



**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 Administration Procedure**.
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 25 gm.
 - b. Per MCA selection, if unable to start IV, when IV Dextrose is indicated, administer Glucagon.

Glucagon 1mg IM

Included

Not Included

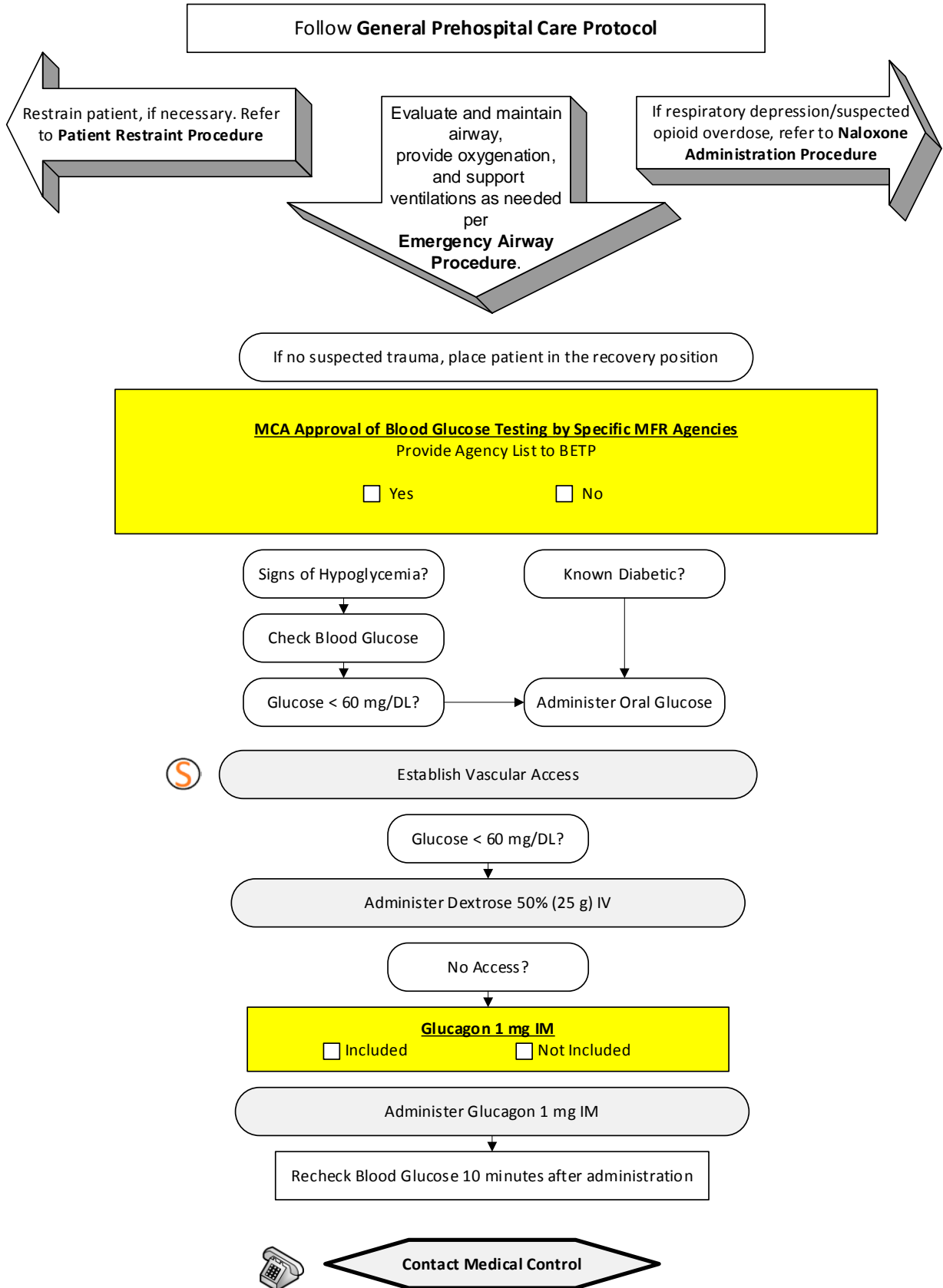


8. Recheck the blood glucose 10 minutes after glucose/Glucagon administration (Per MCA selection).
9. Contact medical control.

