



ORANGE COUNTY EMERGENCY MEDICAL SERVICES
 Prehospital Standing Orders / Treatment Guidelines
**SUSPECTED ACUTE STROKE OR INTRACRANIAL
 HEMORRHAGE - PEDIATRIC**

#: P-115
 Page: 1 of 3
 Original Date: 05/01/2026
 Revised: _____

Notes:

- 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
<ul style="list-style-type: none"> • Refer to OCEMS BLS Standing Orders B-001. • Do not give fluid or solids orally (may be risk for aspiration).
ALS Interventions
<ul style="list-style-type: none"> • Assess Pediatric Assessment Triangle (PAT) <ul style="list-style-type: none"> ▪ 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

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- 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.
- 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**
 - ▶ **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.

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- Document the “last known well” time or onset of 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-B-001 BLS Standing Orders
- Procedure B-002 Glasgow Coma Scale (Score)
- SO-P-65 Pediatric Altered Mental Status
- SO-P-75 Pediatric Seizure
- Procedure PR-030 Endotracheal Intubation (including ETCO2)
- Procedure PR-135 Supraglottic Airway Device Placement – Adult/Adolescent

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ALS STANDING ORDERS:

1. Cardiac monitor and document rhythm with rhythm strip.
2. Pulse oximetry and, if available, waveform capnography to monitor oxygenation and ventilation.

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If room air oxygen saturation less than 95%:

▶ Apply high-flow oxygen by mask or nasal cannula (direct or blow-by) as tolerated.

If end tidal CO₂ equals 50 or more:

▶ Assist ventilation with BVM.

3. Protect airway, assist ventilation with BVM as required.

4. For signs of poor perfusion or hypotension (BP systolic less than 80):

Age 0-9 years: BP systolic less than 70 + 2 X age in years.

Age 10-14 years: BP systolic less than 90

▶ Establish IV / IO access

▶ Infuse 20 mL / kg Normal Saline IV / IO bolus (maximum 250 mL) and make BH contact. May

repeat

twice for total of 3 boluses as a standing order.

5. Blood glucose analysis, if blood glucose less than 60, administer one of the following:

▶ Oral glucose preparation, if tolerated and airway reflexes are intact.

▶ 10% Dextrose 5 mL / kg IV (maximum 250 mL)

▶ Glucagon 0.5 mg IM if unable to establish IV.

Note: IO access may be used for dextrose administration when patient is unconscious with blood glucose less than 60, unable to establish IV and there is no response to IM glucagon.

6. If respiratory depression (respiratory rate less than or equal to 12 minute) and narcotic toxicity suspected, give:

▶ Naloxone (Narcan ®):

- 0.1 mg / kg IN or IM (maximum 1 mg), may repeat every 3 minutes as needed.
- 0.1 mg / kg IV (maximum 1 mg), every 3 minutes as needed.
- 4 mg / 0.1 mL preloaded nasal spray IN

7. Hypoglycemia in pediatrics is a significant emergency. Contact base hospital (CCERC base preferred) for destination. If unable to contact base, ALS escort to nearest ERC.

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8. Determine if patient meets pediatric stroke criteria (refer to SO-P-115).
9. Reassess and document response to each treatment.
8. ALS escort to nearest appropriate ERC, contact Base Hospital (CCERC base preferred) as needed.

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SEIZURE/CONVULSION - PEDIATRIC

***** BASE HOSPITAL CONTACT REQUIRED *****

ALS STANDING ORDERS:

1. For on-going seizures or recurrent intermittent seizure activity without return of consciousness:
 - ▶ *Turn to side, protect airway, and suction when possible*
 - ▶ *Midazolam 0.2 mg/_kg IM one time (preferred route). Maximum dose 10 mg*
 - ▶ *Midazolam 0.1 mg/_kg IN/_IV/_IO if unable to deliver IM or if IV/IO already present. Maximum dose 5 mg; may repeat dose once for continued seizure activity 3 minutes after initial dose or for recurrent seizure.*
2. Pulse oximetry and, if available, waveform capnography to monitor oxygenation and ventilation.
 - If room air oxygen saturation less than 95%:
 - ▶ *Provide high-flow Oxygen by mask or nasal cannula 6 L/min flow rate (direct or blow-by) as tolerated.*
 - If end tidal CO₂ equals 50 or more:
 - ▶ *Assist ventilation with BVM.*
3. Obtain blood glucose and document finding. If blood glucose is 60 or less, treat patient using an option listed below. If hypoglycemia is suspected and blood glucose is in the range of 60 to 80, treatment based on field impression is appropriate.
 - ▶ *10% Dextrose 5 mL/_kg IV (maximum dose 250 mL).*
 - ▶ *Glucagon 0.5 mg IM if unable to establish IV.*

Note: IO access may be used for dextrose administration when patient is unconscious with blood glucose less than 60, unable to establish IV and there is no response to IM glucagon.
4. Make base contact (CCERC base preferred) for all transported and non-transported patients.
5. ALS escort to nearest appropriate ERC.
6. Determine if patient meets pediatric stroke criteria (refer to SO-P-115).

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TREATMENT GUIDELINES:

- 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.

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SEIZURE/CONVULSION - PEDIATRIC

- A seizure lasting longer than 5 minutes or multiple seizures without recovery or return to normal mental status between episodes is considered status epilepticus and is a neurologic emergency.
- Not all pediatric seizure patients will present with tonic-clonic seizure activity. Subclinical seizure may present as abnormal vital signs, gaze deviation, and clenched jaw.
- Simple Febrile Seizures
 - Ages 6 months to 5 years with fever and seizure activity and typically present as generalized tonic-clonic seizure.
 - These seizures are due to a sudden rise in body temperature that disrupts normal brain activity.
 - A febrile seizure becomes a neurological emergency if the seizure meets the status epilepticus definition. These patients should be directed to a CCERC.

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