PURPOSE: To ensure that a person meeting the criteria for a stroke alert is recognized as a medical emergency, receiving medical/nursing care in a prompt and appropriate manner.

POLICY STATEMENT: Emergency Medical Service (EMS) will notify the emergency room of an in-coming stroke alert. Emergency Department (ED) staff is oriented to activate a stroke alert which will notify the stroke team. On arrival to the ED the ED physician will perform an assessment and confirm a stroke alert. If not determined to be a stroke alert it will be cancelled.

If patient arrives via triage and is suspected of having a stroke then the triage nurse will overhead page main ED dial 7744, tone #119. (See North Port (NP) stroke alert pg 5 for their triage stroke alert process) A stroke alert is activated which will notify the stroke team. The ED physician will arrive and perform a stroke assessment and give the approval to proceed or not with a stroke alert. The neurologist may respond via telestroke or at bedside.

All in-house (already admitted) patients that are experiencing symptoms suggestive of stroke, the hospital personnel will activate a Stroke Alert (Dial 3911 STAT). The Rapid Response Team (RRT) will respond promptly to the stroke alert. If the patient meets criteria for a stroke alert after evaluation by the rapid response team, the neurologist will be paged STAT.

EXCEPTIONS: Stroke team roles and responsibilities are defined in this policy; however a member of the team may delegate a role or responsibility to another member of the team as long as it is clearly communicated to the other team members.
DEFINITIONS:

1. STROKE ALERT – a medical emergency requiring advance assessment by specially trained team members to determine the appropriateness of life saving therapies within a specified period of time.

2. RAPID RESPONSE TEAM (RRT) – consists of a Critical Care Nurse who is qualified with the following credentials: ACLS and BLS. Rapid response nurses are also National Institute of Health Stroke Scale (NIHSS) certified.

3. STROKE TEAM – consists of interdisciplinary members. Some of these members respond to the stroke alert (either in person or by phone consultation). Stroke team responders are educated and experienced in acute stroke symptoms and some specific clinicians are trained to make time sensitive treatment decisions on the appropriateness of medical therapies, such as tPA (tissue plasminogen activator) or Endovascular Therapy.

PROCEDURE:

EMERGENCY ROOM STROKE ALERT INITIATION/RESPONSE

1. Emergency Medical Service (EMS) will notify the emergency room with estimated time of arrival for stroke alert. Emergency room personnel will:
   a. Voalte emergency room physician and registration
   b. Activate the stroke team by calling 3911

2. The ED nurse, multi skilled technician, rapid response nurse, registration, pharmacy and emergency room physician will meet the patient at the ambulance bay. Patient is transferred from EMS stretcher to the ED weight stretcher and placed on a monitor. EMS gives report to the stroke team in attendance, including the time patient was seen last known normal or at baseline, onset of stroke symptoms, result of blood glucose and vital signs.

3. ED physician assesses the patient for symptoms suggestive of stroke and determines if this patient is a stroke alert candidate or not. If patient is determined to be a stroke alert then the physician or RRT will initiate the stroke alert order set. Rapid response nurse will notify the neurologist on call. Registration will admit
patient and apply armband for identification. ED staff will weigh the patient, place peripheral line, draw required labs, keep head of bed flat and maintain patient NPO. Stroke team members and nurse assigned to the patient will transport patient immediately to CT.

EMERGENCY ROOM NURSE RESPONSIBLE FOR PATIENT

Prior to CT

1. Have a stretcher with capability of weighing and cardiac monitor at the ambulance bay doors.
2. Meet the stroke alert at the ambulance bay and complete hand off communication with EMS.
3. Assist with transfer to ED stretcher, weigh patient and document weight in SCM.
4. Place patient on cardiac monitor.
5. Initiate a baseline NIH assessment
6. Assist with lab draw (if difficult access, do not delay longer than 5 minutes).
7. Transfer to CT STAT and remain with patient during CT scan.

