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| **Huron Perth Healthcare Alliance** |
| **ED - Policies, Procedures, Protocols** | Original Issue Date:  | May 03, 2019 |
| **Hyper-acute Stroke Protocol - SGH Emergency Department**  | Review/Effective Date:  | November 10, 2020 |
| **Approved By: Director, Patient Care** | Next Review Date:  | November 10, 2022 |

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| https://intranet.hpha.ca/myalliance/imgs/spacer.gif |
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| **Scope:**This protocol applies to all staff who have received appropriate theoretical preparation to care for adult patients requiring hyper-acute stroke care at the Stratford General Hospital Emergency Department (ED).   |
| **Policy:**The hyper-acute phase of stroke care involves rapid assessment of patients experiencing ***disabling*** stroke symptoms with the goal of early intervention to decrease life-altering effects. This phase includes patients within 4.5 hours to 6 hours of symptom onset to accommodate for thrombectomy/EVT (endovascular treatment) cases.Late presenting strokes with ***major disabling symptoms*** outside the 6-hour window and up to 24 hours including wake-up strokes with a last seen normal (LSN) time of 24 hours may also be considered under this policy.This rapid assessment involves team members from various departments responding quickly to collaboratively assess and expedite proper treatment to achieve best practice care and optimal results for stroke patients.   |
| **Purpose:**The purpose of this policy is to provide guidelines for the ED staff and Stroke Team of the District Stroke Centre at Stratford General Hospital related to the care of patients requiring hyper-acute stroke care. It is expected that all staff shall adhere to the principles outlined in this protocol.   |
| **Definitions:****Major disabling symptoms**can include: severe focal limb or unilateral weakness/hemiplegia, speech and language disturbance or symptoms consistent with posterior circulation infarct; not isolated vertigo, or isolated facial weakness. **Hyper-acute Stroke team includes but is not limited to:**

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| ED physician  |
| Internist - notify Internist at time of patch call between hours of 0800-2000. After hours, page Internist at time of triage. When paging Internist use \*9 at end of page to indicate stroke protocol |
| ED Charge or Team Leader- ext. 2848 |
| ED Nurse assigned to patient |
| CT Technologist  |
| Radiologist (pre-notified by CT Tech) Includes CTS Radiologist pre- notification after hours |
| Lab : Notified by ED clerk and/or RN |
| Stroke Strategy Nurse – ext . 2295 (Mon through Friday 0800-1600) * Secondary Stroke Prevention nurse who follows stroke patients from admission to discharge.
* Dedicated nurse who has a complete understanding of each patient on the Stroke Unit and liaises with physicians on a regular basis to move forward issues regarding barriers to discharge.
* The Stroke Strategy nurse to be notified with each ED stroke protocol.
* Stroke Strategy nurse will attend inpatient Code Stroke as available.
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**Stroke support nurse:** * Code nurse in ICU who responds to Code Blue and inpatient Code Stroke.
* Assist ED with ED Stroke Protocol as required.(ED will notify ICU in such cases)

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| **Indications:**Indicated for patients with symptoms of stroke presenting to ED at Stratford General Hospital.   |
| **Considerations:*** Steps outlined in protocol may happen in parallel fashion and not necessarily occur in a sequential manner.
* Steps outlined are in response to patient arriving by EMS. Similar steps are followed for walk-in stroke patients at Stratford General.

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| **Competency Requirements:*** An RN or RPN having appropriate theoretical preparation and understanding of the underlying condition for which this treatment is proposed and having demonstrated the appropriate knowledge, skills and judgement may perform this treatment on the order of a physician.

**Procedure:**

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| Equipment:* tPA box
* portable cardiac monitor
* infusion pump
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| The following steps shall be followed: |
| * Paramedic calls the designated land line in the Emergency Department (ED), notifying them of an incoming “stroke protocol” and estimated time of arrival with patient identifiers. EMS instructs family or significant other to come to the hospital or stay near a telephone so a physician can reach them.
* Registration Clerk obtains the following information from the Paramedic:
	+ Anticipated ETA
	+ Health Card number, birth date and patient name.
	+ If health card not available, then may provide mailing address**.**
* Paramedic willthenrequest to speak to an RN.
* Paramedic informs ED RN of symptoms, signs and time of stroke onset if witnessed and time last seen well if not witnessed, current condition of patient and any changes since symptoms started. Current medications and additional health problems may be provided if known. The RN will fill out a Stroke form.
* ED Registration Clerk will pre-register the patient in Meditech.
* Before patient arrival or at time of patch, the RN and / or clerical staff enters CT head/ hyper -acute stroke, **with appropriate clinical information and symptoms outlined in Comments field.** Stroke TPA protocol bloodwork, ED Stroke Protocol are also entered.
* Triage /Staff RN informs the ED Team Leader/ Charge Nurse and ED physician of incoming Stroke Protocol patient stating “This is a Stroke Protocol” and ETA.
* The remaining Stroke Team is notified by the Registration Clerk/Unit Clerk. The Stroke Support Nurse (ICU code nurse) is notified when required (ED Nurse to direct necessity). When contacting Internist via Hypercare secure texting platform, use the “Urgent” function and indicate “acute stroke. Please call ext. XXX”.
	+ Upon being paged, the CT Technologist ensures the patient is “next on the table”, and that the CT suite is ready for the stroke patient within 10 minutes. Any non-urgent patients will not be scanned. CT Tech pre-notifies the Radiologist (24/7) of incoming stroke protocol. The technologist will assure that the Hyper-acute stroke checklist for the Radiologist is completed including the patient symptoms, time of stroke onset/time last seen normal, whether patient is a tPA candidate, physician contact name and phone number. This information must be available to the Radiologist when the non-contrast head scan is viewed.
	+ Radiologist will call the non-contrast head for patients to Internist ASAP after completion. The remainder of the hyper-acute scan should be read within 10 minutes of completion and a second call be placed to Internist.
* On arrival to the ED, the paramedics provide their report to the ED staff /team regarding patient’s vitals, last seen normal time, any pertinent medication and patient history as well as information regarding availability of patient’s family member or significant other. The patient remains on the paramedic stretcher and is assessed by team in hallway across from EMS desk. (pit –stop)
	+ ED Registration Clerk to change pre-register status to register patient upon arrival and confirm demographic information as able.

