

A Collaborative Design of a Regional Acute Stroke Bypass Protocol to Support Timely Access to Endovascular Thrombectomy with a Paramedic Feedback Loop



PRESENTER DISCLOSURE

- **Presenter:** Catherine Wong
- **Relationships with commercial interests:**
 - **Grants/Research Support:** No
 - **Speakers Bureau/Honoraria:** No
 - **Consulting Fees:** No
 - **Other:** No



MITIGATING POTENTIAL BIAS

- **Presenter:** Catherine Wong
- **Mitigation of conflict:** None



LEARNING OBJECTIVES

1. Implement a Feedback Loop to Enhance Paramedic Clinical Decision-Making

Participants will explore the role of feedback letters sent to paramedics, detailing stroke diagnoses and treatments, and how these letters provide real-time feedback to improve paramedic clinical decision-making and adherence to stroke bypass protocols.

2. Analyze the Impact of Stroke Bypass Protocols on Hyperacute Stroke Treatment

Participants will assess the effectiveness of the Acute Stroke Bypass Protocol in ensuring patients with severe strokes (LAMS ≥ 4) receive timely hyperacute treatment, and how the protocol influences patient outcomes and resource utilization.

3. Promote Continuous Quality Improvement in Prehospital Stroke Care

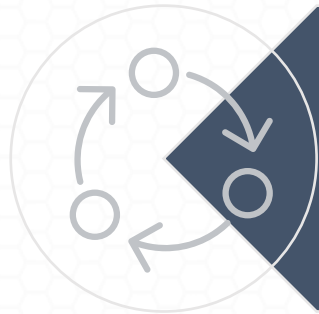
Participants will learn to implement feedback mechanisms, such as the feedback letter program, as part of a continuous quality improvement process that enhances paramedic performance, optimizes stroke triage, and improves coordination between emergency services and stroke centers.



PURPOSE



Ensure timely access to hyperacute stroke treatment



Acute Stroke Bypass Protocol



Evaluation framework and feedback loop partnership



METHODOLOGY

Target Population

Paramedic services where the Regional Stroke Centre is **not** the standard designated stroke centre:

- Renfrew County
- Cornwall SD&G
- Prescott Russell

Approach

A feedback letter is sent to the paramedics secure work email for patients bypassed and redirected to the Regional Stroke Centre

Standardized automated letter includes orienting data such as date and time, age, and gender

Elements of the letter include:

- Most responsible diagnosis, stroke intervention if applicable (thrombolysis, endovascular therapy), discharge disposition

Outcomes

% of patients arriving by ambulance receiving thrombolysis or EVT with feedback letters

Paramedic Satisfaction Survey

MM DD, YYYY

Re: Stroke Patient Outcome Report

Thank you for your ongoing commitment to help improve the quality of care of stroke patients – your contributions are appreciated not only by the Champlain Regional Stroke Network and RPPEO but more importantly by the patients themselves. As part of our shared goal of continuous quality improvement, we are sending this information to you to determine if there were any opportunities to improve pre-hospital care and/or triage decisions. Hopefully this information will be useful for you to engage in self-reflective practice.

On **DATE** at approximately **TIME**, you were part of a team that responded to treat a patient with stroke-like symptoms who was brought directly from scene to the regional stroke centre (The Ottawa Hospital - Civic Campus). The following is a summary of the patient's outcome that we thought may be of interest to you.

Age	Gender	Stroke bypass?	Hospital Diagnosis

Thrombolysis given?	Endovascular therapy (EVT) performed?	NIH Stroke Score (on arrival)	NIH Stroke Score (after treatment)	ED disposition

Note: Please see an explanation for the NIH Stroke Score on reverse

<Insert explanatory paragraph if required – see Appendix>

We hope that this information provides you with i) the ability to confirm your clinical suspicion(s) and ii) an opportunity to determine whether this patient received the right care, at the right time, and in the right place. This also reflects on the important care you provided and the use of the Stroke and EVT bypass criteria.

While we strive to deliver feedback in a timely manner, we often do not have the most up-to-date information regarding a patient's final outcome until quite some time after their presentation. Some patients may benefit from stroke bypass which will only become apparent further into their hospitalization. This report hopefully provides some input into your patient's preliminary diagnosis and treatment at TOH, which may impact your decision making for future patients. If you have any questions or need clarification on the information provided, please contact the **Acute Care Coordinator, Catherine Wong** at cathwong@toh.ca

Thank you for your care.

Sincerely,



Dr. Grant Stotts, MD, FRCPC
Medical Director
Champlain Regional Stroke Network



Dr. Michael Austin MD, FRCPC, DRCPSC (PTM)
Medical Director
Regional Paramedic Program for Eastern Ontario



RESULTS



185 cases were bypassed and redirected within a last seen normal of <6 hours in fiscal year 2021-2024.



110 /185 cases had a LAMS of ≥ 4 .
The average NIHSS score was 14.



40 / 110 of the cases were EVT candidates.
83 % of the cases had a final diagnosis of stroke.



Paramedics continue to appropriately use their in-field clinical screen to determine the most appropriate stroke destination for patients.



NEXT STEPS

Explore utilizing the feedback letter for process improvement initiatives (prenotification patch calls)

Expand the feedback letter target population to all EMS partners

Explore potential strategies for project feedback



QUESTIONS

Thank you!