**CVA or TIA (Stroke)- Ischemic Admission Orders**

**Note:** Text in parenthesis before a blank is the default if no alternative selected. Notify RRT for direct admit or not seen in the ED.

### Status:
- See Initial Order Set - Patient Status already completed by MD

**Dx:**
- Ischemic Stroke
- Transient Ischemic Attack (TIA)

**tPA NOT given because:**

Attending MD:

**Bed Type:**
- ICU
- Telemetry: medical, surgical, cardiac
- Regular: ________________

**Consult:**
- Case Management/Discharge Planner
- Physiotherapy / Occupational Therapy / Speech Language Pathology
- Neurologist: ________________ re: __________________________ to see: STAT / TODAY / IN AM

**Labs - Stroke protocol:**
- Fasting lipid panel, CBC, PT/PTT/INR, Liver Panel, *if not done in past 48 hours*
- Hgb A1C *if history of diabetes and not drawn during this admission*
- CK/CK-MB and Troponin I *q ___ hrs x ___* 1st to be done STAT

**Nursing:**
- Notify MD for SBP > (220) ______ or DBP > (120) ______ after PRN anti-hypertensives given
- Glucose Control: FSBS upon admission – if > 200mg/dL, repeat in 4hrs if 2 consecutive FSGB > 200 mg/dL, notify MD
- Neuro checks q4h and PRN for change in condition. Notify physician for any increased deficits.
- Initiate Nursing Stroke (CVA) Guidelines for Care *found on CareLine with Medical Record forms*

**Diet:**
- NPO until Nursing/RRT swallow screen. If failed, Notify MD, consult SLP and keep NPO.

**ROUTINE Imaging:**
- **BRAIN IMAGING** (does not look at vessels in detail)
- **MRI Brain with and without contrast** (use if infection, tumor, MS, cranial nerve palsy suspected)
- **CT Head with and without contrast** (use if infection or tumor suspected)
- **Carotid ultrasound (bilateral)**

*Recommend that Vascular Head and Neck imaging be ordered at the same time*

**ANTIPLATELETS**
- First dose of antiplatelet STAT
  - Aggrenox 25/200 mg PO BID —OR—
  - Aspirin (enteric coated) Dose: 81mg □ 162mg □ 325mg Route: □ PO □ PR (325mg only) daily —OR—
  - Plavix (clopidogrel) 75 mg PO daily

**OTHER ANTICOAGULATION** *(recommended only if suspect *ongoing* thromboembolic disease and no contraindications)*
- See completed Heparin Infusion Protocols

**VTE PROPHYLAXIS:**
- Bilateral Sequential Compression Devices – SCDs (all patients)

*All CVA patients must have VTE risk and prophylaxis addressed upon admission*

**ANTIHYPTERTENSIVES for Ischemic Stroke (Use tPA Order Set for BP management if tPA administered)**
- In Ischemic Stroke, do NOT lower SBP < 200 or DBP < 100 with medications unless specified by MD.
- For Systolic > (220) ______ or DBP > (120) ______ (SBP and DBP maximums are acute Ischemic Stroke recommendations)

  - Labetalol 10 mg IV over 1 to 2 minutes, may repeat every 10 to 20 minutes, maximum dose 300 mg

  *Clinical Decision Support: If utilizing Nicardipine (Cardene) infusion – Refer to ICU Infusion orders*

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**MD Signature:** __________________________ Date: __________ Time: __________

**RN Signature:** __________________________ Date: __________ Time: __________

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*Origin: 6/08 Revised: 3/09, 1/10, 3/11, 5/11, 3/12, 9/12, 6/13, 7/13, 10/14*
Stoke Team
- Confirm Notification of the Rapid Response/Stroke Team
- NIHSS on admission and follow-up 24hrs post presentation by RRT
- Repeat NIHSS prior to if length of stay is less than 24 hrs

Supportive Care and Treatment of Acute Stroke

Assessments
- Neuro Checks and Vital signs as ordered and per patient status.
- Notify physician for:
  - Any signs and symptoms of neurological deterioration, including:
    - Change in level of consciousness- lethargy, sedation, increased confusion, agitation
    - Neurological deficits, new or increased
    - Nausea and vomiting, new onset
    - Headache, new onset or worsening
  - Vital Signs:
    - SBP > 220 or < 110; DBP > 120
*Don’t lower SBP to less than 200 or DBP to less than 100 with medications unless ordered by MD*
    - Heart rate > 100 or < 50
    - Temperature ≥ 100.5 °F
    - O2 sats < 90% on room air or RR > 24
- Goal for blood glucose is <180mg/dL
- Telemetry is recommended for at least 24 hrs to screen for A. Fib and other cardiac arrhythmias.

