

## B. ALTERED MENTAL STATUS: SEIZURES

### 1. Inclusion Criteria

Seizures are a neuromuscular response to an underlying cause such as: epilepsy, hypoxia, hypoglycemia, hypoperfusion, head injury, CVA, alcohol or drug abuse. Consider recent history of possible illness, infection, fever, or stiff neck.



DO NOT ATTEMPT TO FORCE ANY DEVICE INTO THE PATIENT'S MOUTH IF THE PATIENT IS STILL SEIZING.



### 2. Treatment




- a) If the patient is still seizing:
  - (1) DO NOT RESTRAIN.
  - (2) Protect from further injury.
  - (3) Consider underlying cause of seizure.
- b) When seizure activity has stopped:
  - (1) Identify and treat injuries.
  - (2) If patient is a known diabetic, glucose paste (10–15 grams) should be administered between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.



- c) Use glucometer and treat accordingly.
- d) Consider midazolam.
  - (1) If patient has no IV or IO in place or IV/IO is not available: Administer midazolam 5 mg IN or IM.
  - (2) If IV/IO is already in place: 0.1 mg/kg in 2 mg increments SLOW IVP/IO over 1–2 minutes per increment with maximum single dose 5 mg.



REDUCE BY 50% FOR PATIENTS 69 YEARS OR OLDER.

- (3)  Additional doses up to a maximum total dose of 10 mg require medical consultation for all clinicians.
- (4) If patient seizures are refractory to treatment, consider IO administration of midazolam.
- (5) If midazolam is not available, consider diazepam in 2.5 mg increments SLOW IVP/IM. Maximum total dose 10 mg. If patient is in status, consider IO administration of diazepam.
  - (a)  IM administration requires all clinicians to obtain medical consultation. If suspected severe nerve agent exposure, clinicians may administer midazolam 5 mg IM or diazepam (CANA) without medical consultation.
- (6) Establish IV/IO access with LR.
- (7) If patient is pregnant, actively seizing, consider magnesium sulfate 4 grams IV/IO over 10 minutes (mixed in 50–100 mL of approved diluent).
  - (a)  If seizures persist, consult for second dose of magnesium sulfate.

## B. ALTERED MENTAL STATUS: SEIZURES (Continued)



IF PATIENT IS PREGNANT, USE MIDAZOLAM FOLLOWED BY MAGNESIUM SULFATE. MEDICAL CONSULTATION REQUIRED FOR PREGNANT PATIENTS WHO MAY REQUIRE LARGER DOSES OF MIDAZOLAM TO CONTROL SEIZURES.



IF, FOLLOWING ADMINISTRATION OF MAGNESIUM SULFATE, PATIENT EXHIBITS SIGNS OF TOXICITY, CONSIDER ADMINISTRATION OF CALCIUM CHLORIDE. CONSIDER CALCIUM CHLORIDE 500 MG IVP FOR RESPIRATORY DEPRESSION, DECREASED REFLEXES, FLACCID PARALYSIS, AND APNEA FOLLOWING MAGNESIUM SULFATE ADMINISTRATION. MEDICAL CONSULTATION REQUIRED.




- e) If the patient is still seizing:
  - (1) DO NOT RESTRAIN.
  - (2) Protect from further injury.
  - (3) Consider underlying cause of seizure.
- f) When seizure activity has stopped:
  - (1) Identify and treat any injuries.
  - (2) If patient is a known diabetic, glucose paste (10–15 grams) should be administered between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.




- g) Use glucometer and treat accordingly.
- h) ALS clinicians may assist patients with the administration of their prescribed benzodiazepine.
- i) Consider midazolam for seizures lasting greater than 10 minutes.
  - (1) If patient has no IV or IO in place or IV/IO is not available: Administer midazolam 0.2 mg/kg IN or IM. Maximum total dose 5 mg.
  - (2) If IV or IO is already in place: Administer midazolam 0.1 mg/kg in 2 mg increments SLOW IVP over 1–2 minutes. Maximum total dose 5 mg.



