Sierra – Sacramento Valley EMS Agency Treatment Protocol	M-6P
Pediatric General Medical Treatment	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/1/2024
Approval: John Poland – Executive Director	Next Review: 07/2027

GENERAL PEDIATRIC TREATMENT PRINCIPLES

- The purpose of this protocol is to provide standing order assessment/treatment modalities for pediatric pt complaints not addressed in other S-SV EMS treatment protocols – including Nausea/Vomiting (Page 2), Brief Resolved Unexplained Event – BRUE (Page 3) & Suspected Shock/Sepsis (Page 4).
- The Neonatal Resuscitation Protocol (C-1N) shall be used for pts during the first 28 days of life.
- Pediatric protocols shall be utilized for pts >28 days up to and including 14 years old.
- Applicable adult protocols may be utilized when there is not a pediatric protocol applicable to the pt's complaint/condition. Prehospital personnel shall consult with the base/modified base hospital for additional direction, if needed, when there is no standing order treatment protocol applicable to the pt's condition.
- A parent/reliable family member reported weight, length-based pediatric resuscitation tape or Handtevy shall be utilized for determining sizes of equipment and defibrillation/cardioversion joule settings. Once weight has been determined, medication dosing shall be based on S-SV EMS pediatric protocols.

NORMAL VITAL SIGNS & HYPOTENSION DEFINITION FOR NEONATAL & PEDIATRIC PATIENTS

Age	Normal Pulse Rate	Normal Resp. Rate	Normal SBP	Hypotension
≤28 days	100 - 205	30 - 50	60 - 80	SBP <60
29 days -12 months	90 - 180	30 - 50	70 - 100	SBP <70
1-2 years	80 - 140	24 - 40	80 - 110	SBP <70 + age x2
3-5 years	65 - 120	20 - 30	90 - 110	SBP <70 + age x2
6-9 years	60 - 120	20 - 30	100 - 120	SBP <70 + age x2
10-14 years	50 - 100	12 - 20	100 - 120	SBP <90

PEDIATRIC PROTOCOLS PROCEDURE/MEDICATION TREATMENT AGE RESTRICTIONS

- **≤28 days old:** Base/modified base hospital order required to administer a fluid bolus (C-1N)
- **<3 years old:** Needle cricothyrotomy is not allowed (PR-3 & R-3P)
- **<4 years old:** Base/modified base hospital order required to administer the following medications:
  - Zofran/Ondansetron for nausea/vomiting (M-6P)
  - Analgesic medications for pain management (M-8P)
  - Midazolam for severe anxiety/combative symptoms (M-11P)
  - PO acetaminophen for febrile symptoms (N-2P & M-6P)
- **<8 years old:** CPAP is not allowed (R-3P)
- **<15 years old:** Base/modified base hospital order required to utilize the following procedures/medications:
  - Transcutaneous pacing for bradycardia (C-3P)
  - Synchronized cardioversion for tachycardia (C-4P)
  - Adenosine for tachycardia (C-4P)

BLS

- Assess V/S, including SpO_2 & temperature (if able)
- O_2 at appropriate rate if pt hypoxemic (SpO_2 <94%), short of breath, cyanotic, or has signs of shock
- Assess and obtain medical history

- Refer to other pages/sections of this protocol for specific treatment modalities as applicable:
  - Nausea/Vomiting - Page 2
  - BRUE - Page 3
  - Suspected Sepsis - Page 4

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- Consider the following additional assessment/treatment modalities, as appropriate based on pt's condition & clinical presentation
  - Cardiac monitor/12-lead EKG
  - $EtCO_2$ monitoring
  - IV/IO NS 20 mL/kg, to max 1000 mL

Nausea/Vomiting

- Nausea/vomiting can be symptoms of a multitude of different causes. If possible, the specific underlying cause should be determined and treated. The use of an antiemetic may relieve symptoms while leaving the cause untreated, and possibly, more difficult to detect. EMS personnel should weigh the benefits of antiemetic use against the possible risk of making an accurate diagnosis more difficult, and the possible side effects of the antiemetic agent.
- Treatment of nausea/vomiting is indicated for pts where it may contribute to a worsening of their medical condition, or where the pt's airway may be endangered.
- EMS personnel may consider administering Zofran (Ondansetron) prophylactically, prior to or immediately after opioid administration, for a pt with a history of nausea/vomiting secondary to opioid administration. Zofran (Ondansetron) may also be administered prior to transport to a pt with a history of motion sickness.

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Zofran (Ondansetron)

