HACKETTSTOWN REGIONAL MEDICAL CENTER
NURSING POLICIES
STROKE-INITIAL EVALUATION AND MANAGEMENT OF THE ACUTE STROKE/TIA PATIENT

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Effective Date: 10/2009 | **Policy No: 8620.259**
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Reviewed Date: 10/2012,12/14 | **Authority: Chief Nursing Officer**
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SCOPE: All patient care disciplines within Hackettstown Regional Medical Center.

PURPOSE: To provide guidelines for the immediate response, evaluation and management of the patient experiencing symptoms of TIA or acute stroke.

DEFINITIONS:

I. **Code Stroke**: the procedure that directs the care of any patient that presents or reports signs and symptoms of acute stroke or TIA.

II. **NIH Stroke Scale (NIHSS):** National Institute of Health Stroke Scale Score, evidence based tool used to assess severity of neurological symptoms.

III. **Intracerebral Hemorrhage (ICD):** a stroke caused by bleeding in the brain and is a medical emergency due to early deterioration in the first few hours.

IV. **TAT:** Turn around time

POLICY:

All patients treated at HRMC who experience an acute stroke will receive accurate and timely care based on the AHA/ASA guidelines.

PROCEDURE:

I. **ACTIVATE CODE STROKE BY DIALING 6000**. Refer to Activation of Code Stroke policy

II. **EMERGENCY DEPARTMENT IMMEDIATE ASSESSMENT/TREATMENT:**

- **A.** An ED RN takes the patient into an exam room and assesses for acute neurologic change using the Cincinnati Stroke Scale. Refer to ED work flow Appendix I.
- **B.** Evaluate patient's airway, breathing, and circulation.
- **C.** Notify ED Physician, goal for MD examination is <10 minutes from arrival.
- **D.** Call Code Stroke, obtain Code Stroke Reference Book, Stroke Team arrival is < 15 mins.
- **E.** Unit secretary places call to Teleneurology service for consult.
- **F.** Place on cardiac monitor, obtain and assess vital signs, including weight.
- **G.** Check finger stick blood glucose-Critical Test.
- **H.** A Chem 8 via ISTAT will be performed in the Emergency Department, goal laboratory results < 45minutes from arrival.
- **I.** Start IV within 5 minutes.
- **J.** Provide oxygen to maintain a saturation of >94%.
- **K.** Obtain STAT CT of Head, completion goal < 25 minutes from arrival and interpretation <45 minutes from arrival.
- **L.** While patient is in CT Scan have Teleneurology machine brought to bedside to prepare for consult
- **M.** Perform National Institute of Health Stroke Scale (NIHSS)
- **N.** Other Laboratory tests to consider are: CBC with platelet count, and PT/PTT with INR, and Troponin. Place properly labeled specimens in a bag with Code Stroke label and send to Lab via the pneumatic tube system.
- **O.** Teleneurology exam within 30 minutes of notification phone call
- **P.** Confirm last known wellness time, current and past medical/surgical history as well as

medication history.

Q. Assist in performing t-PA inclusion/exclusion criteria

R. Teleneurologist and/or ED physician/hospitalist decide on t-PA eligibility, goal t-PA administration <60 minutes from arrival.

S. Perform bedside dysphagia screening by RN. Keep patient NPO until screening completed and passed

T. Monitor vital signs and inform MD of:

1. Any change in neurologic status

2. Ischemic Stroke (not a t-PA candidate): SBP >220 or < 120, DBP >120 or < 60 or as ordered

3. Ischemic Stroke (**t-PA candidate**): SBP >185 or < 100, DBP >110 or < 60 or as ordered

U. Treat and manage blood pressure as ordered

V. Obtain chest x-ray and EKG as ordered if applicable

W. Provide patient/family with emergency care, t-PA information and stroke education.

X. Obtain admission orders using Stroke Order set.

Y. For t-PA administration refer to Alteplase for Acute Ischemic Adult Stroke Policy

III. INPATIENTS IMMEDIATE ASSESSMENT:

A. When a patient experiences a sudden change in neurological status, a Code Stroke will be called by the RN. The hospitalist will evaluate the patient's condition within 10 minutes.