**Michigan
ADULT TREATMENT
ALTERED MENTAL STATUS**

Initial Date: 11/15/2012
Revised Date: 01/26/2017

Section 3-1



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Protocol Source/References:

Stroke or Suspected Stroke

1. Follow **General Pre-hospital Care Protocol**.
2. Utilize the Cincinnati Pre-hospital Stroke Scale (CPSS). Try to elicit the following signs:
 - A. Facial droop (have patient show teeth or smile)
 - B. Arm drift (have patient close eyes and hold both arms straight out for 10 seconds)
 - C. Abnormal speech (have patient say “the sky is blue in Michigan”)

Any deficit in the CPSS is considered positive for stroke.



3. 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

- b. Treat per **Altered Mental Status Protocol**.
4. If seizure, follow **Seizures Protocol**.
5. Document time last seen normal for patient, if known.
6. Minimize scene time, notify destination hospital as soon as possible and begin transport.
7. Initiate vascular access. (**DO NOT** delay scene time for IV.)
8. Monitor ECG. (**DO NOT** delay scene time for ECG monitoring.)

Michigan ADULT TREATMENT STROKE OR SUSPECTED STROKE

Initial Date: 5/31/2012
Revised Date: 10/25/2017

Section 3-2

Follow **General Prehospital Care Protocol**

- Utilize the Cincinnati Pre-hospital Stroke Scale. Try to elicit the following signs:
- **Face** – facial droop present (have patient show teeth or smile)
 - **Arm** – arm drift present (have patient close eyes and hold arms straight out for 10 seconds)
 - **Abnormal Speech** – (have the patient say “The sky is blue in Michigan.”)

MCA Approval of Blood Glucose Testing by Specific MFR Agencies
Provide Agency List to BETP

Yes No

Obtain blood glucose measurement




←

If the patient seizes, go to **Seizures Protocol**

→

If blood glucose is <60 mg/dL, treat per **Altered Mental Status Protocol - Adult**

- Document time last seen normal for patient, if known.
 - Minimize scene time, notify destination hospital as soon as possible and begin transport.
- 



Initiate Vascular Access
(Do not delay scene time)




Monitor ECG
(Do not delay scene time)

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 Epinephrine auto-injector (0.3 mg) in patients with impending respiratory failure unable to tolerate nebulizer therapy.
-  5. Administer Bronchodilator per **Nebulized Bronchodilators Procedure**.

6. Administer Epinephrine 1 mg/ml, 0.3 mg (0.3 ml) IM in patients with impending respiratory failure unable to tolerate nebulizer therapy.
7. 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

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

Asthma:



