Process for Non-tPA Hospitals to Access Stroke Consultation and/or EVT Services for Patients Presenting within 6-24 Hours of Stroke Symptom Onset

CESN Regional Consultation
March 5, 2020
Dr. Alyssa Fiddler, CESN Regional Medical Director
Cheryl Moher, CESN Regional Director

Objectives

- Review highlights of CorHealth's draft process for non-tPA hospitals to access EVT for patients presenting within 6-24 hours
- Discuss regional, cross regional, and local planning considerations
- Review draft OHTAC CT Perfusion Imaging Recommendation to facilitate patient selection for patients presenting within 24 hours
- Discuss next steps to confirm local resources

Draft Process for Non-tPA Hospitals (i.e. community hospitals) to Access Stroke Consultation and/or EVT Services for Patients Presenting within 6-24 Hours of Stroke Symptom Onset.

January 2020

- Background
- Issue
- Standards
- Regional Processes

Draft Process for Non-tPA Hospitals (i.e. community hospitals) to Access Stroke Consultation and/or EVT Services for Patients Presenting within 6-24 Hours of Stroke Symptom Onset.

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Background

- Urgency
- Paramedic Prompt Card – patients presenting within 6 hours
- CSBPR updated to include expanded treatment window for EVT

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Issue

Clear direction with respect to the recommended processes for community hospitals (non- tPA hospitals) to access stroke consultation and/or EVT services for patients presenting within the 6-24-hour time window of symptom onset is required to progress the responsiveness of the health system, optimize patient outcomes, and encourage adequate planning and resource allocation.

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Standards

1.1 Initial ED Evaluation

- All patients with suspected ischemic stroke who arrive within 6-24 hours of stroke symptom onset should be screened using a validated Large Vessel Occlusion Screening Tool (e.g. ACT FAST).

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Standards

1.2 Neurovascular Imaging – Imaging and NonImaging Hospitals

- Patients with a probable Large Vessel Occlusion Stroke, based on the Large Vessel Occlusion Screening Tool, should undergo immediate brain imaging (within 15 min) as per the established provincial imaging protocol of non-contrast computerized tomography (NCCT), immediately followed by multiphase CT angiography (CTA) (see Appendix A for standard imaging protocol). *Note: current evidence for selecting patients for EVT up to 24 hours of symptom onset utilized CT Perfusion (CTP) with quantitative software however this is only currently available at a limited number of designated stroke hospitals*.

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Standards

1.2.2

- CritiCall Ontario is to be informed if regional processes require their services to facilitate stroke consultation. All 'Life or Limb' patient consultations require the use of CritiCall. If required, a mapping of non-tPA hospitals to the appropriate consultation hospital (e.g. Regional Stroke Centre or District Stroke Centre) should be provided to CritiCall.

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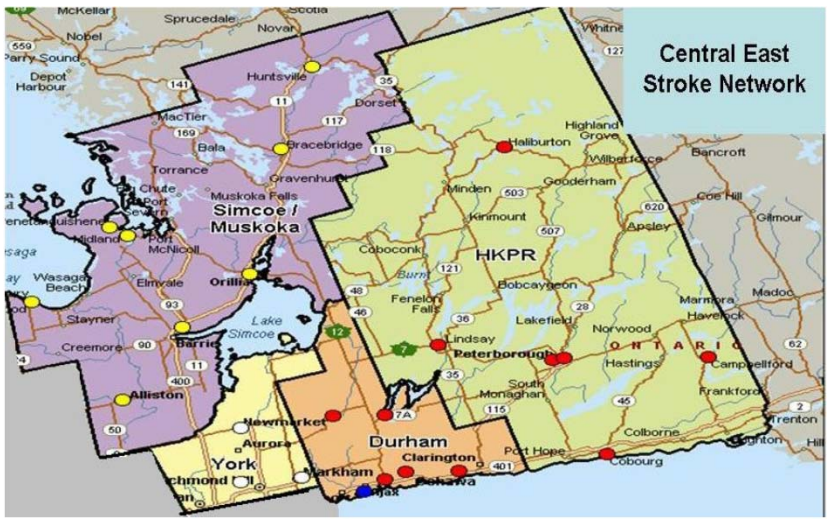
Regional Processes

The following guiding principles should be considered when developing regional processes.