After CT

1. Transport the patient from Radiology to assigned room in ED.
2. Obtain vital signs and NIHSS assessment as per orders; notify physician immediately of any changes.
3. Monitor target times as per the Emergency Services Stroke Alert Protocol/Algorithm (see attachment # 1)
4. If tPA is ordered, collaborate with Pharmacy so that the tPA is administered as quickly as possible.
5. Complete pre and post tPA vital signs and NIHSS as ordered, no more than 15 minutes prior to bolus then after bolus Q15 minutes X 8, Q 30 minutes X 12, Q hour X 16.
6. Post tPA NIH and vital signs should not be assessed any later than the parameters listed below:
   a. Plus 5 minutes for every 15 minute NIH/vital sign assessment
   b. Plus 10 minutes for every 30 minute NIH/ vital sign assessment
   c. Plus 15 minutes for every hourly NIH/vital sign assessment
RAPID RESPONSE NURSE:

1. Respond to scene when a stroke alert is activated.
2. If stroke alert is cancelled then call 3911 and notify the page operator that stroke alert is cancelled.
3. If stroke alert is confirmed check that stroke alert order set is initiated and STAT page on-call neurologist.
4. Assist with stroke alert and monitor target times (see attachment #1)
5. Initiate the Inclusion/Exclusion criteria checklist
6. Assist in preparing the patient for immediate transportation to Radiology.
7. Enter weight in the I/O section of SCM.
8. If patient is a tPA candidate assist the ED nurse to ensure that tPA is administered within target times (see attachment #1).

EMERGENCY ROOM PHYSICIAN:

1. Complete patient evaluation at ambulance bay to determine if patient is a stroke alert candidate or not.
2. Collaborate with rapid response on completing the Inclusion/Exclusion checklist for tPA.
3. Discuss patient assessment with neurologist on-call.
4. Update patient and family on the plan of care.

RADIOLOGY:

1. Prepares for immediate CT scan for stroke alert.
2. Receive patient along with stroke team and perform STAT CT scan of brain.

LABORATORY:

1. Receive notification of stroke alert.
2. Run STAT labs that are marked or identified as “Stroke Alert” and enter results as quickly as possible in (LIS) Laboratory Information System

PHARMACY:

1. When present in the ED respond to stroke alert and collaborate with stroke team to determine if patient is
eligible for tPA.
2. Confirm that tPA order set is entered.
3. Prepare and mix the tPA
4. Deliver tPA to the nurse STAT.

NEUROLOGIST ON CALL:

1. Promptly respond to the stroke alert.
2. Complete assessment, review clinical laboratory and imaging studies. Document last known well. Determine if patient is a candidate for tPA and or endovascular therapy. If not a candidate for either then document reason why. Confirm inclusion and exclusion criteria for IV tPA.
3. If patient is eligible then discuss risks, benefits and alternatives of thrombolytic therapy (tPA) and or endovascular therapy with patient and family.
4. Initiate the appropriate stroke order set.
5. Clinical consultation and follow-up per standing orders for stroke.

EMERGENCY ROOM NORTH PORT (NP) STROKE ALERT INITIATION/RESPONSE

1. Emergency Medical Service (EMS) will notify the emergency room with estimated time of arrival for stroke alert. If patient arrives via triage then registration personnel will call 72818 to notify charge nurse of possible stroke alert. Emergency room personnel will:

   a. Notify ED physician, registration and CT.
   b. Activate the stroke team by calling 3911.
   c. The ED nurse, multi skilled technician, registration, emergency room physician will meet the stroke alert patient at the ambulance bay or in assigned patient room
   d. Patient is transferred from EMS stretcher to the ED weight stretcher and placed on a monitor. EMS gives report to the stroke team in attendance, including the time patient was seen last known normal or at baseline, onset of stroke symptoms, result of blood glucose and vital signs. ED physician assesses the patient for symptoms suggestive of stroke and determines if patient is a stroke alert candidate. If patient is a stroke alert, the physician will enter the stroke alert order set and ask
the MST (Multi skilled technician) to notify the neurologist on call. Registration will admit patient and apply armband for identification. ED staff weigh patient, keep head of bed flat, obtain labs and maintain patient NPO. Stroke team members and nurse assigned to patient will transport patient to CT.

