



**MICHIGAN  
State Protocols**

**Protocol Number**

**Protocol Name  
Adult Treatment Protocols  
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### **Altered Mental Status**

The purpose of this protocol is to provide for the assessment and treatment of patients with altered mental status. Consideration should be given to treatable and reversible causes due to hypoglycemia, opioid overdose or unknown etiology.

1. Follow **General Pre-hospital Care Protocol**.
2. **If patient is not alert or vital signs are unstable:**
  - a. Evaluate and maintain airway, provide oxygenation and support ventilations as needed per **Emergency Airway Procedure**.
  - b. If no suspected spinal injury, place the patient in recovery position.
3. If respiratory depression is present due to suspected opioid overdose, administer Naloxone per **Naloxone (Narcan®) Medication Section**.
4. Restrain patient if necessary, refer to **Patient Restraint Procedure**.
5. For a known diabetic, consider small amounts of oral glucose if unable to measure blood glucose level.



6. If the patient is demonstrating signs of hypoglycemia, measure blood glucose level.
  - a. If less than 60 mg/dL, administer oral glucose.

**MCA Approval of Blood Glucose Testing by specific MFR Agencies**  
**(Provide participating agency list to BETP)**

YES

NO



7. If glucose is less than 60 mg/dL, and patient is demonstrating signs of hypoglycemia:
  - a. Administer IV Dextrose 50% (25 gms) or small amounts of oral glucose.
  - b. Per MCA selection, if unable to start IV, when IV Dextrose is indicated, administer Glucagon.

**Glucagon 1mg IM**

Included

Not Included

8. Recheck the blood glucose 10 minutes after glucose/Glucagon administration (Per MCA selection).
9. Contact medical control.



**Oakland County Medical Control Authority**  
**ADULT TREATMENT**  
**STROKE OR SUSPECTED STROKE**

Revised Date: October, 2018

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***Stroke or Suspected Stroke***

1. Follow **General Pre-hospital Care Protocol**.
2. If the patient presents with a new onset neurological complaint, utilize the Cincinnati Pre-hospital Stroke Scale (CPSS) to screen for stroke:
  - A. **Facial palsy:** Ask the patient to show you their teeth or smile.
  - B. **Arm weakness:** Ask the patient to extend both arms with palms up out in front of them, close their eyes, and hold them there for a count of 10.
  - C. **Speech changes:**
    - a. Check for slurred speech (**dysarthria**) or an inability to speak (**aphasia**) by asking the patient to repeat a simple phrase, for example, "The sky is blue in Michigan."



***Any deficit in the CPSS is considered positive for stroke.***

- D. **Time:** If signs of stroke are present, identify and document the **date and time**:
        - a. The patient was last known well.
        - b. Signs and symptoms of stroke were first discovered.
3. Establish a differential diagnosis of stroke by attempting to rule out stroke mimics. Common stroke mimics include:
  - A. Hypoglycemia, if blood glucose less than 60 mg/dL treat per **Altered Mental Status Protocol, 3-1**.
  - B. If seizure, follow **Seizure Protocol, 3-4**.
  - C. Drug and/or ETOH intoxication
  - D. Migraines
  - E. Infection
4. Attempt to identify if the patient is taking blood thinner medications.
  - A. Document the name of the medication and the date and time of the patient's last dose.
5. **All stroke patients with a new onset of stroke signs and symptoms of  $\leq 24$  hours are Priority 1 patients! Minimize scene time, ideally  $< 15$  minutes.**
  - A. Limit on-scene treatment to critical interventions only.
  - B. Use minimum O<sub>2</sub> necessary to maintain SPO<sub>2</sub> of  $\geq 94\%$ .
  - C. If stroke is suspected, position patient supine to support collateral blood flow.

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**ADULT TREATMENT**  
**STROKE OR SUSPECTED STROKE**

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6. Provide a “**STROKE ALERT**” as soon as possible once a differential diagnosis of stroke is established. Pre-hospital notification will include:
  - A. Clearly state, “**STROKE ALERT**”, when contacting the receiving stroke center and provide the following information:
    - a. List of neuro deficits
    - b. Last-known-well date and time
    - c. Date and time of symptom discovery
    - d. Blood thinner usage:
      1. Include name of medication and date/time of last dosage, if available
    - e. Vital signs
    - f. Estimated time of arrival (ETA)
  
7. Assure the following key elements are documented in your patient care report (PCR):
  - A. List and describe the neuro deficits.
  - B. Last known well date and time.
  - C. Date and time of sign and symptom discovery.
  - D. Blood thinner medication name, as well as the date and time of last dosage.
  - E. Next of kin information (name and phone), if available.
  