VTE Prevention: Stroke patients are at high risk for DVT formation
- Complete Daily VTE Assessment
- SCDs unless contraindicated

Activity/Safety
- Nursing Swallow Screen prior to first po intake, including medications.
  If Failed: Keep NPO, notify MD and SLP for swallowing evaluation. If Passed: Implement diet order.
- OOB with assistance, unless contraindicated
- Turn and position at least every 2 hours while in bed if unable to move self
- Complete Daily Fall Risk Assessment

Nursing Screens (nursing-initiated consults that do not require a physician order)
- Case management/Discharge Planner
- Physical Therapy
- Occupational Therapy
- Speech/SLP if Nurse Swallow Screen failed, Speech Impaired or has Cognitive Deficits
- Dietician if new diagnosis of DM, Hgb A1C > 9, or BMI > 30

Patient/Caregiver Stroke Education
- Provide and Review Stroke Education Packet
- Document teaching under ‘patient education’ tab
- Stroke Education Packet should include all of the below:
  - Personalized Risk Factor Modification (Smoking Cessation, DM, HTN, Cholesterol, Sleep Apnea, Obesity)
  - Warning Signs and Symptoms of stroke (FAST)
  - How to call EMS
  - Medication Instructions/Compliance
  - Follow-up Appointment with Physician

Implemented By _______________________, RN  Date/Time ______________________
Nursing Guidelines of Care for the Ischemic Stroke Patient

Inclusion criteria: Ischemic, post 24 hour tPA Ischemic Stroke Patients, and TIA's

Nursing Information Only

- NIHSS (National Institute of Health Stroke Scale) is a noninvasive and valid assessment tool used to evaluate neurological status- reliable predictor of infarct size, location, and stroke severity/disability
  - 0 = No Stroke/No Deficits
  - 1-4 = Minor Stroke/Mild Deficits
  - 5-15 = Moderate Stroke/Moderate Deficits
  - 15-20 = Moderate/Severe Stroke/Major Deficits
  - 21-42 = Severe/Devastating Stroke/Major Deficits
- Elevated blood pressure in patients without a history of HTN may be a result of the stroke and should resolve on its own.
- It may be reasonable goal to lower blood pressure by 15% during the first 24 hours.
- There is evidence to support restarting antihypertensive medications after 24 hours for patients with preexisting HTN if neurologically stable
- Rapid lowering of BP in ischemic stroke patients may cause hypo-perfusion and result in poor patient outcomes.
- Hyperthermia in stroke patients may damage penumbra and increase brain damage.
- Sources for elevated temperature should be identified & treated. Administer antipyretic (ex. Tylenol) as ordered to prevent hyperthermia.
- It is recommended that O2 @ 2-4L/NC should be administered to maintain O2 sats > 94% but a physician order for O2 therapy is required. O2 is NOT recommended for non-hypoxic patients with acute ischemic stroke.
- Persistent hyperglycemia (> 200 mg/dL) in the first 24 hours of acute stroke has been shown to result in worse patient outcomes than those with normoglycemia. Goal for blood glucose < 180mg/dL.
- If glycemic order set is implemented, monitor closely to prevent hypoglycemia (< 60mg/dL).
- Majority of stroke patients will have some sort of swallowing difficulty and may be prone to aspiration pneumonia.
- Cognitive deficits may include being impulsive, unaware of safety risks, poor or short term memory problems etc.
- Monitor for fall risk. Stroke patients may be prone to being impulsive or unaware of deficits, increasing likelihood for falls.

Additional Stroke Resources:

Stroke Resource Center on Nurses Portal
RSFH Ischemic Stroke Algorithm with Roper/MUSC Transfer Agreement in Medical Records
AHA/ASA Guideline: Guidelines for the Early Management of Patients with Acute Ischemic Stroke [http://stroke.ahajournals.org/content/early/2013/01/31/STR.0b013e318284056a.abstract](http://stroke.ahajournals.org/content/early/2013/01/31/STR.0b013e318284056a.abstract)
American Association of Neuroscience Nurses (AANN) Clinical Practice Guidelines @ www.aann.org :
  Guide to the Care of the Hospitalized Patient with Ischemic Stroke
American Heart/American Stroke Association @ www.heart.org
Free NIHSS Certification @ www.ems4stroke.com

Implemented By __________________________ , RN      Date/Time __________________

Reference