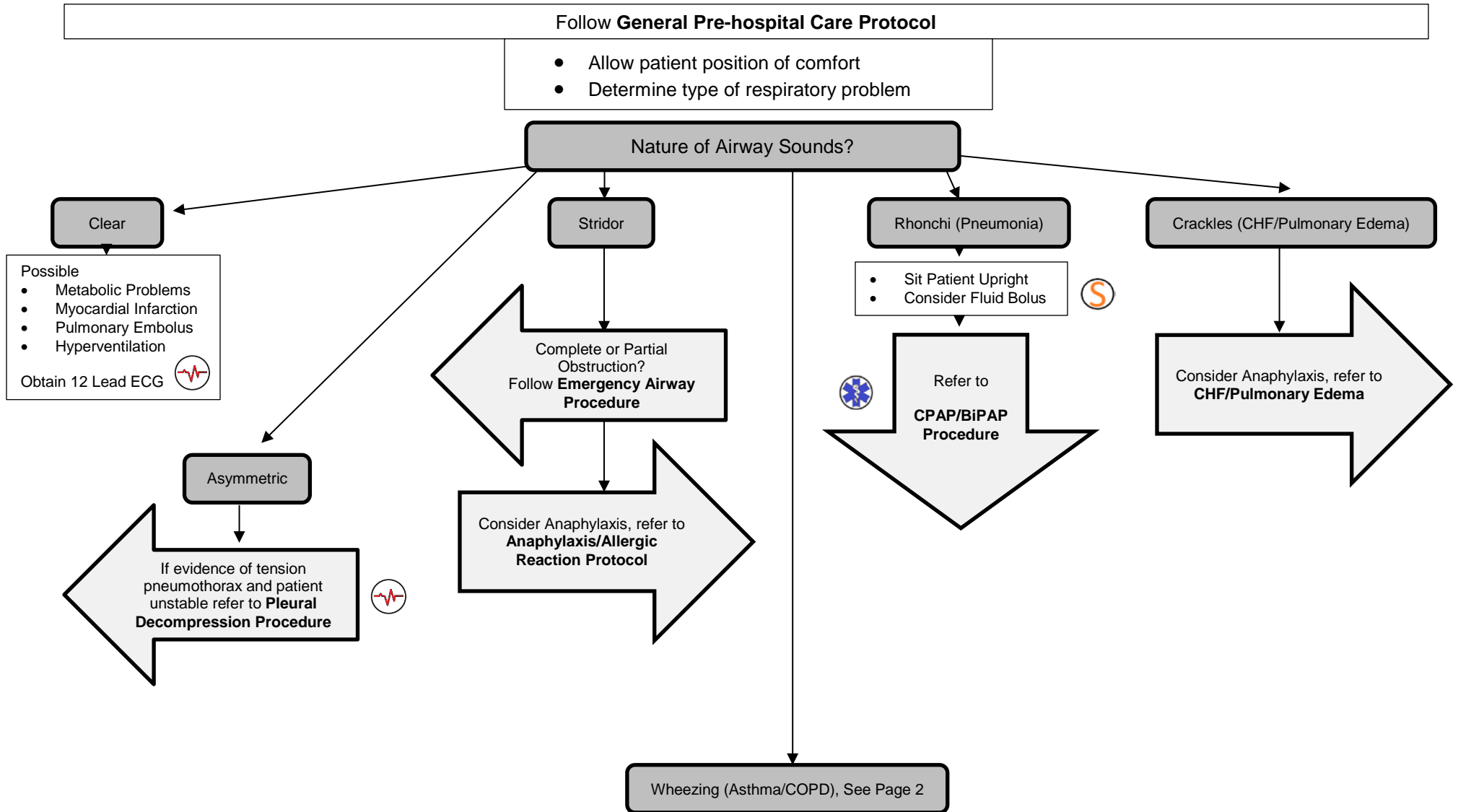
10. Consider repeat Epinephrine 1mg/ml, 0.3 mg (0.3 ml) IM in patients with impending respiratory failure unable to tolerate nebulizer therapy.
11. Consider Magnesium Sulfate 2gms slowly IV in refractory Status Asthmaticus. Administration of Magnesium Sulfate is best accomplished by adding Magnesium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

