Acute Stroke Ready Hospital Designation Criteria

ESSENTIAL

STROKE PROGRAM/SYSTEM

- EMS communication (formalized feedback provided to EMS)
- Comprehensive Stroke Log

HOSPITAL PERSONNEL

- Acute Stroke Team coverage 24/7
- Acute Stroke Team lead on call or Telehealth[1] provider to bedside in 15 minutes
- Designated Medical Director with experience in stroke care
- Stroke Coordinator of stroke program

STROKE PROTOCOL/GUIDELINES

- Stroke activation protocol
- Consult with a Primary or Comprehensive Stroke Center via phone, Telestroke, Telehealth, or in-house neurology services
- Treatment guidelines and standardized order sets for acute diagnosis, stabilization, monitoring, and treatment of patients for TIA, ischemic, and hemorrhagic strokes
    - Including a reversal protocol and treatment of post-lytic complications (*e.g.*, orolingual angioedema)
- Consistent use of treatment guidelines and standardized order sets
- Treatment guidelines and order sets reviewed and revised annually
- All patients exhibiting stroke symptoms have NPO order OR pass evidence-based dysphagia screen prior to receiving any oral intake of medication, fluids, or food
- When treating acute ischemic stroke with IV thrombolytic, provider must consistently document:
    - Inclusion/exclusion criteria reviewed
    - Risks/benefits/alternatives
    - Exclusions to IV thrombolytic if patient is within the IV thrombolytic window
    - Reason for delay in stroke treatment (*e.g.*, BP management, patient unstable), if applicable
    - Consideration of endovascular treatment

CONTINUING EDUCATION

- Acute Stroke Team (including ED and/or Rapid Response providers) have 2 hours of stroke education annually (not including recertification of NIHSS)

- All AST members performing National Institute of Health Stroke Scale (NIHSS) must be NIHSS certified
- Orientation of new staff (including travelers and locums) to include stroke code process and protocols

LABORATORY

- Available 24/7
- Basic blood tests
- Coagulation studies

DIAGNOSTIC IMAGING

- Diagnostic radiology staff available 24/7
- Brain imaging with non-contrast CT
- 12 lead ECG (not to delay stroke treatment)
- Written CT downtime protocol

MEDICATIONS

- IV thrombolytic available 24/7 (Alteplase or Tenecteplase)[3]
- First-line antihypertensive medications available 24/7
- Utilize clinical practice guidelines blood pressure management medications including Labetalol, Hydralazine, Nicardipine

PERFORMANCE IMPROVEMENT PROGRAM

- Participation in North Dakota State Stroke Registry
- Comprehensive quality improvement program that tracks quality metrics, identifies opportunities for improvement, provides formal feedback to staff, and develops action plans to improve practice
- Data submission into stroke registry current (90 days prior to the site visit)
- Performance Improvement Program
    - Must include, but is not limited to, tracking the following metrics:
        - Pre-notification by EMS
        - Documentation of LKW
        - Initial NIHSS reported
        - Door to CT initiation <25 min
        - Door to CT Interpretation <45 minutes
        - Dysphagia Screen
        - IV thrombolytic arrive in 2 treat in 3
        - IV thrombolytic arrive in 3.5 treat in 4.5
        - Door to Needle <60 min
        - Door to Transfer to another hospital time reported (median time)
- Review of hospital and pre-hospital stroke care

TRANSFER AGREEMENT

- Transfer protocols and agreement for stroke patients from an ASRH and ≥1 hospital to a higher level of care hospital including neurosurgical coverage and endovascular treatment on a 24/7 basis
- Local emergency medical services transport plans reviewed every biennium

RECOMMENDED

- Helicopter landing site
- Utilization of telehealth services to assist with management of stroke code
- Mock stroke code with competency checks on IV thrombolytic administration annually
- BEFAST education provided to all staff
- Community outreach on stroke including recognition of signs and symptoms and activation of the emergency response system
- Comprehensive blood bank or access to blood bank with blood typing
- Utilization of one thrombolytic for stroke treatment
- Door-in to door-out time of <90 minutes when transferring to a higher-level stroke center for time-critical therapy
- Subacute stroke care resource awareness

Reference: [1] Telestroke evaluations of AIS patients can be effective for correct IV alteplase eligibility decision making *(COR I; LOE B-R)* [2]If a patient or representative not available for consent, justifiable to proceed without consent in an otherwise eligible patient. [3]IV Alteplase (0.9mg/kg, maximum dose 90mg over 60 minutes with initial 10% of dose given as bolus over 1 minute) is recommended for selected patients who can be treated within 3 and 4.5 hour of ischemic stroke symptom onset or patient last known well *(COR I; LOE B-R)* It may be reasonable to choose tenecteplace single IV bolus of 0.25mg/kg, maximum 25mg over IV alteplase in patients without contraindications for IV fibrinolytics who are also eligible to undergo mechanical thrombectomy *(COR IIa; LOE B-R)*.