-  8. Initiate vascular access. **DO NOT delay scene time for IV.**
  - A. An 18 gauge IV in either AC vein is preferred.
  
-  9. 12-lead ECG. **DO NOT delay scene time to obtain a 12-lead ECG.**

**Oakland County Medical Control Authority**  
**ADULT TREATMENT**  
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***Respiratory Distress***

1. Follow **General Pre-hospital Care Protocol**.
2. Allow patient a position of comfort.
3. **Determine the type of respiratory problem involved**

**CLEAR BREATH SOUNDS:**

-  1. Possible metabolic problems, MI, pulmonary embolus, hyperventilation
2. Obtain 12-lead ECG.



**ASYMMETRICAL BREATH SOUNDS:**

-  1. If evidence of tension pneumothorax and patient unstable, consider decompression (refer to **Pleural Decompression Procedure**)

**STRIDOR/UPPER AIRWAY OBSTRUCTION:**

1. Complete Obstruction:
  - A. Follow **Emergency Airway Procedure**.
2. Partial Obstruction: epiglottitis, foreign body, anaphylaxis:
  - A. Follow **Emergency Airway Procedure**.
  - B. Consider anaphylaxis (see **Anaphylaxis/Allergic Reaction Protocol**).
  - C. Transport in position of comfort.


**RHONCHI (SUSPECTED PNEUMONIA):**

1. Sit patient upright.
-  2. Consider CPAP per MCA selection. Refer to **CPAP/BiPAP Procedure**.
-  3. Consider NS IV/IO fluid bolus up to 1 liter, wide open if tachycardia, repeat as needed.

**CRACKLES (CHF/PULMONARY EDEMA):**

1. Refer to the **Pulmonary Edema/CHF** protocol in the adult cardiac protocols.

**WHEEZING, DIMINISHED BREATH SOUNDS (ASTHMA, COPD):**

1. Assist the patient in using their own Albuterol Inhaler, if available
-  2. Administer Albuterol if available. Refer to **Nebulized Bronchodilators Procedure**.
3. Consider CPAP per MCA selection. Refer to **CPAP/BiPAP Procedure**.
4. Administer 0.3 mg (0.3 ml) Epinephrine 1 mg/mL IM OR via Adult Epinephrine auto-injector in patients with impending respiratory failure unable to tolerate nebulizer therapy.

**MCA Approval of Epinephrine auto-injector for select MFR Agencies:**

YES    NO

**MCA Approval of OCMCA Epi-Kits for select BLS MFR licensed units:**

YES    NO

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5. Administer Bronchodilator per **Nebulized Bronchodilators Procedure**.
6. Per MCA Selection, if a second nebulized treatment is needed, administer Prednisone **OR** Methylprednisolone.

**Medication Options:**

**Prednisone 50**  
**mg tablet PO**

YES       NO

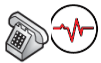
**Methylprednisolone**  
**125 mg IV**

YES       NO

7. For MCA with both selected, Prednisone PO is the preferred medication. Methylprednisolone is secondary and reserved for when a patient can't take a PO medication.



8. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**.

**Asthma:**




1. Consider repeat Epinephrine 1mg/ml, 0.3 mg (0.3 ml) IM in patients with impending respiratory failure unable to tolerate nebulizer therapy.
2. Consider Magnesium Sulfate 2gms slowly IV in refractory Status Asthmaticus. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 to 250 ml of NS and infusing over approximately 10 minutes.

## Seizures

1. Follow **General Pre-hospital Care Protocol**.
2. **IF PATIENT IS ACTIVELY SEIZING:**
  - A. Protect patient from injury.
  - B. Do not force anything between teeth.
  -  C. Administer Midazolam 10 mg IM prior to IV start.
  -  D. If blood glucose is found to be less than 60 mg/dL or hypoglycemia is suspected:
    - a. Administer Dextrose 25 gm IV.
    - b. If no IV access, per MCA selection, administer glucagon 1 mg IM

**Glucagon included?**

Yes  No

-  E. If patient is pregnant (eclampsia)
  - a. Administer Magnesium Sulfate 2 gm over 10 minutes IV/IO until seizure stops. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.
  - b. If eclamptic seizure does not stop after magnesium, then administer benzodiazepine as specified below.
- F. If IV already established and Midazolam IM has not been administered, administer
  - a. Midazolam 5 mg IV/IO **OR**
  - b. Lorazepam 2 mg slow IV push until seizure stops, per MCA selection.