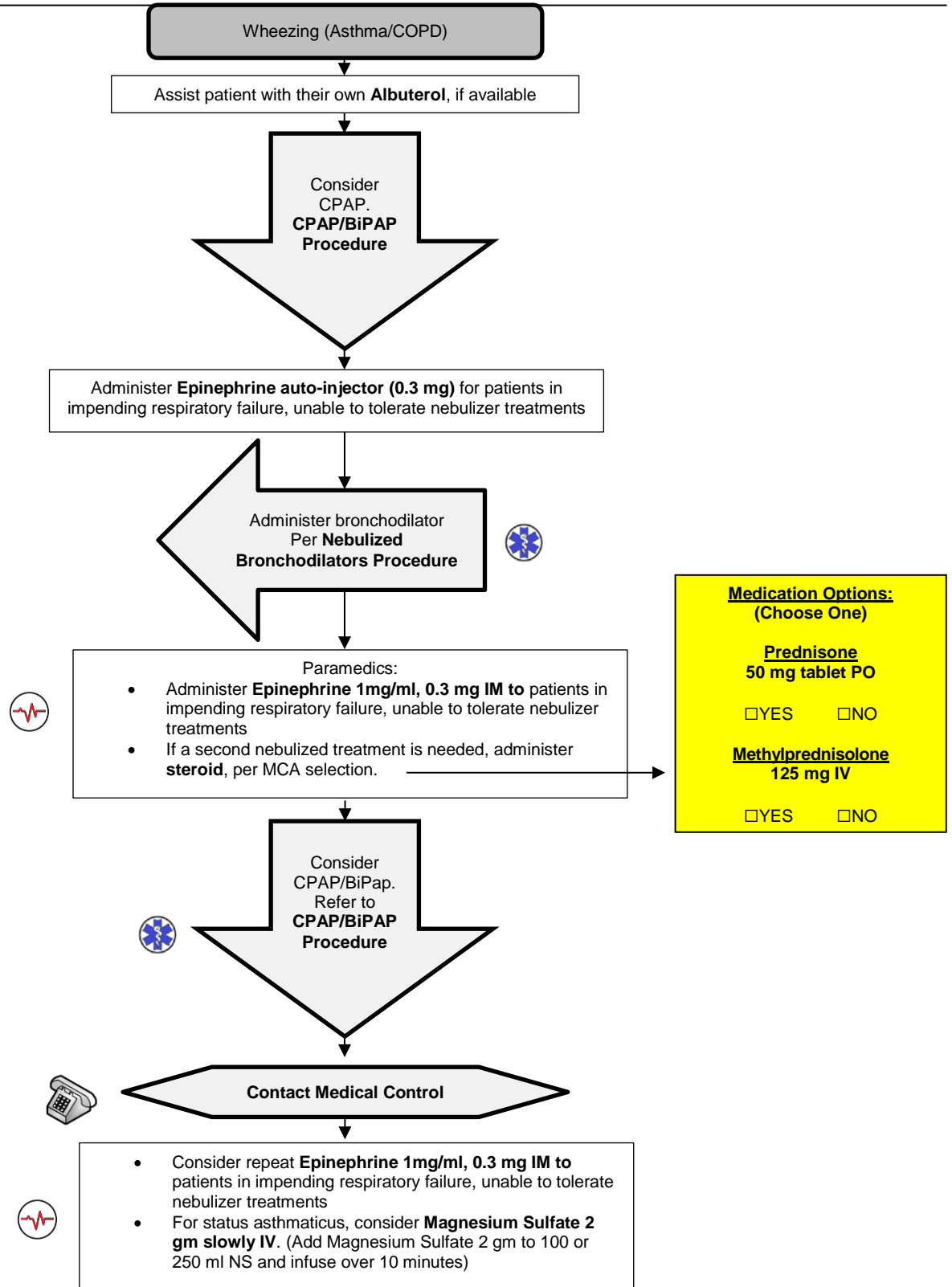
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Protocol Source/References:






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

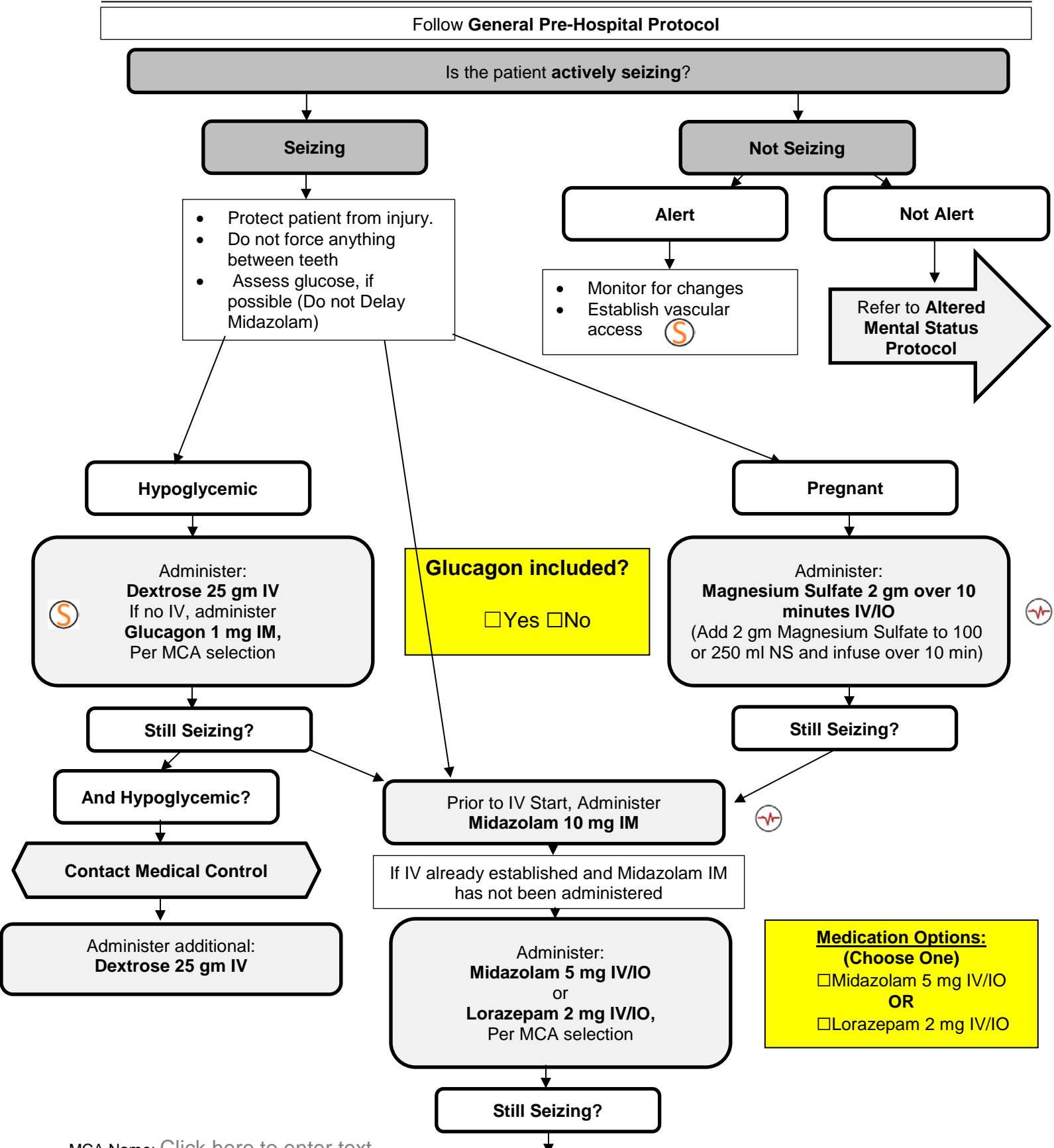
3. **IF PATIENT IS NOT ACTIVELY SEIZING** and has/is:
 - A. Altered level of consciousness, refer to **ALTERED MENTAL STATUS PROTOCOL**.
 - B. Alert
 - a. Monitor for changes
 -  b. Obtain vascular access.

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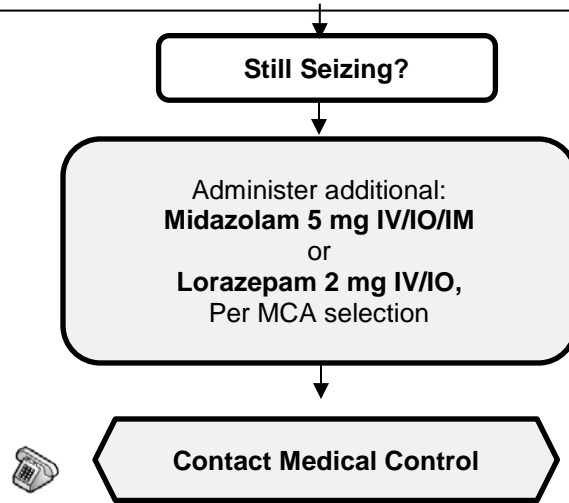
Protocol Source/References: NAEMSO Clinical Guidelines