B. The Code Stroke standards are initiated and the same procedure is followed as in the ED, except:

1. All members of the RRT shall respond

2. A bedside POC glucose is performed

3. After CT scan assess and start additional IV if needed.

C. The Nursing Supervisor will bring the Tele-neurology machine and t-PA box as needed, or designate someone to do so.

D. Refer to above Emergency Department Assessment/Treatment for details

IV. DISPOSITION:

A. All patients that are hemodynamically stable, with a diagnosis of Stroke or TIA, that are not t-PA candidates will be admitted to the Stroke Unit, PCU, including all inpatients.

1. If hemodynamically unstable, then admit to ICU

B. Any patient receiving t-PA will be admitted to ICU for at least 24 hours

C. Any patient requiring advanced treatment: intra-arterial thrombolysis, mechanical clot retraction or surgical intervention will be transferred to a Comprehensive Stroke Center.

V. Monitoring:

A. Stroke patient (non t-PA) or TIA patient

1. Initiate Stroke/TIA orders.

2. Complete Vital Signs and Neuro checks q1h x4 then per unit routine.

3. Bedside dysphagia screening by RN prior to anything by mouth, if not previously performed.

4. Assure appropriate diet is ordered based upon above dysphagia screen.
5. Consult Speech Language Pathologist (SLP) if applicable per Dysphagia screening.
6. Oral care: follow oral care protocol as it pertains to the patient's swallowing and ability to expectorate.
7. Monitor skin for areas of breakdown per unit assessment frequencies. Turn patient as tolerated q2h.
8. Implement DVT prevention. If not ambulatory by day 2 of admission, consult physician to initiate progressive ambulation.
9. Monitor O_2 saturations. Assure O2 therapy is ordered and titrate O_2 to maintain saturation > 94%.
10. Monitor cardiac rhythm continuously while in ED, ICU or PCU.
11. Complete NIH Stroke scale 24 hours post initial assessment.
12. Monitor patient's intake and output.
13. Contact physician for PT/OT consult should patient have deficits and consult was not ordered.

B. Stroke <u>patient receiving t-PA</u>

Follow all criteria stated above in addition to:

1. Initiating orders for t-PA
2. Monitor vital signs and neuro status q15 during the t-PA infusion, q15 minutes for 2 hours post infusion, then q30 minutes x 6 hours, then q1hour x 16 hours, then per ICU routine.
3. Complete an additional NIH Stroke scale at the completion of the t-PA infusion.
4. Start all lines prior to t-PA administration and have a minimum of two lines.
5. Have a dedicated line/site to be used for blood draws for 24 hours.
6. Monitor for signs of bleeding and angioedema.
7. Avoid any type of puncture (IV insertion, ABGs, venipunctures) for 24 hours post thrombolytic administration
8. If urinary catheter is required for intensive monitoring, insert prior to thrombolytic administration. Remove as soon as clinically indicated.
9. If using automatic BP machine during the first 24 hours, monitor skin for potential hematoma and petechiae. Sites should be rotated every 2 hours.
Stop using automatic BP machine if hematoma or petechiae noted.

VI. SUPPORTIVE CARE:

A. Initiate early mobility when patient is stable and maintain VTE prophylaxis as ordered
B. Initiate and confirm order for fasting lipid panel
C. Initiate and confirm order for carotid ultrasound and MRI if applicable
D. Assess Fall risk every shift, refer to <u>Fall Prevention Policy</u> for high risk patients
E. Initiate mobilization and ambulation when stable and confirm Physical Therapy consult within 24 hours for rehab plan
F. Provide patient and family with stroke education, including:
1. Signs and symptoms of stroke
2. Risk factor education and counseling
3. Need for EMS activation when experiencing symptoms
4. Need for follow up with physicians

5. Medication education

G. Discharge Planning
- **1.** Consult to Case Management within 24 hours
- **2.** Discharge on antithrombotic
- **3.** Discharge on statin for LDL >70
- **4.** For patients with Afib, discharge on an anticoagulant

VII. REPORTABLES

A. If bleeding is noted at a puncture sites, apply manual pressure. If bleeding continues notify physician

B. If patient is symptomatic with bleeding, initiate Rapid Response team if patient not in ED.

C. If unable to obtain lab work from existing IV site within the first 24 hours post t-PA, a physician order is required to do peripheral venipuncture.

