

# Acute Stroke Transfer Protocol:



Transfer protocol from Community Hospitals to  
Designated Stroke Centre at Huntsville District Memorial Hospital (HDMH)  
or to Stroke Endovascular Site for:

- **Emergency Department (ED) arrivals (walk-in or by ambulance) at community hospital**
- **Non-admitted patients at community hospital who experience a stroke**
- **Inpatients at community hospital who experience a stroke**

**Purpose:** This protocol outlines the procedure/process when a patient is experiencing symptoms of an acute stroke up to 24 hours from the onset of symptoms and may be eligible for intravenous thrombolytic therapy and/or endovascular thrombectomy (EVT). Timely identification of stroke symptoms and prompt action to follow the procedure/process for acute stroke transfer is crucial for best patient outcomes. **ACUTE STROKE IS A MEDICAL EMERGENCY. TIME IS BRAIN.**

ELIGIBILITY	
INCLUSION CRITERIA	EXCLUSION CRITERIA
<input type="checkbox"/> Patient has <b>at least one</b> of the following acute stroke signs and symptoms: <ul style="list-style-type: none"> <li>• Sudden facial droop</li> <li>• Sudden one-sided arm and/or leg weakness</li> <li>• Sudden trouble speaking (slurred, incomprehensible, or mute)</li> <li>• Sudden visual changes (blurred or double vision)</li> <li>• Sudden loss of balance</li> <li>• Sudden severe headache with no known cause</li> </ul> <input type="checkbox"/> Patient has a clear & credible time of stroke symptom onset, or time last seen well can be established <b>NOTE:</b> <ul style="list-style-type: none"> <li>• Pregnancy is not a contraindication</li> <li>• If less than 18 years of age, contact CitiCall for pediatric neurology consult. Pediatric age is not a contraindication</li> <li>• Advanced age is not a contraindication</li> </ul>	<input type="checkbox"/> Unknown time of onset of symptoms <input type="checkbox"/> Stroke symptom onset / last seen well greater than 24 hours <input type="checkbox"/> Complete resolution of neurological signs (TIA)
Continue to <b>"STROKE SYMPTOM ONSET"</b> section if: <ul style="list-style-type: none"> <li>• your patient <u>meets</u> protocol eligibility, or</li> <li>• <u>you are uncertain</u> about whether your patient meets protocol eligibility.</li> </ul>	



STROKE SYMPTOM ONSET	
0 – 4 HOURS	4-24 HOURS
If stroke symptom onset/time last seen well is within <b>0-4 hours</b> , then go to page 2: <b>"A - PROCESS FOR ONSET BETWEEN 0-4 HOURS"</b> 	If stroke symptom onset/time last seen well is within <b>4-24 hours</b> , either witnessed or wake-up, then go to page 3: <b>"B - PROCESS FOR ONSET BETWEEN 4-24 HOURS"</b> 

**A****PROCESS FOR ONSET BETWEEN 0-4 HOURS**

(Use for inpatients and patients that present in the ED that meet the inclusion criteria,  
last seen well between 0 – 4 hours, and are stable for transfer)