**Michigan
ADULT TREATMENT
SEIZURES**

Initial Date: 11/15/2012
Revised Date: 10/25/2017

Section 3-4





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

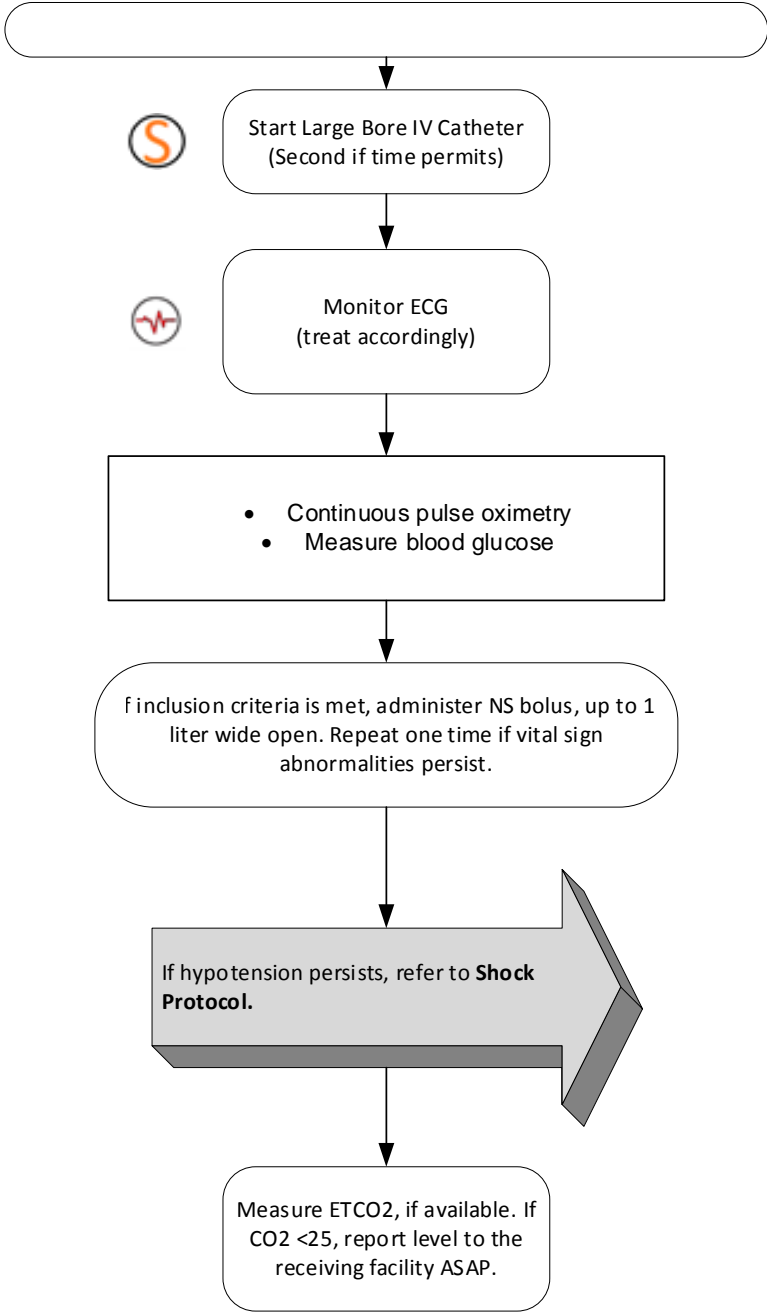
1. Clinical suspicion of systemic infection, and two or more of the following:
 - A. Hyperthermia temp $>38^{\circ}\text{C}$ (100.4 F)
 - B. Hypothermia temp $<36^{\circ}\text{C}$ (96.8 F)
 - C. Heart rate $>90\text{bpm}$
 - D. Respiratory rate <10 or >20 per minute
 - E. SBP <90 mmHg or evidence of 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 ET CO_2 level. If $\text{CO}_2 < 25$, 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**.