**Medication Options:**


**(Choose One)**

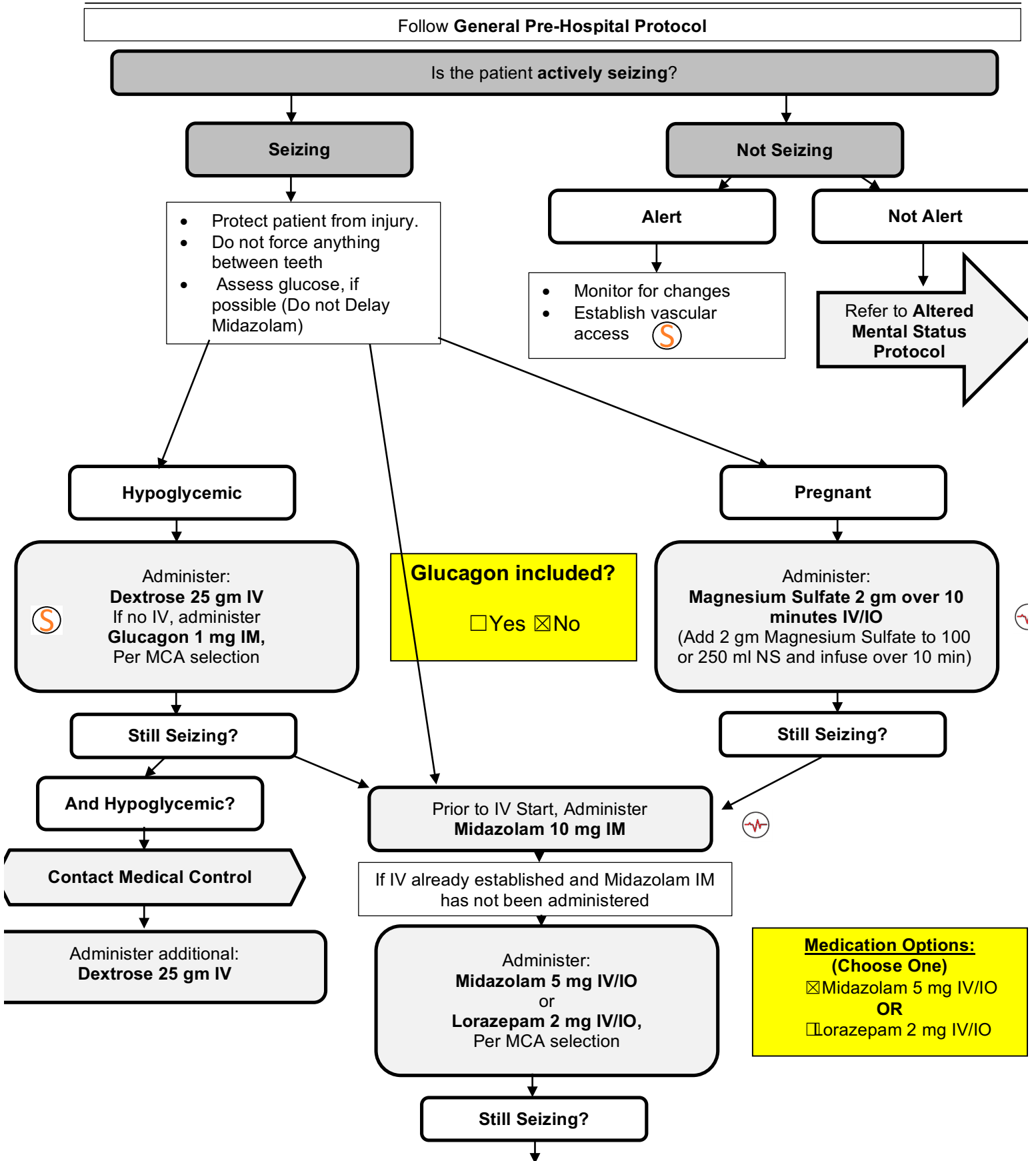
Midazolam 5 mg IV/IO

**OR**

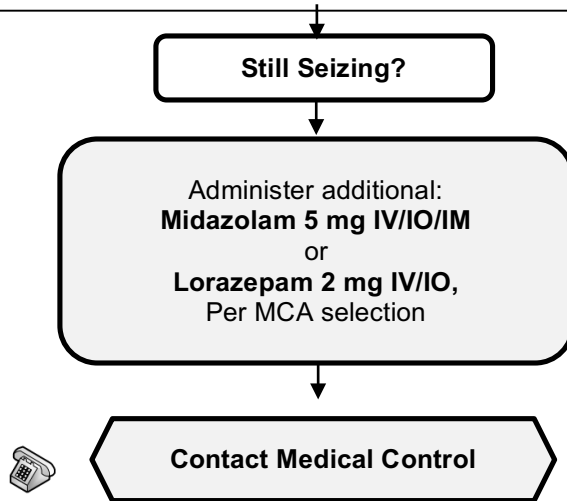
Lorazepam 2 mg IV/IO

- G. If seizures persist
  - a. Per MCA selection, repeat Midazolam 5mg IV/IO/IM **OR**
  - b. Lorazepam 2 mg slow IV push until seizure stops
  -  c. Contact medical control

3. **IF PATIENT IS NOT ACTIVELY SEIZING** and has/is:
  - A. Altered level of consciousness, refer to **ALTERED MENTAL STATUS PROTOCOL**.
  - B. Alert
    - a. Monitor for changes
    -  b. Obtain vascular access.









## **Sepsis**

It is the purpose of this policy to recognize and treat sepsis early to promote optimal care and survival of