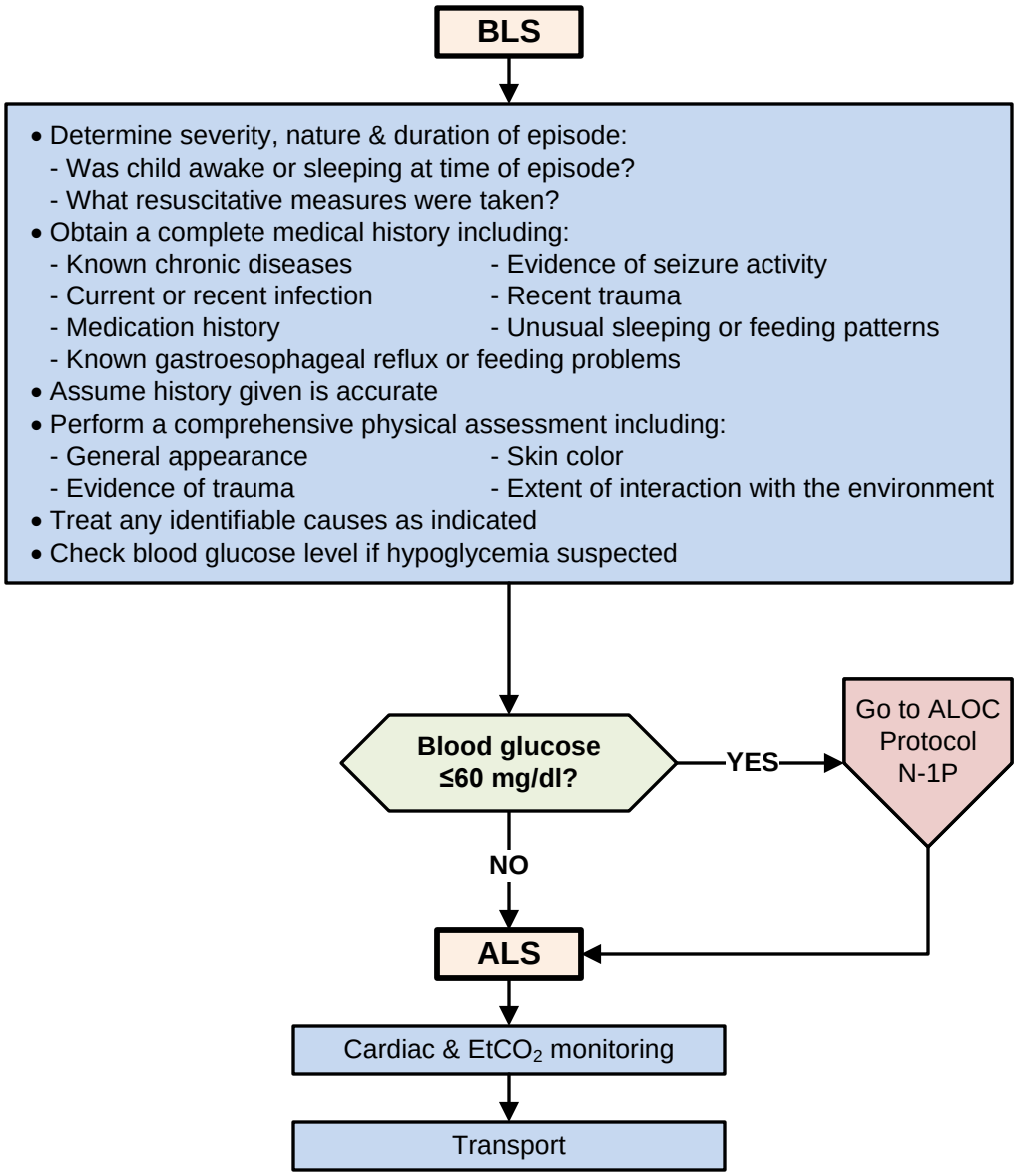
Pts (<4 yo) – BASE/MODIFIED BASE HOSPITAL ORDER ONLY
- 0.15 mg/kg (max. 4 mg) IM, or slow IV/IO (over 60 seconds)

Pts (4 - 14 yo) – Standing Order
- 4 mg oral disintegrating tablet, OR 4 mg IM, or slow IV/IO (over 30 seconds)
- Additional doses require base/modified base hospital consultation

Zofran (Ondansetron) is contraindicated during the first 8 weeks of pregnancy

Brief Resolved Unexplained Event (BRUE)

- Brief resolved unexplained event (BRUE) is an event occurring in an infant younger than one (1) year of age when the observer reports a sudden, brief (lasting <1 min, but typically <20-30 secs), and now resolved episode of any of the following:
  - Cyanosis or pallor
  - Marked change in tone (hyper- or hypotonia)
  - Absent, decreased, or irregular breathing
  - Altered level of responsiveness
- BRUE should be suspected when there is no explanation for a qualifying event after conducting an appropriate history & physical examination.
- All infants ≤1 year of age with possible BRUE should be transported by EMS for further medical evaluation. If the parent/guardian refuses EMS transport, base/modified base hospital consultation is required prior to release.
- EMS personnel shall make every effort to obtain the contact information of the person who witnessed the event, & provide this information to the receiving hospital upon pt delivery.



Suspected Shock/Sepsis

- Shock/Sepsis may be subtle and difficult to recognize.
- Early recognition of sepsis is critical to expedite hospital care and antibiotic administration.
- Septic pts are susceptible to traumatic lung injury. If BVM ventilation is necessary, avoid excessive tidal volumes.
- Obtain history including:
  - Onset and duration of symptoms
  - Fluid loss (vomiting/diarrhea)
  - Fever/Infection/Trauma/Ingestion
  - History of allergic reaction/cardiac disease or rhythm disturbance

Compensated Shock Signs/Symptoms:

- Tachycardia
- Cool extremities
- Weak peripheral pulses compared to central pulses
- Normal blood pressure

Decompensated Shock Signs/Symptoms:

- Hypotension &/or bradycardia (late findings)
- Altered mental status
- Decreased urine output
- Tachypnea
- Non-detectable distal pulses with weak central pulses