FOR A CHILD ACTIVELY SEIZING, ADMINISTER MIDAZOLAM IN/IM AND RESERVE IO FOR LIFE-THREATENING ILLNESS

- (3)  Additional doses of midazolam up to a maximum total dose of 5 mg require medical consultation for all clinicians.
  - (4) If patient's seizures are refractory to treatment, consider IO administration of midazolam.
  - (5) If midazolam is not available, consider diazepam for seizures lasting greater than 10 minutes (paramedic may perform without consult for patients with active seizures).
    - (a) Up to 0.2 mg/kg diazepam rectal; maximum total dose 10 mg.
- OR**
- 0.1 mg/kg in 2.5 mg increments SLOW IVP/IO/IM; maximum total dose 5 mg.

## B. ALTERED MENTAL STATUS: SEIZURES (Continued)

- (b)  IM requires all clinicians to obtain medical consultation. If suspected severe nerve agent exposure, clinicians may administer midazolam as above or diazepam (CANA) without medical consultation.
- (6) Establish IV/IO access with LR.
- (7) If patient is pregnant, actively seizing, consider magnesium sulfate 4 grams IV/IO over 10 minutes (mixed in 50–100 mL of approved diluent).
- (8) Administer fluid bolus, if appropriate, 20 mL/kg of LR IV/IO.

## C. ALTERED MENTAL STATUS: UNRESPONSIVE PERSON

### 1. Inclusion Criteria

Patients may exhibit confusion, focal motor sensory deficit, unusual behavior, unresponsiveness to verbal or painful stimulus.




ALCOHOL CAN CAUSE ALTERED MENTAL STATUS BUT IS NOT COMMONLY A CAUSE OF TOTAL UNRESPONSIVENESS TO PAIN.



### 2. Treatment

- a) Obtain pulse oximetry, if available.
- b) Administer glucose paste (10–15 grams) between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.
- c) **If patient has respiratory depression with decreased LOC, constricted pupils, and clinician suspects an opioid/narcotic overdose:**  
Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.




- d) **If patient has respiratory depression with decreased LOC, constricted pupils, and clinician suspects an opioid/narcotic overdose:**  
Administer naloxone 0.4–2 mg IVP/IO (titrated)/IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. Repeat as necessary to maintain respiratory activity.
- e) Establish IV access with LR.  
Administer fluid bolus, if appropriate.  
20 mL/kg of LR IV
- f) Titrate to a systolic pressure of 90 mmHg.
- g) Consider obtaining blood sample using closed system.
- h) Use glucometer and treat accordingly.
- i) Consider an additional dose of naloxone.
- j)  Consider additional fluid administration  
Maximum 2,000 mL without medical consultation.

### C. ALTERED MENTAL STATUS: UNRESPONSIVE PERSON (Continued)



- k) Obtain pulse oximetry if available.
- l) Administer glucose paste (10–15 grams) between the gum and cheek. Consider single additional dose of glucose paste if not improved after 10 minutes.
- m) **If patient has respiratory depression with decreased LOC, constricted pupils, and clinician suspects an opioid/narcotic overdose:**  
Aged 28 days to adult: Administer naloxone 2 mg IN, dividing administration of the dose equally between the nares to a maximum of 1 mL per nare, **OR** administer 4 mg/0.1 mL IN in one nare.



- n) **If patient has respiratory depression with decreased LOC, constricted pupils, and clinician suspects an opioid/narcotic overdose:**  
**Aged 28 days to adult:** Administer 0.1 mg/kg IVP/IO (titrated) IM/IN (if delivery device is available, divide administration of the dose equally between the nares to a maximum of 1 mL per nare); **OR** administer 4 mg/0.1 mL IN in one nare. May be repeated as necessary to maintain respiratory activity. ET dose: 0.2–0.25 mg/kg.
- o) Consider repeating naloxone.
- p) Establish IV/IO access with LR.
  - (1) If age-related vital signs and patient's condition indicate hypoperfusion, administer initial fluid bolus of 20 mL/kg LR IV/IO.  
If patient's condition does not improve, administer the second bolus of fluid at 20 mL/kg LR IV/IO.  
**OR**  
For volume-sensitive children administer initial fluid bolus of 10 mL/kg LR IV/IO. If patient's condition does not improve, administer the second bolus of fluid at 10 mL/kg LR IV/IO.  
  
Volume-sensitive children include: neonates (birth to 28 days), children with congenital heart disease, chronic lung disease, or chronic renal failure.
  - (2) Consider obtaining blood sample using closed system.
- q) Use glucometer and treat accordingly.
- r)  Third and subsequent fluid boluses at 20 mL/kg IV/IO except in volume-sensitive children, then bolus at 10 mL/kg.