ORANGE COUNTY EMERGENCY MEDICAL SERVICES
BASE HOSPITAL TREATMENT GUIDELINES
PEDIATRIC

SEIZURE

BASE GUIDELINES

- Determine ALS Standing Order treatments/procedures rendered prior to base hospital contact. Use ALS standing order as guidelines for treatments/procedures not initiated prior to base hospital contact.
- If initial dose of Midazolam is given IM, all subsequent doses must be ordered by the Base Physician.
- Avoid use of oral glucose as material placed in mouth may be aspirated if recurrent seizure occurs.

TREATMENT GUIDELINES:

- A seizure lasting longer than 5 minutes or multiple seizures without recovery or return to baseline in between episodes are considered status epilepticus and is a neurological emergency.
- Not all pediatric seizure patients will present with tonic-clonic seizure activity. Subclinical seizures may present as abnormal vital signs, gaze deviation and clenched jaw. Abnormal vital signs include:
    1. Hypoventilation (shallow and/or slow respirations for age)
    2. Tachycardia for age
    3. Hypoxia
- Differential diagnoses to consider:
    1. Infection: Febrile seizure (occurs in children 6 months to 5 years and is accompanied by a fever >100.4 °F.
    2. Intracerebral hemorrhage
    3. Stroke
    4. Brain tumor
    5. Subtherapeutic level of antiepileptic medication/break-through seizure
    6. Non-accidental trauma
    7. Metabolic disturbances
    8. Epilepsy
- Post-ictal patients with a low GCS (<9) need careful airway monitoring.

ALS STANDING ORDER

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*** *once* (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/or waveform capnography to monitor oxygenation/ventilation.
   If room air oxygenation 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 CO_2 equals 50 or more:
    - ▶ *Assist ventilation with BVM*

3. Obtain a 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 a blood glucose less than 60, unable to establish IV and there is no response to glucagon.

4. Base hospital contact (CCERC Base preferred) for all transported and non-transported patients.

5. ALS escort to nearest appropriate ERC.

Approved: Carl Schultz, MD

SEIZURE

- Pediatric GCS (Procedure B-02):

Variable	Description	Score
Eye Opening	Eyes opening spontaneously	4
	Eyes opening to sound	3
	Eyes opening in response to painful stimulus	2
	No eye opening	1
Verbal Response	Smiles, oriented to sounds, follows objects, interacts, coos	5
	Irritable cries and inappropriate interactions	4
	Cries in response to pain	3
	Inconsolable and moans in response to pain	2
	No verbal response	1
Motor Response	Infant moves spontaneously or purposefully	6
	Infant withdraws form touch	5
	Infant withdraws from pan	4
	Abnormal flexion to pain for an infant (decorticate response)	3
	Extension to pain (decerebrate response)	2
	No motor response	1
Maximum Score		15

TREATEMENT GUIDELINES:

- 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.

Approved: Carl Schultz, MD

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