocol targets were modeled from pilot data, however, adherence to step targets has not been assessed. In this secondary analysis of the WnW study, the objective was to determine how closely the actual number of steps taken in inpatient physiotherapy sessions matched the step targets for patients who received the WnW protocol.

Methods: 120 participants with subacute stroke who received the WnW protocol were included. Daily inpatient physiotherapy sessions included a minimum of 30 minutes of gait-related activities. Physiotherapists recorded steps using Fitbit step counters (Inspire 2) worn on the non-paretic ankle. Participants were divided into lower, middle and higher-functioning groups based on baseline 6MWT distance, and individualized step count targets were assigned according to these categories. Three progressive step count targets were provided over 4 weeks, and data from the first 10 sessions were analyzed.

Results: Participants (mean age 68 (SD 13), 32% females, 68% males) attended a mean of 15.11 (SD 6.3) WnW sessions during their inpatient rehabilitation stay. The mean number of steps taken for all participants increased from 993 (SD 715) in session 1 to 1325 (SD 857) in session 5, and remained steady thereafter. Baseline 6MWT distance predicted step counts in physiotherapy, with higher-functioning participants having higher step counts. The lower-functioning participants met 65.0% of their step goal at session 5, compared to 56.7% and 61.7% of the middle- and higher-functioning participants. After 10 sessions, the corresponding percentages were 50.7%, 43.7% and 52.4%. The number of steps for females decreased after session 6 while steps for males continued to increase.

Conclusion: Participants achieved only 43.7% to 65.0% of their step count targets, suggesting that the WnW protocol step targets may be difficult to achieve in inpatient rehabilitation. Despite not meeting the prescribed step targets, overall the WnW protocol has demonstrated clinically-meaningful improvements in walking endurance and quality of life over usual care (Peters et al, 2025). Steps taken may have decreased later in the participants' inpatient stays due to competing rehabilitation goals, which may be more prominent for female participants. Future research should clarify what step counts produce an optimal outcome in real-life inpatient settings.

P1.A.21 *Breaking barriers: Navigating life after stroke and the path to reintegration*

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Background: People who have experienced a stroke face significant challenges reintegrating into daily life, due to physical, cognitive, and psychological impairments. These difficulties are compounded by inadequate social support and financial constraints, limiting access to rehabilitation and community resources. While existing research highlights individual barriers to reintegration, there is a gap in understanding the intersection of these challenges over time. The objective of this study was to assess the ability of individuals to reintegrate into society during their first year post-stroke, to examine what and how social and healthcare services were obtained and to identify unmet needs that hindered reintegration.

Methods: A qualitative interpretive description approach was adopted, using semi-structured interviews with 11 people one year post-stroke. Participants were recruited from the Walk 'n Watch Study (a multi-site pragmatic trial of a structured, progressive walking intervention for inpatient stroke rehabilitation) conducted at Bruyère Health. They shared their experiences regarding community reintegration and access (or lack of access) to needed support services. Thematic analysis was conducted to identify key facilitators and barriers, with attention to demographic factors.

Results: Findings suggest that strong social networks, financial assistance, and access to rehabilitation services supported reintegration. Participants who had strong family involvement and self-motivation, and who engaged with the community reported better psychological and functional recovery. However, barriers such as socioeconomic disparities, psychological distress, and insufficient long-term support services hindered reintegration. Some participants' ability to resume participation in daily activities was limited by emotional distress, including feelings of emotional isolation, social stigma and depression. Some participants reported challenges in accessing resources that were tailored to their evolving needs, meaning there were gaps in long-term reintegration support.

Conclusion: This study highlighted the need for comprehensive, interdisciplinary rehabilitation strategies that extend beyond initial stroke recovery. They should be accessible to all and include socioeconomic and psychological support. Future research should explore applicable long-term rehabilitation models and evaluate policy changes that can enhance access to resources for effective reintegration of people who have had a stroke.

P1.A.22 *Feasibility and utility of using videoconferencing compared to in-person administration of performance-based measures of balance, strength and mobility in community-dwelling older adults with mobility limitations*

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Background: Adults facing mobility challenges from stroke and other health conditions benefit from targeted rehabilitation to improve balance, strength and mobility. Videoconferencing provides an equitable alternative for patients unable to attend in person due to distance, weather, fatigue, lack of transportation or other factors. Standardized assessment of balance, strength and mobility should be completed to identify deficits, inform treatment and monitor response to therapy. While some evidence supports the validity and reliability of physical assessments via videoconferencing, data on their utility and feasibility in a real-world setting remain limited. The objective of this study was to investigate the utility and feasibility of administering tests of balance, strength and mobility in people with mobility limitations using videoconferencing, compared to in person administration.

Methods: Community-dwelling participants with balance or walking deficits (but able to walk 10m and perform sit-to-stand independently) were recruited from outpatient geriatric and stroke rehabilitation services at a tertiary-care hospital. Participants supplied their own technology device/Internet and had a study partner for the remote assessment. Following a remote orientation session, physical therapists administered 5 standardized assessments (Timed Up-and-Go test, 30-second Sit-to-Stand test, 3-metre Walk test, 7-item Berg Balance Scale, and 2-minute Step test) in-person and remotely. Testing order (in person or remote) was randomized. Utility and feasibility data were collected via questionnaires after each assessment. Remote and in-person tests were compared using paired-sample t-tests.

Results: Seven participants (mean age 70 years, 4 male, 2 with stroke) completed the study. Assessment sessions lasted an average of 36 minutes in person and 47 minutes remotely. Two remote sessions experienced occasional video "freezing". All outcomes were comparable between in-person and remote assessments ($P > 0.05$) except for the 3-metre Walk test ($P = 0.015$), where the remote assessment was a mean of 0.9s longer than in person. Assessors mentioned no safety concerns in person, however during the remote 2-minute Step test there was concern for a potential fall in 1 participant. Participants

felt safe during both testing sessions. They indicated a strong interest in future remote assessments but some preferred in-person. Both participants and assessors noted excessive repetition between orientation and assessment sessions and that home set-up took longer than expected. Positioning the camera to capture the entire walkway was difficult for some. One assessor suggested providing participants with consistent devices to allow easier troubleshooting.

Conclusion: Assessments of balance and mobility performed via videoconferencing are feasible and show utility. Streamlining the orientation and testing sessions, and providing consistent technology devices would mitigate most challenges.

P1.A.23 *Therapist perspectives of delivering virtual assessments and seated exercises from the multisite Virtual Physical Activity Seated Exercise (V-PASE) randomized controlled trial: An interim analysis*

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Background: Videoconferencing can increase access to rehabilitation services and exercise programs to those in rural communities. However, therapists note that the inability to offer hands-on support is a barrier to remote rehabilitation. Thus, this interim analysis aimed to further understand therapists' perspectives of conducting physical function assessments modified for videoconferencing, and the safety aspects of delivering a seated exercise intervention remotely in people living with a chronic stroke and mobility impairment.

Methods: Online surveys were distributed to staff who conducted assessments or delivered exercise sessions for the Virtual Physical Activity Seated Exercise multisite randomized controlled trial. Assessors were included if they had a degree in physical or occupational therapy and conducted a minimum of one unsupervised assessment. Instructors were included if they had a degree in physical therapy, occupational therapy, or kinesiology and completed a minimum of six unsupervised exercise sessions. Surveys were completed online using close-ended questions (5-point Likert scale, strongly disagree to strongly agree; yes/no responses) and were analyzed using descriptive statistics.

Results: Of 39 eligible assessors and instructors, interim analysis was conducted on 13 assessors (76% response rate) and 12 instructors (55%) who completed the survey. Assessors were mostly female (76.9%), aged between 30 and 39 years (61.6%), and had experience conducting physical function assessments through videoconferencing (69.2%). Instructors were mostly male (75%), aged between 30 and 34 years (50%) and had experience delivering exercise sessions through videoconferencing (66.7%). Assessors agreed they could safely (strongly, 71%; somewhat, 21%) and accurately (strongly, 65%; somewhat, 25%) assess physical function remotely. However, one assessor somewhat disagreed they were able to safely assess the tandem stance and Timed Up and Go test, and one assessor somewhat disagreed they could accurately assess the virtual Fugl-Meyer (lower extremity). During exercise sessions, instructors agreed (strongly, 58.3%; somewhat, 25%) they could confidently determine if participants were safe to exercise, although two instructors disagreed (16.6%). While most instructors agreed (strongly, 66.7%; somewhat, 25%) they could effectively progress the exercise intensity, 50% found it challenging to exercise participants at a moderate intensity.

Conclusion: Most therapists believed they could safely and accurately assess physical function over videoconferencing, and most instructors were confident in determining if participants were safe to take part in the exercise sessions, though half the instructors found it challenging to exercise participants at a moderate intensity. This survey identified that physical function assessments modified for remote use and exercise conducted in a chair for people with stroke are perceived as safe when delivered by therapists.

P1.A.24 *Quantitative Hounsfield unit analysis on time-resolved CT angiography: Distinguishing hemodynamically significant carotid webs from non-stenotic plaques*

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Background: Carotid webs (CW) and non-stenotic plaques are increasingly recognized as causes of "cryptogenic" stroke due to focal flow stagnation and thrombosis. While advanced imaging like CFD and 4D-flow MRI has shown that CWs generate larger recirculation zones, a simple, reproducible imaging biomarker on CT angiography is lacking. We aimed to

quantify voxel-level Hounsfield Unit (HU) differences on time-resolved CTA (trCTA) as a proxy for contrast retention and hemodynamic disturbance in CW versus non-stenotic plaques.

Methods: In this prospective pilot study, we analyzed adults with TIA or ischemic stroke and non-stenotic (<50%) carotid bifurcation lesions. Lesions were classified via arterial-phase CTA as CW or non-stenotic plaque based on typical morphology. Using late venous (washout phase) trCTA phases, regions of interest (ROIs) were placed in the post-lesion recirculation zone and a distal common carotid artery as a reference segment. Two blinded reviewers (R1 and R2) independently calculated ΔHU as venous phase HU in the pocket immediately cranial (downstream) to the lesion minus the distal common carotid artery.

Results: Nine patients were analyzed: 4 with carotid webs (mean age 50.8±5.8 years) and 5 with non-stenotic plaques (70.6±9.1 years; p=0.019). Both reviewers showed consistent trends of higher HU differences in CW (pooled: 67±39 vs 38±19, p=0.075). Inter-rater agreement was strong (Pearson r ΔHU=0.87, Cohen's κ=0.78 binarized). CW demonstrated greater contrast retention, indicating hemodynamic disturbance.

Conclusions: Quantitative trCTA analysis reveals that carotid webs demonstrate greater contrast retention than non-stenotic plaques, suggesting a higher degree of hemodynamic disturbance and status. These ROI-based biomarkers provide a simple, objective measure of disturbed flow that could improve diagnosis and risk stratification of non-stenotic carotid bifurcation lesions.

P1.A.24a *Risk factors, etiology, access barriers, and 90-day outcomes after TIA/minor stroke in Northern Ontario: A prospective observational study*

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Background: Stroke remains a leading cause of mortality and disability in Canada, with disproportionately higher incidence and poorer outcomes in rural and northern Canadian communities. While early diagnosis and treatment of Transient Ischemic Attack (TIA) and minor stroke can prevent up to 80% of subsequent strokes, there is a significant knowledge gap regarding region-specific prevalence of vascular risk factors, treatment, and outcomes in Northern Ontario. The objective of this study is to examine risk factors, etiologies, access to care, and post-event outcomes for TIA and minor stroke patients in Northeastern Ontario, with a high representation of the rural population.

Methods: We conducted a prospective observational study at a regional stroke center in Northeastern Ontario from October 2023 to August 2024. Of 470 screened clinic visits, 152 patients with clinically and radiologically confirmed TIA or minor stroke were enrolled. Data collected included demographics, clinical features, TOAST (Trial of Org 10172 in Acute Stroke Treatment) etiologies, and care-access measures. We performed a 90-day follow-up to assess stroke recurrence and mortality.

Results: The cohort had a mean age of 71.4 ± 12.1 years, with 44.7% female. About 57.9% had TIA and 42.1% minor strokes. Mean home-to-clinic travel distance was 83.3 ± 96.4 km, with a median of 37 km. Common focal deficits include speech impairment (46.7%), unilateral weakness (45.4%), and gait disturbance (33.6%). Vascular risk factors were highly prevalent, notably hypertension (80.3%), hyperlipidemia (77.6%), current tobacco use (46.1%), and diabetes (29.6%). Using TOAST classification, undetermined etiology was the most frequent subtype (34.9%), followed by large artery atherosclerosis (26.3%) and cardioembolic disease (14.5%). Upon discharge, most patients received guideline-directed therapy, including antiplatelets (80.9%), statins (76.9%), and antihypertensives (65.8%). The 90-day recurrent stroke rate was 2.0% (n=3), and no deaths occurred during the follow-up period.

Conclusion: This study shows a high prevalence of conventional vascular risk factors among patients with TIA and minor stroke in Northeastern Ontario. Individuals seen in the regional stroke prevention clinic received guideline-directed secondary prevention therapies and had low 90-day stroke recurrence rates. Future strategies should focus on strengthening etiologic workups, as a high percentage of patients had an undetermined etiology.

P1.A.26 *Clinical predictors of recovery across functional, cognitive, and patient-reported domains after chronic subdural hematoma*

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Background: Chronic subdural hematoma (CSDH) is an increasingly common neurosurgical condition in older adults and is frequently associated with functional impairment, cognitive dysfunction, and reduced quality of life. Treatment often improves neurological status, but recovery varies and key predictors remain unclear. This pre-specified secondary analysis of the EMMA-Can randomized clinical trial examined 90-day functional, cognitive, and patient-reported outcomes following treatment for CSDH and identified clinical factors associated with recovery.

Methods: Participants enrolled in the EMMA-Can trial with available baseline and 90-day outcome data were included in outcome-specific complete-case analyses. Functional outcome was assessed using the modified Rankin Scale (mRS), cognitive outcome using the Montreal Cognitive Assessment (MoCA), and patient-reported health status using EQ-VAS and EQ-5D-5L index. Ordinal logistic regression was used for mRS, and baseline-adjusted linear regression models with HC3 robust standard errors were used for continuous outcomes. Models were adjusted for age group, sex, treatment arm, hematoma size, recurrence within 90 days, and baseline value of the corresponding outcome.

Results: A total of 186 participants were available in the analytic dataset, with sample sizes varying across outcomes due to complete-case analyses. Outcomes improved between baseline and 90 days: median mRS improved from 3.0 (IQR 1.0-3.0) to 1.0 (0-2.0); mean MoCA increased from 14.8 ± 4.2 to 16.9 ± 4.1; mean EQ-VAS increased from 66.3 ± 17.0 to 75.9 ± 18.6; and mean EQ-5D-5L index increased from 0.741 ± 0.216 to 0.827 ± 0.178. Baseline clinical status was the strongest independent predictor across outcome domains. Participants with baseline mRS >3 had significantly lower odds of favourable functional outcome at 90 days compared with baseline mRS 0-1 (OR 0.24, 95% CI 0.11-0.53, p<0.001). Female sex was associated with lower odds of favourable functional outcome at mRS ≤ 2 (OR 0.49, 95% CI 0.24-0.98, p=0.043) and mRS ≤ 3 (OR 0.43, 95% CI 0.19-0.95, p=0.038). Baseline MoCA independently predicted 90-day cognition (β=0.60, 95% CI 0.45-0.75, p<0.001), while baseline EQ-VAS (β=0.31, 95% CI 0.14-0.47, p<0.001) and baseline EQ-5D-5L index (β=0.21, 95% CI 0.04-0.37, p=0.014) predicted 90-day outcomes. Age, treatment arm, recurrence, and hematoma size were not independently associated with most outcomes.

Conclusion: Baseline clinical status was the strongest predictor of short-term recovery after CSDH treatment, whereas most demographic and treatment-related factors were not independently associated with outcomes. Baseline disability, cognition, and quality of life independently predicted 90-day outcomes. These findings highlight the importance of multidimensional outcome assessment in CSDH research and support inclusion of cognitive and patient-reported measures alongside traditional functional outcomes.

P1.A.27 *Transcranial direct current stimulation modulates movement-related brain beta patterns and motor performance in stroke individuals*

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Background: For chronic stroke survivors, upper limb (UL) impairment remains a significant and persistent problem during rehabilitation. Using electroencephalography (EEG) to monitor brain activity, a decrease in beta-band power during voluntary movement can be observed, a phenomenon known as movement-related beta desynchronization (MRBD). MRBD is thought to reflect motor network activity during movement preparation or execution and has been associated with UL motor performance. Reduced MRBDs are observed in stroke individuals, which are associated with greater motor impairment. Non-invasive brain stimulation (NIBS) techniques, such as transcranial direct current stimulation (tDCS), have been shown to modulate MRBD in healthy participants and enhance motor performance; however, their effects in stroke remain underexplored.

Methods: In this study, UL impairment was assessed using the Fugl-Meyer Assessment (FMA) in 13 stroke participants. EEG signals were recorded during a handgrip task with the affected hand. To characterize stroke-related alterations in beta power and MRBD, 15 healthy older adults were recruited as a control group, with EEG recorded during the same task. All controls and a subset of stroke participants (n = 5) underwent both tDCS and sham stimulation sessions. High-density (HD) tDCS was delivered over the ipsilesional primary motor cortex during handgrips. EEG data were collected before, during,

and 15- and 45-minute post-stimulation/sham. Motor task performance was quantified using grip force accuracy (ACC), defined as the reciprocal of the deviation from the target force during the stable hold phase of the handgrip.

Results: Our preliminary results showed that stroke individuals had lower beta power and MRBDs compared to controls. A negative correlation was observed between ACC and MRBD (r = -0.49, p = 0.091), though this did not reach significance, likely due to the small sample size. Following tDCS, stroke individuals' MRBD depth increased (49% at 15 minutes and 96% at 45 minutes post-stimulation) and was accompanied by a trend toward improved grip force accuracy (deviation decreased from 29.8% to 26.8% from baseline to 45 minutes post-stimulation). No clear changes were observed in the sham condition.

Conclusion: These initial results indicate that tDCS can modulate neural dynamics and improve motor function in post-stroke individuals. Establishing reliable biomarkers, such as MRBD, as feedback signals represents a critical step toward the development of a closed-loop, real-time, and personalized NIBS framework to enhance motor recovery after stroke. Continued data acquisition will be essential to confirm these outcomes with greater statistical robustness.

B – DATA SCIENCE & TECHNOLOGY

P1.B.28 *Predicting language and motor recovery after stroke using structural connectivity disruption*

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Background: Predictive modeling of post-stroke outcomes is central to personalized prognosis and treatment planning. Structural connectivity disruption (SCD) improves prediction beyond conventional clinical measures. We investigated whether SCD-based machine-learning models provide consistent predictive value across language and motor recovery after stroke.

Methods: We included 67 ischemic stroke patients with language deficits (mean age 63±12 years, 37% female) and 66 with motor deficits (63±13 years, 47% female). Random Forest models predicted outcomes at 2–6 months post-stroke. Language outcomes included Boston Naming Test, Token Test, and Semantic Verbal Fluency, while motor impairment was assessed using the Fugl-Meyer Upper-Extremity scale. SCD of language and motor regions was quantified using the Network Modification tool based on a tractogram reference set of healthy adults. Demographic and clinical variables were included, and predictive value was measured using percentage increase in mean squared error (%IncMSE) after variable omission.

Results: Baseline performance was the strongest predictor in both domains (≤42.3%IncMSE language; 36.3%IncMSE motor), while demographic and clinical variables contributed limited predictive value (time post-stroke ≤4.2%IncMSE; lesion volume ≤7.3%IncMSE). Initial non-verbal cognitive performance predicted language (≤24.8%IncMSE) but not motor impairment (<4%IncMSE). SCD of functionally relevant regions added predictive value beyond lesion size. Language prediction was primarily influenced by disruption of the left middle temporal (≤12.8%IncMSE) and supramarginal gyri (≤9.8%IncMSE), whereas motor prediction was driven by disruption of sensorimotor, premotor, and parietal association regions (≤10.1%IncMSE).

Conclusion: Machine-learning models incorporating SCD improve prediction of post-stroke outcomes across language and motor domains. Connectivity metrics provide clinically relevant information beyond traditional measures, supporting personalized prognosis.

P1.B.29 *Test re-test reliability and minimal detectable change of arterial stiffness in individuals post-stroke*

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Introduction: Increased arterial stiffness is characterized as decreased compliance in the arteries and is a strong risk marker of cardiovascular disease. Pulse wave velocity (PWV) is defined as the speed at which pressure waves travel between different sites in the arteries and can be used to assess arterial stiffness non-invasively. Carotid-femoral PWV is currently considered the 'gold standard' for assessing arterial stiffness, however other sites, namely carotid-radial and femoral-dorsalis pedis, have been used as standardized methods for measuring peripheral arterial stiffness. Additionally,

differences between affected and unaffected sides may vary due to asymmetric hemodynamic changes after stroke. The 95% minimal detectable change (MDC) in PWV is 3-4m/s in non-stroke populations, however, in stroke populations, these cutoff values have not yet been established. Therefore, the purpose of this study was to determine the MDC for carotid-femoral, carotid-radial, and femoral-dorsalis pedis PWV in individuals living in the community with stroke.

Methods: This observational, cross-sectional analysis is a test-retest reliability study with repeated measures. Participants were included if they were 50-80 years old, >12 months post-stroke, and able to walk at least 10 meters independently with or without the use of an assistive device. Following 10 minutes of supine rest, arterial stiffness was assessed using applanation tonometry to measure pulse wave forms at the carotid, femoral, radial, and dorsalis pedis arteries. PWV was calculated as PWV=D(meters)/Δt(seconds), where Δt is the transit time of pulse waves between measurement sites (D). PWV was assessed bilaterally to examine differences between affected and unaffected sides. Twenty cardiac cycles were recorded. Higher PWV indicates greater central arterial stiffness. Intra-class correlation coefficients with a two-way random effects model and single-rater absolute agreement (ICC2,1) were used to assess test-retest reliability. Standard error of measurement was used for absolute reliabilities, and minimal detectable change was used to distinguish true change with 68% (MDC68), 90% (MDC90), and 95% (MDC95) confidence.

Results: Seventeen (4 females; 13 males) participants were included. On average, participants were 63.88(8.59) years old, had a BMI of 31.17(5.51) kg/m2, had a National Institutes of Health Stroke Scale score of 2(IQR:2), MoCA score of 22(IQR:4), CMSA Arm score of 5(IQR:2), and were 4.47(2.76) years post-stroke. ICCs (95% CI) for carotid-femoral PWV for affected and unaffected sides were good (0.85[0.59,0.95]) and excellent (0.94[0.82,0.98]), respectively. Affected and unaffected side ICCs were poor for carotid-radial PWV (0.33[-0.18,0.71];0.24[-0.22,0.66]) and femoral-dorsalis pedis PWV (0.12[-0.30,0.61];0.28[-0.39,0.74]). MDCs were lowest for carotid-femoral PWV affected (1.14-2.23) and unaffected (0.86-1.68) sides, and highest for femoral-dorsalis pedis PWV affected (2.40-4.71) and unaffected (2.09-4.09) sides. MDCs for carotid-radial PWV for affected and unaffected sides were 1.44-2.82 and 1.65-3.23, respectively.

Conclusions: Findings from this study suggest that carotid-femoral PWV is the most reliable measure of arterial stiffness in stroke populations and that differences between affected and unaffected sides may exist. This data provides evidence to guide MDC cutoffs for future work examining changes in PWV within stroke populations.

P1.B.30 *Cerebral blood flow regulation protocols during exercise in stroke: A scoping review*

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Introduction: Following a stroke, impairments in cerebral blood flow (CBF) regulation can lead to recurrent stroke, grey matter atrophy, functional and cognitive decline. CBF dysregulation may play a role in the safety of exercise for individuals post-stroke, however, measurement of dynamic CBF regulation in response to hemodynamic challenges after stroke is highly variable. This scoping review aims to summarize protocols used to assess CBF regulation during exercise in individuals with stroke.

Methods: A literature search containing keywords related to stroke, cerebrovascular dynamics, and exercise was conducted in 5 databases: MEDLINE, EMBASE, Web of Science, CINAHL, and SPORTDiscus from inception to November 13, 2025. Studies of any type of design were included if they measured CBF regulation during active exercise in stroke. Abstract screening, full-text screening, and data extraction will be completed by two independent reviewers. Data will be synthesized descriptively using a table that will include key study characteristics and CBF cerebrovascular assessment methodology, participant characteristics, exercise parameters (incl. frequency, intensity, time, and type), and findings.

Results: The search strategy has been developed in consultation with a McMaster University Health Sciences librarian, and title and abstract screening is currently underway. Database searches identified 5010 articles. A total of 1048 articles were removed to deduplication.

Conclusions: Given concerns surrounding CBF dysregulation and safety of exercise in stroke, it is important to develop standardized protocols to investigate acute cerebrovascular responses to exercise within this population. Findings from this study will help identify gaps related to CBF measurement protocols in stroke populations.