Emergency department stroke team responders consist of:

**NP EMERGENCY ROOM NURSE RESPONSIBLE FOR PATIENT**

**Prior to CT**

1. Have a stretcher with capability of weighing and cardiac monitor at the ambulance bay doors.
2. Meet the stroke alert at the ambulance bay or in assigned room and complete hand off communication with EMS.
3. Assist with transfer of patient to ED stretcher, weigh patient and document weight.
4. Place patient on cardiac monitor.
5. Initiate a baseline NIH
6. Transfer STAT to CT and remain with patient in CT scan.
7. Obtain the labs between the CT and the CTA in radiology if not already completed.

**After CT**

1. Transport the patient from Radiology to assigned room in ED.
2. Place stretcher at markers for telestroke.
3. Obtain vital signs and NIHSS assessment.
4. If the neurologist requests telestroke then explain telestroke to patient and family and how the neurologist will interact with the patient using face to face teleconferencing technology.
5. Perform NIHSS with the clinician via telestroke.
6. Complete the Inclusion/Exclusion criteria checklist for tPA.
7. Monitor target times as per the Emergency Services Stroke Alert Protocol/Algorithm (see attachment # 1).
8. If tPA is ordered, collaborate with Pharmacy so that the tPA is mixed and administered as quickly as possible.
9. Complete pre and post tPA vital signs and NIHSS as ordered, no more than 15 minutes prior to bolus then
after bolus Q15 minutes X 8, Q 30 minutes X 12, Q hour X 16.

10. Post tPA NIH and vital signs should not be assessed any later than the parameters listed below:
   a. Plus 5 minutes for every 15 minute NIH/vital sign assessment
   b. Plus 10 minutes for every 30 minute NIH/vital sign assessment
   c. Plus 15 minutes for every hourly NIH/vital sign assessment


EMERGENY ROOM PHYSICIAN:

1. Complete patient evaluation at ambulance bay or in assigned room to determine if patient is a stroke alert candidate or not.
2. Initiate stroke alert order set and notify neurologist.
3. Collaborate with nurse regarding completion of Inclusion/Exclusion checklist for tPA.
4. Discuss patient assessment with neurologist on-call via phone.
5. Update patient and family on the plan of care.

RADIOLOGY:

1. Prepares for immediate CT scan of stroke alert.
2. Receive patient along with stroke team and perform STAT CT/CTA scan of brain.

LABORATORY:

1. Run STAT labs and enter results as quickly as possible in LIS

PHARMACY:

1. Review record for Inclusion/Exclusion criteria for tPA.
2. Confirm that tPA order set is entered correctly.
3. Collaborate with the ED nurse to prepare tPA and administer as quickly as possible.
NEUROLOGIST ON CALL:

1. Discuss the stroke alert with the ED physician.
2. Connect via telestroke to the stroke alert.
3. Review clinical, laboratory and imaging studies.
4. Document last known well; determine if patient is a candidate for tPA and or endovascular therapy. If not a candidate for either then document reason why. Confirm inclusion and exclusion criteria for IV tPA.
5. If patient is eligible then discuss Risk, Benefits and Alternatives of thrombolytic therapy (tPA) and endovascular therapy with patient and family via telestroke.
6. Initiate the appropriate stroke order set.
7. On arrival to SMH evaluate patient.
8. Clinical consultation and follow-up per standing orders for stroke.

IN-HOUSE STROKE ALERT INITIATION/RESPONSE

Staff or family recognizes the signs of a stroke. The nurse is to assess the patient for signs and symptoms of stroke. If present he/she will STAT Call 3911 and activate a Stroke Alert.