- Step 1**  If patient arrived with paramedics, maintain ambulance availability according to local agreements, if possible, until transfer decision is made (**step 3**). (Note: If ambulance resource availability does not allow the crew to stay, the patient will be offloaded and a transport ambulance will be booked with dispatch when a transfer decision has been made.)
- Step 2**  **Call HDMH Switchboard at 705-789-2311 ext. 0**  
 Your call is a request to have the **Acute Stroke Physician** paged  
 Clearly identify:
  - Patient Name / OHIP Number / Date of Birth
  - Hospital calling
  - Name of Physician calling
  - Return phone number with extension
- Step 3**  Report to the Acute Stroke Physician:
  - NIHSS, vital signs, and blood sugar
  - Any active source of bleeding or recent history of bleeding, recent surgery, history of stroke, atrial fibrillation, current medications
  - If terminally ill (advanced cancer, advanced dementia, end of life) with limited lifespan (less than 3 months) or if limited functional status at baseline, discuss the patient's goals of care with the stroke physician Mutually agree that the patient should be transferred to the District Stroke Centre at HDMH for consideration of hyperacute therapy  
 Arrange for an Emergent ambulance transfer (Code 4) by calling dispatch, regardless of whether paramedics were able to maintain availability or not (**as in step 1**). Inform the dispatcher that patient fits "**Acute Stroke Protocol.**"
- Step 4**  Complete the following if time permits (**never delay transfer to complete**):  
**Preferred:**
  - Establish two 18-gauge peripheral intravenous sites (minimum 20-gauge needle above the hand, no IV extensions or glucose solutions unless absolutely necessary)**Optional:**
  - CBC, electrolytes, urea, creatinine, troponin, INR, PTT, glucose, pregnancy test (BHCG) (if indicated)
  - 12 lead ECG\*Do **not** hold patient transfer awaiting results. Fax results as per **step 6** below
- Step 5**  Transfer patient Code 4 to HDMH. It is recommended that the patient be transferred with:
  - Cardiac monitor
  - Oxygen therapy as needed If possible, the family member with Power of Attorney for Personal Care or the Substitute Decision Maker should travel with the patient in the ambulance to HDMH. If this is not possible, the family should keep their 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.
- Step 6**  **FAX** all relevant information & blood work if drawn to **HDMH at 705-789-6216**  
 Advise receiving ED of patient departure

<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="border: 1px solid white; padding: 5px; font-weight: bold; color: white; width: 40px; text-align: center;">B</div> <div style="text-align: center;"> <h3 style="margin: 0;">PROCESS FOR ONSET BETWEEN 4-24 HOURS</h3> <p style="margin: 0; font-size: 0.9em;">(Use for inpatients and patients that present to the ED that meet the inclusion criteria, last seen well between 4 - 24 hours and are stable for transfer)</p> </div> </div>	
<b>Step 1</b>	<p><b>Registered Nurse:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Complete step 1 and 2 of ACT-FAST Large Vessel Occlusion (LVO) screen (Refer to <b>Appendix A</b>)</li> <li><input type="checkbox"/> Notify Physician of ACT-FAST result</li> </ul>
<b>Step 2</b>	<p><b>Physician:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm step 1 and 2 of ACT-FAST LVO screen</li> <li><input type="checkbox"/> Complete step 3 (EVT eligibility criteria) of ACT-FAST LVO Screening tool</li> <li><input type="checkbox"/> Complete NIHSS</li> </ul>
<b>Step 3</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If ACT-FAST negative, proceed with usual care.</li> <li><input type="checkbox"/> If ACT-FAST positive, STAT imaging as per provincial Acute Stroke CT/mCTA/CTP Protocol (Refer to <b>Appendix B</b>)</li> </ul> <p><b>Note:</b> Interpretation of images will be done remotely by consultant. Do <b>not</b> delay contacting CritiCall for local interpretation</p>
<b>Door-to-CT target is 15 minutes</b>	
<b>Step 4</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Complete “Patient Information and Medication” section of the Stroke EVT Transfer Communication Form (Refer to <b>Appendix C</b>)</li> </ul>
<b>Step 5</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Start EVT Order Set as appropriate for organization (based on EVT Order Set Recommendations <b>Appendix D</b>)</li> </ul>
<b>Step 6</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Physician contacts CritiCall Ontario for consultation. Request to speak with the ‘<b>Stroke Endovascular Team</b>’                             <ul style="list-style-type: none"> <li>• If patient is <b>not</b> accepted as an EVT candidate, proceed with usual care</li> <li>• If patient is accepted as an EVT candidate, confirmation of Life or Limb status is indicated. CritiCall Ontario agent shall facilitate transport coordination by contacting ORNGE or the Central Ambulance Communication Centre</li> </ul> </li> </ul> <p><b>Note:</b> It is recommended that <u>land transfer is utilized whenever possible</u> to support timely management of these patients. Request land transport directly with CritiCall Ontario</p>
<b>Step 7</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Where applicable, provide patient/family with                             <ul style="list-style-type: none"> <li>• “Stroke Information for Patients &amp; Families” EVT brochure (Refer to <b>Appendix E</b>)</li> <li>• EVT Stroke Centre destination</li> </ul> </li> <li><input type="checkbox"/> If possible, the family member with Power of Attorney for Personal Care or the Substitute Decision Maker should travel to the EVT Stroke Centre</li> <li><input type="checkbox"/> Include their phone number with transfer documentation in case EVT Stroke Centre needs to contact enroute</li> </ul>
<b>Step 8</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Physician to complete remainder of Stroke EVT Order Set and Stroke EVT Transfer Communication Form.</li> <li><input type="checkbox"/> <b>FAX the completed form to EVT site and send with the patient</b></li> </ul>
<b>Step 9</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If clinically unstable patient shall be accompanied by appropriate staff as per the ordering physician.</li> <li><input type="checkbox"/> See <b>Appendix F</b> Medical Escort Requirements from CorHealth EVT Referral and Transport Process Memo</li> </ul>
<b>Door-in-door-out target is 45 minutes</b>	

