Health Sciences North
Horizon Santé-Nord

MEDICINE PROGRAM

PROCEDURE

CATEGORY: System-Level Clinical
ISSUE DATE: January 24, 2007 **REVISION DATE:** May 2017
SUBJECT: **STROKE PROTOCOL - INPATIENT**

Document Owner: Clinical Manager, General Internal Medicine	**Name:** Lisa Zeman
Update Schedule: Every three years, or sooner if required.	
Stakeholder Consultation and Review: Clinical Manager, Emergency Department Clinical Manager, ICU/Step Down Intensivist Group	**Date:** May 29, 2017 June 2017 June 2017
Approval: Cathy Langlois Chair, Clinical Policy and Procedure Committee Cathy Langlois	**Date:** September 6, 2017

PURPOSE

To ensure that all patients at HSN who develop sudden stroke-like symptoms have access to rapid medical assessment to determine eligibility for time-sensitive thrombolytic therapy.

PROCEDURE

Special Instructions

- This protocol should be initiated on all inpatients at the Ramsey Lake Health Centre that develop sudden stroke-like symptoms.
- **For HSN inpatients that are located off-site (Kirkwood Place and Sudbury Outpatient Centre), activate EMS. Do not follow this protocol.**

Method

Patient Last Seen Normal Greater Than 4.5 Hours

1. Discontinue the algorithm. **(Appendix A)**
2. Notify the MRP of the patient's condition.
3. Notify the next-of-kin of the change in the patient's condition.
4. The MRP may contact the acute stroke on-call physician as needed.

Patient Last Seen Normal Less Than 4.5 Hours

The RN will:

1. Page or call the MRP immediately to notify him/her of patient's signs and symptoms and time last seen normal.
2. Inform the MRP to contact the acute stroke on-call physician if desired.
3. Contact the acute stroke on-call physician directly if the MRP does not respond to the first or second page within a 15-minute period.
4. Notify the patient's next-of-kin of the change in condition and ensure they will be available (either in person or by telephone) to give consent if needed.
5. Enter diagnostic imaging for Alteplase (t-PA) order set **/EDPTPA.SR** (includes CT Head (unenhanced) and multiphase CT angiogram (arch to vertex)) as directed by the stroke on-call physician.

6. Enter STAT blood work (CBCD, aPTT, INR, Electrolytes, Urea, Creatinine, eGFR, Glucose Random, Troponin I, EKG) as directed by the stroke on-call physician.
7. Page the Lab for "Stroke STAT" blood work. Blood work should be collected prior to the CT but **do not hold up transfer if the Lab is delayed**.
8. Ensure IV access prior to transfer if possible.
9. Arrange transfer and accompany the patient directly to the CT suite. **Do not send the patient to the Emergency Department (ED)**.
10. Monitor the patient's vital signs and neurological status every 15 minutes until a decision to deliver Alteplase (t-PA) is made.
11. Accompany the patient to the ED if a decision to deliver Alteplase (t-PA) is made.
12. Notify the assigned ED nurse if blood work has not been drawn.
13. Remain with the patient until he/she is transferred to the setting where Alteplase (t-PA) is to be administered or until transferred back to the sending unit or other care setting as directed by the stroke on-call physician.

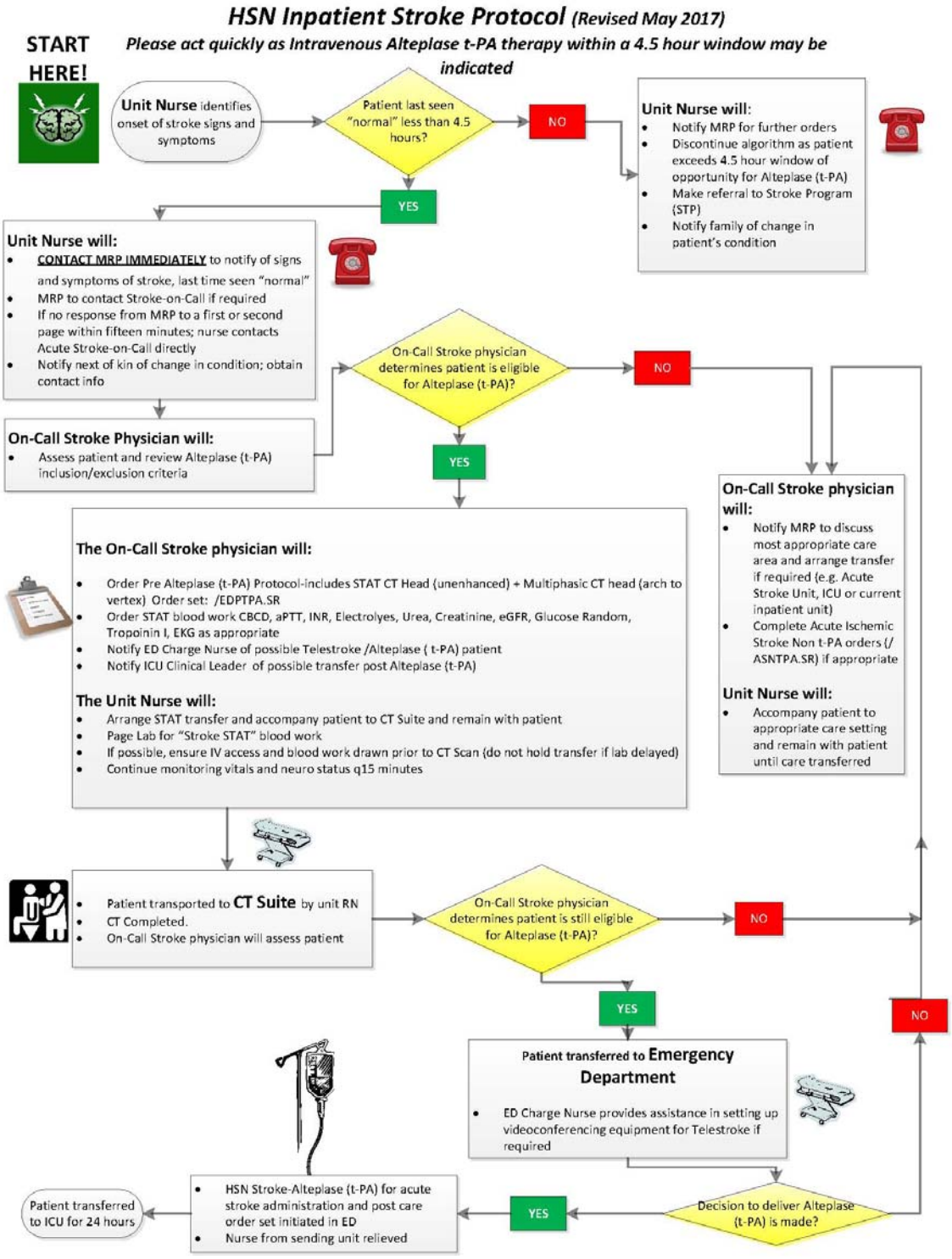
The MRP will:
1. Contact the acute stroke on-call physician to determine a collaborative plan of care.