Inpatient Stroke Responders consist of:

STAFF RN RESPONSIBLE FOR PATIENT:

1. Complete neuro assessment and obtain initial set of vital signs.
2. Place head of bed flat and obtain accu-chek.
3. Reports findings to RRT and/or stroke team.
4. Communicate with the RRT/stroke team regarding patient history, current symptoms, last known well and time of onset of symptoms.
5. Place patient on cardiac monitor and prepare for transport to Radiology.
6. Notify patient’s attending physician. Consulting physician(s) are notified if indicated.
7. Identify appropriate personnel for immediate notification to family (i.e. other licensed personnel, etc.).
8. Provide assistance as requested by the RRT and/or stroke team.
9. Complete narrative documentation up to time of RRT arrival and include time of onset of symptoms in SCM.
RAPID RESPONSE NURSE AND/OR INTERVENTION NURSE:

1. Respond when a stroke alert is activated and assess the patient, including time of onset or last time patient seen normal.
2. Perform a neurological assessment using the NIHSS to determine if the patient is having a possible stroke.
3. If patient is a possible stroke alert then STAT page the neurologist on call and initiate stroke alert order set.
4. Insert 18G peripheral IV and obtain STAT labs per stroke alert order set if not already sent. Do not delay going to CT. If patient is a difficult IV access then proceed to CT.
5. Call CT to give estimated arrival time of patient.
7. Initiate the Inclusion/Exclusion criteria checklist for tPA.
8. Report assessment, NIHSS score and findings on inclusion/exclusion checklist to neurologist upon arrival.
9. Monitor target times as per the In-House Stroke Alert Protocol/Algorithm (see attachment # 2).
10. Alert Pharmacy if tPA is ordered.
11. Assist with tPA administration,
12. Complete pre and post tPA vital signs and NIHSS as ordered, no more than 15 minutes prior to bolus then after bolus Q 15 minutes X 8, Q 30 minutes X 12, Q hour X 16
13. Post tPA NIH and vital signs should not be assessed any later than the parameters listed below:
   a. Plus 5 minutes for every 15 minute NIH/vital sign assessment
   b. Plus 10 minutes for every 30 minute NIH/vital sign assessment
   c. Plus 15 minutes for every hourly NIH/vital sign assessment

RADIOLOGY:

1. Prepares for immediate CT scan of brain.
2. Receives patient along with stroke team and performs STAT CT scan of brain.

LABORATORY:

1. Receives notification of stroke alert via paging system.
2. Respond to stroke alert and draw labs. Run STAT labs and report results STAT on LIS.
PHARMACY:

1. Collaborate with rapid response on Inclusion/Exclusion criteria for tPA.
2. Confirm that tPA order set is entered correctly.
3. Deliver tPA to the nurse STAT

NEUROLOGIST ON CALL:

1. Respond promptly to stroke alert.
2. Review clinical, laboratory and imaging studies.
3. Complete assessment, review clinical, laboratory and imaging studies.
4. Document last known well. Determine if patient is a candidate for tPA and or endovascular therapy. If not a candidate for either then document reason why.
5. Confirm inclusion and exclusion criteria for IV tPA.
6. If patient is eligible then discuss Risks, Benefits and Alternatives of thrombolytic therapy (tPA) and or Endovascular therapy with patient and family.
7. Initiate the appropriate stroke order set.

Clinical consultation and follow-up per standing orders for stroke.

CREDENTIALING/TRAINING OF STROKE TEAM MEMBERS

All stroke team responders receive initial and ongoing training on caring for the acute stroke patient, including activating and responding to a stroke alert.

Responders are identified as:

1. Rapid Response Team (RRT)
2. ED staff including physician, nurse, technician and registration
3. Neurologist
4. Stroke Coordinator and Stroke APN or PA (when available)

All core stroke team members are required to attend and document at least 8 hours of continuing educational training related to stroke care annually.
RESPONSIBILITY: It is the responsibility of the director of Patient Care Services and/or department directors to ensure that this policy is understood and adhered to by all hospital staff.