## Appendix A

# ACT-FAST

**SAMPLE:**  
**FOLLOW LINK BELOW FOR**  
**MOST RECENT VERSION**

ACT-FAST is a large vessel occlusion (LVO) screening tool used to guide clinical decision making in Stroke Endovascular Thrombectomy (EVT) eligibility. The screening tool is completed on patients that have one or more FAST signs of stroke (facial droop, arm weakness on one side and/or slurred speech) and if the **time last seen normal is within 4-24 hours**.

- **Steps 1 & 2** are completed by ED Nurse and assesses one-sided weakness, language deficit, gaze preference or hemi-neglect.
- **Step 3** is completed by the ED Physician and guides clinical decision making in the eligibility for EVT.

ACT-FAST Assessment		
<p style="text-align: center; background-color: #e0f0ff;"><b>Step One</b></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="color: red;">Proceed if <b>POSITIVE</b></p> <p>If negative STOP,</p> <p>Notify ED Physician and continue with usual care</p>	<p style="text-align: center; color: red;"><b>ARM (Unilateral Arm Weakness)</b></p> <p><i>Position both arms with elbows straight and ask patient to hold steady:</i></p> <ul style="list-style-type: none"> <li>• 45 degrees up from horizontal if supine; or</li> <li>• 90 degrees up from horizontal if sitting</li> </ul> <p><b>Positive Screen:</b></p> <ul style="list-style-type: none"> <li>• One arm falls completely within 10 seconds</li> <li>• For patients who are uncooperative or cannot follow commands: if you witness minimal or no movement in one arm and normal movement in the other</li> </ul>	<p>In a patient that is <b>uncooperative or not able to follow commands</b>, this item is positive if you clearly witness minimal or no movements in one arm and spontaneous movements in the other.</p> <p>Answer no if <b>both arms are similarly weak</b>, or testing is clearly affected by <b>shoulder problems or pain</b>.</p>
<div style="display: flex; justify-content: space-around; margin-top: 10px;"> </div>		
<p style="text-align: center; background-color: #e0f0ff;"><b>Step Two</b></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="color: red;">Proceed if <b>POSITIVE</b></p> <p>If negative STOP,</p> <p>Notify ED Physician and continue with usual care</p>	<p style="text-align: center; background-color: #e0f0ff;"><b>Unilateral RIGHT arm weakness</b></p> <p style="text-align: center; color: red;"><b>CHAT (Severe Language Deficit)</b></p> <p><i>Ask patient to repeat a phrase or perform simple tasks. (e.g. "You can't teach an old dog new tricks", "make a fist, open mouth")</i></p> <p><b>Positive Screen:</b></p> <p>Severe language difficulty (not just slurring of speech):</p> <ul style="list-style-type: none"> <li>• Patient is mute, speaking gibberish and/or incomprehensible</li> <li>• Patient is unable to follow simple commands</li> </ul> <p><small>For non-English speakers, use family/friends to translate and do not assume they are mute. If this is not possible, you may use a positive shoulder tap test (see "TAP") instead to progress (in this scenario only).</small></p>	<p style="text-align: center; background-color: #e0f0ff;"><b>Unilateral LEFT arm weakness</b></p> <p style="text-align: center; color: red;"><b>TAP (Gaze and Shoulder Tap Test)</b></p> <p><i>Stand on patient's weak side while assessing. Observe for gaze preference (open eyelids if necessary). Tap shoulder twice and call the patient's first name.</i></p> <p><b>Positive Screen:</b></p> <ul style="list-style-type: none"> <li>• Patient has consistent and obvious gaze preference (of both eyes) away from weak side</li> <li>• Patient does not quickly turn head and eyes to fully focus on and notice you</li> </ul> <p><small>This tests for severe gaze preference and hemi-neglect. It is acceptable to simply observe an obvious gaze preference (away from the weak side) from the end of the stretcher.</small></p>
<p style="text-align: center; background-color: #e0f0ff;"><b>Step Three</b></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="color: red;">If <b>POSITIVE</b>, potential LVO</p>	<p style="text-align: center; background-color: #e0f0ff;"><b>ED Physician assess for Eligibility for Stroke EVT</b></p> <p><b>Positive screen: (if all criteria met)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deficits are NOT pre-existing (mild deficits that are now significantly worse are acceptable as true deficits)</li> <li><input type="checkbox"/> Onset of symptoms are less than 24 hours or the time since last seen normal is less than 24 hours.</li> <li><input type="checkbox"/> Patient was living at home independently with only minor assistance – patient must be completely independent with hygiene/personal care tasks, and walking (with or without walking aids)</li> <li><input type="checkbox"/> Patient does NOT have stroke mimics or another alternate explanation for symptoms</li> </ul>	<p>Try to use other clues to guess time last well – did someone talk or ring them earlier?</p> <p>For patients with suspected wake-up symptoms – did they get up overnight? Were they well immediately on getting up?</p> <p>Patients where time of onset is unknown do not pass eligibility.</p>

