Pediatric Stroke/CVA/TIA

For suspected stroke or transient ischemic attack (stroke symptoms that resolve rapidly)

**History**
- Last seen normal
- A&O Status and GCS
- Family members phone number
- Previous stroke or TIA or brain hemorrhage
- Major surgery within last 2 weeks
- Signs of active bleeding, including Melena
- Associated diseases (DM, HTN, CAD)
- Atrial fibrillation
- Medications (blood thinners)
- History of trauma
- History of brain tumor, aneurysm, or AVM.

**Signs and Symptoms**
- Altered mental status
- Weakness or paralysis
- Blindness or other sensory loss
- Aphasia or dysarthria
- Syncope
- Vertigo or dizziness
- Vomiting
- Headache
- Seizure
- Respiratory pattern change
- Hypertension/hypotension
- Diplopia or double vision

**Differential**
- See Altered Mental Status
- TIA
- Sepsis
- seizure/Todd’s paralysis
- Hypoglycemia
- Stroke
  - Thrombotic or embolic (~85%)
  - Hemorrhagic (~15%)
- Tumor
- Trauma
- Dialysis or renal failure
- Bell’s Palsy

**Signs and Symptoms**
- Altered mental status
- Weakness or paralysis
- Blindness or other sensory loss
- Aphasia or dysarthria
- Syncope
- Vertigo or dizziness
- Vomiting
- Headache
- Seizure
- Respiratory pattern change
- Hypertension/hypotension
- Diplopia or double vision

**Recent signs and symptoms consistent with Stroke**
- Perform Cincinnati Prehospital Stroke Scale (CPSS)
  - If CPSS screening is positive, then perform mNIHSS (if trained)
  - Temperature measurement
  - Blood glucose analysis
  - Cardiac monitor
  - Establish IV

**CINCINNATI PREHOSPITAL STROKE SCALE**
- consistent with acute Stroke?
  - Yes
    - INITIATE TRANSPORT TO CLOSEST Stanley Hospital or UCSF Mission Bay
    - Notify receiving facility.
    - Consider Base Hospital for medical direction
  - No
    - Consider other causes
    - Monitor and reassess

**Effective November 2018**
**Treatment Protocol P29**
**Effective April 2023**
Pearls

- Pediatric strokes do occur.
- Time last known well: One of the most important items that prehospital providers can obtain, on which all treatment decisions are based. Be **very precise** in gathering data to establish the time of onset and report as an actual time (i.e., “13:45,” NOT “about 45 minutes ago”). Without this information, patients may not be able to receive thrombolytics at the hospital. For patients who “woke up and noticed stroke symptoms,” time starts when the patient was last awake.
- The differential listed on the Altered Mental Status protocol should also be considered.
- Be alert for airway problems (difficulty swallowing, vomiting and aspiration). PO meds are not appropriate.
- Hypoglycemia or hyperglycemia can present as a LOCALIZED neurologic deficit.
- Document the Cincinnati Prehospital Stroke Scale in the EHR.

### Cincinnati Prehospital Stroke Scale

<table>
<thead>
<tr>
<th>Finding</th>
<th>Interpretation</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial Droop</td>
<td>Absent</td>
<td>0 points</td>
</tr>
<tr>
<td></td>
<td>Present</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>Drifts</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>Falls rapidly</td>
<td>2 points</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>0 points</td>
</tr>
<tr>
<td>Arm Weakness</td>
<td>Absent</td>
<td>0 points</td>
</tr>
<tr>
<td></td>
<td>Weak</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>No grip</td>
<td>2 points</td>
</tr>
<tr>
<td>Grip</td>
<td>Normal</td>
<td>0 points</td>
</tr>
<tr>
<td></td>
<td>Weak</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>No grip</td>
<td>2 points</td>
</tr>
</tbody>
</table>

**LAMS Assessment**

- **Normal:** Equal grip in both hands
- **Abnormal:** Unequal grip in one hand
- **Normal:** Both arms move symmetrically
- **Abnormal:** Asymmetrical arm movement
- **Falls rapidly:** some or no effort
- **Normal:** Equal grip in both hands
- **Weak:** Unequal grip in one hand
- **No grip:** no muscle strength or contraction

A LAMS score of **≥ 4** indicates a high likelihood of a LVO stroke.