P1.C.31 *Advancing stroke-informed practice in long-term care settings through partnerships and targeted education*

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Background: Long-Term Care (LTC) is an important part of the stroke care continuum. In Ontario, approximately 25% of individuals living in LTC have a diagnosis of stroke. These individuals often experience physical, cognitive, communication, and behavioural challenges related to their stroke. They benefit from care delivered by healthcare providers knowledgeable in stroke care, maintenance and recovery goals, and therapies aligned with best practice recommendations[1] to optimize quality of life and limit secondary complications. The need for stroke-specific education tailored to the LTC context was identified provincially and the 11 regional stroke networks in Ontario collaboratively developed Smart Tips for Stroke Care, a healthcare provider guide highlighting common post-stroke changes across 15 topics and strategies to manage them. This resource aligns with a priority of the North & East GTA Stroke Network (NEGTASN) to empower healthcare providers through knowledge translation across the stroke continuum.

Method: A multi-pronged engagement strategy was implemented to support partnership-building and education in long-term care (LTC): (1) across Toronto, linkages were established with organizations embedded in the LTC sector, leveraging trusted relationships and existing educational structures. These included the Registered Nurses' Association of Ontario (RNAO), Psychogeriatric Resource Consultants (PRC), and Behavioural Support Specialists (BSS); (2) within the NEGTASN, direct engagement with 21 LTC homes was undertaken to build relationships with Directors of Care (DoC) and educators. Outreach activities included an email campaign during Stroke Awareness Month; development and distribution of a stroke education toolkit via mail and in-person drop-offs; and co-designed education sessions, with Smart Tips for Stroke Care serving as the foundational resource. Pre- and post-education surveys assessed healthcare provider confidence, familiarity with stroke signs and symptoms, and new learning. Survey data pending at the time of abstract submission.

Results: The multi-pronged approach supported meaningful engagement with LTC. Four presentations were delivered to over 100 attendees (RNAO, PRCs, BSS and DoC), with positive feedback and commitment to resource dissemination. Attendees identified additional engagement opportunities (i.e. LTC conferences). The email campaign resulted in three LTC homes requesting further information/on-site education. Toolkits were distributed to 19 homes, with outcomes pending. Six education sessions were delivered across three organizations, reaching over 100 clinical staff. Staffing and workflow constraints highlighted the need for micro-learning sessions. Data from the pre/post session surveys is pending at the time of abstract submission.

Conclusion: A multi-pronged engagement strategy strengthened partnerships with LTC and supported stroke-specific education. Collaborations with organizations embedded in LTC were particularly effective due to established trust. While dissemination via email/mail yielded a smaller response, the sites seeking further information and support benefited from on-site education with wide clinical reach. Education must remain flexible to LTC workflow realities, with an emphasis on micro-learning. Future directions include broader engagement through conferences and personal support worker education programs while continuing local LTC partnerships.

P1.C.32 *Stakeholder and learner perceptions of the new online independent training program for TOR-BSST© dysphagia screeners*

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Background: Approximately 60% of acute stroke patients experience dysphagia. Early screening for dysphagia is recommended to reduce the risk of aspiration pneumonia. The Toronto Bedside Swallowing Screening Test (TOR-BSST©) is a validated tool endorsed by stroke guidelines worldwide. Originally, TOR-BSST© training was delivered only live by a speech-language pathologist (SLP), placing high demands on healthcare resources. Our group developed and validated a new eLearning TOR-BSST© screener training that was as effective as the standard live SLP-led training in achieving screener accuracy, while imposing a lower burden on healthcare resources. As a first step toward clinical implementation, we explored stakeholder perceptions of the new eLearning TOR-BSST© training.

Methods: Stakeholders included participating learners, SLP trainers, SLP observers, competency mentors, unit managers and clinical educators at participating sites. Stakeholders were familiar with the 3-arm validation study randomizing learners across 4 sites to: standard SLP-led live training (Arm 1); eLearning with SLP observation (Arm 2); or eLearning with competency mentor observation (Arm 3). Learners were healthcare professionals (HCPs) with no prior training in dysphagia screening who managed stroke patients. SLP trainers/observers were those certified to conduct live TOR-BSST© training. Competency mentors were HCPs previously trained as TOR-BSST© screeners who remained clinically active and competent in its administration. An online survey explored learners' experiences with their training, depending on the assigned arm. For all other stakeholders, an online survey compared and contrasted their perceptions of the three training approaches.

Results: A total of 82 learners participated: mean age years(SD)=30.1(8.2); female=91.5%; RN=84.1%; mean work years(SD)=5(6.2). Stakeholders (n=14) who participated included unit managers, clinical educators, SLP trainers, SLP observers, and competency mentors. Across all arms, learners were equally confident they had acquired the knowledge and skills to screen their stroke patients for dysphagia and to accurately monitor oral intake. They felt well supported by the system within their facility for the dysphagia care they provide. Among stakeholders, the majority (92.9%) supported changing the current live, in-person training model (Arm 1), to favour independent online eLearning programs (Arms 2 and 3). Of the eLearning programs, 85.7% preferred Arm 2 (eLearning with SLP observation), as they perceived the SLP competency observation as a necessary component for providing practical screening strategies to learners.

Conclusion: The new online independent TOR-BSST© screener training was not only well received by all stakeholders but also overwhelmingly preferred over the original, lengthier live training program. The eLearning TOR-BSST© training offers a stakeholder-endorsed option for implementing dysphagia screening.

D – HEALTH SYSTEMS

P1.D.33 *Scaling-up the implementation of a community exercise program for people living with stroke in British Columbia*

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Background: Stroke survivors face a challenging cycle of sedentary behaviour and high risks for secondary complications. Community-based exercise programs offer a critical pathway to support stroke recovery after hospital discharge. However, a severe lack of these programs, compounded by fragmented referral pathways, isolates stroke survivors from the resources they need to thrive. The Fitness and Mobility Exercise (FAME) program is an evidence-based community program that improves physical function after stroke. Referral pathways from local hospitals may help facilitate participation in FAME programs. Direct scale-up efforts to increase access to local community exercise programming have not been conducted, and the implementation barriers and facilitators are unclear.Aims: To assess (1) implementation barriers and facilitators to scaling up FAME programs and local hospital referral pathways in British Columbia, and (2) the preliminary effectiveness of FAME on participant physical function.

Methods: This mixed-methods implementation study used the RE-AIM Framework to inform the implementation process and evaluation. Our research team facilitated partnerships between community centres and health authorities to implement FAME within community centres and referral pathways from local hospital rehabilitation units. Potential partners and FAME participants were quantified and characterized. Barriers and facilitators to adoption and implementation were triangulated from field notes and survey data. Changes in FAME participant physical function were assessed using the Short Physical Performance Battery (SPPB) and reported as mean changes with corresponding 95% confidence intervals (CI).

Results: Between May 2024 and January 2026, 117 potential partners were contacted from 28 potential sites to implement FAME and 19 local hospital rehabilitation units across five health authorities to implement referral pathways. Among 28 potential FAME sites, 16 (56%) have implemented FAME, 10 (36%) declined, and 2 expressed interest. Among the 10 non-adopting sites, the primary adoption barrier was the lack of available instructor staffing (n=7). All 19 local hospitals adopted a referral pathway. Across the 16 adopting sites, 48 FAME cycles have been offered, of which 7 cycles were cancelled due to insufficient registration numbers (n=6), primarily for the first cycle, or changes in instructor staff availability (n=1). Throughout adoption, implementation, and maintenance of FAME, identifying and/or retaining instructors was a key barrier. Among 63 FAME participants, clinically meaningful (SPPB=1 point; gait speed=0.1 m/s) increases were observed in mean SPPB scores by 1.2 points (95%CI=0.7, 1.6) and gait speed by 0.11 m/s (95%CI=0.05, 0.16).

Conclusion: Strategies to increase and retain community centre instructor staffing may facilitate program adoption, implementation, and sustainability. Preliminary results suggest real-world, clinically meaningful physical benefits.

P1.D.34 *An international survey to understand clinical trial ecosystem in primary stroke centres*

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Background: Stroke clinical trials are predominantly conducted in comprehensive stroke centres (CSC), despite approximately 30-50% of intravenous thrombolysis being delivered in primary stroke centers (PSC). Consequently, current stroke trial populations may underrepresent patients from non-urban and community settings. There is a need to improve understanding of the barriers and opportunities for incorporating PSC into clinical trials.

Methodology: We performed a multinational, cross-sectional, web-based two-part survey distributed to healthcare professionals managing acute stroke care. In the first part, participants were asked about the included centre type, geographic location, stakeholder designation, current research involvement, perceived barriers to clinical trial enrolment, and proposed solutions using 24 qualitative questions. In the second part, a short video interview was conducted with interested participants. We used mixed methods for data analysis: Chi-square tests to compare barriers at the PSC and CSC, Thematic and Sentiment analyses to categorize open-ended responses.

Results: A total of 97 responses from 10 Countries were received from CSC (34.0%, n=33), PSC with stroke units (32.0%, n=31), thrombolysis-only centres (19.6%, n=19), rural sites (5.2%, n=5) and other site types (8.2%, n=8), such as stroke rehabilitation centers. Most common respondents were neurologists (72.2%, n=70). Clinical trial participation was reported by 72.8% (n=24) of CSC, compared with 32.3% (n=10) of PSC with stroke units and 10.5% (n=2) of thrombolysis-only centers ($p<0.01$). The top 3 barriers to enrolling patients in clinical trials were limited staffing, time constraints, and limited awareness of clinical trials. The top 3 solutions to overcome barriers to patient enrollment were strong collaboration between clinical and research teams, minimal financial remuneration, and concise, optimal, and timely training programs. Four themes were observed: human capital and workforce limitations; infrastructure and technological gaps; administrative and regulatory friction; and, lastly, cultural and financial incentives. Three sentiments were observed: frustration and perceived futility (negative); clinical urgency and determination (Neutral/Task-oriented), and aspiration and collaboration (Positive). Preferred clinical trial unit model: satellite (52%), independent (46%), referral site only (22%) and none of the above (7%).

Conclusions: Participation in stroke clinical trials remains substantially lower in PSC compared with CSC, despite their major role in acute stroke care. Targeted investments in research staffing and recruitment training may enable broader trial participation and improve the representativeness of stroke research across diverse healthcare settings. The satellite clinical trial unit is the preferred model for PSC.

P1.D.35 *Exploring the natural history of chronic disease self-management and health resource utilization after stroke (ENHANCE): A protocol for an analysis of clinical outcomes*

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Introduction: Stroke is a leading cause of disability in Canada, with many individuals experiencing physical and psychological impairments. Shorter lengths of hospital stays and unmet recovery needs place greater emphasis on the self-management activities performed by individuals upon returning to community living. The ability to self-manage in key domains (i.e., behavioural, emotional, life roles) empowers individuals to maintain their long-term health and wellbeing. To date, we possess a limited understanding of long-term chronic disease self-management among individuals with stroke beginning in the early stages of community reintegration. Thus, our objectives are to: 1) Characterize the trajectories of self-management domains over 12-months after stroke; and 2) Examine if the 12-month trajectories differ by salient demographic (e.g., sex, age) and health variables (e.g., stroke severity, multimorbidity).

Methods: A single group, multi-site (Kelowna, Vancouver, Quebec City), longitudinal research study design (n=94) will be conducted. We will recruit older (>50 years old) individuals within 6-months of being discharged from in-or outpatient stroke rehabilitation. Data collection will occur at baseline, 3-, 6-, 9- and 12 months. Our primary clinical outcome, self-management ability, will be measured using the Health Education Impact Questionnaire. We will also collect data on three self-management domains: Behavioural -1) 4-day walking physical activity measured via Modus StepWatch Activity Monitors, 2) Dietary intake recorded by 3-day food diaries, and 3) Sleep quality assessed using the Pittsburgh Sleep Quality Index; Emotion – Emotional/mental health will be assessed using the Depression, Anxiety and Stress Scale; and Life roles – Quality of participation will be measured using the Measure of Experiential Aspects of participation. For our primary objective, mixed-effect model analyses will be constructed, using fixed occasion designs. Separate mixed model analyses will be conducted for each self-management-related dependent variable. For our secondary objective, the moderating role of salient demographic and health variables will be each independently explored in separate models. We will include an interaction term between the relevant demographic variable and time where time will be treated as a continuous variable (e.g., sex*time).

Projected Impact: Findings from this longitudinal study may reveal the timepoints along the continuum of stroke recovery where individuals experience the greatest rates of change in self-management abilities, and thus informing the optimal timing for clinicians to intervene and offer valuable strategies. Moreover, the trajectories among individuals possessing certain demographic characteristics (e.g., female sex, older age) may help clinicians identify, and importantly target individuals who will maximally benefit from self-management support interventions.

P1.D.36 *Exploring the natural history of chronic disease self-management and health resource utilization after stroke (ENHANCE): A protocol for a health economic analysis*

Elise Wiley [1], Brodie Sakakibara [1], Krista Best [2], Joanie Bédard [2], Kathleen Martin-Ginis [1], Jennifer Monaghan [1], Courtney Pollock [1], Sarah A Purcell [1], Amy Schneeberg [1], Aleksander Tkach [3], Jennifer C Davis [4]

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Background: In Canada, stroke costs exceed $6.25 billion annually (cost inflated from $3.6 billion reported in 2000) through direct health care costs and lost productivity costs due to premature mortality and long-term disability. Individuals in the early stages of stroke report poor health-related quality of life [HRQoL]. Increasingly complex discharge plans place greater emphasis on the self-management activities (i.e., ability to manage one's 1) behavioural health; 2) emotional health; and 3) participation in life roles) performed by individuals upon returning home. Despite the significant economic and HRQoL burden of stroke, there is a lack of data on health care usage and HRQoL patterns, particularly within the first year of recovery where hospital readmissions are high. Hence, the objectives of this study are to: 1) Identify 'case-mixes' based on the cost and HRQoL trajectories of individuals with stroke. Case-mixes are groups of clinically similar individuals that incur comparable patterns of health resource utilization and HRQoL trajectories; and 2) Determine modifiable baseline self-management-related predictors based on participants' cost and HRQoL case-mixes.

Methods: A multi-site (University of British Columbia – Okanagan [Kelowna] & Vancouver, and Laval University [Quebec City]), longitudinal research study design (n=94) will be conducted. We will recruit individuals (>50 years old) within 6-months of being discharged from in-or outpatient stroke rehabilitation. HRQoL will be measured using the EuroQol-5D-5 Level, a generic preference-based questionnaire that provides an assessment of quality of life for a particular moment in time. We will estimate health state utility values from the EQ-5D-5L using Canadian valuations. Health resource use will be calculated using the Health Resources Utilization Questionnaire (HRU) which inquires on: 1) health professional visits, 2) admissions to hospital, and 3) laboratory tests/ investigations. Costs are assigned using a fully allocated hospital cost model (for inpatient costs) and provincial medical fee guides (outpatient costs). We will also collect clinical data on the three salient domains of self-management (i.e., behavioural [walking physical activity, diet and sleep quality], emotional health, and participation in life roles). To address our primary objective, we will conduct Latent Class Growth Modeling to determine case-mix groups (e.g., stable, decreasing, increasing) based on the longitudinal HRU and HRQoL data. For our secondary objective, trajectory factors obtained from the previous models will be regressed based on baseline self-management domain (e.g., diet quality) values using multinomial logistical regression models.

Projected Impact: Defining case-mixes from first-year post-stroke resource use and HRQoL trajectories will enable health authorities to target resources proactively to high-cost/low-HRQoL individuals and reveal modifiable self-management factors. These insights will have capacity to support tailored interventions that allow for the calculations of return on investment.

P1.D.37 *System-wide sustainable implementation of a cognitive strategy-based interve ion within inter-professional stroke teams: Evaluation using the Consolidated Framework for Sustainability Constructs in Healthcare*

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Background: The Cognitive Orientation to daily Occupational Performance (CO-OP) Approach™ is a complex intervention that uses cognitive strategy training and guided discovery to support shared decision making to attain goals. For those recovering from stroke, it's associated with skill acquisition, transfer of learning, and improved function. From 2015-2017, phase 1 of a knowledge translation (KT) initiative, called CO-OP KT, implemented CO-OP in inpatient stroke rehabilitation teams at 5 hospitals in the Toronto Stroke Networks (TSN), with positive findings at patient, provider and system levels. Starting in 2018, phase 2 of the initiative focused on implementation across the TSN through an adaptable approach empowering local action. Our aim is to explore sustainability of system-wide implementation of a complex intervention.

Methods: We used the Consolidated Framework for Sustainability Constructs in Healthcare (CFSCH) to conduct a retrospective evaluation with a focus on phase 2. We extracted program data, such as CO-OP self-efficacy scores, and developed a matrix of the original plan, adaptations and outcomes. TSN leadership, front line staff, and KT experts reviewed the matrix for completeness and accuracy, and used a consensus process to develop recommendations for system-wide sustainable implementation of a complex intervention.

Results: Adaptations and outcomes occurred in all CFSCH constructs, with key findings reported here. The initiative was adapted in response to emerging system changes and needs, and occurred through collaboration with unit managers and champions, building on the enthusiasm of engaged programs to create momentum, while maintaining connection with those with reduced capacity. Through online or instructor-led virtual workshops, 176 front-line stroke providers were trained across the TSN (7 acute units, 1 integrated stroke unit, 5 inpatient rehabilitation units, 6 outpatient rehabilitation units, and community partners). Available baseline self-efficacy to use a person-centred approach scores were higher in phase 2 versus phase 1, and all aspects of post-training self-efficacy trended higher in phase 2. Unit champions established local implementation plans with cross-system themes: integrating CO-OP in orientation, mechanisms for sharing CO-OP learning opportunities, increasing visibility of resources, developing documentation supports, and ongoing emphasis on using a person-centred goal-setting approach.

Conclusion: A sustainable implementation strategy supported long-term, ongoing, system-wide uptake of a complex behavioural intervention. Recommendations include (1) recognize sustainability as an iterative, continuous process requiring time for wide-spread acquisition of skills/knowledge and shifts in attitudes/beliefs, and (2) engage and build trust with local implementation supports such as champions to enable feedback opportunities and collaboration between front-line staff and system leadership.

E – POPULATION HEALTH

P1.E.38 *Improving influenza vaccination uptake in acute stroke inpatients*

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Our team implemented a simple, sustainable, and highly effective process to dramatically increase influenza vaccination rates among acute stroke inpatients at our comprehensive stroke center. Despite strong evidence that influenza vaccination reduces stroke risk by approximately 25%, vaccination as a recommendation in Canadian Stroke Best Practices and provincial expectations that influenza vaccination be offered during flu season, our neurology ward had zero inpatient vaccinations during the 2023/24 season. This represented a major missed opportunity for secondary stroke prevention. To address this gap, we developed a practical, low-burden toolkit and workflow that embedded vaccination into routine stroke care. Key components included: A standardized admission process, where every new stroke patient had vaccine status checked through the provincial eHealth Viewer. A pre-printed influenza vaccine order set placed in every chart on admission, regardless of prior vaccination status, ensuring immediate access and upfront reminder to vaccinate. Brief, targeted education sessions for nurses, residents, and physicians focused on the stroke-specific benefits of influenza vaccination. Daily prompts at bullet rounds identifying eligible patients and reinforcing the expectation that vaccination be offered as part of standard care. Shared team ownership, rather than reliance on a single champion, allowing the

process to be integrated into everyday workflow. This toolkit required no additional staffing, no new technology, and minimal time investment. Yet it produced a significant improvement: during the 2024/25 influenza season, 12.3% of eligible stroke inpatients received the vaccine, compared to 0% the year prior (p<0.001). Stroke patients represented 23% of all inpatient influenza vaccinations at our hospital, despite comprising less than 5% of admitted patients. Early data from the 2025/26 season shows continued improvement, demonstrating sustainability beyond the initial implementation period. What makes this innovation worth bragging about is its simplicity, adaptability, and immediate impact. Any hospital can adopt this model without new resources, and it can be applied to other preventive interventions (eg. pneumococcal vaccination, smoking cessation counselling, or secondary prevention bundles). Attendees will leave with a ready-to-use process that improves patient outcomes, strengthens interdisciplinary collaboration, and transforms preventive care from an afterthought into a reliable, embedded practice. This project demonstrates that meaningful improvement doesn't require complex systems. Through thoughtful design, consistent cues, and empowered frontline teams, positive change can happen. It's a small change with big implications, and absolutely worth stealing.

P1.E.39 *Disparities in access to vascular stroke imaging and carotid revascularization: A population study from Manitoba*

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Background: Extra and intra-cranial disease can be detected by vascular imaging including CT angiography (CTA), making imaging an important tool in stroke prevention. We aim to investigate population-level disparities in the utilization of vascular imaging and subsequent carotid revascularization procedures in Manitoba.

Methods: Patients with ischemic stroke or TIA in 2019/2020 were identified using administrative data and further linked to clinical and imaging data obtained from chart review. Patients were compared by receipt of neck imaging (CTA) for baseline characteristics and outcomes. Outcomes included recurrent stroke/TIA over 5 years, and revascularization procedures. Univariable and multi-variable logistic regression adjusted by age, sex and region was used to report odds ratio and 95% confidence intervals.

Results: Of 1045 patients included, 793 (75.9%) received neck imaging. Patients who received neck imaging were younger (median age, 75 vs 78, p=0.002), more likely to present to an urban centre (81.64% vs 57.37%, p<0.001) and had more severe strokes (median NIHSS, 3 vs 2, p=0.04) than patients without imaging. On multivariable analysis increasing age and presenting to rural hospital remained negative predictors for imaging use. Patients with neck imaging had higher risk of at least one recurrent event (19.01% vs 11.84%, p=0.013) but had significantly lower mortality within 5 years (45.40% vs 59.26%, p<0.001) as compared to those without imaging. There were no significant differences between rates of carotid revascularization between the two groups.

Conclusion: Disparities in neck imaging use for Manitobans were observed. Investigations should be conducted to determine how these disparities can be mitigated.

F – PRECLINICAL AND MECHANISTIC STUDIES

P1.F.41 *Crosstalk between sarmoptosis and ferroptosis identifies a novel therapeutic target for intracerebral hemorrhage*

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Background: White matter injury is a key correlate of functional outcome after intracerebral hemorrhage (ICH), yet the mechanisms linking intraparenchymal blood breakdown to axonal damage are unclear. Hemin, the oxidized breakdown product of hemoglobin, induces neuronal ferroptosis in vitro, and agents that block this death inhibit neuronal loss and behavioral impairment after ICH. However, whether ferroptotic mechanisms characterized in cell bodies extend to axons is unknown. As recent studies have identified a conserved axonal degeneration program mediated by NADase sterile alpha and TIR motif-containing protein 1 (SARM1), we considered the possibility that ferroptotic stimuli (e.g., hemin) activates SARM1 to drive white matter and other types of injury after ICH.

Methods: Primary cortical neurons (E16) from wild-type (WT) and SARM1-KO mice were treated at DIV-1 with hemin or erastin to induce ferroptosis. Select cultures were treated with FK866 (activates SARM1), N-acetylcysteine (NAC; ferroptosis inhibitor) or DSRM-3716 (SARM1 inhibitor), alone or with hemin/erastin. Cell viability, NAD+, and GSH/GSSG levels were assayed at 4, 8, and 24 h. In vivo, ICH was induced in WT and SARM1-KO mice of both sexes via collagenase (N=24) or autologous whole blood (AWB) injection (N=24). Sensorimotor function was assessed by corner turn, adhesive tape, and pole tasks for 28 days after collagenase ICH. After AWB-ICH, corner turn task and neurological deficit scores were evaluated at day 1 and 3. Brains were collected for histology at day 3.

Results: Absence of SARM1 increased neuronal survival by 25% and 15% after 24 h of erastin and hemin exposure (LD50 dose; $p \leq 0.0008$ vs. WT), while SARM1 inhibition with DSRM-3716 (300 µM) improved survival by up to 52% ($p < 0.0001$). NAC rescued survival to ~90% across conditions. Hemin and erastin reduced the GSH/GSSG ratio by up to 63% at 8 h in both genotypes (all $p \leq 0.01$ vs control), with greater NAD+ depletion in WT vs SARM1-KO neurons (all$p \leq 0.05$). FK866-induced NAD+ depletion alone did not affect GSH/GSSG ratios (all $p > 0.12$), indicating that SARM1-mediated metabolic collapse follows, rather than initiates, ferroptotic oxidative stress. In vivo, despite equivalent hematoma volumes, SARM1-KO mice showed improved neurological recovery across all behavioral tasks through 28 days after collagenase ICH (all $p \leq 0.05$ vs WT), with reduced axonal pathology. After AWB-ICH, SARM1-KO animals had lower neurological deficits by day 3 vs WT ($p = 0.04$), with a trend toward improved corner turn performance ($p = 0.054$, Cohen's $d = 0.84$).