D. Any deterioration of neuro status such as a decrease in LOC, new or worsening headache, notify physician immediately in the ED. If an inpatient, notify physician and call Rapid Response.

E. Sudden changes in respiratory status, cardiac rhythm or O_2 saturation, notify physician immediately or call Rapid Response.

F. Any changes in BP
- **1.** If t-PA given, call physician if SBP is > 185 or DBP is > 110
- **2.** If non t-PA stroke or TIA, call physician if BP > 220 or DBP> 120

VIII. INTRACEREBRAL HEMMORRHAGE (ICH)

A. Assessment and treatment:
- **1.** Consider transfer to Comprehensive Stroke Center
- **2.** Consult Neurology for further management
- **3.** Vital signs and Neuro checks every 1 hour X 4, then if stable every 4 hours
  - a. Notify physician for SBP >180 or MAP >130
- **4.** Monitor gas exchange and administer oxygen as ordered to maintain oxygen saturation >94%
- **5.** NIHSS on admission and repeat in 24 hours and for any change in neuro status
- **6.** Monitor for signs of increased intracranial pressure (ICP)
  - a. Early signs: decreased level of consciousness, headache, visual disturbance, changes in blood pressure, heart rate or respiratory pattern
  - b. Late signs: more persistent changes in vital signs and respiratory pattern
  - c. If necessary institute measures to prevent elevation in ICP: keep HOB up 30^o or as ordered, promote venous drainage, minimize activity and over stimulation and keep patient normothermic. Also, consider mannitol and surgical intervention.
- **7.** Administer IV as ordered and monitor intake and output
- **8.** Point of Care, POC, Glucose AC and HS, notify attending if over >140.
- **9.** NPO until dysphagia screening
- **10.** Bed rest, with HOB elevated 30^o X 24 hours. DO NOT TURN PATIENT
- **11.** SCD's to both legs

12. Fall precautions
13. PT consult
14. First transfer to be done by PT
15. Repeat CT in 24 hours and MRI as needed
16. Assess for bleeding sites
17. DO NOT GIVE: anticoagulants, antiplatelet agents, and steroids unless otherwise specified.

IX. SUBARACHNOID HEMORRHAGE (SAH):

A. Assessment and Treatment:

1. Transfer to Comprehensive Stroke Center (CSC), unless circumstances beyond the window of opportunity for treatment are present or the family refuses advanced care.

2. Consult Neurology for further management and stabilization. Physician may consider: additional CT scan, Lumbar puncture, CTA, MRI and TCD for diagnostic purposes.

3. Vital signs, including temperature and Neuro checks every 1 hour X 4, to prevent hypertension- related rebleeding, then if stable every 4 hours.

a. Notify physician for SBP>160
b. Monitor for normothermia, notify physician if not

4. Monitor for signs and symptoms of worsening SAH, increased intracranial pressure (ICP) and hydrocephalus, such as:

a. nausea/vomiting
b. stiff neck
c. photophobia
d. decreased level of consciousness
e. headache
f. visual disturbance
g. changes in blood pressure
h. heart rate or respiratory pattern change
i. focal neurologic deficits (including cranial nerve palsies)

5. Seizure monitoring
6. Monitor POC Glucose AC and HS
7. Monitor for hyponatremia
8. Consider treatment of anemia with PRBC's
9. Monitor for Heparin-induced thrombocytopenia (if patient had catheter angiography) and deep venous thrombosis
10. Administer IV as ordered and monitor intake and output.
11. NPO until dysphagia screening.
12. Bed rest, with HOB elevated 30^{o} X 24 hours.
13. SCD's to both legs.

14. Fall precautions
15. Assess for bleeding sites.
16. DO NOT GIVE: anticoagulants, antiplatelet agents, and steroids unless otherwise specified.
17. Consider Comfort Care measures as appropriate to patient's condition.

REFERENCES:

Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2014 Jul;45(7):2160-236.

Guidelines for the Management of Spontaneous Intracerebral Hemorrhage: A Guideline for Healthcare Professionals from the American Heart Association/American Stroke Association. Stroke. 2010; 41:2108-2129

Guidelines for the Management of Aneurysmal Subarachnoid Hemorrhage: A Guideline for Healthcare Professionals from the American Heart Association/American Stroke Association. Stroke. 2012; 43:1711-1737.