ED physician and/or Internist:* Performs clinical and neuro assessment including NIHSS.
* Determines patient candidacy for tPA/EVT.
* Decision made by Internal Medicine to activate **Telestroke** and Telestroke protocol

*Telestroke should be considered if the patient has* ***disabling symptoms*** *for stroke patients with LSN greater than 6.0 hours and* ***major disabling*** *strokes up to 24 hours, including wake-up strokes with a LSN time of 24 hours.****Major disabling symptoms can include: severe focal limb or unilateral weakness/hemiplegia, speech and language disturbance or symptoms consistent with posterior circulation infarct; not isolated vertigo, or isolated facial weakness.*** ED RN: * Ensures vital signs monitored and ongoing neuro assessment
* Ensures stat blood work is obtained and ECG prior to CT if time permits (Do not delay CT for initial blood work or ECG). Once drawn, the COLLECTED time and the Meditech mnemonic of the person who drew the specimen will be written on the label. The blood work is sent to the laboratory immediately for processing. Orange Stroke Protocol Flag is utilized when sending bloodwork via tube system. Lab notified at ext . 2525 of incoming bloodwork.
* Ensures the patient has IV access. Patient should have two IVs, one of which is 18-gauge antecubital IV for CT. Second IV, reserved for tPA, should be 18 gauge (preferred) or 20 gauge and in the forearm (not the antecubital) prior to transfusion of tPA.
* Ensures the family or significant other is available in person or by phone to give consent, if needed.
* RN ensures on receipt of patch that tPA box from Med room, portable cardiac monitor and infusion pump are ready at the pit-stop area of hallway and to be brought to CT along with the ED stretcher.
* Monitors vital signs.
* ED RN will call CT regarding readiness and/or delays.
* Paramedics with ED RN will transfer patient on paramedic stretcher directly to CT suite
* INR/PTT/CR results called to RN by lab.
* Obtains accurate patient weight upon transfer of patient to ED stretcher post CT

Internal Medicine team confirms with Radiology if an ischemic stroke on CT Imaging.* ED RN remains with patient until decision to give tPA is made and initiates the tPA infusion with order. This may take place in ED or the CT stretcher bay if monitored.
* ED RN prepares the tPA infusion with second check as tPA high alert medication.
* Internist on call administers the tPA bolus as per tPA protocol according to accurate weight.
* ED RN continues monitoring patient as specified on Alteplase Administration Order Set
* Physician writes admission orders for ICU. Orders are given to Registration Clerk.
* Registration Clerk submits Bed Request
* If patient is not a stroke, ED Nurse continues with routine care.
* Once infusion has commenced, providing the patient is stable and upon the Internist’s instruction, the ED tPA RN facilitates patient transfer to ICU.

EVT Candidate* If the patient is a candidate for Neurointerventional Radiology, arrangements will be made for transfer to appropriate facility. Telestroke Neurologist requests **notification of CritiCall requesting “Stroke Endovascular Team”. Following the consult and acceptance, the EVT transfer process is initiated.**

Documentation* ED RN documents the time tPA bolus given and tPA infusion commenced; monitors patient’s vital signs during tPA infusion as per monitoring protocol for tPA administration on pre-printed orders (Alteplase Preprinted Order).
* The Stroke Protocol Targets Form in Meditech is required to be completed for all hyper-acute stroke protocol patients to aid in monthly reporting of achievement of targets.

If patient is not a tPA or EVT candidate, the following occurs:Patient proceeds back to ED:* ED RN remains main caregiver.
* Patient remains in ED for admission orders, referrals
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**HPHA Related Documents:*** Elsevier Module: [Alteplase for Acute Ischemic Stroke](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=307)
* HPHA Endovascular Therapy Transfer Order Set - 0DRME069M2

**References:**Canadian Best Practice Recommendations for Stroke Care: 2018; Ottawa: Canadian Stroke Network and Heart and Stroke Foundation of Canada. |

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