Adapted from: "Ambulance Clinical Triage for Acute Stroke Treatment" Zhao et al. Stroke 2018;49-945-951 Retrieved from <https://www.ahajournals.org/doi/epub/10.1161/STROKEAHA.117.019307>  
 Additional information about ACT FAST available at - <https://cesnstroke.ca/4-24hr-evt-toolkit/>  
 Document available at <https://cesnstroke.ca/wp-content/uploads/2023/12/ACT-FAST-postervDec-22-23.pdf>

## Appendix B

### Acute Stroke CT/mCTA/CTP<sup>4</sup> Protocol

**SAMPLE:**  
FOLLOW LINK BELOW FOR  
MOST RECENT VERSION

#### Minimum Image Set for Initial Telestroke or Endovascular Treatment Consultation

Reformatted scans are derived from 0.5- or 0.6-mm axial images from aortic arch to the vertex. Do not transfer these thin axial images to ENITS.

The following images, in this order, should be sent to the ENITS server:

1. **Non-enhanced CT head**
  - a. Axial 3 mm images
  - b. Coronal 3 mm images
  - c. Sagittal 3 mm images
  
2. **Automated CT Perfusion as per RAPIDAI Protocol<sup>4</sup>**
  
3. **CTA neck & head**  
(acquired from aortic arch to the vertex, peak bolus and ~ 10 second delays)
  - a. **First phase**
    - i. Axial 2 mm thick x 2 mm (head and neck)
    - ii. Coronal 5 mm thick x 2 mm MIP (head and neck)
    - iii. Sagittal 5 mm thick x 2 mm MIP (head and neck)
    - iv. Axial 30 mm thick x 2 mm MIP (head only)
  
  - b. **Second phase (delay)**
    - i. Axial 2 mm thick x 2 mm (neck and head)
    - ii. Axial 30 mm MIP x 2 mm (head only)
  
  - c. **Third phase (delay) [optional]**
    - i. Axial 30 mm MIP x 2 mm (head only)

#### Notes:

3D-reconstructions are not required. Multiphase CTA includes only the head with thick MIPs (30 mm). However, ideally the delayed CTA (second phase) should also include the 2 mm axial cuts from the arch to the vertex in addition to the thick axial MIPs of the head

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<sup>4</sup> Although access to Automated CT Perfusion is preferred and strongly recommended, it may not be available at all hospitals.

Oct 2016: rev. June 2019, Nov 2021, June 2023

Full document available at [https://www.corhealthontario.ca/Acute-Stroke-Imaging-Protocol\\_Updated-June-2023.pdf](https://www.corhealthontario.ca/Acute-Stroke-Imaging-Protocol_Updated-June-2023.pdf)

## Appendix C

### STROKE Endovascular Treatment Transfer Communication Form

**SAMPLE:**  
**FOLLOW LINK BELOW FOR**  
**MOST RECENT VERSION**

Place patient's chart here

All patients who are eligible for Endovascular Treatment **MUST** have the Transfer Communication Form completed by the referring site prior to transfer,

1. Place on top of copied chart to accompany patient **AND**
2. **IMMEDIATELY** fax copy of form to EVT site using fax numbers listed below.