ATTACHMENTS:

Appendix I: ED Process Flow

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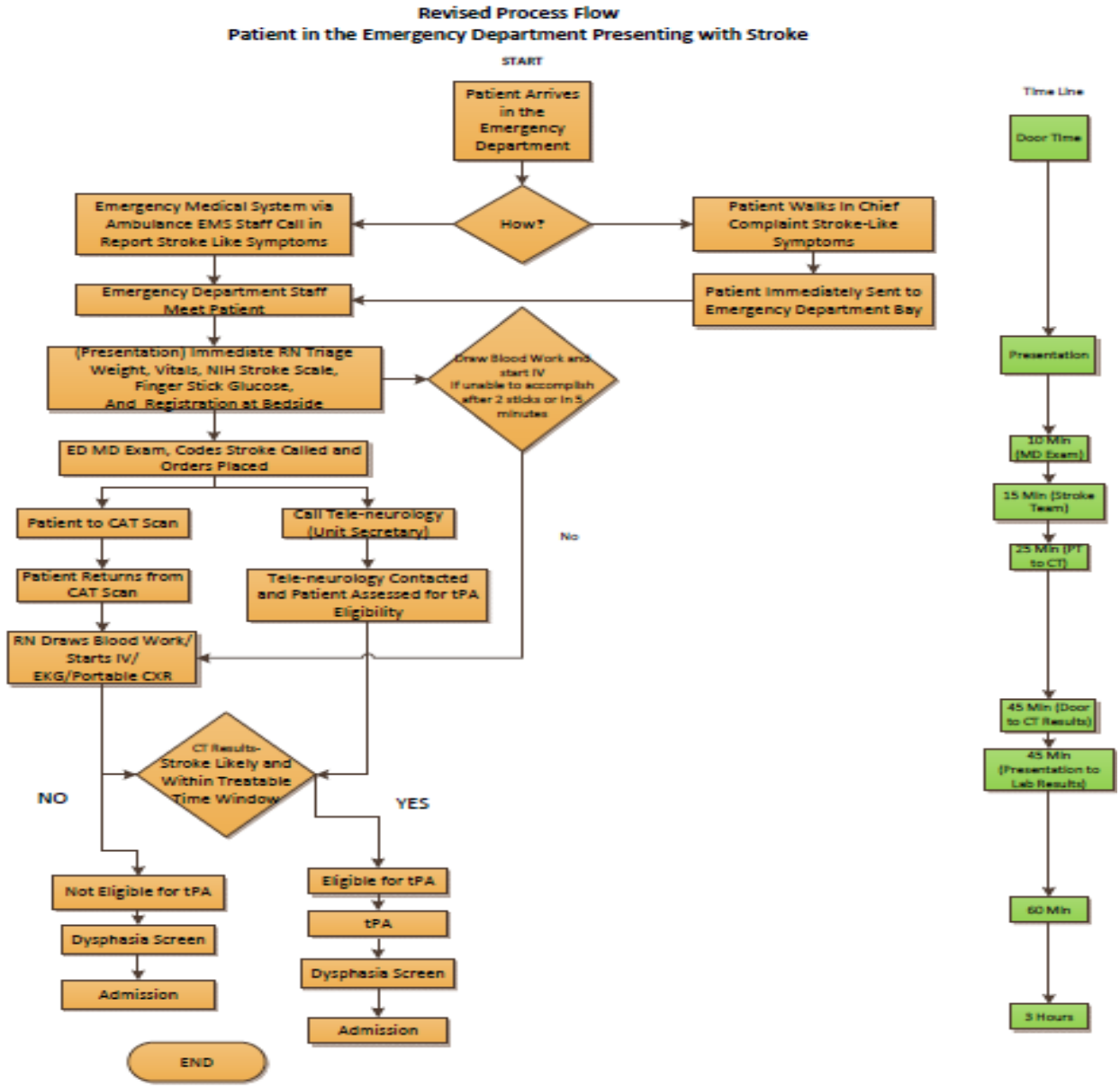

Approved at Stroke Committee Meeting on March 9, 2016