AUTHOR(S): Connie Anderson  BSN, MS, RN, NE-BC
Agnes Kelly, MSN, RN, CCRN, CHFN
Marilyn Kirchman MSN, RN, CCRN, SCRN
Jane Hottinger, MSN, RN, CEN

ATTACHMENTS: Attachment # 1: SMH Emergency Services “Stroke Alert” Protocol/Algorithm
Attachment # 2: SMH In-house “Stroke Alert” Protocol/Algorithm
### APPROVALS:

Signatures indicate approval of the new or reviewed/revised policy.

<table>
<thead>
<tr>
<th>Committees/Sections/Departments:</th>
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<tr>
<th>Director/Responsible Owner:</th>
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<tr>
<td>Connie Andersen, ACNO</td>
<td>7/12/16</td>
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<tr>
<th>Vice President/Executive Director:</th>
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<tr>
<td>Jan Mauck, CNO</td>
<td>7/14/16</td>
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<tr>
<th>Chief of Medical Operations:</th>
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<tr>
<td>R. Stephen Taylor MD</td>
<td>7/19/16</td>
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<th>Chief of Staff:</th>
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<tr>
<td>Karen Hamad, MD</td>
<td>8/8/16</td>
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<th>Medical Executive Committee:</th>
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<td><em>(if clinical and review requested by CMO and COS)</em></td>
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<th>Chief Executive Officer:</th>
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<td>David Verinder, CEO</td>
<td>8/11/16</td>
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</table>
Recognized Stroke Symptoms: B.E. F.A.S.T!
B. Balance: Sudden changes in balance, coordination or dizziness
E. Eye: Sudden vision changes (trouble seeing in one or both eyes)
F. Face: Sudden numbness, weakness or drooping on one side
A. Arm: Drift or Weakness on one side
S. Speech: Sudden Confusion, trouble speaking or understanding
T. Time is Brain: Activate the stroke Alert Quickly

EMS Call
EMS Information
- Symptoms suggestive of stroke
- Identified LKW last known well time/ ≤ 12 hrs
- Obtain report from EMS provider & estimated arrival
- Call STROKE ALERT 3911

ED Triage Assessment
- Immediate triage for suspected stroke using F.A.S.T. method
- Establish time last known well/onset of stroke symptoms ≤ 12 hrs
- Overhead Page Main ECC Dial 7744- Tone- #119. NP ED call 72818
- Call STROKE ALERT 3911, Place peripheral IV and draw labs

Patient is assessed by the ED Physician
ED Bay Door
- Stroke responders meet patient at bay door, hand off communication to the stroke team
- Transfer patient to weight stretcher and weigh
- ED physician completes assessment, confirms stroke alert and initiates stroke alert order set
- Record Accu-chek, Place peripheral IV’s, obtain labs.
- Registration admits patient and places armband

Patient Presents to ED
RN Assessment/Rapid Response
- Reconfirm time of last known well and document in SCM
- Notify Neurologist
- Baseline NIH Stroke Scale and document in SCM
- Initiate Inclusion/Exclusion criteria checklist
- Initiate cardiac monitor, O2 (if <92%)
- Ensure patient remains NPO, HOB Flat

Patient Directly to CT, Results Obtained
CT NEGATIVE
Symptoms onset:
- 0 to 4.5 hours LKW consider if IV-tPA candidate (Select Criteria ONLY 3.0 to 4.5 hrs)
- 0 to 12 hours LWW consider EVT (Endovascular Therapy) using criteria below