**\*\*DO NOT DELAY TRANSPORT \*\***

PATIENT INFORMATION (MD to complete prior to contacting CritiCall)		
Allergies:		
Isolation Precautions:		<b>COVID-19:</b> Screening status: Testing status:
Date and Time Last Seen Well: ____/____/____ (dd/mm/yy) ____:____ (hh:mm)		
Deficit and Severity (describe visual, speech, motor deficits):		
NIHSS:		
<b>**Do NOT delay calling CritiCall to await local interpretation of imaging.</b>		
MEDICATIONS (MD to complete prior to contacting CritiCall)		
<input type="checkbox"/> Antiplatelet Agents (e.g. EC ASA, Clopidogrel) <input type="checkbox"/> Anticoagulation Agents (e.g. Dabigatran, Rivaroxaban, Apixaban, Edoxaban, Warfarin) _____		
Thrombolysis delivery site <input type="checkbox"/> Yes <input type="checkbox"/> No Alteplase administered <input type="checkbox"/> Yes (dd/mm/yy) ____/____/____ (hh:mm) ____:____ <input type="checkbox"/> No, reason, (e.g. recent head injury, outside treatment window) _____		
EVT Stroke Centre	EVT Stroke Centre Physician	Date of Referral: (dd/mm/yy)
SHSC SMH TWH KHSC HSN		
Referring Centre Name	Referring Physician	Referring Physician Contact #
DEMOGRAPHICS:		
Name:		OHIP #:
Patient Address:		Phone #:
Next of Kin (Name/Relationship):		Phone #:
<input type="checkbox"/> Remove patient's clothing and change into a gown (if time allows) <input type="checkbox"/> Photocopy/Print/Fax/Send entire chart to EVT Stroke Centre, including: <div style="display: flex; justify-content: space-between; margin-left: 20px;"> <span><input type="checkbox"/> Diagnostic Investigations</span> <span><input type="checkbox"/> Consultation Note</span> <span><input type="checkbox"/> Nursing Notes/ CNS</span> </div> <div style="display: flex; justify-content: space-between; margin-left: 20px;"> <span><input type="checkbox"/> Labs</span> <span><input type="checkbox"/> List of Medications</span> <span><input type="checkbox"/> Printed orders</span> </div> <p style="margin-left: 20px;">(note: CT imaging is shared through ENITS, CD copy is not required)</p> <input type="checkbox"/> Pre-Notify EVT Stroke Centre re time patient leaving referring centre <input type="checkbox"/> Provide EVT Brochure pamphlet to family or substitute decision maker		
EVT Centre Contact Information:		
Sunnybrook Health Sciences Centre (SHSC)	P: 416-480-6100 x88093	F: 416-480-6846
St. Michaels Hospital (SMH)	P: 416-864-6060 x45634 or 49255	F: 416-864-5138
Toronto Western Hospital (TWH)	P: 416-603-5190	F: 416-603-5288
Kingston Health Sciences Centre (KHSC)	P: 613-549-6666 x7003	F: 613-548-2420
Health Sciences North (HSN)	P: 705-675-4790	F: 705-675-4794


**Note:** The above EVT Transfer Communication form **MUST** be completed in its entirety prior to transfer.

\*\* Simcoe - it is recommended that land transfer be used wherever possible to support timely management of these patients  
CESN v. Oct 17, 2023

Document available at:  
<https://cesnstroke.ca/wp-content/uploads/2022/11/Simcoe EVT-Transfer-Communication-form 17-Oct-2023.pdf>

**Appendix D**

**SAMPLE:**  
**FOLLOW LINK BELOW FOR**  
**MOST RECENT VERSION**



**Endovascular Therapy Order Set Recommendations for Non tPA Hospitals**

Order Set shall be used at **non-tPA** hospital on admission to ED and during transfer for all ischemic stroke patients who are potential candidates for Endovascular Thrombectomy Treatment

Recommendations based on the current Canadian Stroke Best Practice Recommendations for Acute Stroke Management Update 2018 (<https://www.strokebestpractices.ca/recommendations/acute-stroke-management>). Always refer to the most current guidelines as they are updated every two years.