Conclusion: SARM1 mediates axonal pathology and white matter injury after ICH. Improved functional outcomes in SARM1-KO animals identify SARM1 as a promising therapeutic target for hemorrhagic stroke. In vitro, SARM1-KO neurons show partial resistance to ferroptotic stimuli, suggesting that combined anti-ferroptotic and anti-sarmoptotic strategies may optimize outcomes by protecting distinct neuronal compartments.

P1.F.43 *Sustained-release Chondroitinase ABC delivery enables neural progenitor cell survival and functional recovery in a preclinical model of ischemic stroke*

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Background: Cell-based therapies have long been proposed to regenerate lost tissue and enhance functional outcomes after stroke. Yet major barriers, such as the hostile post-injury microenvironment, characterized by chondroitin sulfate proteoglycan (CSPG) accumulation, lead to poor survival of transplanted cells. Effective repair requires both modification of the inhibitory microenvironment, as well as a supportive framework within the injured tissue. We developed a combinatorial strategy integrating sustained extracellular matrix modulation with neural progenitor cell transplantation and performed comprehensive preclinical validation in a rat model of ischemic stroke.

Methods: Ischemic stroke was induced in male rats using the Endothelin-1 model. Human induced pluripotent stem cell–derived neural progenitor cells (iPSC-NPCs) were transplanted into the stroke cavity using an in-situ gelling, injectable hyaluronic acid-based hydrogel (HAO) supplemented with laminin (HAO-lam), optimized to enhance cell survival and differentiation. To degrade CSPGs, a thermostabilized chondroitinase ABC variant (ChASE37) was formulated for affinity-based sustained release (ChASE37-AR) and delivered epicortically in a methylcellulose-based hydrogel. Animals received NPCs alone, ChASE37-AR alone, combination therapy, or controls. Outcomes included longitudinal motor behavioral assessment and histological analyses.

Results: HAO-lam hydrogels supported the survival and neuronal differentiation of NPCs for at least 2 weeks in vitro. In vivo, sustained ChASE37-AR delivery resulted in prolonged CSPG degradation within the peri-infarct tissue following a single administration, with no signs of immunogenicity. All three treatment groups significantly improved motor function as early as 3 weeks after administration compared to the control groups, while lesion volumes were not significantly different. Interestingly, only the combinatory group showed a robust long-term survival of transplanted cells and enhanced neuronal differentiation within the host tissue.

Conclusion: These findings demonstrate the therapeutic advantage of combining human iPSC-NPCs with sustained ChASE37-AR delivery to promote repair after stroke. The enhanced thermostability of ChASE37-AR, together with its affinity-based sustained release from a biocompatible hydrogel, enables durable modulation of the post-injury microenvironment and supports survival and maturation of transplanted cells, suggesting functions that extend beyond CSPG degradation alone. The HAO-lam hydrogel further provides a supportive scaffold that enhances NPC retention and differentiation. Collectively, this combinatorial strategy represents a modular, clinically relevant platform that addresses key regenerative barriers and warrants continued investigation for stroke and other central nervous system injuries, including spinal cord injury.

P1.F.44 *Chemogenetic neuromodulation to enhance post-stroke motor recovery in rats.*

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Background Stroke often produces lasting deficits in fine motor control because neurons in the perilesional cortexbecome hypoexcitable during the critical window of post-stroke plasticity. Existing neuromodulationtechniques lack the cell-type specificity needed to precisely support recovery. As an initial step towarda more targeted chemogenetic strategy, this study examines whether AAV vectors delivered in aminimally invasive manner can effectively target pyramidal neurons surrounding a photothromboticlesion.

Methods A photothrombotic stroke was induced in the motor cortex of adult rats. Two-hours afterward, animalsreceived an IV injection of one of three AAV vectors expressing eGFP under the CaMKIIα promoter: AAV2.FUS, AAV2/9, or AAV.M8.1. After a 28-day expression period, brains were collected andanalyzed to assess the distribution and intensity of viral expression. MAP2 and parvalbumin (PV)immunostaining were performed to visualize preserved cortical structure and the selectivity of the viralvector for excitatory neurons. Results Among the three vectors tested, AAV2.FUS produced the strongest and most consistent expression.Clear eGFP labeling was observed in pyramidal neurons bordering the lesion, demonstrating robustaccess to perilesional cortex following minimally invasive delivery. MAP2 staining successfullyoutlined the lesion and showed that AAV2.FUS-positive neurons were located within preserved corticallayers adjacent to the ischemic core. PV immunostaining also worked reliably, revealing inhibitoryinterneurons interspersed within these preserved regions unlabeled by our viral vectors. By comparison,AAV2/9 led to sparse, weak labeling, and AAV.M8.1 showed no detectable expression.

Conclusion These findings identify IV injection of AAV2.FUS-CaMKIIα as a promising non-invasive strategy fortargeting pyramidal neurons in the perilesional cortex after photothrombosis. The robust viralexpression pattern supports the next phase of the project, which will incorporate DREADD-basedchemogenetic activation to explore whether selectively enhancing pyramidal neuron excitability canpromote cortical plasticity and improve fine motor recovery after stroke.

P1.F.46 *Visuospatial monitoring during bimanual tasks after stroke*

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Background: Most daily activities require the use of both upper hands. The complexity of bimanual tasks exceeds that of unimanual ones, and they have been shown to be more impaired after stroke. The higher demands on visuospatial monitoring in such tasks adds an additional layer of complexity, especially given that 65–73% of stroke survivors have visual impairments. This study aims to characterize visuospatial monitoring during different bimanual reaching tasks in stroke survivors with hemiparesis compared to controls. Specific objectives were to compare the proportion of time during which gaze is allocated: 1- to the target(s) vs. to the hands (reflecting feedforward vs. feedback control) across tasks (parallel and cooperative) and groups; 2- to the dominant/less affected vs. to the nondominant/more affected side (targets/limbs) during a parallel task.

Methods: Participants performed three bimanual tasks in a robotic exoskeleton system equipped with an eye tracker: 1- a simple collaborative task, 2- a complex collaborative task, and 3- a parallel task. In the two collaborative tasks, a single cursor at the mid-point between hands was used to reach a target. In the simple one, the cursor and target size were constant, while in the complex one, the cursor size varied with inter-hand distance and needed to match target size. In the parallel task, participants controlled one cursor per hand and had to reach two distinct targets. Gaze allocation (GA), in percentage of time in each region of interest (cursor[s] or target[s]), was the main variable for all analyses. GA between cursor(s) and target(s) was compared across all tasks and groups to assess feedforward or feedback strategy (Objective 1). In the parallel task only, GA between each side was compared across groups (Objective 2). Nonparametric tests were used to assess interactions (nparLD) as well as for between groups (Mann-Whitney U) and within groups (Wilcoxon) comparisons.

Results: Six stroke survivors (aged 22–66; chronic stage) and 19 controls (aged 21–80) were assessed. For Objective 1, results show that more time was spent monitoring the cursor during the parallel task than the collaborative ones ($p<0.001$). There was a trend for a longer GA on the cursor in stroke survivors ($p=0.078$), but no significant group x task interaction ($p=0.572$). For Objective 2, results show that GA was significantly higher on the more affected side of stroke survivors than on the nondominant side of the controls (62.0% vs. 44.3%,; $p=0.002$).

Conclusion: Results show a tendency to rely more on a feedback strategy in stroke survivors. While controls preferentially monitored their dominant limb, stroke survivors preferentially monitored their affected side, which could indicate a compensation mechanism. A better understanding of visuospatial monitoring strategies during bimanual tasks in stroke survivors can support the development of novel evaluations and interventions in underexplored post-stroke impairments.

G – PWLE, FAMILY & COMMUNITY INVOLVEMENT

P1.G.47 *Impact Through Partnership: Co-designing a Sustainable Stroke Awareness and Prevention Toolkit for African, Caribbean and Black (ACB) Communities*

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Background: Using population-level data, the North & East GTA Stroke Network (NEGTASN) identified Malvern as a high-risk community for stroke. NEGTASN partnered with TAIBU Community Health Centre, a community-driven organization serving Black-identifying communities across Toronto, to co-design a culturally relevant stroke awareness and prevention toolkit. Community members cited mistrust of the medical system, experiences of anti-Black racism and discrimination, limited access to culturally competent care, and fear of misdiagnosis or underdiagnoses. The toolkit will address limitations of traditional health education by centering on lived experiences, community learning preferences, and confidence in navigating health care. Guided by TAIBU's Black Model of Health and Wellbeing, the initiative supports a sustainable train-the-trainer approach grounded in holistic, community-defined health education.

Methods: A phased, mixed-methods, co-design approach was used. Phase 1: Focus groups were conducted with Francophone (n = 15) and Anglophone (n = 16) participants including persons with stroke and caregivers to explore lived experiences, stroke knowledge, and culturally informed preferences for health education. Qualitative data were analyzed thematically. Inclusion of Francophone participants addressed linguistic and cultural intersectionality within the ACB and TAIBU communities. Phase 2: A plain-language survey was completed by focus group participants and additional community members. The survey was available in English, French, and Amharic to reflect linguistic diversity within ACB communities. It assessed stroke knowledge, confidence in recognizing and responding to stroke, learning preferences, and demographics. Quantitative data were analyzed using descriptive statistics. Phase 3: Findings from Phases 1-2 were synthesized to identify core content areas, preferred formats, and delivery principles to inform development of a stroke awareness and prevention toolkit and train-the-trainer delivery model.

Results: Across focus groups, participants emphasized the need for practical, visual, story-based education delivered in trusted community settings. Family members were identified as key stroke recognizers. Participants highlighted the importance of hearing from Black clinicians and community members with lived experience of stroke. To date, 21 French and 18 English surveys were completed. Among French and English respondents, respectively, priorities focused on prevention and action, including healthy eating and exercise (81%, 72%), what to do during a stroke (71%, 50%), and stroke signs and symptoms (62%, 61%). Interest also included life after stroke (57%, 61%) and where to get help (57%, 56%). Preferred learning approaches included short videos (81%, 72%), group sessions (71%, 67%), step-by-step examples (62%, 72%), and learning from health professionals (71%, 67%). Storytelling (48%, 39%), cultural connection (33%, 50%), and language-specific resources (48%, 39%) were valued, while posters (48%, 22%) and social media (38%, 6%) were less preferred.

Conclusion: A phased co-design approach clarified community priorities and established design requirements for a culturally meaningful and sustainable stroke awareness and prevention toolkit and train-the-trainer delivery model. Partnership with a trusted community health organization supports local ownership, knowledge transfer, and sustainability.

P1.G.48 *Driving equity in stroke research: ORDERed recruitment protocol for informed decision-making*

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Background: Women are under-represented in stroke research, limiting generalizability and potentially affecting care. To address this gap, it is important to understand why fewer women take part in stroke studies and how to improve their participation. StrokeGoRed (Stroke in Women: Growing Opportunities to Realize optimal Evaluation, Diagnosis,

and outcomes) is an ongoing prospective cohort study enrolling two cohorts: 1) minor stroke/suspected transient ischemic attack (TIA) and 2) inpatient stroke, across Canada. Within StrokeGoRed, we are testing a novel, women-centred recruitment and enrollment toolkit (ORDERed; comprising coordinator training, videos, brochures, scripts) to enhance study participation of women.PURPOSE: The objectives are 1) to determine whether ORDERed is more effective than traditional, in terms of enrollment rates and recruitment efficiency into the StrokeGoRed cohorts, 2) to explore barriers and facilitators for women to join StrokeGoRed, and 3) to evaluate the feasibility (reach, adoption, implementation, and maintenance) of the ORDERed toolkit.

Methods: The study will use a pre-post design embedded within the StrokeGoRed prospective cohort studies enrolling at 3 sites: suspected TIA/minor stroke at Foothills Medical Centre (n~1,000) and Vancouver General Hospital (n~600), and inpatient stroke at Sunnybrook Health Sciences Centre (n~1,100). The ORDERed recruitment toolkit was co-developed with women with lived experience of stroke and includes coordinator training, a brochure, a short closed-captioned video, recruitment scripts, and a recruitment manual. The toolkit was created to address the known challenges that women face when considering research participation. For the first half of the recruitment period, study sites will use standard recruitment procedures (information letters and informed consent). In the second half, ORDERed toolkit will be introduced. For each person approached for StrokeGoRed, the study site, screening code, reported sex, and dates of all interactions until decision to participate (yes/no) will be recorded. Enrollment rate (consented participants divided by total approached) and efficiency (number of days and interactions between initial contact to decision to participate) will be calculated and compared between the traditional and ORDERed approaches, with results analyzed separately by sex (Objective 1). Participants and site coordinators will also complete short surveys to share their recruitment experiences and to help identify barriers and facilitators to participating in stroke research (Objectives 2,3).

Conclusion: The ORDERed toolkit may offer a promising approach to improving diversity in stroke research across the continuum of care. This work has the potential to strengthen stroke research in Canada and support more inclusive clinical studies, with greater representation of women leading to improved stroke care. The findings will be disseminated extensively among stroke research communities.

P1.G.49 *Stroke family caregiver participation restriction over a two-year period: Impact of sex and care recipient cognitive and depressive comorbidity status*

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Background: Family caregivers play a key role in supporting individuals post-stroke. Taking on this role has often resulted in decreased occupational engagement (i.e., participation in meaningful activity), which negatively impacts health and well-being. Presence of depression and cognitive impairment among the individuals being cared for may accentuate the impact given previous literature suggesting these comorbidities are associated with caregiver burden and quality of life. However, little is known about the impact of depression and cognitive impairment post-stroke on the occupational engagement of family caregivers. The objectives of this study were to explore 1) whether depression and cognitive impairment in individuals with stroke is associated with their caregivers' occupational engagement and 2) the association between caregiver sex and participation restriction.

Methods: This was a secondary analysis of longitudinal data from the National Health and Aging Trends study (NHATs) and the National Survey of Caregiving (NSOC) 2015 cohort of family and unpaid caregivers of adults aged 65 years who self-reported having a stroke. Participants were included if they had data related to participation restriction (dependent variable) and sex and baseline age (covariates). Caregiver participation restriction was a composite variable derived from the number of activities rated as somewhat or very important combined with reports of these activities as hindered from participation (range=0-4, higher score = greater participation restriction). The activities included visiting family/friends, attending religious services, participating in club meetings or group activities, and going out for enjoyment. Care recipient depressive comorbidity was based on participant responses on the Patient Health Questionnaire-2 with a total score of ≥3, which suggests major depression. Care recipient cognitive comorbidity was based on NHATs' dementia classification, with participants considered to have cognitive comorbidity if they were classified as possible or probable dementia. Generalized linear mixed modeling was used to develop the models for caregiver participation restriction.

Results: The analytic sample comprised of 482 caregivers (mean age = 63.4±12.7 years, n=348 (72.2%) female, n=296 (61%) White, non-Hispanic). There were no changes in participation restriction over time but there was a main effect of depressive/cognitive comorbidities. Caregiver participation restriction was 0.66 points higher for those caring for

individuals with both depressive and cognitive comorbidity, in contrast to the reference group of either comorbidity at each time point (β=0.66, 95% CI [0.19, 1.12], p=0.006). Caregiver sex did not have a main effect on participation restriction (95% CI [-0.21, 0.23], p=0.92).

Conclusion: These findings provide insight into the occupational engagement of caregivers for individuals with stroke with depressive and cognitive comorbidity.

P1.G.50 *Understanding caregivers: A qualitative exploration of acquired brain injury caregiving*

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Background: Family members or friends remain the primary source of informal caregiving support for individuals with chronic illness or disability, including those who have an acquired brain injury (ABI), such as a stroke or traumatic brain injury. Informal caregivers of ABI survivors face substantial, evolving demands, yet determinants of stress and effective support remain incompletely characterized.

Methodology: Interpretive phenomenological analysis (IPA) of 11 in-depth, semi-structured interviews with ABI caregivers recruited in Alberta, Canada. Data were analyzed to identify overarching themes reflecting caregiver experiences, stressors, and the perceived impact of supports.

Results: Three interrelated caregiver stressor themes emerged: (1) relationship reorientation, including loss of reciprocity and shifts in roles from spouse/parent to caregiver; (2) emotional upheaval, encompassing guilt, frustration, sadness, and loneliness; and (3) social rebuilding, involving contraction and reconfiguration of social networks and activities. Primary stress mitigators endorsed by caregivers were peer/social support and brain-injury–specific education/rehabilitation, which provided emotional validation, practical strategies, structured routines, and community. Key barriers included informational gaps across the brain injury care continuum and time constraints that limited self-care and service use.

Conclusions: Psycho-social supports for ABI caregivers should prioritize relationship- and family-focused interventions, facilitated peer groups, and timely, evidence-based education. Targeted supports may reduce caregiver burden and improve outcomes for ABI survivors by strengthening the caregiver–care recipient relationship.

H – QUALITY IMPROVEMENT

P1.H.52 *Improving access to the Stroke Prevention Clinic by direct emergency department booking*

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Background: The Canadian Stroke Best Practice Recommendations advise that patients with high-risk transient ischemic attack (TIA) are assessed as soon as possible. High volumes at Regional Stroke Centres can impair timely access to evaluation and management for patients at risk of recurrent stroke. In 2015, Hamilton Health Sciences implemented process improvements within its Stroke Prevention Clinic (SPC), reducing wait times from 35 days to 4 days for referrals from all sources. We implemented additional strategies to further reduce time to the first SPC appointment.

Methods: We undertook a quality improvement initiative to identify and address barriers to timely SPC access. Review of referral and scheduling data identified challenges contacting patients after discharge and patient-declined appointments as the most common contributors to delays. In response, a pilot project was launched in 2015 at the Hamilton General Hospital Emergency Department (ED), enabling ED staff to directly book the next available SPC appointment, prior to patient discharge.The primary outcome measure was time (in days) from ED discharge to first SPC appointment. This process was paused during the COVID-19 pandemic and re-launched in June 2024 at both the Hamilton General Hospital and Juravinski Hospital EDs.

Results: Initial implementation of direct ED booking in November 2018 reduced the mean time to first SPC appointment from 2.33 days to 1.09 days, a > 50% reduction, with the majority of patients receiving next-day appointments. Following expansion of direct booking to both ED sites, the mean time to first SPC appointment across all triage levels was 1.9 days, with urgent patients seen within 1.4 days. The model also improved SPC operational efficiency and supported smoother

transitions from ED to outpatient stroke prevention care. Conclusions: Direct ED booking of SPC appointments significantly reduces time to first clinic visit for TIA patients. This model improves timely access to secondary stroke prevention care and supports efficient, patient-centred transitions across care settings.

P1.H.53 *Services-level effects of a multifaceted knowledge translation intervention in post-stroke sexual rehabilitation: A multisite study in Québec*

Louis-Pierre Auger [1], Aliki Thomas [1], Fatimata Ouédraogo [2], Théophile Janty [3], Isabelle Quintal [3], Marika Demers [2], Chantal Robillard [4], Claude Vincent [3], Ernesto Morales [3], Annie Rochette [2]

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Background: Sexuality is poorly integrated in stroke rehabilitation, although addressing it is part of rehabilitation guidelines. This study aimed to assess the impact of implementing evidence-based knowledge translation (KT) interventions specifically targeting sexuality on sexual rehabilitation services and related influencing factors.

Methods: A longitudinal concurrent mixed-methods design was conducted across six neurological rehabilitation settings. All settings received a standardized 7-hours training and a toolbox of KT strategies (e.g., informative pamphlet), clinical tools (e.g., sexuality interview guide 2.0) and systematic procedures to screen and assess sexuality-related rehabilitation needs and intervene on the matter. Implementation occurred over an eight-month period. Data collection involved medical record audits and focus groups. Audits were conducted at four time points: three months pre-implementation (T0) and at two (T1), five (T2), and eight (T3) months of implementation. Data collection addressed sociodemographic, health and sexual rehabilitation indicators (e.g., whether sexuality was addressed). Online focus groups were conducted with 23 coordinators and managers across participating settings to explore factors influencing the implementation of KT interventions and sexual rehabilitation services. Quantitative analyses were conducted using descriptive and inferential statistics. Qualitative data were analyzed thematically based on the Consolidated Framework for Implementation Research (CFIR). Integrated analysis deepened what factors appeared key in influencing implementation across settings.

Results (preliminary): A total of 689 medical records of persons with stroke were audited across T0 – T3, where the mean age was 69.69 ± 13.2 years and 45.6% were women. For each time points, sexuality was addressed: T0: 0%, T1: 18.7%, T2: 20.4%, T3: 21.3%. Among the 99 records where sexuality was addressed, 40,4% 46 (41.8%) agreed to integrate this domain to their rehabilitation. Qualitative findings across CFIR levels showed high acceptability of KT interventions, improved clinician comfort but limited readiness to intervene, greater feasibility in outpatient settings, the influence of client characteristics, and the critical role of appropriate documentation tools for sexual rehabilitation practices. Preliminary integrated analysis suggests that settings implementing additional systematic procedures demonstrated greater improvements in sexual rehabilitation service provision.

Conclusions: This multisite study suggests that KT interventions may improve the provision of sexual rehabilitation services after stroke, especially ones targeting clinicians and their context. Also, considering the influence of organizational context, rehabilitation phase, and client characteristics appears as key aspects. Our results will inform future implementation initiatives aimed at strengthening the integration of sexuality into stroke rehabilitation in Canada.

P1.H.53.a *Clinician-level effects of a multifaceted knowledge translation intervention in post-stroke sexual rehabilitation: A multisite study in Québec*

Louis-Pierre Auger [1], Annie Rochette [2], Isabelle Quintal [3], Marika Demers [2], Chantal Robillard [4], Claude Vincent [5], Ernesto Morales [3], Fatimata Ouédraogo [2], Théophile Janty [3], Aliki Thomas [1]

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Background: Sexuality is a recommended yet frequently neglected topic in stroke rehabilitation, largely due to multiple barriers experienced by clinicians. To address those, we implemented an evidence-based knowledge translation (KT) interventions targeting sexuality in stroke rehabilitation settings in Quebec. This study aimed to evaluate the influence of these KT interventions on clinicians, their practices and their context.

Methods: A longitudinal mixed-methods design was conducted among interdisciplinary clinicians working in 6 stroke rehabilitation settings. All settings received a standardized training and independently selected and implemented a range of KT and clinical tools (e.g., information pamphlet, sexuality interview guide 2.0) adapted to their local contexts over an 8-month period. Data collection included a sociodemographic questionnaire and three instruments: the Knowledge, Comfort, Approach and Attitude towards Sexuality Scale (KCAASS; personal factors), the Sexual Readiness Scale (SRS; practice factors), and the Determinants for Implementation Behaviour Questionnaire – Sexual Health Intervention (DIBQ-SH; personal, practice and contextual factors) administered at three time points: pre-training (T1), post-training (T2), and

after the implementation period (T3). Before and after implementation, clinicians also estimated the proportion (%) of clients with whom they addressed sexuality and provided explanatory comments. For all instruments, a higher score meant better performance. Statistical analyses were conducted by an independent statistician using descriptive statistics and mixed linear regression models with statistical significance at $p < .05$. Qualitative data (explanatory comments) were analyzed inductively using content analysis.

Results: A total of 318 clinicians participated (mean age: 40 ± 10 years) of which 293 (93%) were women. Scores across all personal, practical, and contextual factors improved significantly ($p < .05$) following training and were maintained at post-implementation ($p > .05$), except for the Attitude subscale of the KCAASS. Moreover, clinicians reported a 20% increase ($p < .001$) in the proportion of clients with whom they addressed sexuality following implementation. Qualitative data shed further lights regarding the remaining discomfort, the lack of privacy in the rehabilitation environment to address sexuality and the need for more training, tools and specialists.

Conclusions: Our training and complementary KT interventions were effective in improving and sustaining clinicians' personal, practice and contextual factors, meaning that they felt more knowledgeable, comfortable, confident and supported by their team and institution to address sexuality to enact sexual rehabilitation practices after stroke. Our interventions could support future implementation projects' success regarding sexual rehabilitation after a stroke and create complementary strategies to address the other barriers that we outlined.

P1.H.54 *Bridging the gap: A stroke of collaboration with emergency departments*

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[1] *Unity Health Toronto*

Background: Engaging Emergency Departments (EDs) presents challenges due to high patient volume and the broad range of conditions managed. To address this, a regional ED Engagement strategy was developed and implemented over the past 2 years, grounded in seven guiding principles and four key focus areas.

Methods: A structured approach was implemented, including quarterly meetings with ED leadership and regional educators. These forums identified shared challenges, common gaps, and educational priorities. A Knowledge Translation strategy was then developed to deliver tailored education reflecting each ED's needs. The goal was to foster a supportive learning environment where ED staff could ask questions, share insights, and engage meaningfully. Education was designed for immediate relevance and long-term sustainability. Site visits reinforced stroke best practices and strengthened partnerships between the Regional Stroke Centre (RSC) and Community EDs, laying the groundwork for ongoing collaboration.