<table>
<thead>
<tr>
<th>EVT Criteria LKW 0-6 Hours</th>
<th>EVT Criteria LKW 6-12 Hours</th>
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<td>1. Symptom onset &lt;6 hours</td>
<td>1. Same as LKW 0-6 plus</td>
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<tr>
<td>2. Symptomatic M1, A1, or terminal ICA or Basilar occlusion</td>
<td>2. If LKW is 6-12 hours (including wake up stroke) consider EVT if:</td>
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<td>3. ASPECTS ≥ 6 AND</td>
<td>a) Age &lt; 85</td>
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<tr>
<td>&lt; 1/3 MCA Core</td>
<td>b) Disabling stroke symptoms</td>
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<tr>
<td>&lt; ½ ACA Core</td>
<td>c) No significant disability at baseline (pre stroke mRS 0-1)</td>
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<td>&lt; ½ PCA Core</td>
<td>d) No terminal conditions or illnesses (life expectancy &gt;6 months)</td>
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<td></td>
<td>e) No dementia or cognitive deficits</td>
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CT HEMORRHAGE
CONSULT ON-CALL NEUROSURGEON
- Intracranial hemorrhage/Subarachnoid hemorrhage
- Initiate Hemorrhage Stroke or SAH order set
- Check Coagulation Parameters
- Review patient’s medication list for use of anticoagulants/antiplatelet
- Use anticoagulation reversal order set
- Prepare to transfer patient to surgery, NSICU or NPCU

Revised 7/7/16
Decision to Treat
1. Is patient candidate for TPA or INR
2. CT Scan normal, no evidence of hemorrhage
3. Neurological exam unchanged
4. IV fluids started per stroke order set
5. Decision by neurologist on appropriate treatment

IV-tPA Candidate
1. Neurologist to approve initiation of stroke tPA order
2. Secure a second peripheral IV site dedicated for tPA administration if not already in place
3. Patient and family informed of the benefits, risks and alternatives of tPA
4. Pharmacy to mix and deliver tPA to bedside
5. ED nurse or RRT to confirm dose and administer tPA as quickly as possible

INR
1. Interventional neurologist notified of case by the neurologist
2. Criteria reviewed by interventional radiologist
3. Patient goes directly from ED to radiology

Monitor
- Document vital signs and NIHSS pre bolus, every 15 min X 8, every 30 min X 12, every 60 min X 16
- Assess for Angioedema/Anaphylaxis every 15 min X 4, every 30 min X 2 hours after starting tPA and document in SCM
- Observe for symptoms such as tongue swelling, oropharyngeal swelling and stridor
- Observe for signs of hemorrhagic transformation which include decreased LOC, sudden rise in BP, increased confusion/agitation, headache, nausea/vomiting

Transition
- Patient is transferred to NICU or NPCU from main ED
- NP patient is transferred via Bayflite or Ambitrans EMS
- Hand off communication at bedside
- Family informed of the plan of care

Treatment for Angioedema
- Immediately discontinue t-PA
- Notify neurologist/ARNP/PA STAT
- Neurologist to approve activation of treatment for angioedema orders in post t-PA order set
- Evaluate for throat or mouth edema and watch for airway management due to angioedema

Treatment for Hemorrhagic Transformation
- Immediately discontinue t-PA
- Notify Neurologist/ARNP/PA STAT
- Neurologist to approve activation of hemorrhagic transformation orders in post t-PA order set
- Send STAT labs: PT/INR, CBC
- Obtain STAT Cranial CT scan


Revised 7/7/16
Recognized Stroke Symptoms B.E. F.A.S.T!

- Balance: Sudden changes in balance, coordination or dizziness
- Eye: Sudden vision changes (trouble seeing in one or both eyes)
- Face: Sudden numbness, weakness or drooping on one side
- Arm: Drift or Weakness on one side
- Speech: Sudden Confusion, trouble speaking or understanding
- Time: Sudden or unexpected changes

TARGET TIMES

- Assessed by RRT 10 minutes
- To CT Scanner 15 minutes
- CT Interpretation 30 minutes
- Lab Results 25 minutes
- rtPA Treatment 45 minutes
- Door to anticoagulation reversal 60 minutes

Nurse

1. Obtain vital signs
2. HOB flat and obtain Accu-chek
3. Report and document finding including last time seen normal to stroke team
4. Prepare patient for transport/apply cardiac monitor and obtain O2 tank
5. Keep patient NPO until swallowing eval

Rapid Response Team

1. Initiate the inclusion/exclusion checklist
2. Insert IV 18G preferably and obtain stat labs if not already obtained by the lab
3. Verify with nurse that recent weight is in the chart
4. Notify CT staff of your pending arrival
5. Transport patient to CT STAT