<b>Intravenous Therapy</b>	<input checked="" type="checkbox"/> Insert peripheral IV (minimum of 20 gauge)
<b>Diagnostic Imaging</b>	<input checked="" type="checkbox"/> Non-enhanced CT head STAT <input checked="" type="checkbox"/> CTA neck & head (acquired from aortic arch to the vertex) STAT <input checked="" type="checkbox"/> 12 Lead EKG (if time permits)
<b>Lab Investigation</b>	<input checked="" type="checkbox"/> Blood glucose concentration upon arrival to ED <input checked="" type="checkbox"/> CBC, electrolytes, urea, creatinine, troponin, INR, PTT, glucose, BHCG (if indicated)
<b>Vitals &amp; Monitoring</b>	<input checked="" type="checkbox"/> Canadian Neurological Scale (CNS) and vital signs q15 minutes x 1 hour, then q30 min and prn <input checked="" type="checkbox"/> Notify MRP if: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> CNS score decreases by greater than 1 point in ED notify MRP</li> <li><input checked="" type="checkbox"/> New acute or worsening headache, new hypertension, nausea, vomiting, or seizures</li> </ul> <input checked="" type="checkbox"/> Continuous cardiac monitoring <input checked="" type="checkbox"/> Continuous SpO2 monitoring
<b>Blood Pressure Management</b>	<p>Extreme blood pressure elevation <b>SBP &gt;220mmHg or DBP &gt;120mmHg</b> should be treated to reduce the blood pressure by approximately 15%, and not more than 25% over the first 24 hours with further gradual reduction thereafter to targets for long-term secondary stroke prevention</p> <p>Avoid rapid or excessive lowering of blood pressure because this might exacerbate existing ischemia or might induce ischemia.</p> <p style="color: red;">****This section to be developed in collaboration with local pharmacy and physician input.</p>
<b>Nutrition</b>	<input checked="" type="checkbox"/> NPO
<b>Continenence</b>	The use of chronic indwelling urethral catheters should generally be avoided due to the risk of urinary tract infections

Document available at <https://cesnstroke.ca/wp-content/uploads/2021/09/EVT-Pre-Printed-Order-Recommendations-Template-non-tPA-hospital-July-13.21-1.pdf>

## Appendix E

**SAMPLE:**  
**FOLLOW LINK BELOW FOR**  
**MOST RECENT VERSION**

### What is the role of my family/caregiver/ substitute decision maker while I am transferred to an EVT hospital?

- It is important that they provide their contact information in case the EVT hospital requires consent or other information.
- They will be updated as to which hospital you are transferred to and whether they are being admitted.

### What happens after the EVT procedure?

- You will be monitored for 24-48 hours. When you are medically stable you will be transferred back to a hospital closer to home, depending on your stroke care needs.

### What happens if I do not receive EVT?

- If it is determined at the EVT centre that you would not benefit from this procedure, you will be transferred back to a hospital closer to home where the physicians will determine your stroke care needs.

4



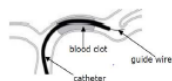
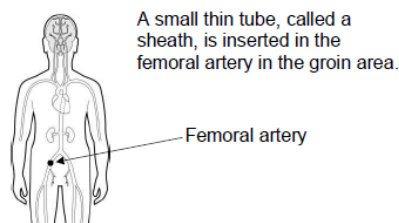
## Endovascular Thrombectomy (EVT) (Mechanical Retrieval of a Clot)

A stroke caused by a blood clot that is blocking blood flow to an area of the brain is called an ischemic stroke.

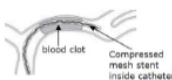
A possible treatment for this type of stroke is EVT. EVT is a procedure to remove a blood clot in the brain. To determine eligibility for this procedure, special imaging called a CTA (computed tomography angiogram) is done to look at the blood vessels and blood flow in the brain.

1

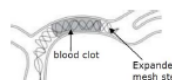
### How is Endovascular Thrombectomy (EVT) done?



A guide wire and catheter are inserted through the sheath into the femoral artery and passed to the artery with the clot in the brain.