Results: Meetings identified priorities such as enhanced Code Stroke education and improved inter-site communication. Leadership from 100% of regional EDs participated in planning, and 100% of ED educators and managers supported in-person education. Over 150 ED staff attended sessions, with many appreciating the interactive approach. Several sites requested follow-up visits. Physician engagement has been strong with a co-created interactive education model successfully operationalized with good attendance. A collaborative virtual stroke simulation is in production.

Conclusion: The ED Engagement strategy strengthened collaboration and improved stroke education through tailored approaches. High participation and positive feedback highlight its impact and sustainability, with next steps focused on maintaining momentum and simulation-based team training.

P2.A.57 *Interprofessional collaborative care for the delivery of chronic disease self-management support among people with stroke or TIA – A scoping review protocol*

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Background: Interprofessional collaborative care (ICC) is when multiple health professionals from different disciplines work together, along with patients, to deliver collaboratively developed care plans. While evidence suggests that delivery of care from ICC teams – compared to individual providers – within acute care settings leads to improved health outcomes, enhanced patient satisfaction, and more efficient healthcare (e.g., in-patient stroke units), ICC used as a model for the delivery of chronic disease self-management support is just emerging. Here we report on a scoping review protocol that will: (1) characterize ICC interventions that aim to improve patient health outcomes for people with stroke or TIA; (2) examine differences in ICC protocols between acute and chronic care settings; and (3) explore the impact of these interventions on patient outcomes.

Methods: This scoping review will follow Arksey and O'Malley's (2005) methodological framework and use the Canadian Interprofessional Health Collaborative (CIHC) competency framework to characterize ICC usage. Six databases (MEDLINE, EMBASE, Web of Science, PubMed, PsycINFO and Cochrane Library) will be searched from their inception to present. Comprehensive search strategies for each database will be developed in collaboration with a university librarian. Quantitative studies investigating ICC interventions (i.e., health interventions delivered by two or more health professional workers from different disciplines working together with patients/clients and their families to support patients'/clients' care) on patient health outcomes will be eligible if they: (1) include adults with stroke or TIA; and (2) are published in peer-reviewed journals in English. Two independent reviewers will screen studies for eligibility and perform data extraction. Data will be recorded in study specific tables, and quantitative information will be summarized descriptively. Studies will be sorted according to acute and chronic care settings, respectively. Intervention information will be summarized descriptively, and ICC elements described will be categorized into the CIHC framework's six core competencies: relationship-focused care, team communication, role clarification and negotiation, team functioning, team differences processing, and collaborative leadership.

Conclusion: This review will summarize existing literature on the use of ICC to provide health services to people with stroke and TIA, with emphasis of its use in chronic care settings. Our findings may identify research gaps and/or inform the development of ICC models for the delivery of chronic disease self-management support.

P2.A.58 *Sociodemographic, health, and behavioural predictors of diet quality in people with stroke*

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Background: Dietary quality reflects an overall dietary pattern that considers individual dietary components (e.g., fruits and vegetables) and nutrients (e.g., saturated fatty acids and vitamins). Emerging research suggests that overall diet quality may be a more important indicator of health outcomes than individual dietary components or nutrients. Diet quality may be particularly relevant for reducing risk related to metabolic syndrome (MetS)—a common condition among people with stroke and a contributing factor to secondary events following initial stroke onset. However, there is limited understanding of the factors associated with diet quality among people with (i) stroke and (ii) stroke with comorbid MetS. The study objectives were to: (1) identify sociodemographic, health, and behavioural variables that predict overall diet quality in people with stroke; and (2) examine the associations of these predictors among stroke survivors with MetS.

Methods: This secondary analysis of baseline data from a larger randomized controlled trial included individuals aged ≥50 years, within one-year post-stroke, with mild to moderate stroke severity. Diet quality (dependent variable) was assessed using the Smart Diet food frequency questionnaire and converted into a Prospective Urban Rural Epidemiology (PURE) score. PURE scores ranged from 0–24, with higher scores indicating poorer diet quality ('better' = 0–13; 'poorer' = 14–24). Independent variables included: (1) sociodemographic (e.g., age, sex, marital status, education level); (2) health (e.g., stroke severity, number of comorbid conditions); and (3) behavioural factors (e.g., stress management, physical activity). Hierarchical linear regression models using forward selection and backward elimination were conducted to develop parsimonious prediction models.

Results: Among the 89 participants included, 59 (66.3%) were male and 56 (62.9%) were categorized as having MetS. Among individuals with MetS (n = 56), the mean age was 68.5 ± 9.6 years, and 36 (64.3%) were male. Regression analyses among all study participants showed that a greater number of comorbid conditions (β = 0.22, p = 0.044) and higher levels of physical activity (β = −0.31, p = 0.006) were significant predictors of diet quality (p < 0.05). Among individuals with MetS, greater stroke severity (β = −0.27, p = 0.044) and greater number of comorbid conditions (β = −0.33, p = 0.017) were significant predictors of diet quality (p < 0.05).

Conclusion: Higher physical activity levels and a greater number of comorbid conditions were associated with better overall diet quality among people with stroke. Increased stroke severity was also associated with diet quality among individuals with MetS. These findings highlight the importance of considering physical activity alongside diet quality, particularly among stroke survivors with greater comorbidity burden and higher stroke severity, to support secondary prevention efforts for future interventions.

P2.A.59 *Exploring the acceptability of a fNIRS-neurofeedback intervention within stroke rehabilitation from a practitioner perspective*

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Background: Post-stroke neurorehabilitation continues to evolve with advances in technology-based interventions. To promote a successful translation of these interventions from research and development into clinical practice, we must understand the key facilitators and barriers to implementation. Stroke rehabilitation practitioners are key stakeholders as they can provide insights on patient needs, workflow constraints, resource limitations, and complex dynamics within the Canadian healthcare system. We previously developed a prototype functional near-infrared spectroscopy (fNIRS) neurofeedback (NF) intervention. This study explores the perceived acceptability of this newly developed fNIRS-NF intervention among stroke rehabilitation practitioners early in the design cycle. Methods: Guided by the Technology Acceptance Model and the Theoretical Framework of Acceptability, this interview study used an interpretive description approach to gain insights from physiotherapists, occupational therapists, and recreation therapists currently working in stroke rehabilitation within Nova Scotia, across both urban and rural areas, and working in various settings such as acute care, rehabilitation, and outpatient services.

Results: Eleven (n=11) practitioners shared valuable insights, organized into four themes: 1) From Protocol to Practice, delving into considerations for delivering the intervention within realistic practice settings; 2) The Cost of Implementation, exploring the various costs associated with the intervention; 3) The Human Element, emphasizing the influence of the clients' and practitioners' personal characteristics; and 4) For the Hope of It All, highlighting the ongoing hope practitioners hold for continued research, development, and improvements in stroke rehabilitation care.

Conclusion: The successful integration of the intervention into stroke rehabilitation is contingent on addressing various barriers. Practitioners negotiate between the integration of new technology and its associated costs, while holding a 'spark of hope' for its potential in improving neurorehabilitation for their clients. Research should continue to consider stakeholder engagement to address real-world constraints.

P2.A.60 *Back to the desk: Bridging home-to-outpatient occupational therapy for return to work after mild stroke*

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Background: Return to work (RTW) after stroke is frequently delayed by gaps during the transition from inpatient discharge to outpatient rehabilitation. A structured occupational therapy (OT) home-to-outpatient workflow may reduce this gap by targeting work-relevant upper-limb performance and confidence early at home, with planned continuation in outpatient care. This retrospective single-case evaluation describes a home-to-outpatient OT approach for RTW readiness after mild subcortical stroke.

Methods: A retrospective review of routine clinical documentation was conducted for a 54-year-old female office-based project manager with right ataxic hemiparesis following left subcortical infarct, who received a home-based OT program with planned outpatient neuro-OT follow-up. Treatment emphasised pragmatic RTW readiness: job-demand mapping (typing/mouse use, handwriting/signature, carrying a work bag, professional grooming for meetings), task-specific practice with graded speed/accuracy targets, ergonomic set-up and positioning strategies, simulation of workplace scenarios

(stairs/steps with work bag, carrying food/drinks), and a structured self-managed home program. Outcomes were assessed using routine clinical measures and compared pre–post (initial assessment versus discharge from outpatient OT); including upper-extremity sensorimotor function on the Fugl-Meyer Assessment-Upper Extremity (FMA-UE), grip strength (dynamometer), typing speed (words per minute) relevant to meeting documentation, fine motor skills (grooved pegboard time), and self-reported/observed ability to complete simulated work tasks.

Results: FMA-UE improved from 60 to 62 points. Grip strength improved from 11.2 kg to 15.4 kg. Typing speed improved from 22 to 33 words per minute. Grooved pegboard time improved from 3 min 56 s to 1 min 32 s. The participant progressed to modified independent self-care and demonstrated improved performance in simulated workplace tasks. At the final home-based OT session, she could complete professional grooming using her affected hand (including eye/eyebrow cosmetics) using compensatory positioning strategies to prepare for work meetings. A graded RTW plan was established at outpatient follow-up. By outpatient OT discharge, the participant expressed confidence in managing work demands, and a memo was provided to her employer suggesting minor work accommodations to support her transition back to work.

Conclusion: In this retrospective single-case evaluation, a structured OT process bridging home-based rehabilitation to outpatient care was associated with measurable improvements in upper-limb performance and functional RTW readiness after mild stroke. This workflow provides transferable components that may be integrated into community stroke rehabilitation pathways to reduce transition gaps and better align therapy with real-world work demands.

P2.A.61 *Effects of exercise and transcranial direct current stimulation on cognitive fatigue and prefrontal cortex activity after stroke*

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Background: Post-stroke fatigue is a common and debilitating condition affecting up to 80% of stroke survivors and represents one of the most significant unmet needs among individuals living in the community after stroke. Cognitive fatigue, characterized by a reduced capacity to sustain attention, increased mental effort, and decreased productivity and quality of life, is particularly prevalent. Disruptions in the balance of excitation and inhibition within fatigue-related neural circuits have been proposed as a potential underlying mechanism. However, effective non-pharmacological interventions targeting cognitive fatigue after stroke remain limited.

Methods: This study investigates the effects of non-pharmacological interventions on cognitive fatigue in individuals recovering from stroke. Twenty-four participants complete four separate experimental sessions involving transcranial direct current stimulation (tDCS), whole-body exercise, handgrip exercise, and rest. Cognitive fatigue is assessed objectively using the sustained psychomotor vigilance task (PVT) and subjectively using a visual analog scale (VAS). Concurrent changes in cortical activity, with a focus on the prefrontal cortex, are monitored using functional near-infrared spectroscopy (fNIRS).

Results: It is expected that all interventions will result in changes in prefrontal cortical activity from pre- to post-intervention, with greater modulation following tDCS compared to exercise and rest conditions. Additionally, tDCS, whole-body exercise, and handgrip exercise are expected to reduce mean reaction time and the number of lapses on the PVT, as well as subjective cognitive fatigue scores measured by the VAS, compared to rest.

Conclusion: These expected findings suggest that exercise and transcranial direct current stimulation may represent feasible, cost-effective, and non-invasive approaches for mitigating cognitive fatigue following stroke. By targeting both behavioral performance and prefrontal cortical activity, this study may contribute to a better understanding of the neural mechanisms underlying cognitive fatigue and support the development of personalized, non-pharmacological rehabilitation strategies for stroke survivors.

P2.A.62 *Use of perceived exertion scales to prescribe and monitor resistance training intensity after stroke: A scoping review*

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Background: After stroke, muscle weakness contributes to impairments in balance, posture, movement control, and force generation. Resistance training (RT) can improve functional performance and independence in people with stroke. Stroke exercise guidelines recommend target intensity for RT at 50-80% of one-repetition maximum (1-RM), the maximum weight a person can lift once with correct technique. However, there are limitations to using 1-RM in the stroke population,

including the need for specialized gym equipment and stroke related impairments that make producing a maximal voluntary contraction difficult. Rating of Perceived Exertion (RPE) scales provide a self-reported perceived difficulty during exercise and may be a more accessible alternative to 1-RM testing for monitoring and prescribing intensity; however, their application for guiding RT workloads after stroke is not well established. Therefore, the purpose of this scoping review is to synthesize the literature on prescribing and monitoring exercise intensity using RPE scales in RT interventions after stroke.

Methods: This scoping review followed the frameworks of Arksey and O'Malley with refinements by the Joanna Briggs Institute. Reporting will be in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews. A comprehensive search strategy was developed with an academic librarian, including keywords for stroke, RT and RPE. Literatures searches were conducted in MEDLINE, EMBASE, Web of Science, CINAHL, and SPORTDiscus from inception to January 26, 2026. Studies were included if they used any design, involved adults post-stroke (≥18 years), incorporated any form of resistance to enhance health or fitness (including bodyweight exercises), and reported RT intensity using RPE scales. Mixed samples were eligible if ≥80% had stroke. Studies were excluded if they: (i) were not primary research (e.g., reviews, editorials, abstracts, opinion pieces), (ii) were not in English, (iii) lacked a RT component or (iv) did not report RPE specific to RT in multi-component interventions. Screening and data extraction will be conducted in pairs, with conflicts resolved by a third author. Methods for prescribing RT intensity and monitoring RPE will be synthesized and compared, with findings summarized in a table.

Results: Analyses are currently ongoing. After de-duplication, 3708 citations were identified. Title and abstract screening are currently underway with four independent reviewers.

Conclusion: Considering the benefits of RT for individuals living with stroke, it is important to encourage its implementation within rehabilitation. Findings from this review will provide evidence on a clinically accessible alternative for measuring RT intensity after stroke. This evidence may help reduce existing barriers to obtaining accurate intensity measurements and further support the integration of RT approaches in a rehabilitative setting.

P2.A.64 *Sex differences in movement behaviours and functional outcomes after rehabilitation for subacute stroke*

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Background: Improving function is a key goal of post-stroke rehabilitation to enhance independence, mobility, and cardiometabolic health. Women often experience poorer post-stroke outcomes than men, yet sex differences in 24-hour movement behaviours (physical activity, sedentary behaviour, and sleep) remain underexplored. This study examined sex differences in movement behaviours and functional outcomes following rehabilitation for subacute stroke (<6 months post-stroke). We hypothesized that women would have lower physical activity, more prolonged sedentary behaviour, and longer sleep duration than men.

Methods: Baseline data were pooled from two behaviour-change intervention studies targeting movement behaviour after rehabilitation for subacute stroke. Participants were ≥18 years, diagnosed with ischemic or hemorrhagic stroke, able to walk ≥5 meters (with or without a gait aid), and with ≥1 valid day of 24-hour activPAL accelerometry data. Movement behaviours included time spent lying, sedentary, upright (<20 steps/min), walking (≥20 steps/min), sit-to-stand transitions, step counts, and number of sedentary bouts. Functional outcomes were assessed using gait speed and the Timed Up and Go (TUG). Descriptive statistics were calculated, normality assessed using Shapiro–Wilk tests, sex differences examined with Welch's independent t-tests due to unequal sample size, and associations explored using Spearman correlations.

Results: Sixty-four participants were included (mean age 65.7 ± 13.0 years; 54.7% male; 78.1% Caucasian; 82.9 ± 42.7 days post-stroke), with a median [interquartile range] of 6 [4–6] valid accelerometry days. There were no sex differences in demographic characteristics. Females and males spent comparable average minutes per day in lying (519.8 ± 116.4 vs 546.7 ± 104.2), sedentary (675.9 ± 140.4 vs 663.8 ± 112.6), upright (<20 steps/min; 182.4 ± 117.5 vs 155.5 ± 69.1), and walking (57.5 ± 42.5 vs 68.2 ± 43.3). However, females had greater number of prolonged sedentary bouts ≥2 hours (0.88 ± 0.55 vs 0.45 ± 0.30; $p < .001$). Males completed the TUG faster than females (15.1 ± 5.5 vs 21.9 ± 12.4 s; $p = .009$), with no sex differences in step count, sit-to-stand transitions, or gait speed ($p > .05$). BMI was negatively correlated with step count in men ($\rho = -0.34$; $p < .05$) and with sit-to-stand transitions in women ($\rho = -0.45$; $p < .05$). Age was associated with slower TUG performance ($\rho = 0.52$) and gait speed ($\rho = -0.47$) in men only (both $p < .01$). Longer time since stroke was associated with less prolonged sedentary time in women ($\rho = -0.45$; $p < .05$) and slower gait speed in men ($\rho = -0.42$; $p < .05$).

Conclusion: Although overall movement behaviour volume was similar, females accumulated more prolonged sedentary time following rehabilitation for subacute stroke. Sex-specific associations with BMI, age, and time since stroke underscore the importance of incorporating sex considerations into movement behaviour interventions.

P2.A.65 *Optimizing the timing of priming exercise to promote cognitive recovery*

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Background: Stroke commonly leads to cognitive impairments, including attentional deficits and executive dysfunction. High-intensity interval training (HIIT) paired with motor training promotes neuroplasticity and improves some cognitive abilities in individuals with chronic stroke. However, the effect of this combined intervention on cognition in the earlier stages post-stroke is unknown. In this preliminary study, we paired HIIT with motor practice in stroke survivors to investigate the potential impacts of timing post-stroke on cognitive function.

Methods: Thirty-one individuals from two sites (Vancouver: n=21 and St. John's: n=10) with post-stroke upper-limb motor impairments completed the study and were included in the analysis (females: 9; mean age (SD): 62.0 (13.8); time post-stroke range (median): 1.7-257.2 (16.4) months; stroke hemisphere: 16 left/15 right). Participants underwent 10 sessions of 3 × 3-minute HIIT cycling (70% maximum resistance) followed by upper-limb motor training. Motor impairment was measured at baseline using the Fugl-Meyer Assessment for upper extremity (FMA-UE). Cognitive measures were assessed at baseline and two post-intervention timepoints (24-hour and 30-day) using five tasks from the Dalhousie Computerized Assessment Battery (DalCAB). Composite scores were created for each of the three attentional domains measured by the DalCAB: vigilance, orienting, and executive control (including working memory), with a lower score indicating better performance in each domain. Linear mixed-effects regression models were used to test the effect of time post-stroke (in months) on changes in attention task scores in the three domains.

Results: HIIT paired with motor practice improved performance in the orienting domain at the 24-hour time point relative to baseline (β = -0.363, 95% CI [-0.635, -0.091], p = 0.010). Increasing stroke chronicity was associated with greater motor impairment (rs = -0.421, p = 0.018), and poorer executive control (β = 0.003, 95% CI [0.00005, 0.005], p = 0.021). For measures involving working memory only, there was an interaction between timepoints and stroke chronicity (24-hour: β = -0.004, p = 0.033; 30-day: β = -0.005, p = 0.009), indicating that individuals with higher stroke chronicity showed greater improvement.

Conclusion: We provided preliminary evidence for an association between stroke chronicity and executive control. While HIIT paired with motor training may benefit orienting of attention regardless of stroke chronicity, it may only preferentially support improvements in working memory for individuals with higher stroke chronicity. These findings may inform rehabilitation strategies for people at different stages post-stroke to maximize their cognitive function.

P2.A.68 *Deficits in cognitive–motor control of the less-affected upper limb in subacute stroke assessed using a robotic exoskeleton: A six-month follow-up study*

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Background: Most activities of daily living require cognitive–motor integration. Identifying deficits in cognitive–motor control after stroke is important, as motor rehabilitation relies on task-specific motor learning. Robot-based assessments offer precise, quantitative evaluation of these deficits and may be more reliable early after stroke when performed on the less-affected limb, minimizing the impact of paresis. Accordingly, this study aimed to longitudinally assess cognitive–motor control deficits in the less-affected upper limb of adult stroke survivors during the subacute phase. A secondary aim was to examine the effect of lesion side on these deficits.

Methods: Forty-one participants (mean [SD] age: 64.6 [14.4] years; 15 women; 24 with right hemisphere damage; 38 right-handed) were assessed using the KINARM Exoskeleton Lab at approximately 1 month (T1), 2 months (T2), and 6 months (T3) post-stroke. They completed the Visually Guided Reaching (VGR) and Reverse Visually Guided Reaching (RVGR) tasks with their less-affected upper limb to assess motor control and cognitive-motor control, respectively. Global Task scores and Z-scores derived from normative data were used to determine the prevalence of deficits within each task. Linear mixed-effects models examined changes over time and the effect of lesion side.

Results: At T1, 88% of participants were impaired on the RVGR global Task score. When looking at specific variables, the highest impairment rates were observed for the initial direction angle (78%), the correction time (70%) and the speed maxima counts (67%). In contrast, only 12% of participants were impaired on the VGR task score. Performance on the RVGR global Task score improved over time, with a time × lesion side interaction: deficits were more severe for right hemisphere lesions than for left hemisphere lesions at T1, but this difference attenuated over time. Performance on the VGR task remained largely unchanged over time.

Conclusion: Adults with stroke exhibited significant impairments in cognitive–motor control of the less-affected upper limb, independent of pure motor deficits, persisting into the chronic stage. Right hemisphere lesion was associated with greater impairments than left hemisphere lesion, especially early after stroke, indicating a potential hemispheric specialization for cognitive-motor control. These findings highlight the importance of assessing cognitive–motor control and integrating it into post-stroke rehabilitation interventions. Future studies could explore the predictive role of cognitive–motor control in motor learning and stroke recovery.

P2.A.69 *Changes in unimanual and bimanual upper extremity use during the subacute phase post-stroke and the influence of supervised and unsupervised contexts*

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Background: The subacute phase after stroke is a critical period for recovery, yet the extent to which gains in upper extremity (UE) capacity translate into real-world use remains uncertain. Accelerometry provides an objective way to quantify UE use, but little is known about patterns of unimanual and bimanual use and how they can be influenced by different contextual factors. This longitudinal study aimed to characterize changes in patterns of UE use during the subacute phase and to determine how different contexts influence UE use.

Methods: Forty-one participants were assessed at admission to inpatient rehabilitation (28 ± 8 days post-stroke), before discharge (68 ± 11 days post stroke), and at six months post-stroke. UE use was measured with wrist-worn accelerometers over seven consecutive days in three contexts: daily life, therapy sessions, and functional assessments. Outcomes included the use ratio (paretic/non-paretic) and the percentage of unimanual and bimanual use.

Results: Unimanual use of the non-paretic UE was the most frequent pattern observed at admission, representing 56.8% of the total UE use, while bimanual use represented 29.3%. At 6 months post-stroke, a more mixed pattern was observed with similar proportion of non-paretic unimanual use and bimanual use (44.4% and 39.2%, respectively). Use ratio improved between admission and discharge (from 0.53 to 0.69; $p<0.001$), indicating a more symmetrical UE use, but no further change was observed after discharge ($p=0.09$). Percentage of unimanual non-paretic use decreased while bimanual use increased across all time points ($p\leq0.03$). Percentage of unimanual paretic use remained low (between 14.0 and 16.5%), with no change over time ($p=0.37$). An effect of context was observed for all accelerometry variables ($p\leq0.003$), showing more asymmetric UE use outside of supervised clinical contexts (therapies and assessments). Conclusions: Recovery during the subacute phase is characterized by substantial improvement in UE use during rehabilitation, followed by subtle changes in use patterns during the late subacute phase. At admission, compensation through unimanual use of the non-paretic UE was predominant, gradually evolving toward a mixed strategy of bimanual and unimanual non-paretic use over time. The discrepancy between UE use during supervised clinical contexts and spontaneous use in daily life highlights the need for accelerometry-based monitoring in clinical practice.

P2.A.70 *Feasibility of integrating split-belt walking training with physiotherapist-led gait retraining: A case study*

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Introduction: Split-belt treadmill walking training has been shown to improve between-leg step length symmetry (SLS) post-stroke. However, prior studies focused primarily on implicit locomotor adaptation induced by split-belt walking without integrating physiotherapist (PT)-led explicit gait retraining to address optimized rehabilitation of gait patterns post-stroke. This case study examined the feasibility of integrating split-belt treadmill walking and PT-led gait retraining during a 4-week intervention for a chronic-stroke individual with hemiparesis.MethodThe participant was a 79-year-old male, 3 years post-stroke, (ischemic, brainstem stroke, with moderate lower-limb impairment, Chedoke McMaster Stroke Assessment foot: 4/7, leg: 5/7) reliant on a 4-wheel walker for ambulation. He completed 12 sessions of alternating blocks of split-belt treadmill walking (four 4-minute split-blocks [2:1 speed ratio] alternated with 2-minute tied-blocks [1:1

speed ratio]; 3 sessions/week) at a 2% incline to induce an error-augmentation paradigm. The shorter step (paretic leg) was placed on the fast belt to drive motor adaptation. Belt speeds were individualized based on 10-Meter Walk Test and increased by 5%/week. During each session, a PT provided gait retraining inclusive of hands-on facilitation and verbal cueing of gait, limited to 3 targeted domains per session. SLS was measured from treadmill-embedded force plates. Participant perspectives regarding the intervention and recommendations were captured throughout the trial.

