Notes/Definitions:

- A first time, non-febrile seizure in any age and for any duration is considered a neurological emergency and should be transported to a CCERC.
- **Ischemic Stroke Suspected:**
  - Last seen at usual neurological baseline within the past 24 hours AND one or more of the following new onset neurologic signs:
    - Asymmetric weakness affecting one side of the body in the upper extremity, lower extremity, or both
    - Facial weakness or droop on one side
    - Loss of speech in previously verbal child
    - Responds to verbal or visual stimuli inappropriately for baseline mentation
    - New onset seizure activity that does not meet simple febrile seizure criteria (refer to SO-P-75).
- **Intracranial Hemorrhage Suspected:**
  - Sudden, severe headache with onset in past 24 hours AND one or more of the following:
    - Vomiting (repeated)
    - Neurological deficit (hemi-paresis or weakness, new vision loss, gait problem, or asymmetric pupils without prior eye surgery)
    - Altered mental status (AMS) or lethargy
    - New onset seizure activity that does not meet simple febrile seizure criteria (refer to SO-P-75)

  OR
  - Unable to obtain history of severe headache due to AMS or age AND one or more of the following:
    - Neurological deficit (hemi-paresis or weakness, new vision loss, gait problem, asymmetric pupils without prior eye surgery)
    - New onset seizure activity that does not meet simple febrile seizure criteria (refer to SO-P-75).

Base Hospital Contact Required

BLS Interventions

- Refer to OCEMS General BLS Standing Orders SO-BLS.
- Do not give fluid or solids orally (may be risk for aspiration).

ALS Interventions

- Assess Pediatric Assessment Triangle (PAT)
  - General appearance: tone, interactiveness, consolability, look / gaze, speech / cry
  - Work of breathing: retractions, nasal flaring, abnormal airway sounds, positioning
  - Circulation to skin: pallor, mottling, cyanosis

- When BLS airway management cannot maintain adequate ventilation or oxygenation and criteria met, consider:
  - Supraglottic airway insertion for ≥ 50 kg (PR-135)
  - Endotracheal intubation for > 36 kg (PR-030)
- Apply capnography (EtCO2) as tolerated.
  - Maintain EtCO2 between 35 and 45 mmHg
  - If EtCO2 > 50: ensure proper positioning for adequate ventilation and suction as needed.
  - If no improvement, initiate BVM.
- Obtain the patient's estimated weight utilizing an appropriate length-based resuscitation tape or age-based system.
- For ongoing seizure activity, administer:
  - ▶ **Midazolam 0.2 mg / kg IM** (maximum dose 10 mg).
  - If unable to administer IM or if IV / IO present, administer:
  - ▶ **Midazolam 0.1 mg / kg IN / IV / IO** (maximum dose 5 mg).
  - May repeat IN/IV/IO dose once after 3 minutes.
  - If initial dose is given IM, all subsequent doses must come from the Base Hospital Physician.
- Initiate cardiac monitor as needed. Interpret, monitor, and document rhythm.
- Consider IV / IO access. If hypotensive (refer to Vital Sign table below), administer:
  - ▶ **Normal Saline 20 mL / kg IV / IO** (maximum dose 250 mL).
  - For continued hypotension, may repeat the same dose twice for total of three boluses.
- If hypoglycemic, administer one of the following:
  - ▶ **Glucagon 0.5 mg IM** - once
  - ▶ **10% Dextrose 5 mL / kg IV / IO** (maximum dose 250 mL)
- Assess GCS. Use pediatric GCS for patients aged ≤ 2 years (Refer to B-002).

Transport Consideration

- **Base Hospital Contact** required (CCERC preferred).
- ALS escort to nearest open CCERC.

Additional Considerations

- Refrain from IO and EJ access, if possible, in potential stroke patients due to potential for thrombolytic use. However, these may be used if there are no other options.
- Keep head of bed flat, unless increased ICP is suspected.
- Suspected pediatric stroke patients should be sent to a CCERC regardless of improvement of symptoms or improvement after treating hypoglycemia.

- Document the "last known well" time or onset time of stroke symptoms reported by patient, family, or bystanders. Attempt to get the contact phone number of family or witness to allow receiving CCERC to verify the last known well time.
- Pediatric stroke symptoms can wax and wane. Take the verbalized history into account when triaging.
- Risk factors to consider include the following: history of congenital heart disease, coagulopathy, sickle cell disease, malignancy, autoimmune disorders, down syndrome, acute systemic illness (fever, viral illness, sepsis), head/neck trauma, and oral contraceptives.

Pediatric Vital Signs by Age

Age	Pulse	Systolic Blood Pressure	Respiratory Rate
Neonate (0-30 days)	100-180	> 60	30-60
Infant (31 days - < 1 yr)	100-160	> 60	30-60
Toddler (1 yr - < 3 yrs)	90-150	> 70	24-40
Pre-school (3 yrs - < 5 yrs)	80-140	> 75	22-34
School Aged (5 yrs - < 10 yrs)	70-120	> 80	18-30
Teen (≥ 10 yrs)	60-100	> 90	12-16

Base Hospital

- If initial dose of Midazolam given IM, all subsequent doses must come from a Base Physician.

Cross References:
SO-BLS General BLS Standing Orders
BLS Procedure B-002 (Glasgow Coma Scale Score)
P-065 Pediatric Altered Mental Status
P-075 Pediatric Seizure
ALS Procedure PR-030 Endotracheal Intubation (including EtCO2)
ALS Procedure PR-135 Supraglottic Airway Device Placement – Adult/Adolescent