patients who may be septic. This protocol applies to patients 14 years and above with a clinical suspicion of systemic infection who have 2 or more of the inclusion criteria. These patients are defined as meeting criteria for suspicion of sepsis and should be evaluated and treated per this protocol.

### **INCLUSION CRITERIA**

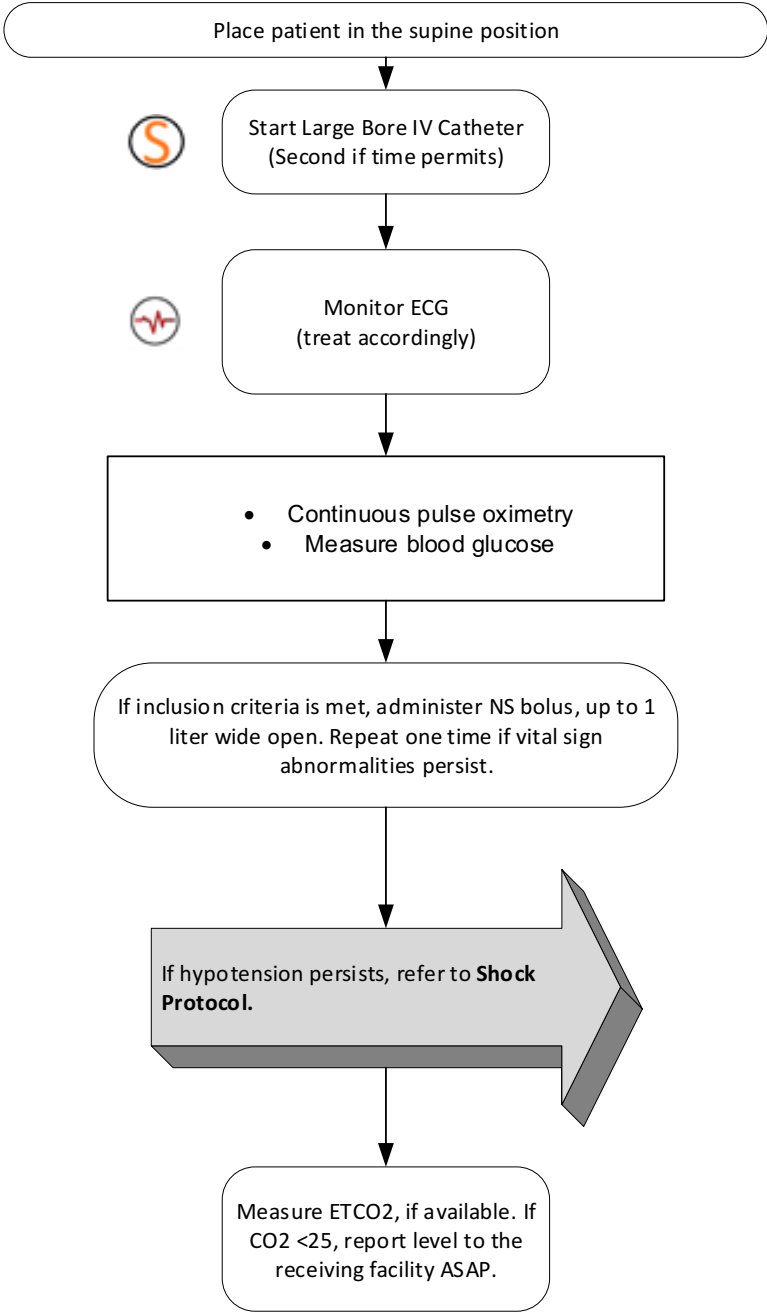
1. Clinical suspicion of systemic infection, and two or more of the following:
  - A. Hyperthermia temp  $>38^{\circ}\text{C}$  (100.4 F)
  - B. Hypothermia temp  $<36^{\circ}\text{C}$  (96.8 F)
  - C. Heart rate  $>90\text{bpm}$
  - D. Respiratory rate  $<10$  or  $>20$  per minute
  - E. SBP  $<90$  mmHg or evidence of hypoperfusion