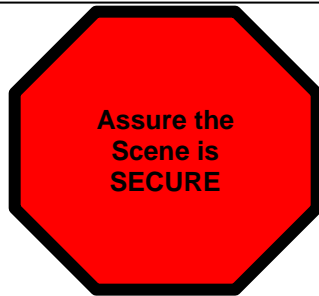
5. If the patient remains combative, following restraint by law enforcement:
 - a. Per MCA selection, administer
Midazolam 10 mg IM or 5 mg IN OR Ketamine 4 mg/kg IM.

**MCA Selection
(Choose One)**

- Midazolam 10 mg IM or 5 mg IN
OR
 Ketamine 4 mg/kg IM

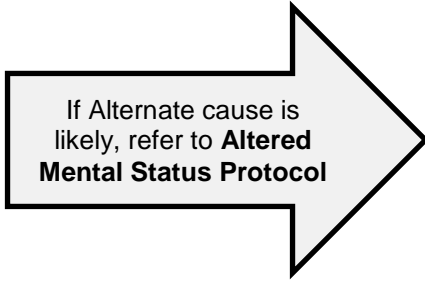
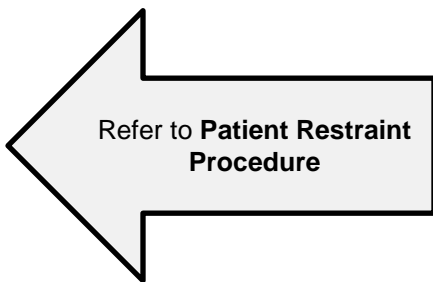
6. Obtain temperature
 - b. If hyperthermic, provide cooling – ice packs to neck, axilla and groin; fluids to skin
7. Provide fluid bolus of up to 2 L of NS
8. Restrain patient per the **Patient Restraint Procedure** in anticipation of the sedation wearing off.
9. Evaluate for other causes of Altered Mental Status including: **Alcohol, Epilepsy/Seizure, Insulin, Overdose, Uremia/Under dose, Cardiac, Hypoxia, Environment, Stroke, Sepsis, Trauma, Ingestion, Psych, Phenothiazines, Salicylates**
10. Monitor EKG, consider 12-lead if any evidence of hyperkalemia (peaked T waves, prolonged PR, widened QRS)
11. Monitor capnography, if possible
12. Additional sedation as needed, per **Patient Sedation Procedure**.





Follow **General Pre-hospital Care Protocol**

- Coordinate with **Law Enforcement** on scene before any physical patient contact
- Obtain history when possible
- Perform visual patient assessment looking for symptoms of Excited Delirium



Have **Law Enforcement** restrain patient

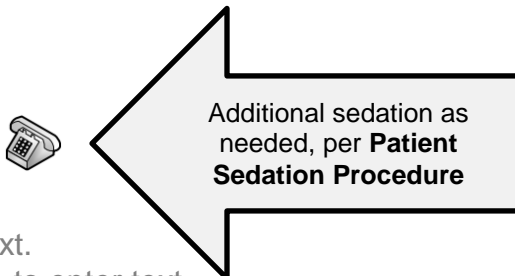
Per MCA Selection
Administer **Ketamine (4 mg/kg IM) OR Midazolam 10 mg IM or 5 mg IN**

MCA Selection (Choose One)

Midazolam 10 mg IM or 5 mg IN
OR
 Ketamine 4 mg/kg IM



- If hyperthermic, provide cooling – ice packs to neck, axilla and groin; fluids to skin
- Provide fluid bolus of up to 2 L of NS
- 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**
- Monitor EKG, consider 12-lead if any evidence of hyperkalemia (peaked T waves, prolonged PR, widened QRS)



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