1. Optimize patient experience by ensuring appropriate patient selection and avoiding unnecessary transfers
2. Represents an expectation that can be achieved safely, effectively and efficiently
3. Reflect best practice
4. Enable equitable geographic access
5. Ensure responsible use of resources

Note: Regional processes that require cross-region collaboration should be not be developed in isolation. All stakeholders impacted by the process should be involved in the decision-making process.



Resource Sheet

APPENDIX D Institutional Resources for Stroke in Ontario, 2017/18

UPDATED November 13, 2018

Legend	
Regional stroke centre	A facility that meets all the requirements of a district stroke centre, plus neurosurgical facil
District stroke centre	A facility with written stroke protocols (e.g., transport and triage, thrombolytic therapy, neu
Non-designated	An acute care hospital that does not fit the definition of district or regional stroke centre.
Column does not appear in publication	

LHIN/Institution (Site)	Institution no.	Location	Ontario Stroke Network region	Inpatient Volume (to be inserted by	CTA/CTP	Indicate availability CTA/CTP on site	MRA	Indicate availability MRA on site	Administers tPA	Provide Endovascul
Ontario, n	170			18,028	78	e.g. : a)24/7 b) 24/7 (on call after hours) c) 8-4 wkdys only d) Other (describe)	56	e.g. : a)24/7 b) 24/7 (on call after hours) c) 8-4 wkdys	45	10
Royal Victoria Regional Health Centre	1825	Barrie	Central East	334	X	24/7 CTA - 24/7 CTP except 5 night shifts per week 2300-0700 Monday-Friday . Transitioning towards 24/7 (based on staff training)	X	Mon-Fri 0700-1900	X	

CENTRAL EAST STROKE NETWORK

Transfer Protocol

Lakeridge Health · Mackenzie Health · Muskoka Algonquin Healthcare · PRHC Peterborough Regional Health Centre · RVH Royal Victoria Regional Health Centre

Simcoe Muskoka Acute Stroke Protocol

Acute Stroke Emergency Transfer Protocol

to Royal Victoria Regional Health Centre (RVH) or Muskoka Algonquin Healthcare (MAHC) Huntsville District Memorial Hospital Site (HDMH)

Patients who present with features of an acute ischemic stroke may be eligible for thrombolytic therapy and/or endovascular therapy.

Inclusion Criteria	Exclusion Criteria
☐ Patient has signs and symptoms consistent with ischemic stroke. ☐ A clear & credible time of onset can be established & the patient can reach the RVH or HDMH: • **Within 4 hours** of the onset of stroke symptoms i. Pregnancy is **NOT** a contraindication. ii. Age <18 years is **NOT** a contraindication. *Time of onset is the time the patient was last seen normal. ***Time is Brain**. The sooner the patient arrives at RVH/HDMH the greater potential for better outcomes.	☐ Unknown onset of symptoms or patient last seen well >24 hours. ☐ Complete resolution of neurological signs (TIA). ☐ Serious co-morbidity with limited lifespan (e.g. advanced cancer, advanced dementia). • If uncertain about whether patient meets Acute Stroke Protocol criteria, contact Acute Stroke Team at RVH or HDMH.

If the patient meets the eligibility criteria and is stable for transfer follow the steps below.

Note if:

- **Wake up stroke with witnessed last known well in past 24 hours OR**
- **Witnessed last known well within 4-24 hours of onset**

Complete ACT-FAST screen and steps on page 2

Step 1. If possible, maintain ambulance availability/arrange for ambulance transfer by calling dispatch. Inform the dispatcher that patient fits "**Acute Stroke Protocol**".

Step 2. As appropriate call **RVH** Locating at **705-728-9802** and follow the prompts as necessary OR call **HDMH** Switchboard at **705-789-2311 ext. 0**. Your call is a request to have the Acute Stroke Physician paged. Clearly identify the Hospital calling, a return phone number with extension and the Physician's name that is calling.

Step 3. Report to the Acute Stroke Physician the NIHSS and a SBP>185 or DBP>110. Mutually agree that patient should be transferred to RVH or HDMH for consideration of hyperacute therapy.

Step 4. Transfer patient Code 4, to RVH or HDMH. It is recommended that the patient be transferred with:

- Ambulance cardiac monitor
- Oxygen therapy as needed

Complete the following if time permits **(never delay transfer to complete)**:

A. Preferred:
- Saline lock #1 with 18 gauge needle in antecubital fossa unaffected arm
- Saline lock #2 with 18 gauge needle in antecubital fossa

Note: recommendations to use minimum size 20 gauge needle, antecubital fossa (above the hand), avoid IV extensions, and no glucose solutions unless required.

