**CVA (Stroke) – Non-ICU Intracerebral Hemorrhage 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.

<table>
<thead>
<tr>
<th>Status:</th>
<th>See Initial Order Set - Patient Status already completed by MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dx:</td>
<td>Intracerebral (parenchymal) Hemorrhage</td>
</tr>
</tbody>
</table>

**Consult:**
- ☑ Case Management/Discharge Planner
- ☐ Physiotherapy / Occupational Therapy / Speech Language Pathology
- ☐ Rehab Eval (Inpatient Rehab)
- ☐ Neurologist: ____________________ re: __________________ to see: STAT / TODAY / IN AM
- ☐ Neurosurgeon: ____________________ 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:**
- ☑ Goal SBP (140-160) _________ mmHg
- ☑ Notify MD if SBP > (160) _________ mmHg with medications
- ☑ Do not lower patient’s SBP < (140) _________ mmHg with medications
- ☑ Glucose Control: FSBS upon admission – if > 200mg/dL, repeat in 4hrs. If 2 consecutive FSBG > 200 mg/dL, notify MD
- ☑ Neuro checks q4 h 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)*
- ☑ Place SCDs – VTE Risk Assessment: HIGH – (anticoagulation contraindicated because of high risk of bleeding)

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

**ROUTINE Imaging:** 
Indication = Intracerebral (parenchymal) Hemorrhage

**BRAIN IMAGING** (does not look at vessels in detail)
- ☐ MRI Brain *without* contrast (use if CVA/TIA or stroke like symptoms)
- ☐ 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)

**OTHER VASCULAR IMAGING**
- ☐ Cerebral Angiogram *(MD to contact Interventional Radiologist to discuss)*
  * Recommend that Vascular Head and Neck imaging be ordered at the same time*
- ☑ Head CT *without contrast* (date/time) ____________________________ to follow up Intracerebral Hemorrhage

**MD Signature:**

**RN Signature:**

Reference: AHA/ASA Guidelines for the Mgmt of Spontaneous Intracerebral Hemorrhage Adults, 2010 Update (Stroke 2010;41:2108)
Inclusion criteria: All patients with Subarachnoid and Intracerebral Hemorrhages

**Stroke 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 Hemorrhagic Stroke**

- **Assessment**
  - 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 > 160 or < 140
      - 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

- **VTE Prevention:** High risk for DVT formation; anticoagulation may be contraindicated d/t high risk of bleeding
  - 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.
  - Activity as ordered by the physician
  - 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 Hemorrhagic Stroke Patient

Inclusion criteria: All patients with Subarachnoid and Intracerebral Hemorrhages

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
- Blood pressure should be monitored and controlled to balance the risk of stroke, hypertension-related rebleeding and perfusion to the brain.
- Patients with hemorrhagic strokes may be a greater risk for rebleeding, hydrocephalus, cerebral vasospasms, and seizures.
- Avoiding hypovolemia and hyponatremia is recommended to prevent volume contraction, vasospasms, and increased brain tissue damage.
- 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 < 180 mg/dL.
- If glycemic order set is implemented, monitor closely to prevent hypoglycemia (< 60mg/dL).
- HOB elevation is recommended for patients at risk for ICP & aspiration pneumonia.
- 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
- Follow up CT/MRI of head is recommended at 24 hrs after tPA before starting anticoagulants or antiplatelet therapy.

Additional Stroke Resources

Stroke Resource Center on Nurses Portal

AHA/ASA Guideline: Guidelines for the Management of Aneurysmal Subarachnoid Hemorrhage
http://stroke.ahajournals.org/content/40/3/994.full

American Association of Neuroscience Nurses (AANN) Clinical Practice Guidelines @ www.aann.org

American Heart/American Stroke Association @ www.heart.org

Free NIHSS Certification @ www.ems4stroke.com

Implemented By _______________________, RN Date/Time _______________________

Reference