Neurologist

1. Respond to stroke alert at bedside or telestroke
2. Complete assessment, review clinical laboratory and imaging studies
3. Complete inclusion/exclusion criteria
4. A reason MUST be documented if patient is not a tPA candidate. Evaluate if patient is a candidate for neurointerventional radiology

If potential stroke then STAT page the Neurologist on call and initiate the stroke alert order set

CT Results Obtained

Physician-Patient-Family Treatment Plan

CT NEGATIVE

Symptoms onset:

0 to 4.5 hours consider if IV-tPA candidate (Select Criteria ONLY 3.0 to 4.5 hrs)
0 to 12 hours consider EVT (Endovascular Therapy) using criteria below

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CT HEMORRHAGE

CONSULT ON-CALL NEUROSURGEON

- Intracranial hemorrhage/Subarachnoid hemorrhage
- Initiate Hemorrhage Stroke or SAH order set
- Check Coagulation Parameters
- Review patient’s medication list for use of anticoagulants/antiplatelet
- Use anticoagulation reversal order set
- Prepare to transfer patient to surgery, NSICU or NPCU

Recognize Stroke Symptoms B.E. F.A.S.T!

- Balance: Sudden changes in balance, coordination or dizziness
- Eye: Sudden vision changes (trouble seeing in one or both eyes)
- Face: Sudden numbness, weakness or drooping on one side
- Arm: Drift or Weakness on one side
- Speech: Sudden Confusion, trouble speaking or understanding
- Time: Sudden or unexpected changes

Activate a Stroke Alert (Dial 3911 STAT) IF Last Know Wellness ≤ 12 hours Notify Attending Physician (Rapid Response will notify the Neurologist)
**Decision to Treat**

1. Is patient candidate for TPA or INR
2. CT Scan normal, no evidence of hemorrhage
3. Neurological exam unchanged
4. IV fluids started per stroke order set
5. Decision by neurologist on appropriate treatment

---

**IV-tPA Candidate**

1. Neurologist to approve initiation of stroke tPA order
2. Secure a second peripheral IV site dedicated for tPA administration if not already in place
3. Patient and family informed of the benefits, risks and alternatives of tPA
4. Pharmacy to mix and deliver tPA to bedside
5. ED nurse or RRT to confirm dose and administer t-PA as quickly as possible

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**t-PA**

Administer t-PA (Activase) 0.9mg/kg IV as 10% bolus over 1 minute, and then remaining 90% over 1 hour

**Not to exceed maximum total dose = 90 mg**

Document time bolus t-PA dose is started

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**Monitor**

- Document vital signs and NIHSS pre bolus, every 15 min X 8, every 30 min X 12, every 60 min X 16
- Assess for Angioedema/Anaphylaxis every 15 min X 4, every 30 min X 2 hours after starting tPA and document in SCM
- Observe for symptoms such as tongue swelling, oropharyngeal swelling and stridor
- Observe for signs of hemorrhagic transformation which include decreased LOC, sudden rise in BP, increased confusion/agitation, headache, nausea/vomiting

---

**Transition**

- Patient is transferred to NICU or NPCU from main ED
- NP patient is transferred via Bayflite or Ambitrans EMS
- Hand off communication at bedside
- Family informed of the plan of care

---

**INR**

1. Interventional neurologist notified of case by the neurologist
2. Criteria reviewed by interventional radiologist
3. Patient goes directly from ED to radiology

---

**Treatment for Hemorrhagic Transformation**

- Immediately discontinue t-PA
- Notify Neurologist/ARNP/PA STAT
- Neurologist to approve activation of hemorrhagic transformation orders in post t-PA order set
- Send STAT labs: PT/INR, CBC
- Obtain STAT Cranial CT scan

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**Treatment for Angioedema**

- Immediately discontinue t-PA
- Notify Neurologist/ARNP/PA STAT
- Neurologist to approve activation of treatment for angioedema orders in post t-PA order set
- Evaluate for throat or mouth edema and watch for airway management due to angioedema

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