Results: Integration of PT-led gait retraining during split-belt walking was feasible and safe. The PT observed reduced weight transfer to the paretic leg during stance and use of toe-walking on the non-paretic leg to achieve paretic leg foot clearance. Hands-on and verbal cueing addressed gait pattern quality, specifically push-off, hip flexor activation to initiate paretic leg swing, and stance leg stability with improved weight transfer to the paretic leg, rather than directly targeting SLS. Both feedback types faded as gait improved. Training improved SLS from baseline to post-training at both slow (Δ=0.07) and fast (Δ=0.09) walking speeds, with gains maintained at one-month retention. The participant reported positive perceptions of speed and incline progression; however, suggested further increases to enhance training challenge over the 4 weeks.

Conclusion: This case study demonstrates that integrating PT-led gait retraining during split-belt treadmill walking is feasible and safe in a chronic stroke population. Explicit PT-led gait retraining successfully addressed maladaptive gait patterns used by the participant, while between-leg SLS was addressed implicitly through the split-belt walking paradigm. Overall, integrating both implicit motor adaptation induced by split-belt walking perturbation and explicit clinical gait retraining may represent a complementary and clinically meaningful approach for post-stroke gait rehabilitation.

P2.A.71 *Patterns of 24-hour movement behaviour in acute and subacute phases of recovery after ischemic stroke: A cross-sectional study*

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Background/Purpose: Early stroke recovery is characterised by changes in physical capacity and functional mobility; however, how these changes translate into real-world movement behaviour (sedentary time and physical activity) across the 24-hour activity cycle remains poorly understood. Guided by the 24-hour activity cycle framework, this study examined movement behaviours across the acute care and subacute recovery phases after ischemic stroke. We also examined associations between timed walking tests, movement behaviour, and health-related quality of life.

Methods: This cross-sectional study included adults able to walk 5 meters. Participants were recruited in the acute phase (within 7 days of stroke; n = 18) and subacute recovery phase (within 3 months of stroke; n = 25). Movement behaviours were captured using 24-hour activPAL accelerometry. Functional mobility was assessed via the 6-minute walk test (6MWT), 10-m walk test, and Timed Up and Go (TUG). Health-related quality of life was assessed using the EQ-5D visual analogue scale. Between-group differences for age and NIHSS were examined using independent samples t-tests, and sex was compared using a Pearson chi-square test. All statistical analyses were performed in Stata 14

Results: Participants in the acute group had a mean age of 66.5 years (SD 13.0), were predominantly male (66.7%), and presented with a median NIHSS score of 2 (IQR 0–4). In comparison, the subacute group (mean age 68.0 ± 11.9 years; 48.0% male) exhibited higher stroke severity with a median NIHSS of 7 (IQR 4–8). Total daily sedentary time was high and remained consistent between the groups (708.3 vs. 720.8 min/day, $p = 0.79$). While the subacute group showed significantly greater walking endurance (6MWT: 314.2m vs 218.6m, $p = 0.004$), daily step counts ($p = 0.46$) and sit-to-stand transitions ($p = 0.22$) did not differ. Exploratory analysis revealed that walking endurance (6MWT) and EQ-5D VAS were strong predictors of daily activity in the acute phase (rho = 0.75, $p < 0.05$; rho = 0.80, $p < 0.05$), yet this relationship was no longer significant in the subacute phase (rho = 0.40, $p = 0.10$). In contrast, gait speed maintained significant moderate-to-strong associations with daily step counts across both the acute (rho = 0.70) and subacute (rho = 0.50) recovery phases ($p < 0.05$). Functional mobility, as measured by the Timed Up and Go (TUG) test, showed no significant association with real-world step counts.

Conclusion: Although functional walking capacity is significantly higher in the subacute phase, real-world movement behaviours remain highly sedentary and do not differ from the acute phase. This suggests a disconnect between measured walking capacity and real-world performance. Rehabilitation strategies should address environmental and behavioural barriers to translate functional gains into increased daily activity.Keywords: Ischemic Stroke; 24-Hour Activity Cycle; Accelerometry; Sedentary Behaviour; Physical Activity; Functional Capacity.

P2.A.72 *Effects of movement behaviours on performance and capacity outcomes post-stroke: A systematic review and meta-analysis of wearable sensor-derived walking activities in daily living*

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Background: Physical rehabilitation interventions can enhance functional capacity after stroke, but improved ability doesn't always lead to better real-world performance. Understanding this gap is key to optimizing post-stroke recovery strategies.Objectives: This research aimed to evaluate the effectiveness of physical rehabilitation interventions specifically exercise, behavior change techniques (BCTs), or their combination on real-world walking measured using wearable sensors and capacity (gait speed and walking endurance) outcomes in stroke survivors.

Methods: This systematic review and meta-analysis followed PRISMA guidelines. Comprehensive searches were conducted in Medline, Embase, CINAHL, and Scopus up to January 2025. Randomized controlled trials involving stroke survivors receiving physical rehabilitation interventions—exercise, BCTs, or both—compared to exercise-only or usual care were included. Outcomes assessed were daily steps, gait speed (comfortable and fastest), and endurance (6-minute walk test). Meta-analyses using random-effects models (STATA 18) reported standardized mean differences (SMDs) and 95% confidence intervals (CIs). Heterogeneity was evaluated using I^2 statistics.

Results: Of 1,782 references screened, 28 studies met the inclusion criteria, and 23 were included in meta-analyses comprising 2,327 participants. Exercise-only interventions produced a small but significant improvement in daily steps (SMD = 0.23; 95% CI: 0.03 to 0.44; I^2 = 36.6%; moderate certainty), and moderate improvements in both comfortable gait speed (SMD = 0.38; 95% CI: 0.19 to 0.57; I^2 = 35.5%; moderate certainty) and endurance (SMD = 0.39; 95% CI: 0.26 to 0.52; I^2 = 0%; moderate certainty). BCT-only interventions demonstrated a larger effect on daily steps (SMD = 0.41; 95% CI: 0.19 to 0.63; I^2 = 0%; moderate certainty). In contrast, combined exercise and BCT interventions did not yield significant improvements in any outcomes and were supported by very low to low certainty of evidence.

Conclusion: Exercise-only interventions improve gait speed and endurance after stroke, with small gains in daily steps. BCT-only interventions yield greater improvements in daily walking activity. Combined interventions show limited added benefit.Protocol registration: This study has been registered in PROSPERO (No. CRD42023411679)

P2.A.73 *The application of transcranial direct current stimulation (tDCS) in stroke patients with dysphagia: An umbrella review*

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Background: Post-stroke dysphagia (PSD) significantly impacts patients' quality of life (QOL) and increases the risk of complications. Transcranial direct current stimulation (tDCS) has emerged as a potential adjunct to enhance recovery, but findings across systematic reviews (SRs) are mixed and inconsistent. This umbrella review aims to synthesize and evaluate existing high-level evidence to clarify the efficacy, effectiveness, and safety of tDCS in post-stroke swallowing rehabilitation, summarize stimulation parameters, identify gaps, and inform clinical practice and future research.

Methods: Seven databases were searched. SRs of randomized clinical trials (RCTs) were included if they discussed tDCS application in PSD. Exclusion criteria were dysphagia attributable to non-stroke ethiologies; Other non-invasive brain stimulations than tDCS; SR of non-RCTs; non-English articles; or not peer-reviewed published journal articles. Two independent reviewers completed screening and data extraction. The disagreements were resolved by the third reviewer. AMSTAR-2 and ROBIS were used for assessment of bias. PROSPERO registration: CRD42025125045.

Results: Twenty-three systematic reviews were included from an initial pool of 1,315 records. The majority of SRs (n=22) reported that tDCS was effective for PSD rehabilitation. Meta-analyses comparing tDCS with control demonstrated moderate to high pooled effect sizes in favor of tDCS (SMD=0.65, 95%CI=0.25–1.04;p=0.00;I^2=42%). Significant improvements in QOL were also reported, with a pooled effect size favoring tDCS over control (SMD=1.18,95%CI=0.54–1.83;p< 0.001). Subgroup analyses across reviews suggested larger effect sizes when tDCS was applied during the acute stroke phase (SMD =1.03,95%CI=0.54–1.52) compared with the chronic phase (SMD=0.56,95%CI=0.28–0.85). Findings regarding hemisphere of stimulation were inconsistent: some meta-analyses favored stimulation of the unaffected hemisphere (SMD= 0.88,95%CI=0.49–1.27;p< 0.0001), while others reported significant pooled effects for both affected (g=0.87,95%CI=0.26–1.48;p =0.005) and unaffected hemispheres (g=0.61,95%CI=0.23–0.99;p=0.002), with substantial heterogeneity reported in some

analyses.Safety outcomes were addressed in three SRs. Where reported, tDCS was well tolerated, with only mild transient adverse effects (e.g., tingling or itching) and no serious or life-threatening adverse events documented.

Conclusion: Current evidence supports tDCS as a safe and effective adjunct to conventional swallowing rehabilitation in PSD, with moderate to large improvements in swallowing function and quality of life. However, substantial heterogeneity across studies—particularly regarding stimulation parameters, timing, and hemisphere of stimulation—limits definitive clinical guidance. These findings highlight a critical need for well-designed feasibility and randomized trials to optimize tDCS protocols and inform evidence-based clinical implementation.

P2.A.74 *PROVE-VR: Protocol for a pilot randomized trial using omnidirectional treadmill virtual reality training for chronic stroke*

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Background: Virtual reality (VR) has been introduced to neurorehabilitation to promote improvements in cognitive and physical function. Omnidirectional treadmill technology can be integrated with VR (Omni-VR) to allow for immersive rehabilitation. Task-oriented, repetitive, and engaging rehabilitation approaches have been shown to be effective for stroke recovery regardless of recovery stage. Omni-VR enables multidirectional movement while completing challenging rehabilitation activities in VR, which creates a cognitive-motor training environment necessary to simulate community ambulation. To our knowledge, this is the first study to test the feasibility and efficacy of an Omni-VR system among persons living with chronic stroke (PLWCS). Our primary objective is to test the feasibility of Omni-VR among PLWCS. Our secondary objective is to estimate the extent to which cognition, walking, balance, and brain activation during dual task walking change following a 12-week Omni-VR or traditional exercise program.

Methods and design: For this pilot randomized controlled trial, we are recruiting 23 PLWCS from rehabilitation facilities in Halifax, Nova Scotia. Upon eligibility screening and baseline assessment, participants are randomized 2:1 to the intervention or control groups. All participants will undergo 45-minute training sessions 3 times/week for 12 weeks, with the intervention group using Omni-VR and the control group completing a traditional exercise program. Blinded assessors are evaluating participants at baseline and 12 weeks post-intervention. Anticipated Results: This is a pilot trial; as such, between group analyses are not indicated. Feasibility outcomes (Consent and retention rates, adherence, system usability, participant burden, technical issues and safety) will be reported on using descriptive statistics and evaluated for success based on a priori criteria. Secondary outcomes (balance, walking, cognition, brain activation during dual task walking, health-related quality of life and motivation) will be assessed based on whether participants meet minimal important change thresholds across outcome measures. Conclusion: Omni-VR has the potential to provide a low-cost, safe, and engaging method of rehabilitation to supplement current conventional therapies. If successful, we will test the use of Omni-VR training among PLWCS in a full-scale trial. Trial Registration: clinicaltrials.govw4 NCT06495450

P2.A.75 *Operationalization of neurodegeneration (N) and vascular (V) criteria in the NIA research biological diagnosis of Alzheimer's disease and concomitant cerebrovascular pathology*

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Background: The NIA-AA research criteria for Alzheimer's disease (AD) provides a biological diagnostic framework for research applications based on amyloid (A) and tau (T) pathology. Additional components describing overall brain atrophy/neurodegeneration (N) and vascular (V) co-pathology have been proposed. However, these components have not been formally integrated or operationalized, and there is a lack of specific, objective, widely adopted cutoffs for categorizing participants as neurodegeneration positive/negative. This has led to uncertainty in application and very limited assessment of vascular pathology in research populations. This project aims to develop and validate structural MRI-based cutoffs for N and V components.

Methods: We used data from the Sunnybrook Dementia Study, a prospective observational cohort study of normal control (NC) participants and patients recruited from a tertiary memory clinic, including those with AD, cognitive impairment-no diagnosis (CIND), vascular dementia (VaD), vascular CIND (VCIND), or AD plus VaD or cerebrovascular disease (CVD). We applied quantile regression in the NC cohort (N=116, mean age=69.3 ± 8.0 years, 61.2% female) to construct normative

age- and sex-based 5th or 95th percentile cutoffs for MRI volumes of interest, computed as percentages of total intracranial volume. These included normal-appearing grey matter; sulcal and ventricular CSF; and hippocampal volume (relevant to N), and perivascular spaces; deep, periventricular, and total white matter hyperintensities; total lacune volume; and infarct presence (relevant to V). We then used these cutoffs to categorize patients (N=674, mean age=72.0 ± 9.4 years, 55.3% female), as N+/- or V+/- by requiring at least one relevant abnormal variable for each. This produced four categories: N-/V-, N-/V+, N+/V-, and N+/V+. We characterized clinical diagnoses by category and used ANCOVA, adjusted for age and sex, to compare Mini-Mental State Examination (MMSE) and Dementia Rating Scale (DRS) scores.

Results: Patients were categorized as N-/V- (n=126), N-/V+ (89), N+/V- (242), and N+/V+ (217). The two V+ groups (N-/V+, N+/V+) comprised more patients with vascular-linked diagnoses (VaD, VCIND, AD+VaD/CVD; 52.8% and 51.6% respectively) relative to V- groups (N-/V-: 12.7%; N+/V-: 14.5%). The N+/V- group contained mostly patients with AD (55.4%) followed by CIND (21.1%)), and the N-/V- group mostly CIND (41.3%) followed by AD (32.5%). For both MMSE and DRS scores, including DRS subscales, the two N+ groups (N+/V-, N+/V+) did not differ from one another but had significantly lower scores than the two N- groups (N-/V-, N-/V+), which also did not differ from one another. Normal controls scored significantly higher than all patient groups.

Conclusions: Given its clinical and cognitive correlates, the proposed operationalization method shows promise to define normal and abnormal neurodegeneration and vascular pathology for research purposes. N+/- status predicted cognitive performance across both cognitive tests, highlighting its value in disease staging; although V+/- status was not related to cognition, it should form a critical part of research inclusion/exclusion criteria to facilitate study of vascular and mixed dementias and/or to limit cohort heterogeneity in studies of AD. Future work must validate and/or refine the proposed approach using additional large, diverse cohorts.

P2.A.76 *Global approaches and insights on symptomatic carotid web management: A mixed-methods study*

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Background: Carotid web is a rare and underdiagnosed cause of recurrent embolic stroke with inconsistent clinical management. This study evaluates global practices, diagnostic approaches, willingness to randomize carotid web patients into trials, and determinants of decision-making in carotid web management.

Methods: We used convergent mixed-methods: a survey and qualitative semi-structured interviews. The ACTIVATE-CAS survey was distributed to 169 stroke specialists across 6 continents, which assessed diagnostic preferences, treatment strategies, and attitudes toward trial participation for carotid web using 8 questions. Quantitative data identified patterns in clinician decision-making and trial readiness. Interviews with 21global stroke leaders were conducted using an interview guide to assess clinicians' approaches to management of carotid web. Thematic analyses were contextualized against the identified patterns in the quantitative data. Integration occurred at the interpretive stage. Survey findings were used to identify patterns of practice variation, while qualitative data were used to understand differences in thinking underlying such variations.

Results: Among 169 respondents (72.7% aged <40 years; 69% male, 58.5% neurologists, 32.5% interventionists) (55.6% North America, 19% Europe, 12.4% Australia, 6.5% Asia), in current practice, 58% treated carotid web patients with single antiplatelet therapy, while 29% favored dual antiplatelet therapy. Furthermore, most respondents (76%) expressed willingness to randomize carotid web patients into trials comparing best medical management with carotid revascularization for first-ever stroke. Clinicians favored carotid revascularization for carotid web, viewing it as a distinct, high-risk embolic entity, despite very "limited evidence" (Table 1). Both the survey results and interview findings displayed unanimous agreement on the unmet need to conduct randomized controlled trials for carotid web management.

Conclusion: Management of carotid web varies across the continents, and clinicians' willingness to partake in clinical trials highlights the recognized need for high-quality evidence to inform treatment guidelines. The threshold for intervention is lower for carotid web than other non-stenotic carotid conditions due to higher perceived risk, despite the lack of randomized trials or large prospective studies on management.

P2.A.77 *Abnormal gaze patterns underlie limited visual compensation for proprioceptive impairments*

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Background: Up to 48% of stroke survivors cannot use vision to compensate for impairments in proprioception (sense of limb position/movement). This contradicts compensation behaviour in healthy individuals and is negatively associated with stroke recovery. We examined gaze patterns during an arm position matching (APM) task to better understand why some stroke survivors cannot use vision to compensate for proprioceptive impairments.

Methods: Participants (n = 114 control, n = 54 stroke [46±48 days post-stroke, mean ± SD]) completed an APM task in a robotic exoskeleton with an eye tracker. The robot positioned one arm, and the participant was asked to mirror-match that position with the other arm. Each of the four target locations (square arrangement, 15cm spacing) were pseudo-randomly repeated six times throughout the task. Participants did the task first with vision of their upper limbs occluded (no vision condition) and then with full vision of their arms (vision condition). The robot moved the affected arm for stroke participants, while control participants repeated the task with both arms in each condition. Oculomotor and upper limb kinematic data was collected, and we examined gaze patterns during the APM task with vision. To test for visual impairment (VI), clinical assessments for visual field deficits (Confrontation Test) and neglect (Behavioural Inattention Test), as well as a robotic assessment of saccadic eye movements were done.

Results: The general gaze strategy in the control group was to fixate in two spots along body midline (around the locations of the medial targets) with scanning eye movements between hands. Stroke participants with normal performance on the APM task with vision used this strategy. Participants with impaired performance on both conditions of the task (absent compensation, n = 12) deviated from this strategy, with less concentrated and more stochastic gaze patterning. Seventy-five percent of this group had some form of VI. Seven participants had normal performance on the APM task in the no vision condition but impaired performance on the vision condition (maladaptive compensation). Only two people in this group (29%) had VI, and gaze patterns in this group resembled those of stroke participants who were unimpaired on the APM task using vision.

Conclusion: Gaze patterns in stroke survivors with absent compensation suggested that inability to compensate using vision was due to VI. For stroke survivors with maladaptive compensation, inability to compensate was more likely due to multisensory integration issues. Gaze patterning resembled participants who were unimpaired with vision, but the maladaptive group was impaired on the vision condition instead. Further understanding of gaze behaviour, visual processing, and visual-proprioceptive integration post-stroke may inform specific interventions that will enhance stroke rehabilitation in individuals who cannot use vision to compensate for proprioceptive impairments.

P2.A.78 *Post-stroke vision impairment is in the eye of the beholder*

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Background: Recent quantitative evidence suggests that more than 50% of stroke survivors have vision impairment, but less than 20% are identified by clinical assessment during inpatient care. This leads us to believe that vision impairments, including visual fields, attention, or oculomotor dysfunction, often go clinically undetected due to coarse and imprecise bedside vision assessments. Intact visual systems decrease falls and improve independence, making detection of vision impairment imperative for successful stroke rehabilitation. We assessed saccades (voluntary and involuntary rapid ballistic eye movements) in stroke survivors to quantify those with vision impairment but without diagnosis.

Methods: Subacute stroke survivors (n=42 [48±46 days post-stroke, mean ± SD]) completed a saccade task using an eyetracking camera. During the task, participants were instructed to look at a central fixation target. When the fixation target turned off, they were instructed to look to one of two possible peripheral targets as they appeared (10cm to the right or left, presentation order pseudorandomized). Participants completed 60 trials. Additionally, participants completed clinical assessments for visual acuity (Snellen Eye Chart) and visual fields (confrontation testing) to ensure they could identify task targets. We measured the accuracy and latency of the first outward saccade initiated to each peripheral target. Parameters for defining impairment were based on a control model (n=114) and stroke survivor data was age and sex matched to produce normative scores. To collect data on clinical detection of vision impairment, stroke survivor's charts were reviewed for any record of vision impairment identified during their inpatient stay.

Results: On the saccade task, 42.9% (18/42) of participants were impaired on either accuracy or latency. Of those impaired, 61% (11/18) were identified by eyetracking and undetected clinically. Of those 11, 5 were impaired on accuracy, 3 were impaired on latency, and 3 were impaired on both parameters. During inpatient care, 39% (the remaining 7/18) were identified clinically. Of those 7, 3 were impaired on accuracy, 2 of whom were diagnosed with neglect and 1 with visual field impairment. The other 4 were impaired on both accuracy and latency and had visual field deficits; 1 was also diagnosed with neglect, and 1 with neglect and oculomotor dysfunction.

Conclusion: More than half of stroke survivors with vision impairment may go undiagnosed during inpatient care. Here, we only examined two parameters of saccadic dysfunction and found 61% of visually impaired participants did not receive a diagnosis of vision impairment. This suggests that quantitative vision screening, like the eyetracking camera and saccade task used in this project, has potential to improve sensitivity of vision impairment diagnosis, and subsequently contribute to stroke recovery.

P2.A.79 *Inner speech as a cognitive tool in damaged language systems*

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Background: Roughly 30% of stroke survivors will have aphasia, a difficulty speaking with- or understanding others1. One factor that may support language processing after stroke is executive control (EC) ability. EC is a set of mental processes that enable goal-directed behaviour (e.g., multitasking, ignoring distractors, and revising existing knowledge). Studies suggest that EC processes support language and communicative functions2 including error detection and repair during speech3, more organized storytelling4, and more effective conversational skills5. Our previous work found that better EC predicted greater long-term maintenance of language treatment effects6. However, it remains unclear to what extent language deficits impact EC task performance. Evidence from healthy controls suggests that language plays an important role in successful completion of EC tasks, through subvocal rehearsal, or inner speech (IS) mechanisms7-10. Described as "the little voice in one's head", IS is measured objectively by comparing performance on silent versus overt phonological tasks11. No studies to date have investigated the association between IS and EC measures in individuals with damaged language systems. We aimed to investigate IS as a predictor of overt speech and EC performance in individuals with post-stroke aphasia.

Methods: Ten English-speaking adults (Meanage=67.8, SD=7.3) with chronic post-stroke aphasia (Meanmonths post-stroke=73.6, SD=58.8) participated in this study. Aphasia severity, based on the Western Aphasia Battery12 Aphasia Quotient ranged from 40.1-89.2 (Mean=73.2; SD=14.5), with fluent (n=6) and nonfluent (n=4) aphasia types. Participants completed IS tasks including written and picture rhyme and homophone judgments, and overt and silent naming (pointing to the first sound of a word without speaking or moving the lips). Participants also completed EC tasks measuring inhibition, working memory updating, and shifting abilities. Linear regressions were used to analyze whether IS predicts a) overt naming and b) EC task performance.

Results: IS, EC, and overt naming ability were not associated with age, education, MPO or aphasia severity, nor did they differ as a function of fluency. However, IS was a significant predictor of overt naming (R^2=.78, Adjusted R^2=.75, $F(1,8)=28.0$, $p<.001$) and EC-shifting performance (R^2=.79, Adjusted R^2=.77, $F(1,8)=30.72$, $p<.001$), such that more successful IS predicted better naming, and more efficient shifting between tasks. These relationships remained significant even when controlling for age, education, months post-onset and aphasia severity.

Conclusion: Results suggest that IS supports both overt naming and EC-shifting ability in individuals with post-stroke aphasia. Differences between overt and covert speech may hold important predictive power and help with treatment selection: successful IS words may require therapy for speech output and unsuccessful IS words may require therapy at earlier word-finding stages.

P2.A.80 *Assessing treatment response variance to transcranial magnetic stimulation and multimodal aphasia therapy in chronic stroke survivors*

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Background: Post-stroke aphasia affects up to 52% of chronic stroke survivors, and is treated acutely with speech language therapy. Recently, a successful trial from our lab showed that repetitive transcranial magnetic stimulation (rTMS) delivered with multimodal aphasia therapy (M-MAT) improves speech production outcomes at 15-weeks post-treatment more than

M-MAT alone. Despite these group level effects, there was variation in treatment response within groups, which is not yet well understood. As such, we examined lesion features that may explain variance in treatment response to rTMS and M-MAT, and M-MAT alone.

Methods: 41 adults [48±44 months post-stroke] with chronic post-stroke nonfluent aphasia completed 10 days of M-MAT. Each day participants received 20 minutes of either 1 Hz inhibitory rTMS (n = 20) or sham stimulation (n = 21) to the right pars triangularis (right homologue of Broca's area), followed by 3.5-hours of M-MAT. Participants in both groups completed neuroimaging and speech and language assessments at baseline, and 15-weeks post-treatment. Normalized lesion maps for each participant were used to calculate lesion extent at regions related to speech production using the Harvard-Oxford atlas. The relationship between region-specific damage and treatment response was assessed using linear regression modelling. Treatment response was quantified by the difference in baseline and 15-week aphasia quotient scores on the Western Aphasia Battery (WAB-AQ). These relationships were first assessed across the combined sample (rTMS and sham groups together), and then within the rTMS and sham groups separately.