The acute stroke on-call physician will:
1. Order a STAT CT of the head (unenhanced) and Multiphasic CTA (arch to vertex) as appropriate.
2. Order STAT blood work (CBCD, aPTT, INR, Electrolytes, Urea, Creatinine, eGFR, Glucose Random, Troponin I, EKG) as appropriate.
3. Notify the ED clinical leader of a possible Telestroke/Alteplase (t-PA) administration.
4. Notify the ICU charge nurse/clinical leader of possible transfer post Alteplase (t-PA).
5. Assess the patient on the unit or in the CT suite and document NIHSS score.
6. Review the CT scan.
7. Review the Alteplase (tPA) inclusion/exclusion criteria to determine appropriateness for receiving Alteplase (tPA). **(Appendix B)**
8. Arrange transfer to the ED if the patient is still a candidate for Alteplase (t-PA).
9. Consult with the Telestroke neurologist on-call via Criticall, if desired.
10. Initiate the HSN *Stroke-Alteplase (t-PA) for Acute Stroke Administration and Post-Care* order set if appropriate.
11. Arrange for transfer to the ICU if thrombolysis is given.
12. Consult with the MRP if thrombolysis is not given to determine the most appropriate care setting, and arrange transfer as appropriate.
13. Complete the *Acute Ischemic Stroke Non t-PA* orders as appropriate.

The ED charge nurse will:
1. Receive a report from the primary nurse on the sending unit.
2. Ensure that the appropriate blood work has been collected if not done on the sending unit.
3. Support contacting Criticall and/or setting up the videoconferencing equipment as needed.
4. Follow orders as per the HSN *Stroke-Alteplase (t-PA) for Acute Stroke Administration and Post-Care* order set as appropriate.
5. Transfer the patient to the appropriate unit when a bed becomes available.

CATEGORY: System-Level Clinical
SUBJECT: **STROKE PROTOCOL - INPATIENT**

APPENDIX A



CATEGORY: System-Level Clinical
SUBJECT: **STROKE PROTOCOL - INPATIENT**

APPENDIX B

Stroke Thrombolysis Inclusion/Exclusion Guidelines

If it is unclear whether a patient meets the guidelines for Alteplase (tPA), consult the Stroke Neurologist.

If you require advice regarding stroke management, call Criticall (1-800-668-4357) and ask to speak with the Telestroke Neurologist.

IV Alteplase (tPA) Treatment Inclusion Criteria

- Diagnosis of ischemic stroke causing measurable neurologic deficit in a patient who is 18 years of age or older
- For adolescents, decision to administer tPA should be based on clinical judgment, presenting symptoms, patient age and, if possible, consultation with a pediatric stroke specialist
- Time from last known well (onset of stroke symptoms) less than 4.5 hours before tPA administration

Absolute Exclusion Criteria

- Any source of active hemorrhage or any condition that could increase the risk of major hemorrhage after tPA administration
- Any hemorrhage on brain imaging

Relative Exclusion Criteria (requires clinical judgement based upon the specific situation)

Historical

- History of intracranial haemorrhage
- Stroke or serious head or spinal trauma in the preceding 3 months
- Major surgery (cardiac, thoracic, abdominal, or orthopedic) in the preceding 14 days. Risk varies according to the procedure.
- Arterial puncture at a non-compressible site in the previous 7 days

Clinical

- Symptoms suggestive of subarachnoid haemorrhage
- Stroke symptoms due to another non-ischemic acute neurological condition such as seizure with post-ictal Todd's paralysis or focal neurological signs due to severe hypoglycemia or hyperglycemia
- Hypertension refractory to aggressive hyperacute antihypertensive treatment such that target blood pressure less than 180/105 cannot be achieved

Laboratory

- Blood glucose concentration below 2.7 mmol/L or above 22.2 mmol/L
- Elevated activated partial-thromboplastin time
- International Normalized Ratio (INR) greater than 1.7
- Platelet count below 100,000 per cubic millimetre

CT or MRI Findings

- CT showing early signs of extensive infarction, represented by a score of less than 6 on the Alberta Stroke Program Early CT Score (ASPECTS), or MRI showing an infarct volume greater than 150 cc on diffusion-weighted imaging