The guide wire is removed, and a compressed mesh stent is inserted through the catheter to the clot.



The catheter is pulled back causing the stent to expand through the clot. Once the clot is "trapped" in the stent, the clot can be safely removed with the stent.

28 February 2024

2

Stroke Information for Patients & Families

### Who may be considered for EVT?

You may be considered for an EVT procedure if:

- Your stroke was caused by a blood clot in a large artery of your brain and
- Your stroke symptoms started within the last 24 hours

The EVT hospital will conduct additional assessments and tests to determine if this procedure is right for you.

### Where will EVT be performed?

- EVT is performed at specialized hospitals in the GTA
- You will be informed which hospital you are transferring to
- Hospitals located in the Simcoe and Muskoka Districts of the Central East Stroke Network transfer patients on a provincial rotation to:
  - Sunnybrook Health Science Centre
  - St. Michael's Hospital
  - Toronto Western Hospital

3

Document available at:

[https://cesnstroke.ca/wp-content/uploads/2024/02/SM\\_PatientFamilyEVTInformation-29Feb24final.pdf](https://cesnstroke.ca/wp-content/uploads/2024/02/SM_PatientFamilyEVTInformation-29Feb24final.pdf)



## Appendix F

Page 1



**SAMPLE:  
FOLLOW LINK BELOW FOR  
MOST RECENT VERSION**

### Guidance for Determining the need for a Medical Escort for Confirmed Life or Limb Patients<sup>1</sup> with Acute Ischemic Stroke being Transferred for Endovascular Thrombectomy (EVT)

During EVT consultation, the sending and receiving physician should determine the need for a medical escort. These needs should be subsequently discussed with the Paramedic Service. The following guidelines provide some criteria for determining the need for medical escort.<sup>2</sup>

Patients with Acute Ischemic Stroke who are being transferred for EVT by a Land Paramedic Team should be accompanied by a medical escort if one or more of the following conditions are met:

- Patient is receiving intravenous therapy, including Alteplase
- Patient has received or is likely to require ongoing hypertension medication
- Patient is at high risk for medical deterioration that could require treatment or interventions outside the paramedic scope of practice (e.g., vitals unstable, decreased level of consciousness)

A decision to intubate the patient prior to transfer should be discussed, and transfer protocols for intubated patients should be followed (i.e., medical escort).

**All Life or Limb Acute Stroke Patients being transferred for EVT<sup>1</sup>, irrespective of medical escort use, must be offloaded immediately upon arrival** (i.e., following local acute code stroke protocols). In the event that the patient is no longer eligible for EVT, immediate offload is still required- i.e., paramedics are not required to remain with the patient while repatriation is being arranged.<sup>3</sup>

#### Additional Guidance and Considerations

- If a patient received Tenecteplase, and the above conditions are not met, a medical escort may not be medically required. In these situations:
  - should the patient experience post thrombolysis angio-edema during transfer, standard protocols for allergic reaction should be followed.

<sup>1</sup> Life or Limb patients are those who have had imaging completed, and who have been accepted by the EVT team.

<sup>2</sup> Paramedics may still require an escort due to unique patient or transfer factors.

<sup>3</sup> In the event that an offload delay is experienced, paramedics should follow established feedback mechanisms to contact the Regional/District Stroke Program Lead and/or the Stroke Medical Director of the receiving EVT facility for internal process improvement.

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- should the patient deteriorate during transfer, paramedics should follow standard processes, as with other clinical conditions (e.g., STEMI or trauma bypass).
- Neither Advanced Care Paramedics (ACP) or Primary Care Paramedics (PCP) have the ability to treat hypertension. They do not carry any medications specifically for hypertension management. If the patient is at increased risk for developing hypertension en route, a medical escort should be considered.
- Neither PCP nor ACP have the ability to manage infusion pumps.
- Only ACP are able to intubate.

Document available at [https://cesnstroke.ca/wp-content/uploads/2023/06/Guidance-for-Determining-Medical-Escort-Requirements-for-AIS-Patients-being-Transferred-for-EVT\\_June-14-2023.pdf](https://cesnstroke.ca/wp-content/uploads/2023/06/Guidance-for-Determining-Medical-Escort-Requirements-for-AIS-Patients-being-Transferred-for-EVT_June-14-2023.pdf)