Results: In the combined sample, no significant relationships were found between region-specific damage and treatment response. However within the rTMS group, regression analysis showed that lesion extent of the left pars triangularis (LPTr) explained 19.2% of variance in treatment response (adjusted $R2 = 0.192$, $F(1,18) = 5.12$, $p < 0.05$). No significant relationships between region-specific damage and treatment response were found within the sham group.

Conclusions: These results suggest that the extent of damage to the LPTr (Broca's area) in part predicts treatment response to rTMS and M-MAT. Based on these results, stroke survivors with chronic nonfluent aphasia who have less damage to their LPTr would likely be good candidates for rTMS and M-MAT treatment. Further research is required to build a more comprehensive understanding of what other factors influence rTMS and M-MAT treatment response in the context of aphasia recovery.

P2.A.81 *Deficits in force-based adaptation are associated with greater motor impairment in early stroke recovery*

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Introduction: Around 70% of stroke survivors experience motor deficits that impair their ability to perform daily activities. Despite the time and effort invested in therapy, motor recovery remains inconsistent. Some survivors show near full recovery, while others are left with permanent motor deficits. The mechanisms underlying this variability are poorly understood. Many daily motor tasks require adapting movements based on proprioceptive feedback. Force adaptation, the ability to modify actions in response to errors caused by novel force disturbances, may thus be important for functional recovery. Yet it remains unclear whether impairments in force adaptation are associated with the severity of motor deficits in early stroke recovery, when most therapy occurs. Here, we used the Kinarm robotic exoskeleton to test whether impairments in force adaptation are linked to motor deficits in the early subacute phase of recovery.

Methods: Forty-five individuals with a first-time, unilateral stroke (13 [3-26] days post stroke) participated in the study. We measured motor impairment using a visually guided reaching (VGR) task. In this task, participants moved their affected arm to one of four targets presented in their virtual workspace, for a total of 64 trials. A task score was generated using multiple movement parameters, such as reaction time, movement time, and path length ratio. To measure force adaptation, participants completed a similar reaching task, but with the addition of small forces that displaced their hand lateral to the target. Participants completed 150 reaching movements: 24 without forces (Baseline), 108 with forces (Adaptation), and then another 18 without forces (Washout). We quantified adaptation as the mean peak lateral deviation of the hand relative to a straight path joining the start and end targets on the first 15 (Early Adaptation) and last 15 (Late Adaptation) adaptation trials. Scores for each task were adjusted using normative models constructed from large control datasets, accounting for effects of age, sex, and handedness. Participants were classified as impaired if their performance fell outside the 95th percentile of the normalized control data.

Results: VGR performance was moderately correlated with Early Adaptation ($r(43) = 0.456$, $p = 0.004$) and Late Adaptation ($r(43) = 0.383$, $p = 0.009$). Participants who were impaired in the VGR task were more likely to be impaired in Early Adaptation ($\chi2\ (1, 45) = 8.571$, $p = 0.006$) and Late Adaptation ($\chi2\ (1, 45) = 7.782$, $p = 0.006$).

Conclusion: We found that stroke survivors with greater motor impairment were more likely to exhibit deficits when adapting to novel force disturbances. Force adaptation may therefore be compromised in survivors with motor deficits. These findings can be used to personalize therapy based on a survivor's capacity for force adaptation. For example, a clinician may place more emphasis on visual feedback for survivors with more severe motor deficits.

P2.A.82 *NeuroRecoVR: Safety of split-belt virtual reality treadmill training for subacute stroke*

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Introduction: Up to 80% of stroke survivors have mobility and balance impairments, such as unequal step lengths, which can impede their independence and decrease their quality of life. SBT have shown promise for rehabilitating gait post stroke. Exercise after stroke has shown benefits to improving motor function, but there are still concerns about cardiovascular intensive training after stroke. Previous work has suggested split-belt treadmill (SBT) training can be safe and feasible for chronic stroke survivors. While SBT has been studied in chronic stroke, its impact in the early months post-stroke is still not well understood, especially regarding the safety and feasibility of application into clinical settings. This study aimed to assess the safety and feasibility of the SBT system as a rehabilitation tool for subacute stroke survivors and to establish its preliminary efficacy in improving gait asymmetries, walking speed, and endurance.

Methods: Fifteen participants, with an average age of 55 (range 36-69) and an average of 40 days post-stroke (range 18-86), underwent a 10-day SBT walking intervention. Participants completed 10 sessions, each with 27 minutes of treadmill training and 15 minutes of SBT walking with the affected limb on the fast belt. Heart rate and blood pressure were measured at the start of each session, after 15 minutes of SBT walking, and at the end of the session. Before the intervention, baseline assessments were conducted to measure comfortable walking speed (10-meter walk test), endurance (6-minute walk test), and lower-limb function (Fugl-Meyer Lower Extremity Scale). The assessments were repeated on days 5 and 10. Ground reaction forces were recorded during walking using force plates embedded in the treadmill, allowing for measurement of biomechanical characteristics, including step length asymmetry.

Results: The post-training average cardiovascular measures on day 1 were BP: 126/86 mmHg (range: 110/72-144/116); HR: 91 bpm (range:83-106), and on day 10 were BP: 127/77 mmHg (range: 108/55-134/97); HR: 95 bpm (range:70-114). BP and HR increased after waking on the treadmill but remained within safe limits. Patients completed 100% of sessions without experiencing any falls. Participants improved their initial average SBT walking asymmetry by 0.07 m (±0.02 SD; p = 0.004, t-test) over 10 days, suggesting that patients were learning and retaining a symmetric walking pattern. On average, participants increased their walking speed by 0.24 m/s (±0.24 SD; p=0.002) endurance by 71.1 m (±55.7 SD; p<0.001) and lower limb function by 3.14 points (±2.7 SD: p<0.001). Conclusion This research demonstrates the potential of VR-SBT for early post-stroke rehabilitation. The NeuroRecoVR initiative improved post-stroke patients' walking speed and symmetry without significant adverse events and without inducing unsafe BP or HR readings during the 10-day training protocol.

P2.A.83 *Transcutaneous spinal stimulation to restore upper extremity function post-stroke*

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Background: Transcutaneous spinal stimulation (TSS) non-invasively activates the spinal network. In individuals with spinal cord injury, TSS safely and effectively improves motor function, spasticity, and sensation. This study aims to determine whether TSS can safely improve upper extremity function in chronic stroke.

Methods: Four males (mean age ± SD: 67 ± 9) with chronic stroke (4 ± 9 years; 2 hemorrhagic and 2 ischemic) and upper-extremity impairments were enrolled in this proof-of-concept study. The intervention included 24 rehabilitation sessions completed over two months. During each session, participants received sub-motor threshold cervical TSS (1ms, modulated biphasic waveform, 10kHz carrier frequency, 20-68 mA) delivered at 30 Hz while participating in 60 minutes of upper-extremity rehabilitation. The cathode was placed between the C3-C4 vertebral levels, with anodes placed bilaterally over the clavicles. Clinical and neurophysiology assessments were completed at baseline and post-intervention. Clinical assessments included the Upper Extremity Fugl-Meyer Assessment (UE-FMA) and the Action Research Arm Test (ARAT). The neurophysiology assessment included transcranial magnetic stimulation motor evoked potentials (MEPs) assessing corticospinal excitability, and TSS-evoked potentials (TEPs) to assess spinal excitability. During this assessment, electromyography was recorded from flexor carpi radialis (FCR), extensor carpi radialis (ECR), first dorsal interosseous (FDI), and abductor digiti minimi (ADM). Participants also reported their impressions of change using the Patient Global Impression of Change (PGIC). Effect size was calculated using Cohen's d.

Results: All participants completed all sessions with no adverse events reported. Following the intervention, there was a large increase in total UE-FMA scores (d =1.55) and in the following sub-scores: upper extremity (d = 1.38), coordination

speed (d =2.60), and motor function (d =2.38). Following the intervention, large increases were also observed in ARAT total scores (d =1.22) and in the grip sub-score (d =1.79). For overall function, two participants reported "much improved," and two reported "minimally improved" . TMS-evoked MEPs were present at baseline in two participants. Following the intervention, MEPs increased across all recorded muscles in one participant and in ECR only in the second, while a third participant exhibited the emergence of previously absent MEPs across all recorded muscles, indicating improved corticospinal transmission. A small increase in TEPmax was observed in ECR (d =.29), a medium increase in FDI (d =.63), and a large increase in ADM (d =.85), consistent with enhanced spinal excitability.

Conclusion: This proof-of-concept study demonstrates initial feasibility of TSS combined with rehabilitation in the stroke population. Preliminary findings suggest potential improvements in upper limb function post-stroke, warranting a larger randomized controlled trial.

P2.A.84 *Does glial fibrillary acidic protein (GFAP)/D-Dimer point-of-care testing improve the early detection of large/medium vessel occlusion stroke in the emergency department?*

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Background: Early and accurate detection of acute ischemic stroke due to large/medium vessel occlusion (LVO/MeVO) in the emergency department (ED) is critical for timely intervention. Prior research has demonstrated that combining clinical assessment scales with serum biomarkers, such as glial fibrillary acidic protein (GFAP) and D-dimer, can improve prehospital LVO identification; however, the role of point-of-care (POC) biomarkers in the ED remains unclear. The aim of this study is to determine whether adding POC GFAP and D-Dimer testing to the established ROSIER (Recognition of Stroke in the Emergency Room) Scale at emergency triage can enhance the identification of potentially treatable LVO/MeVO stroke.

Methods: This ongoing, prospective study enrolled consecutive adult patients presenting to the University of Alberta Hospital ED during daytime hours (Nov 2025–Feb 2026) with an acute code stroke activation, a ROSIER Scale ≥ 1, and a last-known-well time < 24 hours. D-dimer (semiquantitative 1–10; negative <4, positive ≥4) and GFAP (qualitative binary) were assessed using the LVOne rapid POC assay (Upfront Diagnostics, UK), A positive test was defined as a negative GFAP result in combination with a D-dimer value ≥4. Final diagnosis (LVO/MeVO stroke, other stroke [intracerebral hemorrhage and Transient Ischemic Attack], or stroke mimic) was determined by chart and neuroimaging review. Combined diagnostic accuracy was assessed using the logistic regression-based receiver operating characteristic (ROC) curve analysis.

Results: A total of 61 patients were enrolled; the mean age was 72.6 ± 16.9 years, and 29 (47.5%) were male. Median ROSIER Scale was 2 (IQR 1–4). The LVOne test was valid in 55 of 61 (90.1%) patients; among these, 21 (38%) tested positive with a sensitivity of (54.2%) and higher specificity (74.1%) for LVO/MeVO stroke. In multivariable logistic regression adjusted for age, sex, ROSIER (aOR 2.5, 95% CI 1.33- 4.6; p=0.0040) and LVOone test (aOR 6.5, 95% CI 1.5- 29.3; p=0.014) were independently associated with an increased odds of stroke due to LVO/MeVO with a combined adjusted Area Under the Curve (AUC) of 0.79 (Figure1).

Conclusion: Adding POC D-dimer and GFAP to ROSIER Scale modestly increases the specificity for detecting LVO/MEVO stroke at ED triage. Future studies are needed to determine the impact on ED endovascular therapy workflow and patient outcomes.

B – DATA SCIENCE & TECHNOLOGY

P2.B.84 *Co-developing a novel hand rehabilitation system for stroke rehabilitation: Lessons learned*

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Background: Hand exoskeletons are gaining attention for their potential to transform therapeutic practice in stroke rehabilitation. However, clinical uptake of emerging technologies depends on usability and alignment with stroke survivors' needs. Building on a feasibility study of a technology integrating a soft robotic hand exoskeleton with a virtual training environment (robotic-assisted hand rehabilitation exercise program - RAHRE), our interdisciplinary team of rehabilitation

researchers and engineers pursued an iterative, user-centered development process tailored to post-stroke hand rehabilitation. This study aims to describe the co-development process and to identify challenges encountered throughout, from the perspectives of rehabilitation researchers, engineers, and stroke end-users.

Methods: A team of rehabilitation researchers and engineers undertook a second development phase involving iterative cycles of system testing and refinement to optimize the intervention and prepare for a randomized controlled trial (RCT) evaluating its efficacy. Over a 10-month period, biweekly co-development meetings allowed the team to collaboratively address technological and clinical challenges and translate clinical needs into concrete technical requirements and functionalities for the integrated hand exoskeleton and virtual training environment. Usability testing was conducted with patient-partners living with stroke (n=3) and neurotypical participants (n=10). Testing sessions included donning the exoskeleton, hand calibration and execution of virtual exercises within the virtual environment. Qualitative feedback from users and observation of task execution informed successive refinements of hardware, software and interface design.

Results: Iterative testing and collaborative problem-solving led to improved glove comfort and stability, calibration accuracy and hand-avatar control. The user interface was redesigned, new grasping exercises were developed and implemented, and gamification features with performance feedback were integrated. Despite advances, persistent challenges —particularly the calibration process and thumb representation— limit full integration of some features. Usability testing identified contributing factors, including variability in hand size.

Conclusion: An interdisciplinary, user-centered, co-development approach enabled the resolution of key usability barriers, while highlighting implementation challenges. Current development priorities focus on resolving these core issues by directly targeting the underlying factors identified. These lessons will inform future design, testing, and implementation efforts in technology-assisted stroke rehabilitation.

P2.B.85 *Development and user-testing of a structured patient-completed Modified Rankin Scale*

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Introduction: The modified Rankin Scale (mRS) is the most widely used global disability outcome measure in stroke research and clinical practice. Despite its ubiquity, the mRS is known to be subjective, inconsistently administered, and heavily weighted toward mobility and basic daily activities, with limited consideration of cognition and communication. These limitations contribute to inter-rater variability and may inadequately reflect stroke survivors lived post-stroke disability.Objective: This study presents the first iteration of a structured, patient-completed modified Rankin Scale (mRS) that incorporates four domains: mobility, daily tasks, communication, and cognition. It also aims to analyze findings from user-testing with stroke survivors to evaluate interpretation, usability, and how participants justify their responses when completing the tool.

Methods: The new patient-completed mRS tool was completed by stroke survivors. Each domain was scored independently and mapped to established mRS grades (0–5), keeping alignment with the traditional scale while allowing more structure and inclusivity. Participants then took part in semi-structured interviews exploring usability, clarity, perceived relevance, and decision-making during response selection. Interview transcripts were analyzed using thematic analysis to identify patterns in user interpretation, sources of ambiguity, and alignment between lived experience and the four domains.

Results: Ten stroke survivors participated in the study, where they completed the new mRS tool and took part in the semi-structured interview; two were women. Their disability varied from no disability to moderate disability. A They were positive about the ease of use of the new mRS tool, and they felt comfortable using it. Participants generally felt the four domains reflected their lived experience more comprehensively than the traditional clinician administered mRS. Stroke survivors were able to articulate clear justifications for their responses, often using examples from daily life and valued the opportunity to self-report. Feedback highlighted strengths in the tool's clarity, and length, while also highlighting areas for further refinement like the need for intermediate response options and considerations for additional domains

Conclusion: Preliminary user-testing with stroke survivors suggests that the patient-completed mRS is feasible, easy to complete, and acceptable across a range of recovery stages. These findings support further refinement and formal validation of the patient-completed mRS.

P2.B.86 *Advancing rehab from the "page to the platform" using digitally enabled care for acquired brain injury*

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Background: Traditional rehabilitation has relied on patient-reported adherence to paper-based exercise programs and education to support individuals in achieving therapeutic intensity and repetitions to facilitate motor recovery between clinician visits. The Acquired Brain Injury (ABI) Program at the Nova Scotia Rehabilitation and Arthritis Centre partnered with Tenzr Health in a “test and try” of a configurable rehabilitation digital platform with clinician-led content and communication to support personalized care of patients’ motor recovery of their upper limb. Patients’ activity and progress were tracked and programs adjusted remotely or in-person by the clinician. The main objectives were to 1) explore the impact of ABI clinicians implementing Tenzr with their patients and 2) understand how this digital rehabilitation platform could augment patient experience and engagement.

Methods: Over 11 months (October 2024 – August 2025), Tenzr was offered to patients by ABI occupational therapy staff. Evaluation of Tenzr use followed a single-arm, observational framework for individuals undergoing ABI rehabilitation and using Tenzr. Engagement with Tenzr (for both patients and clinicians) was gathered from a bespoke evaluation dashboard. Engagement was defined as days with recorded Tenzr activity – i.e. days with data in the dashboard. A patient experience survey assessed patients’ comfort with the technology and its role in rehabilitation. Two focus groups with ABI staff explored implementation and patient response.

Results: 48 patients were enrolled in Tenzr during the pilot project, and 43 were included in the evaluation analysis, having been enrolled for at least 30 days. There was substantial engagement with Tenzr in the 3 streams of the ABI program, inpatient, outpatient, and community-based Early Supportive Stroke Discharge (ESSD). In aggregate, inpatients had a mean of 48.6 days with data (SD 15.2; median 47, IQR 36-60). ESSD patients had a mean of 60.8 days with data (SD 41.4; median 49.5, IQR 36–91). Outpatients demonstrated the highest engagement with a mean of 91.6 days with data (SD 54.4; median 86, IQR 57–134). 100% of patients (15/15) agreed that Tenzr allowed them to complete their exercises more often. 81.2% of patients (13/16) strongly agreed their rehabilitation felt more structured with Tenzr. 94% of respondents (15/16) agreed Tenzr made it easier to follow their rehabilitation plan. Themes from the focus groups described the importance of clinical and administrative champions for Tenzr in its uptake among clinicians and the benefits of digitally enabled rehabilitation in ‘following’ a patient between visits.

Conclusion: Clinician-led implementation of a digital rehab navigation platform is suitable for all 3 streams of care and was easiest to implement in outpatients for clinicians and patients. Early results indicate facilitated patient engagement and accurate account of adherence and progress improved care delivery.

P2.B.87 *Proprioceptive impairment mediates the relationship between white matter disconnection and motor impairment after stroke*

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Background: Stroke is one of the leading causes of death and long-term disability in Canada, with more than 108,000 new cases each year. After stroke, ~64% of patients experience proprioceptive impairments (limb position sense) and ~80% exhibit motor impairments. Proprioceptive deficits are associated with poorer motor recovery and reduced quality of life, yet they remain under-recognized in routine care. These deficits often result from disruptions in the brain’s white matter (WM), the communication pathways that connect different brain regions. However, it remains unclear how proprioceptive dysfunction affects the relationship between stroke-induced WM disconnection and motor impairment.

Methods: In a cohort of 38 individuals with chronic stroke, we used voxel-wise mediation analysis to test whether proprioceptive impairment indirectly influences the relationship between WM disconnection and motor impairment. WM disconnection maps (predictor) were derived from individual lesion masks relative to a normative structural connectome, with proportion of disconnection calculated at each voxel. Proprioceptive (mediator) and motor impairments (outcome) were quantified using robotic KINARM assessments (arm position matching task; visually guided reaching task). Voxel-wise indirect effects were estimated using bootstrap-based inference (5,000) with FDR correction, while controlling for age and sex.

Results: Significant indirect mediation effects (β=0.11-0.38, FDR p<.05) were observed in the superior longitudinal fasciculi (SLF I–III), arcuate fasciculus, and middle longitudinal fasciculus, aligning with previously identified pathways implicated in proprioceptive impairment. Additional effects were found in superficial WM connecting sensorimotor cortices.

Conclusion: To our knowledge, this study is the first to provide mechanistic, network-level evidence that proprioceptive impairment mediates the relationship between WM disconnection and motor impairment, extending beyond damage to classical motor pathways alone. These findings suggest that disrupted proprioceptive connections are an important contributor to post-stroke disability and support proprioception as a potential target for individualized rehabilitation.

C – EDUCATION

P2.C.88 *Advancing communicative access in stroke care: A Toronto Stroke Network Initiative*

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Background: The Canadian Stroke Best Practice Recommendations highlight the need for all stroke care providers to receive training in aphasia and communication support strategies, such as Supported Conversation for Adults with Aphasia (SCA™) (Kagan, Black et al., 2001). In response to educational needs identified by stroke care providers across Toronto, the Toronto Stroke Networks (TSN) launched a knowledge translation initiative in 2023 to better equip interdisciplinary stroke care providers across the care continuum with SCA™ skills to support patients with aphasia. The initiative aimed to enhance the skills of stroke care providers and improve unit culture by fostering communicative accessibility, ultimately enhancing patient care and outcomes.

Methods: A multipronged initiative included leadership engagement, input from patient and family advisors, development of aphasia-friendly resources, implementation of an SCA™ Champion model and stroke care provider training. The group training was delivered through a 3-hour in-person or virtual workshop using an adapted version of the Aphasia Institute's Train-the-Trainer curriculum on SCA™. On two occasions, workshops were tailored to meet the needs of specific interdisciplinary groups (e.g. administrative staff, neurology residents).

Results: Over 140 interdisciplinary stroke care providers participated in the training across five workshop. Pre- and post-training evaluation obtained through the Aphasia Institute's Communicative Access Measures for Stroke-2 (CAMS-2) survey (Aphasia Institute; Kagan, Simmons-Mackie et al., 2017) were completed by participants who attended the first three workshops. Survey results demonstrated improved staff attitudes and communication practices when supporting patients with communication barriers, as well as improved perceptions of system-level support. Informal feedback suggested positive change in patients when providers integrated the training into their practice, as well as change in unit culture towards more communicative accessibility. System- and locally-developed resources were also created to support and sustain the use of SCA™ in practice across the TSN.

Conclusions: This targeted knowledge-translation approach equipped interdisciplinary stroke care providers across the continuum with essential communication support strategies to better care for people with aphasia. Key enablers of success included strong leadership support, staff engagement and the active role of SCA™ champions in sustaining the momentum of the initiative, and translating learning on their local units. Future directions include offering SCA™ training to more providers across Toronto and establishing SCA™ as a standard of care for all stroke care providers across the TSN.

P2.C.89 *Use of side vision awareness glasses and structured eye scanning therapy to improve spatial awareness after stroke*

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Background: Visual–spatial deficits, including homonymous hemianopia and visual neglect, affect up to 30–50% of individuals following stroke and are associated with impaired mobility, reduced independence, and increased fall risk. Despite their functional impact, vision-based rehabilitation strategies remain underutilized in post-stroke care. Side Vision Awareness Glasses (SVAG) use peripheral prism optics to expand functional visual awareness, while EyeSearch therapy provides structured, task-based eye scanning training. This project explores the combined clinical use of SVAG and EyeSearch therapy as a functional vision rehabilitation approach for stroke survivors.

Methods: Stroke patients with documented visual field loss or spatial neglect were assessed in a community-based neuro-optometric setting. Participants were fitted with Side Vision Awareness Glasses and provided structured education on compensatory head and eye movement strategies. EyeSearch therapy was introduced as a home-based and in-clinic visual scanning intervention using graded visual search tasks. Functional outcomes were assessed through clinical observation, patient-reported confidence in mobility, reading ability, environmental awareness, and task performance during daily activities such as walking, navigation, and near work. Educational handouts and video-based instruction supported adherence and knowledge translation.

Results: Patients demonstrated improved awareness of the affected visual field, increased scanning toward the blind side, and enhanced confidence during mobility and daily tasks. Clinically observed benefits included smoother visual search patterns, improved object detection on the affected side, and reduced hesitation during navigation. Patients reported that SVAG provided immediate perceptual benefit, while EyeSearch therapy reinforced long-term compensatory strategies through repeated practice.

Conclusion: The combined use of Side Vision Awareness Glasses and structured EyeSearch scanning therapy represents a practical, and scalable vision rehabilitation strategy for stroke survivors with visual–spatial deficits. Integrating optometric vision rehabilitation into interdisciplinary stroke care pathways may improve functional outcomes, safety, and independence. These tools are adaptable across clinical settings and suitable for broader implementation within stroke rehabilitation programs. Why should this be selected for Brag N Steal?This project showcases a high-impact, low-barrier innovation that addresses a major care gap in stroke rehabilitation: the under-recognition and under-treatment of post-stroke visual–spatial deficits. Our team implemented a ready-to-use toolkit combining: Side Vision Awareness Glasses (peripheral prism optics),Structured EyeSearch visual scanning therapy,Patient-friendly handouts and short educational videos,Clear referral and implementation pathways for interdisciplinary teams.This approach delivers immediate functional gains through optical intervention while supporting long-term neuroplastic adaptation via structured scanning therapy. The intervention is non-invasive, requires minimal equipment, and can be implemented in outpatient clinics, inpatient rehab, or community stroke programs.What makes this innovation worth "bragging" about is its speed of impact and scalability. Patients often experience immediate improvements in awareness and confidence, while clinicians can rapidly integrate the protocol without extensive training or system redesign. The materials are designed to be easily shared, adapted, and replicated across sites.Other teams should "steal" this model because it: Improves safety, mobility, and independence,Strengthens interdisciplinary collaboration,Empowers patients with practical tools,Bridges the gap between vision science and functional stroke rehabilitation.This is a clinically grounded, patient-centred solution that is ready for national uptake.