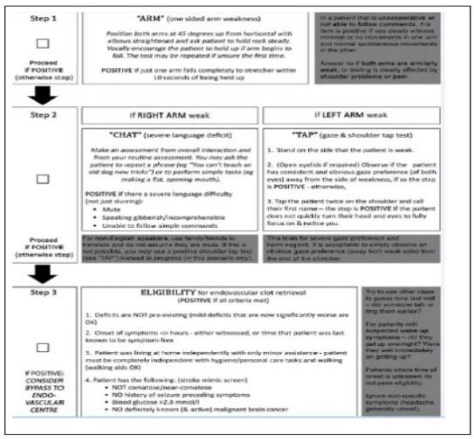
B. Optional (if time still permits):
- CBC, electrolytes, urea, creatinine, troponin, INR, PTT, glucose, pregnancy test (BHCG) (if indicated)
- 12 lead ECG

Step 5. **Fax all relevant information & blood work if drawn to RVH at 705-719-4929 or HDMH at 705-789-6216.**

If at all possible the family member with Power of Attorney for Personal Care or the Substitute Decider should travel with the patient in the ambulance to RVH/HDMH. In the event this is not possible, the family should keep the phone free. The Stroke Centre Hospital may need to call them to provide consent for treatment. This contact number needs to be included with the transfer documentation.

** Approximately 30 minutes is required for receiving District Stroke Centre assessment & CT scanning

"ACT FAST"- Clinical Triage Tool for Acute Stroke caused by Large-Vessel Occlusions
Adapted from "Ambulance Clinical Triage for Acute Stroke Treatment" Zhao et al. Stroke 2018;49-945-951



If ACT-FAST positive:

Step 1. Imaging based on Acute Stroke CT/mCTA Imaging Protocol:

- **Non-enhanced CT head:**
  a) Axial 3 mm images b) Coronal 3 mm images c) Sagittal 3 mm images
- **CTA, neck and head** (acquired from aortic arch to the vertex, peak bolus and ~ to second delays)
  a) First phase: i. Axial 2 mm (head and neck) ii. Coronal 5 mm MIP (head and neck) iii. Sagittal 5 mm MIP (head and neck) iv. Axial 30 mm MIP (head only)
  b) Second phase (delay): i. Axial 2 mm (neck and head) ii. Axial 30 mm MIP (head only)
  c) Third phase (delay) (optional): i. Axial 30 mm MIP (head only)

Step 2. As appropriate call TBD

Step 3. Report to the **Acute Stroke Physician TBD (consider in consultation with EVT sites – potentially EVT provincial worksheet)**

Step 4. If the EVT Team accept the patient, **TBD CritiCall will support transportation arrangements.**

Automated CT Perfusion Imaging to Aid in the Selection of atients With Acute Ischemic Stroke for mechanical Thrombectomy: Recommendation

Draft Recommendation

- The Quality business unit at Ontario Health, based on guidance from the Ontario Health Technology Advisory Committee, recommends publicly funding mechanical thrombectomy within 24 hours of acute ischemic stroke, and that public funding include the costs of assessment with automated CT perfusion imaging to facilitate patient selection

Next Steps

- Presentation will be posted on the CESN website by March 6 https://cesnstroke.ca/professional/acute-care/
- Confirm local capacity to complete screening and imaging on a 24/7 basis
- Confirm local capacity to read images on a 24/7 basis
- Identify what supports are required to advance this planning
- Request responses to your District Stroke Coordinator by March 31, 2020
- Feedback will inform planning discussions with EVT delivery sites

District Stroke Centre Contacts

- Simcoe: Cheryl Moher, Regional Director, Simcoe Stroke Coordinator
  Telephone: 705-728-9090 ext 46300 Email: moherc@rvh.on.ca
- Muskoka: Laura Derbyshire, District Stroke Coordinator
  Telephone: 705-789-2311 ext 2223 Email: laura.Derbyshire@mahc.ca
- HKPR: Erin McHattie, District Stroke Coordinator
  Telephone: 705-743-2121 ext 3946 Email: emchatti@prhc.ca
- Durham: Amy Maebrae-Waller, District Stroke Coordinator
  Telephone: 905-576-8711 ext 2553 Email: awaller@lh.ca
- York: Yasmin Visram, District Stroke Coordinator
  Telephone: 905-883-1212 ext 6215 Email: Yasmin.visram@mackenziehealth.ca

Questions