### **Treatment**

1. Follow **General Pre-Hospital Care** protocol.
2. Place patient in supine position.
-  3. Start large bore IV catheter.
4. Start second large bore IV catheter, if time permits.
-  5. Place on cardiac monitor and treat rhythm according to appropriate protocol.
6. Place on continuous pulse oximetry.
7. Measure blood glucose.
8. If the patient meets inclusion criteria, administer a NS IV/IO fluid bolus up to 1 liter, wide open. Reassess the patient, repeat boluses to a maximum of 2 L NS as long as vital sign abnormalities persist.
9. If hypotension persists, refer to **Shock Protocol**.
10. **(Optional)** Measure ETCO<sub>2</sub> level. If CO<sub>2</sub>  $< 25$ , report level to the receiving facility as soon as possible.

Follow **General Prehospital Care Protocol**




- Clinical suspicion of systemic infection and two or more of the following:
- **Hyperthermia temp > 38 ° C (100.4° F)**
  - Hypothermia temp < 36° C (96.8° F)
  - Heart rate >90bpm
  - Respiratory rate <10 or >20 per minute
  - SBP <90 mmHg or evidence of hypoperfusion



## ***Excited Delirium***

Indications: Patient who is an imminent physical threat to personnel and/or themselves.

### **Treatment**

1. Ensure ALS response
2. Follow **General Pre-hospital Care Protocol**
3. Coordinate with on scene law enforcement before any physical patient contact. Refer to **Patient Restraint Procedure**.
4. Obtain history when possible and perform a visual patient assessment looking for symptoms of ExDS. If an alternate cause of the behavior is likely, transition to the **Altered Mental Status Protocol**.
-  5. If the patient remains combative, following restraint by law enforcement:
  - a. Administer Ketamine 4mg/kg IM (500 mg maximum dose). If unavailable, administer Midazolam 10 mg IM.
  - b. If cocaine or other stimulant is suspected (methamphetamine), consider Midazolam 10 mg IM as an alternative to Ketamine.
6. Obtain temperature
  - a. If hyperthermic, provide cooling – ice packs to neck, axilla and groin; fluids to skin
7. Provide fluid bolus of up to 2 L of NS
8. Restrain patient per the **Patient Restraint Procedure** in anticipation of the sedation wearing off.
-  9. If after 10 minutes additional medication is desired, contact medical control for guidance.
10. Evaluate for other causes of Altered Mental Status including: **Alcohol, Epilepsy/Seizure, Insulin, Overdose, Uremia/Under dose, Cardiac, Hypoxia, Environment, Stroke, Sepsis, Trauma, Ingestion, Psych, Phenothiazines, Salicylates**
11. Monitor patient. Consider 12-lead ECG for evidence of hyperkalemia (peaked T waves, prolonged PR, widened QRS).
12. If suspected hyperkalemia, administer Calcium Cl 1 g (1 g/10 mL) and Sodium Bicarbonate 50 mEq (50 mEq/50 mL) IV/IO.
13. Monitor capnography, if possible
-  14. Additional sedation as needed, per **Patient Sedation Procedure**.