D – HEALTH SYSTEMS

P2.D.90 *Supporting essential care partners (caregivers) during stroke care transitions: A rapid review of community-involved interventions*

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Background: Transitions from acute stroke care to home and community are among the most vulnerable periods in the stroke recovery trajectory. During these transitions, family members and friends—essential care partners (ECPs)—assume complex roles in rehabilitation, secondary prevention, and psychosocial support, often with limited preparation or formal support[1]. Despite the emphasis on coordinated, person- and family-centred care within integrated stroke systems, hospital-to-home transitions remain a significant gap in health system performance, particularly with respect to continuity of care, community and voluntary sector integration[2], and caregiver wellbeing3,4.

Methods: A rapid review was conducted5 following Cochrane guidance and PRISMA-P standards6 to identify stroke care transition interventions that engage ECPs and incorporate community organizations, volunteers, and leisure-based or self-care supports. The review was guided by the principles of the Discharge Assistance and Supports at Home (DASH) model, which emphasizes cross-sector collaboration, role clarity across settings, and caregiver inclusion as partners in care[2]. Studies were thematically analyzed to extract key intervention components, implementation considerations, and contextual factors relevant to stroke system design and delivery.

Results: While many stroke transition interventions acknowledge ECPs, few explicitly centre caregiver needs during critical transition points such as discharge from acute care or inpatient rehabilitation. Three core findings emerged: (1) an

emerging but underdeveloped shift toward ECP-centred models as core elements of stroke systems rather than adjunct supports; (2) a reinforcing cycle between caregiver education, emotional support, and opportunities for self-care and leisure, with implications for caregiver sustainability and downstream health system utilization; and (3) the importance of embedding transitional interventions within broader community and health system infrastructures to enable continuity, scalability, and equity across stroke pathways.

Conclusion: Findings highlight caregiver-centred stroke transitions as a critical leverage point for improving health system performance, including care coordination, sustainability of informal care, and avoidance of preventable readmissions. Aligning with integrated care pillars and Canadian stroke system priorities, this work underscores the need for health systems to formalize cross-sector partnerships[2] recognize ECPs as integral contributors to stroke recovery, and invest in culturally responsive, context-specific transition supports that promote caregiver wellbeing[4],[5] and resilient stroke care delivery at home and in community.

P2.D.91 *What matters most in stroke recovery: Exploring sex differences in patient-identified inpatient rehabilitation goals*

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Background: Nearly 110,000 Canadians experience a stroke each year, making it a leading cause of disability nationwide. Inpatient stroke rehabilitation is a goal-oriented process that facilitates the recovery of patients' functional abilities. Previous research demonstrates that worse functional outcomes and quality of life are reported in females post-stroke. This study's objective is to examine sex differences in inpatient stroke rehabilitation patient-identified goals and self-perceived changes in goal performance and satisfaction at discharge.

Methods: Data were collected from a centralized clinical database for patients admitted to one of five inpatient stroke rehabilitation facilities in Toronto, Canada, between October 2022 and June 2025. Acquired data included biological sex, age, living situation, length of rehabilitation stay, Functional Independence Measure® score at admission and discharge, and Charlson Comorbidity Index (index of comorbidity burden). Rehabilitation clinicians documented up to ten patient-identified goals for each patient using the Canadian Occupational Performance Measure©, a patient-centred outcome measure identifying occupational performance issues that facilitate rehabilitation goal setting, as part of routine clinical practice. Patients rated the importance, performance, and satisfaction with their performance for each goal using a 10-point Likert scale at admission and discharge from rehabilitation. Extracted patient goal data were thematically categorized using the International Classification of Functioning, Disability, and Health (ICF), a framework commonly used in the classification of health & health-related domains. Descriptive analyses for patient characteristics were conducted stratified by sex. Associations between sex (male vs. female) and specific goal themes will be examined using logistic regression. Performance and satisfaction change scores will be evaluated using the Wilcoxon signed-rank test.Preliminary Findings: 1519 rehabilitation goals were documented and classified from 489 patients with stroke (female n=219, 44.8%) with a mean age of 71.3 years. The most frequent ICF categories observed were "mobility" (n = 555, 36.5%), "self-care" (n = 517, 34.0%), "domestic life" (n = 196, 12.9%), "learning and applying knowledge" (n = 40, 2.6%), and "community, social and civic life" (n = 37, 2.4%). Sex-based analyses of goal types, goal performance and goal satisfaction are ongoing.

Conclusion: Patients with stroke prioritized goals relating to mobility (i.e., walking, using stairs, driving) and self-care (i.e., toileting, dressing, washing, eating). By better understanding the goal priorities of male and female stroke survivors, this study can inform whether current rehabilitation programs are appropriately designed to support these goals, ultimately fostering more individualized rehabilitation care and improved outcomes following stroke.

P2.D.92 *Advancing learning in neurorehabilitation: A scoping review*

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Background: Implementing a standardized approach to outcome measurement in rehabilitation for stroke, traumatic brain injury (TBI), and spinal cord injury (SCI) is foundational for a learning health system. Fragmented practices and recommendations across populations limit integration of standard sets of outcome measures into routine care. This scoping review aimed to synthesize recommendations for outcome domains and measures developed through consensus methods across populations. Secondarily, it examined the involvement of persons with lived experience in the process.

Methods: Searches were conducted on May 27, 2025 in MEDLINE, Embase, CINAHL, and PsycINFO, and supplemented by manual searches of clinical practice guidelines. Eligible studies described the development or evaluation of core outcome sets (outcomes identified as priorities to be captured) or standard measure sets (recommendations for specific outcome measures) for adults with stroke, TBI, or SCI. Two reviewers independently screened studies and extracted data. Data was synthesized descriptively. Outcomes and outcome measures were mapped to the International Classification of Functioning, Disability and Health (ICF) to examine overlap across conditions.

Results: The search yielded 2,288 records, of which 48 studies met the inclusion criteria and were retained. In total, 298 outcome domains were identified, spanning body functions, body structures, activities and participation, environmental factors and personal factors. A total of 276 outcome measures were mapped, and 17 studies (35%) involved persons with lived experience in their development. Over half of the outcomes (54%) were recommended across conditions, including activities of daily living, accessible environments, assistive technology, attitudes of others, bowel and bladder function, communication, psychological functioning, mobility, neuro-musculoskeletal functioning, self-care, and relationships and social support. Only 3% of measures were recommended across conditions, including 10-Metre Walk Test, 6-Minute Walk Test, EQ-5D, Berg Balance Scale, Functional Independence Measure, and the (Modified) Ashworth Scale.

Conclusion: This review highlights overlap in outcome and outcome measure recommendations for stroke, TBI and SCI. Findings will guide development of a standard set of outcome measures for neurorehabilitation clinical care, in partnership with clinicians and people with lived experience.

P2.D.93 *Saskatchewan provincial neurorehabilitation needs assessment*

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Background: Although Saskatchewan has a well-connected hub-and-spoke model for acute stroke care, post-stroke rehabilitation services are less structured. The Saskatchewan Health Authority (SHA) operates two tertiary rehabilitation centres providing inpatient and outpatient neurological services, yet ~40% of people post-stroke live more than an hour away. The province's large geography and low population density present ongoing challenges to equitable access.

Methods: A multi-component provincial neurorehabilitation needs assessment was conducted. Activities included focus groups with SHA directors responsible for therapy services (PT, OT, SLP), focus groups and site visits to regional hospitals offering non-specialized outpatient therapy, and a two-day provincial therapies workshop.

Results: In total, 323 individuals participated to date (23% PTs, 21% OTs, 15% SLPs, 4% rehabilitation assistants or exercise therapists, 20% managers, 17% directors/executive directors). Engagement with physiatrists, rehabilitation nurses, psychologists, and social workers is ongoing. The assessment highlighted the need to strengthen neurological rehabilitation across the continuum of care, with priorities centered on improving access, coordination, and quality. Increasing timely, intensive therapy during the critical recovery window (months 3-6) and developing neuro-specific chronic disease management services were identified as key needs. Participants emphasized improving access to specialized services—particularly for rural and underserved populations—through tele-consultation models, traveling specialist teams, and protected consultation time for therapists with advanced expertise. Standardization and system efficiency were also priorities, including clear clinical standards and referral pathways, consistent onboarding processes, and clarity regarding sources of clinical support. Education and professional development needs were prominent, with recommendations for provincial therapy "educator roles" and formalized mentorship opportunities. Workforce sustainability was a recurring concern, highlighting the importance of recruitment and retention strategies, as well as networking and community-building to support resilience.

Conclusion: Strengthening standardization, workforce capacity, provincial collaboration, and education will be essential to delivering consistent, high-quality neurorehabilitation across Saskatchewan. Developing a Provincial Neurorehabilitation Strategy is the next step.

P2.D.94 *Preliminary data from NeuroMoves: A community-based functional mobility skills training program pilot*

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Background: Post-stroke individuals frequently experience persistent mobility limitations, which may be exacerbated by physical inactivity, aging, and insufficient access to ongoing rehabilitation. In the chronic stage, publicly funded

rehabilitation is often limited in duration and availability, while private services pose financial barriers. Evidence indicates that continued neurological rehabilitation can support functional capacity, reduce fall risk, improve symptom management, and mitigate secondary complications that contribute to acute healthcare utilization. To address gaps in long-term rehabilitation access, we piloted NeuroMoves, a community-based functional mobility training program including individuals more than one year post-stroke. The objective was to evaluate program feasibility, acceptability, and participant-reported and functional outcomes to inform future service planning.

Methods: NeuroMoves was co-developed through a partnership between the University of Saskatchewan's School of Rehabilitation Science (SRS), the Saskatchewan Health Authority (SHA), and the City of Saskatoon. The program was delivered in a community recreational facility equipped with specialized neurological rehabilitation devices (e.g., FES cycling, standing frames, walking frames) through an equipment-sharing agreement with SHA. Sessions were led by physiotherapists supported by SRS trainees and operated three days per week. Following a baseline assessment, participants collaborated with a physiotherapist to establish a targeted short-term functional mobility goal. Each ~60-minute session included a warm-up, individualized task-specific mobility training (target RPE 6–7/10), a cool-down, and debrief. Training components emphasized transitions between functional positions, repetitive movement practice, and task-specific training to develop range of motion, strength, endurance, balance, coordination, and movement strategies relative to functional goal.

Results: Twenty-nine individuals (13 female, 16 male) participated across two 10-week program cycles. Participants were offered 2–3 sessions per week, with an attendance rate of 99%. Mobility goals spanned a broad functional range (e.g., bed mobility to gait-related tasks). Clinically meaningful gains were observed across functional outcome measures. Participants reported additional benefits including reduced caregiver burden, increased independence in wheelchair or ambulatory mobility, return-to-work achievements, early identification of secondary health issues, improved confidence, and enhanced performance of daily activities. All participants agreed or strongly agreed that the program was beneficial, aligned with their goals, improved everyday mobility, was accessible, met expectations, and would recommend to others. All stated they would participate again.

Conclusion: A community-based, partnership-driven model such as NeuroMoves can effectively expand access to long-term neurological rehabilitation by leveraging shared space, equipment, and inter-organizational expertise. Participant-reported outcomes indicate high acceptability, perceived benefit, and meaningful functional improvement. This model shows promise as an efficient, scalable approach to supporting ongoing recovery, functional mobility, and self-efficacy in individuals living with chronic post-stroke impairments.

E – POPULATION HEALTH

P2.E.95 *Co-designing stroke prevention and awareness strategies for immigrant communities*

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Background: Immigrant communities in Canada face disproportionate gaps in stroke prevention and awareness (P&A), shaped by various cultural beliefs, systemic barriers, and limited access to relevant health information. Addressing these inequities requires tailored, culturally responsive strategies that support meaningful knowledge uptake with immigrant communities. However, immigrant perspectives are often underrepresented in healthcare research and intervention development, leading to a further disconnect between knowledge and practice. The South East Toronto Stroke Network (SETSN) is committed to advancing inclusive and collaborative stroke care across its region, and has identified several immigrant-dense communities that lack access to culturally-tailored health promotion information. Elevated rates of stroke in the identified immigrant communities reinforces the need for targeted stroke P&A strategies. Therefore, we aimed to co-create stroke P&A strategies with immigrant communities that can be implemented in the SETSN region.

Methods: This study uses co-design methodology, which actively engages knowledge users (i.e., immigrant people with stroke, caregivers, community leaders, healthcare personnel and administrators involved in stroke care) in intervention development. Two co-design workshops will be conducted to collaboratively identify and refine culturally-relevant stroke P&A strategies. Workshops will be hosted in a community-based location accessible to knowledge users. Within the workshops, preliminary components of a stroke P&A strategy model will be presented, and discussion questions will inform the further development and refinement of strategies.

Results: Each workshop will involve 20 participants from the target knowledge users. Workshop 1 discussions will focus on identifying cultural perceptions of stroke, and its influence on P&A intervention content, delivery locations and modalities. Reflexive thematic analysis will be utilized to identify emerging themes to inform strategies for stroke P&A in the SETSN region. Data from the first workshop will be used to build upon the preliminary strategies, and will be shared and discussed in Workshop 2. Data analysis across both workshops will inform the development of the final stroke P&A model.

Conclusion: The final co-designed model will support the SETSN to implement tailored stroke P&A strategies in the target communities. The findings can be leveraged as a framework for healthcare institutions to support the implementation of culturally-informed strategies when providing stroke care and education for immigrant communities. Utilization of this model may improve uptake and reach of stroke P&A efforts, as it represents the perspectives of individuals who are most impacted by this research.

P2.E.96 *Surviving, not reintegrating': Community reintegration experiences after stroke in Ethiopia - An interpretive phenomenological study*

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Background: Stroke is a leading cause of disability in low-and middle-income countries, yet little is known about how stroke survivors experience community reintegration following hospital discharge. In Ethiopia, rehabilitation services are hospital-based, with limited continuity into community settings. Understanding survivor perspectives is essential to inform contextually responsive rehabilitation services and social support systems.

Methods: An interpretive phenomenological analysis was conducted using in-depth interviews with nine purposively sampled adult stroke-survivors. Interviews explored participants' lived experiences of recovery, social participation, and transition from hospital to community life. Data were audio-recorded, transcribed verbatim, and analyzed ideographically before cross-case synthesis to identify shared meaning structures. Findings were reported in accordance with the COREQ guidelines.

Results: Community reintegration was experienced as a constrained and adaptive process rather than a return to prior participation. Six cross-case supraordinate themes were identified: (1) stroke as biographical rupture; (2) embodied impairment and shrinking social space; (3) family as a primary anchor of reintegration; (4) fragmented rehabilitation and post-discharge invisibility; (5) faith as a moral and existential resource; and (6) muted needs and adaptive resignation. Survivors redefined community reintegration as stabilization and dependence management rather than restoration of social roles. Formal rehabilitation support was largely absent beyond hospital settings. Conclusions Stroke survivors in Ethiopia navigate reintegration through family support and faith within structurally constrained environments. Limited articulation of needs reflects systemic gaps rather than a lack of demand. Findings highlight the urgent need for community-based rehabilitation, caregiver-inclusive policies, and culturally responsive frameworks.

F – PRECLINICAL AND MECHANISTIC STUDIES

P2.F.97 *Comparing MRI approaches to quantify how a stroke lesion affects the corticospinal tract*

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Background: Post-stroke motor impairment can be predicted by different neuroimaging biomarker approaches used to quantify the amount of damage to the corticospinal tract (CST). One approach is to quantify the percent overlap of the stroke lesion with a canonical CST template (CST-lesion overlap). Two other approaches quantify white matter (WM) integrity using fractional anisotropy (FA) either within the entire CST or in its subregion, the posterior limb of the internal capsule (PLIC). A newer fourth approach examines whole-brain WM disconnectivity. While useful, the variety of putative biomarkers has consequently made it difficult for researchers to compare findings via a harmonized methodology. Objective: To determine which of four approaches explain the most variance in post-stroke motor impairment, as measured with the Fugl Meyer upper limb assessment (FMA). We hypothesize that CST-lesion overlap and WM disconnectivity of the affected hemisphere, which quantify the bottleneck of stroke-induced CST damage, will demonstrate greater explained variance in FMA compared to FA of the PLIC and CST, metrics that do not directly encapsulate this bottleneck.

Methods: We tested people living with late sub-acute to chronic stroke (n=24, 3 female, mean time since stroke = 18.5 months). Participants underwent magnetic resonance imaging (MRI) to acquire T1 and diffusion weighted images. The CST and PLIC were delineated from the probabilistic Johns Hopkins University atlas CST template (FMRIB Software Library toolbox). CST-lesion overlap was defined by the percentage of overlapping voxels between the lesion mask and the CST template at the transverse slice with the largest surface overlap (in percent). We extracted FA in both the PLIC and the entire CST and calculated the laterality index to standardize FA values across both hemispheres. To measure WM disconnectivity, each participant's lesion mask was first applied to a normative WM connectome template to remove those streamlines passing through the lesioned tissue. Then, for each voxel, the number of removed streamlines was divided by the total number of streamlines that normally pass through that voxel, generating a disconnectome. Four separate regression models were conducted to evaluate the relationship between the FMA and each biomarker.

Results: We found that greater maximum CST-lesion overlap (R^2 = 0.30, p = .004), lower FA of the CST (R^2 = 0.44, p < .001), and greater WM disconnectivity of the affected hemisphere (R^2 = 0.27, p = .010) were associated with greater motor impairment. We did not find a statistically significant relationship between FA of the PLIC and motor impairment (R^2 = 0.10, p = .227).

Conclusion: We found that FA of the CST explained the most variance in FMA, followed by the CST-lesion overlap and disconnectome models. While further validation in a larger sample is necessary, our findings suggest that the FA of the CST may serve as a useful biomarker for harmonizing methodologies.

P2.F.98 *Motor imagery practice as a tool to improve force steadiness and muscle coordination in individuals with chronic stroke*

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Background: Motor imagery is a promising adjunct therapy for improving motor control after stroke, yet the neurophysiological mechanisms underlying its effects are not fully understood. Prior work suggests that motor imagery engages motor-related cortical networks and may influence common neural drive to muscles; however, it remains unclear whether repeated motor imagery practice alters intermuscular coordination or force steadiness during voluntary contractions required for activities of daily living/everyday tasks.

Methods: Seven individuals with chronic stroke (> 6 months post stroke; 2 females, 67.5 ± 8.7 years old; 4 left hemisphere stroke) and seven age and sex-matched controls (2 females, 68.2 ± 6.0 years old) completed five guided motor imagery sessions involving an upper-limb task of the affected arm. Intermuscular coherence between agonist (biceps brachii short–long head) and antagonist (biceps brachii (averaged across short-long head)–triceps brachii) muscle pairs as well as elbow flexor torque steadiness were assessed during a sustained 15% maximal elbow flexion contraction before and after motor imagery practice.

Results: Agonist intermuscular coherence increased following motor imagery practice similarly for the stroke group (pre: 0.099 ± 0.053, post: 0.127 ± 0.073; Cohen's d = 0.418) and the control group (pre: 0.092 ± 0.026, post: 0.146 ± 0.101; Cohen's d = 0.485). No change in antagonist coherence was found for the stroke group (pre: 0.114 ± 0.046, post: 0.118 ± 0.052; Cohen's d = 0.104); however, the control group showed a slight decrease in antagonist coherence (pre: 0.170 ± 0.124, post: 0.122 ± 0.069; Cohen's d = -0.606). Torque steadiness improved over time, with torque coefficient of variation decreasing from 4.68 ± 2.32% to 3.53 ± 2.05% (Cohen's d = -1.280) in the stroke group and from 2.77 ± 1.56% to 1.77 ± 0.52% in the control group after imagery practice (Cohen's d = -0.786). Conclusion: These findings show that repeated motor imagery practice is associated with increased agonist intermuscular coherence and improved torque steadiness in both individuals with chronic stroke and age-matched controls. Notably, increased agonist coherence may be preferentially enhanced, rather than reductions in antagonist coherence, to support force control (quantified as steadiness) after imagery practice in individuals post-stroke. Together, these preliminary results support motor imagery as a feasible, low-cost intervention capable of inducing measurable neurophysiological and functional changes that are directly relevant to motor control after stroke, while also highlighting its broader effects on motor system organization in older adults.

P2.F.99 *Multi-segment forelimb kinematic analysis detects flexor synergy as a biomarker of stroke severity in rodent models*

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Background: When treating patients with severe strokes, one of the main goals of therapists is to restore movement capacity. Kinematics remains a reliable and detailed method for quantifying complex joint motions and restoration of movement. However, neuroscientists have largely neglected motion analysis as a tool for assessing movement qualities in rodent stroke models. This research utilizes a straightforward kinematic framework for multi-segment forelimb analysis that is adept at detecting subtle changes that other tests cannot. The application of this framework can help differentiate true recovery from motor compensation, enhancing our understanding of post-stroke functional recovery.

Method: Using the Montoya Staircase task, kinematic forelimb data were collected during the pre-stroke period and at multiple time points post-stroke. Eight rodents were included in this study (n = 4 sham; n= 4 stroke). Independent permutations tests (10,000 permutations) were performed to detect for statistical significance ($p < 0.1$) between groups for weeks 1 and 6 post-stroke. Pearson correlations between the collected kinematic variables and stroke size, measured by infarct volume (histology), were evaluated to determine the relationship between lesion severity and kinematic outcomes. High correlations would suggest that the rodents with larger infarct volumes consistently exhibit higher or lower values for a given kinematic variable.

Results: Correlation outcomes in week 1 revealed a strong positive correlation between infarct volume and mean shoulder flexion ($r = 0.92$, $p < 0.1$), and a moderate positive correlation elbow flexion ($r = 0.42$, $p < 0.1$). When comparing between group variables in week 1 post-stroke, both shoulder flexion ($p = 0.081$) and elbow flexion ($p = 0.037$) were considerably greater in the stroke rodent models compared to the shams. These findings suggest that post-stroke rodents with larger infarct volumes tended to exhibit increased shoulder and elbow flexion angles during recovery.

Conclusion: Greater flexor muscle recruitment may reflect increased stroke severity and could act as a biomarker of motor impairment (flexor synergy). The quantification of flexion angles may act as a predictor of stroke impairment severity and may help distinguish maladaptive motor compensations from true functional recovery. With further studies, kinematic analysis may enhance our understanding of post-stroke functional recovery, improving the development of rehabilitative strategies to prioritize true motor recovery.Keywords: kinematics; rodent stroke; Montoya Staircase; forelimb analysis; shoulder flexion; elbow flexion; infarct volume; motor compensation; functional recovery; biomarker; permutation test; rehabilitation

P2.F.100 *Kinematic analysis of forelimb flexor synergy predicts pellet retrieval deficits in rodent stroke models*

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Background: Stroke is a leading cause of disability worldwide, resulting in movement deficits often described as flexor synergies. Kinematics is the key concept when analyzing flexor synergy of the forelimb in rodent stroke models as it detects abnormal, uncoordinated muscle group activation not visible without in-depth evaluation. Previous studies have largely failed to incorporate kinematic analysis in rodent stroke studies, limiting the ability to distinguish true motor recovery from movement compensation. The current study applies a kinematic framework to determine if post-stroke motor improvements reflect between-joint movement restoration.

Methods: We sought to address movement synergy by analyzing pellet retrieval success-rate using the Montoya Staircase experiment with changes in flexor synergy pre- and post-ischemic stroke. Multi-segment forelimb kinematic model analysis was conducted to determine between-joint changes for eight rodents (n = 4 sham; n = 4 stroke). To assess the relationship between kinematic markers and number of pellets retrieved from the staircase, Pearson correlation coefficients (r) were calculated using pooled longitudinal approach across the timepoints Week 1 and Week 6 post-stroke. Permutation tests (10,000 permutations) were performed to detect for statistical significance ($p < 0.1$) between groups.

Results: Our data suggests that there is a strong negative correlation in week 1 between pellet retrieval success and shoulder lift ($r = -0.77$, $p < 0.1$), and elbow flexion ($r = -0.82$, $p < 0.1$). When comparing between group variables in week 1, both shoulder lift ($p = 0.058$) and elbow flexion ($p = 0.049$) was considerably greater in stroke rodent models compared to the shams. These movements demonstrate increased abnormal flexor synergies that have affected the stroke rodent

models during post-stroke recovery. These findings suggest a link in kinematic synergies with the success rate of pellet retrieval in post-stroke rodents.

Conclusion: Our findings found that the proportion of pellets retrieved pre- and post-stroke were negatively correlated with abnormal flexor synergy, highlighting the need for rehabilitation strategies that specifically target the decoupling of target joints. Translating these findings to clinically relevant interventions can help develop mediators that strengthen synergistic muscles, increasing functional motor output and true motor recovery.

