Suspected Stroke

History
- Previous CVA, TIA's
- Previous cardiac / vascular surgery
- Associated diseases: diabetes, hypertension, CAD
- Atrial fibrillation
- Medications (blood thinners)
- History of trauma
- Sickle Cell Disease
- Immune disorders
- Congenital heart defects
- Maternal infection / hypertension

Signs and Symptoms
- Altered mental status
- Weakness / Paralysis
- Blindness or other sensory loss
- Aphasia / Dysarthria
- Syncope
- Vertigo / Dizziness
- Vomiting
- Headache
- Seizures
- Respiratory pattern change
- Hypertension / hypotension

Differential
- See Altered Mental Status
- TIA (Transient ischemic attack)
- Seizure
- Todd's Paralysis
- Hypoglycemia
- Stroke
  Thrombotic or Embolic (~85%)
  Hemorrhagic (~15%)
- Tumor
- Trauma
- Dialysis / Renal Failure

EMS Stroke Screen Assessment

Blood Glucose Analysis Procedure

Consistent with Acute Stroke?

NO → Exit to Appropriate Protocol(s) ***as indicated***

YES

Determine
1. **Last Known Well Time**
2. **Time of Symptom Discovery**

Time of Onset Or Time Last Seen Normal < 24 Hours?

YES → **Stroke Severity Screen Procedure**

Transport based on:
STROKE
EMS Triage and Destination Plan

Goal Scene Time
≤ 15 Minutes
Provide Early Notification of Destination Facility
Suspected Stroke Alert

Reperfusion Checklist Procedure ***if time allows***

B — 12 Lead ECG Procedure

IV / IO Protocol UP 6
Preferably 2 Sites

A — Venous Access Blood Draw Procedure ***if applicable***

P — Cardiac Monitor

P — **Persistent Hypertension**
If SBP ≥ 185 or DBP ≥ 110
After 3 readings all 5 minutes apart
Contact Receiving Facility
Concerning Treatment of Hypertension

NO

Altered Mental Status Protocol UP 4 ***if indicated***

B — 12 Lead ECG Procedure

IV / IO Protocol UP 6

Age Appropriate Cardiac Protocol(s) ***if indicated***

Head Trauma Protocol TB 5
Multiple Trauma Protocol TB 6 ***if indicated***

Seizure Protocol UP 13 ***if indicated***

Notify Destination or Contact Medical Control

Transport Destination Facility based on:
STROKE
EMS Triage and Destination Plan

- **Refer to plan for Last Known Well Time and Stroke Severity Assessment values**
- **Combination of factors will drive transport destination decision-making based on your region**

Universal Protocol Section

Suspected Stroke

MEND Exam used in Columbus County.

Universal Protocol Section

Pearls

- **Recommended Exam: EMS Stroke Screen and Severity Assessment, Mental Status, Neuro**
- **Items in Red Text are key performance measures used in the EMS Acute Stroke Care Toolkit.**
- **Acute Stroke care is evolving rapidly. Time of onset / last seen normal or well may be changed at any time depending on the capabilities and resources of your regional hospitals based on Stroke: EMS Triage and Destination Plan.**
- **Time of Onset or Last Seen Normal or Well:**
  - **One of the most important items the pre-hospital provider can obtain, of which all treatment decisions are based.**
  - **Be precise in gathering data to establish the time of onset and report as an actual time (i.e. 13:47 NOT "about 45 minutes ago.")**
  - **Without this information patient care may be delayed at facility.**
  - **Wake up stroke: Time starts when patient last awake or symptom free.**
- **Time of Symptom Discovery:**
  - **Time when symptoms of stroke are first noticed by patient or witness.**
- **Sources of information pertaining to Last Known Well time:**
  - **You are often in the best position to determine the actual Time of Onset while you have family, friends or caretakers available.**
  - **Often these sources of information may arrive well after you have delivered the patient to the hospital.**
  - **Delays in decisions due to lack of information may negatively impact care.**
  - **Obtain contact information (phone number and name) of witnesses and give to facility providers.**
- **The Reperfusion Checklist should be completed for any suspected stroke patient as time allows.**
- **If possible place 2 IV sites.**
- **Blood Draw:**
  - **Many systems utilize EMS venous blood samples. Follow your local policy and procedures.**
- The differential listed on the Altered Mental Status Protocol should also be considered.
- Be alert for airway problems (swallowing difficulty, vomiting/aspiration).
- Hypoglycemia can present as a localized neurologic deficit, especially in the elderly.
- Document the Stroke Screen, Stroke Severity Score, and facility notifcation time in the PCR.
- Agencies may use validated pre-hospital stroke screen of choice.
- **Pediatrics:**
  - Strokes do occur in children, they are slightly more common in ages < 2, in boys, and in African-Americans.
  - Newborn and infant symptoms consist of seizures, extreme sleepiness, and using only one side of the body.
  - Children and teenagers symptoms may consist of severe headaches, vomiting, sleepiness, dizziness, and/or loss of balance or coordination.