P2.F.101 *Exploring the effects of auditory stimuli on motor skill learning*

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Background: The availability of reward improves motor skill learning and is related to dopaminergic processing. Listening to pleasurable music is also associated with the release of dopamine and may also improve aspects of motor performance. Therefore, an outstanding question is whether listening to pleasurable music can improve motor learning. Prior work from our lab found that participants who listened to their favourite music or silence, while performing a motor learning task, exhibited better skill retention than those who listened to neutral music or an audiobook. Listening to neutral music or an audiobook may have been a distraction; other studies have reported that listening to lyrical materials or words makes it harder to focus. In this study, we aim to replicate our prior work in an a priori manner. We implemented the same study methodology and included an attention probe questionnaire to understand how perceived attention affects motor skill learning. We hypothesize that the favourite music and silent group will show better skill retention than the neutral music and audiobook groups.Method: 48 participants were randomized into one of four groups: favourite music, neutral music, audiobook, and silent. On day 1, participants listened to their group-allotted materials while performing six acquisition blocks of the sequential visual isometric pinch task (SVIPT). All groups were then tested with one block of the SVIPT performed in complete silence to evaluate skill retention after 10-minutes (immediate retention) and 24 hours (24-hour retention). The dependent measure is Skill, a variable that accounts for movement time and error in performance.

Results: During acquisition, participants improved with practice across the blocks regardless of group. Similarly, during immediate and delayed retention, participants improved with time. However, there was no significant effect of auditory group meaning; participants who listened to neutral music or an audiobook performed as well as those who listened to their favourite music or silence. Additionally, participants perceived that attention was not a significant predictor of their skill performance.

Conclusion: These results suggest that the favourite music and silent group did not outperform the audiobook and control music group in retaining the learned motor skill.

G – PWLE, FAMILY & COMMUNITY INVOLVEMENT

P2.G.102 *Life is bigger than aphasia: Co-created group-based partner supported communication*

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Overview/Background: Despite significant communication needs, most people with aphasia in Atlantic Canada have limited access to Speech-Language Pathology (SLP) communication services. Evidence shows people with aphasia experience social isolation and reduced quality of life from the lack opportunities or confidence to participate in communication in real-world settings; their partners also experience reduced participation. Aphasia becomes bigger than life. Thus, our program, Stronger Together, aims to bridge the service gap by providing group aphasia education and training on supported communication for people with aphasia and their communication partners (family members, caregivers, and peers). Stronger Together allows participants to reclaim their voices and reconnect with their communities.

Methods: The Stronger Together curriculum was developed through a co-creation process involving people with aphasia, communication partners, and clinicians. Participants helped identify priority topics, shape session themes, and select real-world communication activities. Their lived experience guided decisions about pacing, accessibility, and the balance between education, practice, and peer connection. This collaborative design ensured that the 10-week program was relevant, meaningful, and directly aligned with participants' communication goals. What Makes Stronger Together Unique Provides structured, functional communication support in a group contextInvolves communication

partners and strengthens relationshipsFocuses on real-world communication Reduces isolation through peer connection and community engagement Centers lived experience, ensuring programming is relevant, respectful, and empowering Core Program Components Education about aphasia Facilitated group sessions build functional communication strategies, confidence, and self-advocacy skills. Partners learn alongside participants, gaining tools to support effective communication at home and in the community. Participants connect with others who share similar experiences, reducing isolation and building a sense of belonging. Program Impact Better understanding of aphasiaReduced frustrationImproved ability to participate in daily lifeStronger, more connected relationshipsIncreased confidence in communication Practical tools for supportive communication Why It Matters Stronger Together demonstrates how community-based innovation can transform rehabilitation pathways. By empowering people with aphasia and those who support them, the program helps participants reclaim their voices, rebuild their confidence, and engage more fully in daily life. What We Hear In the last session: M's daughter stated in response to the "Stronger Together" name of the program: "The Together part, yes, Mom is a year out of the journey, and I feel like her understanding and our understanding of aphasia has really deepened because of this program. Yes, life is larger than aphasia, but it also helps us to know what life with aphasia is, and it can help us to minimize the aphasia part."M: "At the hospital, they just gave me a big book and that's all for aphasia, but they just wanted to see me for swallowing. So, this program has been so helpful for me."

P2.G.103 *Falls among middle-aged community-dwelling people with lived experience of stroke: A qualitative study*

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Introduction: Community-dwelling people with lived experience of stroke (PWLE-S) aged 30-65 are more likely to fall than their healthy counterparts. Yet their risks and needs are likely different than older adults. Fall risk is a complex biopsychosocial phenomenon that is experienced differently across individuals and contexts. The objectives of this project were to explore 1) Experiences and self-reported causes of falls and near-falls among community-dwelling PWLE-S aged 30-65 at home, work, and in the community; 2) Implications and consequences of falls and near-falls for PWLE-S; 3) Recommendations to reduce fall risks and the impact of falls.

Methods: We conducted virtual, in-depth, semi-structured photo-elicitation interviews with PWLE_S. Following Braun and Clarke's thematic analysis framework, two reviewers independently coded the transcripts. Analysis follows a theory-informed, dynamic, and iterative process.

Results: We interviewed 20 PWLE-S (12 males, 8 females) from four Canadian provinces. Themes include concerns about fall risk (e.g., impaired balance, environmental design) and facilitators that support safe mobility at home and in the community (e.g., home modifications, accessible transport). The fear of falling and consequences (e.g., concussions, fractures) limited participation in chores, work and leisure activities (e.g. sports). Those living alone reported a greater risk of falls at home and outdoors. PWLE-S expressed a need for more information on their rights, advocacy, empowerment, and better access to healthcare services.

Conclusion: Some individual risk factors are modifiable by PWLE-S, but larger contextual factors (e.g., weather, community accessibility, and access to healthcare services) impact safe mobility and reintegration in the community after stroke.

P2.G.104 *Empowering recovery after stroke: Evaluation of a co-designed education and self management program*

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Background: Canadian Stroke Best Practice Recommendations emphasize that optimal stroke recovery requires frequent, tailored education and the development of strong self-management skills, including goal setting, monitoring progress, and integrating healthy behaviours into daily life. After a long-standing national community stroke education program was unfortunately discontinued, many Canadians suddenly lost access to the structured post-stroke education and self-management support they relied on, creating a significant gap in post-stroke community support.Program Description: March of Dimes Canada partnered with the Toronto Stroke Networks (TSN) and collaborated with PWLE to co-design the Life After Stroke: An Education and Self-Management Program. This 10-week virtual program is grounded in the TSN Guide for Stroke Recovery and consists of a flexible curriculum of 20 modules addressing the impacts of stroke, secondary stroke prevention, goal setting, and self-management. Sessions incorporate subject matter expert videos, facilitated group

discussion, and curated resources. The group-based format promotes peer support and shared learning. Each session is co-facilitated by a stroke-experienced provider and a person with lived experience, ensuring the integration of both clinical and experiential perspectives.

Methods: A pilot cohort (n=8) was delivered virtually in summer 2025. Using a Plan-Do-Study-Act approach, two MODC staff observed sessions to assess timing, flow, and content. Following refinements, two additional virtual cohorts (n=11 each) were delivered with a total of 30 participants from across Canada completing the program. Participants completed pre- and post-program questionnaires that assessed confidence in understanding and managing stroke risk factors, identifying and setting recovery goals, and accessing recovery supports. Open-ended post-program questions captured feedback on program delivery and content.

Results: Seventy-three percent of participants completed both pre- and post-program questionnaires. Participation was associated with increased confidence across all domains. Gains were observed in understanding stroke risk factors (+4.6%), managing risk factors and secondary prevention (+13.6%), goal setting for long-term recovery (+18.2%), and identifying steps and resources to support recovery (+22.8%). Qualitative feedback highlighted the value of peer connection and the relevance of content to lived experience. Recommendations included offering region-, age-, or sex-specific cohorts.

Conclusion: The Life After Stroke program demonstrates the value of ongoing, community-based education and support following stroke. Improved confidence across key recovery domains suggests the program effectively supports self-management and healthy behaviour change. Next steps include expanding the program throughout Canada for virtual and in-person delivery.

P2.G.105 *Co-design of a peer rehab group in collaboration with people with lived experience of stroke to address falls, risk factors and implications*

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Introduction: Stroke incidence is rising in people under 65. People with lived experience of stroke (PWLE's) have identified balance and walking difficulties, increasing their risk of falls, as top priorities. The objectives were to: 1) Identify and prioritize topics to reduce falls in community-dwelling PWLE's aged 30-65, based on knowledge gaps and concerns; 2) Co-design a knowledge mobilization strategy and resources to reduce fall risk and impact. Methods We used a four-phase participatory action research approach: (1) Developed a patient engagement virtual network of PWLE's aged 30-65; (2) Shared knowledge (lived experiences and research) and impacts of falls in daily lives through virtual focus group discussions; (3) PWLE's reviewed and prioritized key topics; (4) Co-designed actionable solutions to address identified priorities.

Results: We collaborated virtually with 5 patient partners from Alberta (over 12-15 sessions). The top priorities were access to affordable therapy, more peer support, and information about government and private services. To address these priorities, PWLE's, researchers and clinicians co-designed a Peer-2-Peer group, which is a community of PWLE's working to improve their abilities. This group goes beyond just social peer support; instead, it uses the common goal of recovery and rehab (through therapeutic activities and exercises) to share relevant information and encourage progress.

Conclusion: Falls and fall risk are common challenges for PWLE's. Community-dwelling PWLE's have unique needs—access to services, pain, fatigue, mental health, and changing physical health, etc.—indicating a need for more post-discharge support, some of which can be addressed by a peer rehab group.

P2.G.106 *Advancing Learning in Neurorehabilitation (ALIGN): A protocol describing the co-design, implementation and evaluation of a person-centred measurement framework for individuals living with stroke, spinal cord injury or brain injury*

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Background: Outcome measures embedded in routine clinical care are the foundation of a learning health system, enabling iterative evaluation and improvement to enhance patient outcomes. However, current core outcome sets and measurement frameworks are often designed for clinical research, rather than clinical practice, and do not reflect the pragmatic realities of neurorehabilitation, where diverse conditions (e.g., stroke, traumatic brain injury, spinal cord injury)

may be treated by the same care team. Existing frameworks rarely incorporate patient and family priorities in a meaningful way. A patient-centred outcome measurement framework, applicable across neurological conditions and rehabilitation stages, is therefore necessary for the implementation of a learning health system. The purpose of this project is to co-design, implement, and evaluate a set of person-centred outcome measures that can be applied in rehabilitation care settings from acute care to the community.

Methods: The ALIGN project is led by a team of researchers and three individuals with lived experience, with health leader support at each of the urban and rural neurorehabilitation centres in Alberta. During the co-design phase, patients, families, and clinicians will participate in structured, consensus-building discussions to develop the outcome measurement framework, ensuring that the selected outcomes and measures are meaningful to patients and families, as well as feasible and relevant to clinical practice. Targeted recruitment and accommodations will ensure that those living with cognitive or communication differences are included. The finalized outcome measure framework will be implemented at two clinical sites: an inpatient stroke rehabilitation unit and an outpatient mixed neurorehabilitation program. Implementation will be guided by the Consolidated Framework for Implementation Research. Evaluation of the implementation will assess both measures in the framework itself, including validity, responsiveness, interpretability, and administrative burden, and the implementation process using a mixed methods approach. In-depth qualitative analysis, guided by Normalization Process Theory, will identify mechanisms that support implementation.

Results: This project will develop a flexible outcome measurement framework that can be applied across the neurorehabilitation care continuum, with a focus on what matters most to patients and families. The implementation evaluation will generate practical insights into integrating the outcome measurement framework into practice. Findings will inform the development of a toolkit to support the adoption of the framework at neurorehabilitation sites across Canada.

Conclusion: Delivering effective, patient-centred care requires using appropriate measures to evaluate what patients and families value most. Through a co-design approach, the ALIGN project is an important first step in ensuring the continuous improvement of neurorehabilitation care in Canada.

H – QUALITY IMPROVEMENT

P2.H.107 *The vital role of acupuncturists on the stroke rehabilitation team: Enhancing recovery through integrative care*

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[1] *Elevate Movement Therapies*

Stroke rehabilitation is most effective when delivered through a coordinated interdisciplinary approach that addresses the complex motor, sensory, and psychosocial sequelae of stroke. Acupuncture is increasingly being integrated into rehabilitation settings as an adjunct therapy; however, its role within the multidisciplinary team remains underrepresented in conventional models of care. This abstract presents a clinical perspective on the contributions of acupuncture in supporting functional recovery and improving quality of life in individuals recovering from stroke.In a community-based neurorehabilitation setting, acupuncture is incorporated alongside conventional therapies to support motor recovery, pain management, and the reduction of tone and spasticity. Clinical observations suggest acupuncture may positively influence multiple domains of stroke recovery, including improvements in functional movement, modulation of central pain mechanisms, and regulation of autonomic nervous system function contributing to improved bladder and bowel control. Emotional lability and post-stroke mood disturbances may also be positively impacted through acupuncture's effects on neurophysiological pathways. These insights are informed by an observational research study conducted in 2018, as well as over 25 years of combined experience integrating Western and Eastern approaches to neurorehabilitation. Within a collaborative rehabilitation framework, acupuncture may complement traditional therapies such as physiotherapy, occupational therapy, and speech-language pathology by optimizing neuromuscular function, reducing secondary complications, and enhancing patient engagement in active rehabilitation.Improvements observed in tone, pain, emotional regulation, and autonomic function may facilitate greater participation in conventional therapies, supporting overall functional gains and recovery trajectories. Integrating acupuncturists into the stroke rehabilitation team reflects a patient-centered, integrative model of care that addresses symptom domains not always fully resolved through conventional therapies alone. Further research is warranted to better define treatment protocols and quantify outcomes; however, current clinical experience supports acupuncture as a valuable adjunct in comprehensive stroke rehabilitation.

P2.H.108 *Barriers and facilitators to enrolment in stroke and cardiac rehabilitation trials: A scoping review guided by the theoretical domains framework and a sex- and gender-based analytical approach*

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Background: Although older women experience stroke more frequently than older men and have poorer outcomes after stroke, women remain underrepresented in stroke clinical trials. Similar gaps have been observed in cardiac rehabilitation (CR) trials, where the participation of women remains disproportionately low despite the high burden of cardiovascular disease among women.The persistent underrepresentation of women in stroke and CR trials underscores the importance of understanding sex- and gender-related factors in trial enrolment. However, most existing studies describe barriers and facilitators to enrolment without explicitly examining differences by sex or gender, leaving key determinants of participation—such as gender-related differences in living arrangements and availability of support—insufficiently understood. Therefore, this scoping review aims to classify and explore factors affecting the enrolment of adults in stroke and CR trials with attention to sex- and gender-related influences.

Methods: This scoping review is guided by the Theoretical Domains Framework (TDF) and incorporates a sex- and gender-based analytical lens during data extraction and synthesis. A comprehensive literature search strategy was developed in consultation with an academic librarian using terms such as barriers and facilitators, stroke and CR trials, and enrolment or participation. The search was conducted across six electronic databases (MEDLINE, Embase, Emcare, CINAHL, SPORTDiscus, and ProQuest) from inception to December 3, 2025. Identified barriers and facilitators to trial enrolment will be extracted and mapped to the 14 domains of the TDF. Sex-disaggregated findings of barriers and facilitators will be retained where reported. For studies that do not explicitly disaggregate findings of barriers and facilitators by sex or gender, relevant constructs will be interpreted using a sex- and gender-informed analytical approach based on existing evidence (e.g., access to transportation will be mapped to the Environmental Context and Resources TDF domain, and described as a gender-related factor).

Results: This study is currently underway. A total of 6,629 records were identified across the databases searched, of which 4,740 distinct records remained after de-duplication and are currently undergoing title and abstract screening by pairs of independent reviewers. Full-text evaluation and data mapping into TDF domains will be conducted from March to April 2026. Findings from this review will be presented at the Canadian Stroke Congress. Conclusion: Understanding barriers and facilitators to enrolment in stroke and CR trials is essential to advancing equitable rehabilitation research. Findings from this review will inform strategies to address the persistent underrepresentation of women in both stroke and CR trials and contribute to improving the inclusiveness and efficiency of future trials.

P2.H.109 *Standardizing the endovascular therapy 24-hour treatment window across Alberta*

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Background: A provincial position statement endorsing the evidence-based transition to the Endovascular Therapy 24-hour treatment, supported by stroke operation and clinical leadership, led to a soft rollout with inconsistent provincial adoption of the new practice. While this laid the foundation, system-level change required coordinated, collaborative updates to prehospital and triage algorithms at non-stroke centers, standardized educational materials, and robust measurement and evaluation. Method: To standardize systematic screening, identification, triage, and transport of stroke patients presenting beyond the current 6-hour time window- and to develop aligned education and an evaluation framework- engagement and co-design sessions were held with Emergency Health Services (EHS); Comprehensive, Primary, and non-Primary Stroke Centres; Stroke Programs; Diagnostic Imaging; and Family and Patient advisors.

Results: Co-design sessions informed: Updates to the pre-hospital EHS Adult Stroke Algorithm to reflect the 24-hour treatment window and include frailty screen and consultation with Online Medical Consult Services. Revisions to the non-Primary Stroke Center Acute Stroke and TIA Management Algorithm and the paper-based Acute Stroke Screen used

at triage. Development of an evaluation framework and a provincial dashboard for continuous quality improvement and program planning. Creation of educational materials (online modules, an infographic, microlearning, podcasts, and facilitator guides) for impacted clinicians to support the transition in practice.

Conclusion: A three-pronged approach focusing on updating algorithms, evaluation, and education was used to standardized screening, leverage non-stroke centers with CT capabilities to minimize patient transport times, evaluate the initiative and its impact, and support frontline staff.

P2.H.110 *Cross-continuum implementation of the Canadian Occupational Performance Measure© to support integrated, patient-centred stroke care – A multi-phase approach: Phase 3*

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Background: The Canadian Occupational Performance Measure (COPM©) is a standardized patient-reported outcome measure that supports the patient reported experience measure process. It facilitates patient identification of what is most important to them and measures change in the evaluation of perceived performance and satisfaction. Within the Toronto Stroke Networks (TSN), the COPM© is being implemented interprofessionally across acute care, inpatient, and outpatient rehabilitation using a phased approach to support integrated stroke care. Following an initial pilot with two organizations (Phase 1) and expansion to sites across Toronto (Phase 2), Phase 3 aimed to explore patient experiences using the COPM© and further address implementation considerations for individuals with cognitive and communication impairments following stroke to support best practice stroke care.

Methods: Phase 3 implementation occurred across acute care, inpatient, and outpatient rehabilitation programs within the TSN. (1) Patient experience interviews were conducted with individuals with stroke to explore perceptions of completing the COPM© and its impact on their care journey. (2) Interprofessional site champions from earlier phases supported standardized COPM© completion and documentation using an electronic stroke rehabilitation referral system, facilitated team education, shared clinician feedback, and developed sustainability plans. (3) Feedback from persons with stroke and clinicians informed the co-development of additional clinician-facing resources, including scripts for introducing the COPM© and supports for completing the measure with individuals with cognitive and/or communication impairments. (4) Additional training was provided through online learning modules, virtual engagement sessions, TSN website updates, and dissemination of a comprehensive resource package.

Results: Seventeen cross-continuum stroke programs participated, supported by 45 site champions. Eight interviews were completed with persons with stroke. Themes from the interviews included: (1) positive experiences discussing meaningful activities with their care team; (2) the value of structured conversations supported by the COPM©; (3) the benefit in observing progress over time through their recovery journey; (4) challenges associated with difficulty recalling earlier encounters with the COPM©, highlighting the importance of how the measure is introduced and communicated. Clinician feedback identified challenges related to explaining the purpose of the COPM©, differentiating between occupational performance issues and goals, and completing performance and satisfaction ratings with individuals with cognitive and/or communication impairments. In response, three additional resources were co-developed and disseminated to support persons with stroke and clinicians, and 77 clinicians registered for the COPM© Learning Modules.

Conclusion: A phased, cross-continuum implementation of the COPM©, strengthened by feedback from persons with stroke and clinicians, supports integrated and patient-centred stroke care. Targeted resources and training addressing cognitive and/or communication considerations enhance meaningful use of a standardized patient-reported outcome measure and demonstrates a scalable approach to embedding the patient voice across the stroke care journey.

P2.H.111 *Addressing malnutrition in stroke recovery: A quality-improvement initiative introducing med pass in an integrated care model*

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Background: Malnutrition is a frequent and preventable complication in acute stroke, contributing to poorer neurological recovery, delayed wound healing, reduced rehab tolerance, and limited functional outcomes. Early, consistent nutrition support is essential. In February 2025, the Registered Dietitian introduced Med Pass on the Integrated Stroke Unit to address high malnutrition risk through routine screening and targeted delivery of Ensure Compact, a concentrated

high-calorie, high-protein supplement. Supported by a small manufacturer grant, the initiative aimed to improve caloric and protein intake during early recovery, lower malnutrition rates, and enhance readiness for rehabilitation.

Methods: Med Pass began in February 2025 on the acute stroke unit and expanded in September 2025 to include inpatient rehabilitation. Eligible participants were adults admitted to these units; those needing modified fluid consistencies were excluded. Nurses completed the Canadian Nutrition Screening Tool (CNST) at admission, and positive screens triggered a dietitian consult and potential Med Pass order. The intervention provided 118 mL of Ensure Compact twice daily during medication rounds, delivering ~436 kcal and 18 g protein per day. Workflow efficiency was supported by integrating Med Pass into the EPIC electronic health record for nursing documentation. Education for nursing and support staff emphasized that "Nutrition is part of medical care—small sips make a big difference." Data collection includes admission and discharge weights from both acute and rehab units, plus length of stay. Measures will be compared to assess contributions to recovery and LOS. Screening rates will be analyzed at 6-month and 1-year intervals to evaluate CNST education effectiveness. Education activities—huddles, one-on-one sessions, and lunch-and-learns—will be tracked. Nursing students supported one-on-one teaching to improve CNST completion.

Results: Primary outcomes include nutritional status, recovery efficiency, and length of stay (LOS). Percent weight change will assess nutritional impact, and actual LOS will be compared with estimated discharge dates to evaluate effects on expected recovery timelines.

Conclusion: This pilot demonstrates the feasibility of embedding a high-yield nutrition intervention into routine workflows for acute stroke and rehabilitation settings. Integrating Med Pass into medication rounds and the EHR supports sustainable, consistent delivery of supplemental calories and protein during periods of high metabolic demand. Pending outcome data, the approach shows promise as a scalable strategy to reduce malnutrition risk and improve recovery in neurologically vulnerable patients.

P2.H.112 *Measurement properties of performance-based outcome measures used in stroke telerehabilitation: A scoping review*

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Background: The assessment of performance-based outcomes for individuals with stroke via telerehabilitation videoconferencing can be challenging. Many outcome measures have been developed for in-person use and have been adapted for telerehabilitation. Using outcomes with evidence of validity and reliability for telerehabilitation use is important for accurate and repeatable assessment results. The objective was to identify evidence of measurement properties, including validity and reliability of performance-based outcome measures used with adults receiving telerehabilitation. This presentation focuses on included studies which concentrated on people with stroke.

Methods: This scoping review included studies of adults using telerehabilitation by videoconferencing which evaluated measurement properties of performance-based outcome measures. Five databases were searched: Ovid MEDLINE, Cumulative Index to Nursing and Allied Health Literature; Physiotherapy Evidence Database; Cochrane Central Register of Controlled Trials; and Scopus. Titles and abstracts were reviewed independently by two authors, followed by full text reviews. Data extraction was completed independently by one of the authors and checked by another author. Covidence was used to manage screening and data extraction. Data was summarized and synthesized in table format.

Results: The search identified 3538 studies and 754 duplicates were removed; 2784 studies were screened and 2721 excluded. Full text review of 63 studies led to 28 exclusions and 35 included studies. There were 9 studies from 2021-2024 (n= 310) which focused on stroke, the largest health condition category; 98 participants (31.6%) were women. Ten outcome measures were tested across the 9 studies. Only the Arm Capacity and Movement Test (ArmCAM) was developed specifically for videoconferencing use; other measures were made for in-person use and adapted for videoconferencing. The most commonly evaluated measures were the Fugl-Meyer assessment (3) and the Berg Balance Scale (3). All 9 studies tested some form of reliability (with in-person to remote or remote to remote assessments) and 6 studies tested validity of some kind (with correlations of in-person to remote, or with various measures). Four studies presented SEM and MDC values.

Conclusion: Providers of stroke telerehabilitation by videoconferencing should consider using performance-based measures with evidence of validity and reliability for stroke telerehabilitation. Women were less likely to be participants in studies of telerehabilitation outcome measures for people with stroke. Next steps would be a COSMIN based evaluation of the evidence of measurement properties of performance-based outcome measures used in telerehabilitation for people with stroke.

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