



Behavioral

NCOEMS Ketamine Pilot Project

History

Situational crisis
 Psychiatric illness/medications
 Injury to self or threats to others
 Medic alert tag
 Substance abuse / overdose
 Diabetes

Signs and Symptoms

Anxiety, agitation, confusion
 Affect change, hallucinations
 Delusional thoughts, bizarre behavior
 Combative violent
 Expression of suicidal / homicidal thoughts

Differential

Altered Mental Status differential
 Alcohol Intoxication
 Toxin / Substance abuse
 Medication effect / overdose
 Withdrawal syndromes
 Depression
 Bipolar (manic-depressive)
 Schizophrenia
 Anxiety disorders

Call for help / additional resources
 Stage until scene safe

	Blood Glucose Analysis Procedure <i>if indicated</i>
	Age Appropriate Diabetic Protocol AM 3 / PM 2 <i>if indicated</i>
	Altered Mental Status Protocol UP 4 Overdose / Toxic Ingestion Protocol TE 7 <i>if indicated</i>
	Head Trauma Protocol TB 5 Multiple Trauma Protocol TB 6 <i>if indicated</i>

Excited Delirium Syndrome
 Paranoia, disorientation, hyper-aggression, hallucination, tachycardia, increased strength, hyperthermia

Aggressive, Violent, Agitation
 Threat to Self / others
 Setting of Psychosis

P Evaluation and Screening Mental Health and Substance Use Protocol
 CIT Paramedic Only
if available

Triage and Alternative Destination
Mental Health / Substance Abuse
If available

Consider Restraint Physical Procedure
 Monitor per restraint procedure
if indicated

A IV / IO Procedure

P Age ≥ 12
Haloperidol 2 - 5 mg IM
Age ≥ 65
2.5 mg IM
 May repeat every 5 as needed
Maximum 10 mg

P **Midazolam 2.5 mg IV / IO / IN**
5 mg IM
Age ≥ 65
1 - 2.5 mg IV / IO / IN
2.5 mg IM
Peds: 0.1 - 0.2 mg/kg IV / IO / IM / IN
 Repeat every 2-3 minutes as needed

P **Ketamine 400 mg IM**
See Pearls

P **Midazolam 2.5 mg IV / IO / IN**
5 mg IM
Age ≥ 65
1 - 2.5 mg IV / IO / IN
2.5 mg IM
Peds: 0.1 - 0.2 mg/kg IV / IO / IM / IN
 Repeat every 2-3 minutes as needed

A IV / IO Procedure
 Preferably 2 large bore

A **Normal Saline 1 L Bolus**
 Then **150 - 200 mL / hr**
 May repeat **500 mL Bolus** as needed
Maximum 2 L
Peds: 20 - 60 mL/kg IV / IO
Maximum 60 mL/kg

External Cooling Measures

Consider Restraint Physical Procedure

Monitor per restraint procedure
if indicated

P Cardiac Monitor

Monitor and Reassess

Notify Destination or Contact Medical Control

Universal Protocol Section



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Pearls

Recommended Exam: Mental Status, Skin, Heart, Lungs, Neuro Crew / responders safety is the main priority.

Any patient who is handcuffed or restrained by Law Enforcement and transported by EMS must be accompanied by law enforcement in the ambulance.

Consider Haldol or Ziprasidone for patients with history of psychosis or a benzodiazepine for patients with presumed substance abuse.

Haldol is acceptable treatment in pediatric patients ≥ 12 years old. Safety and efficacy is not established in younger ages.

All patients who receive either physical or chemical restraint must be continuously observed by ALS personnel on scene or immediately upon their arrival.

Be sure to consider all possible medical/trauma causes for behavior (hypoglycemia, overdose, substance abuse, hypoxia, head injury, etc.)

Do not irritate the patient with a prolonged exam.

Do not overlook the possibility of associated domestic violence, child, or geriatric abuse.

Do not position or transport any restrained patient in such a way that could impact the patient's respiratory or circulatory status.

Excited Delirium Syndrome:

Medical emergency: Combination of delirium, psychomotor agitation, anxiety, hallucinations, speech disturbances, disorientation, violent / bizarre behavior, insensitivity to pain, hyperthermia and increased strength. Potentially life-threatening and associated with use of physical control measures, including physical restraints and Tasers. Most commonly seen in male subjects with a history of serious mental illness and/or acute or chronic drug abuse, particularly stimulant drugs such as cocaine, crack cocaine, methamphetamine, amphetamines or similar agents. Alcohol withdrawal or head trauma may also contribute to the condition.

Ketamine:

Agencies participating in the NCOEMS Ketamine Project must complete both Ketamine Evaluation Forms and submit to the Regional Specialist.

Use for Behavior limited to: Patients who no longer fit on a Pediatric Length-based Resuscitation Tape.

Ketamine administration requires continuous EtCO₂ monitoring.

Ketamine Dissociation syndrome:

Treatment includes benzodiazepines such as Midazolam, Lorazepam, or Diazepam. May require repeat dosing.

- Treatment also includes decreasing ambient stimuli such as sounds, lighting, or activity.

Ketamine can cause apnea in the geriatric population.

- Ketamine may cause hypotension, hypertension, vomiting, respiratory depression, or laryngospasms.

Laryngospasm responds to BVM.

If patient is suspected of EDS suffers cardiac arrest, consider a fluid bolus and sodium bicarbonate early

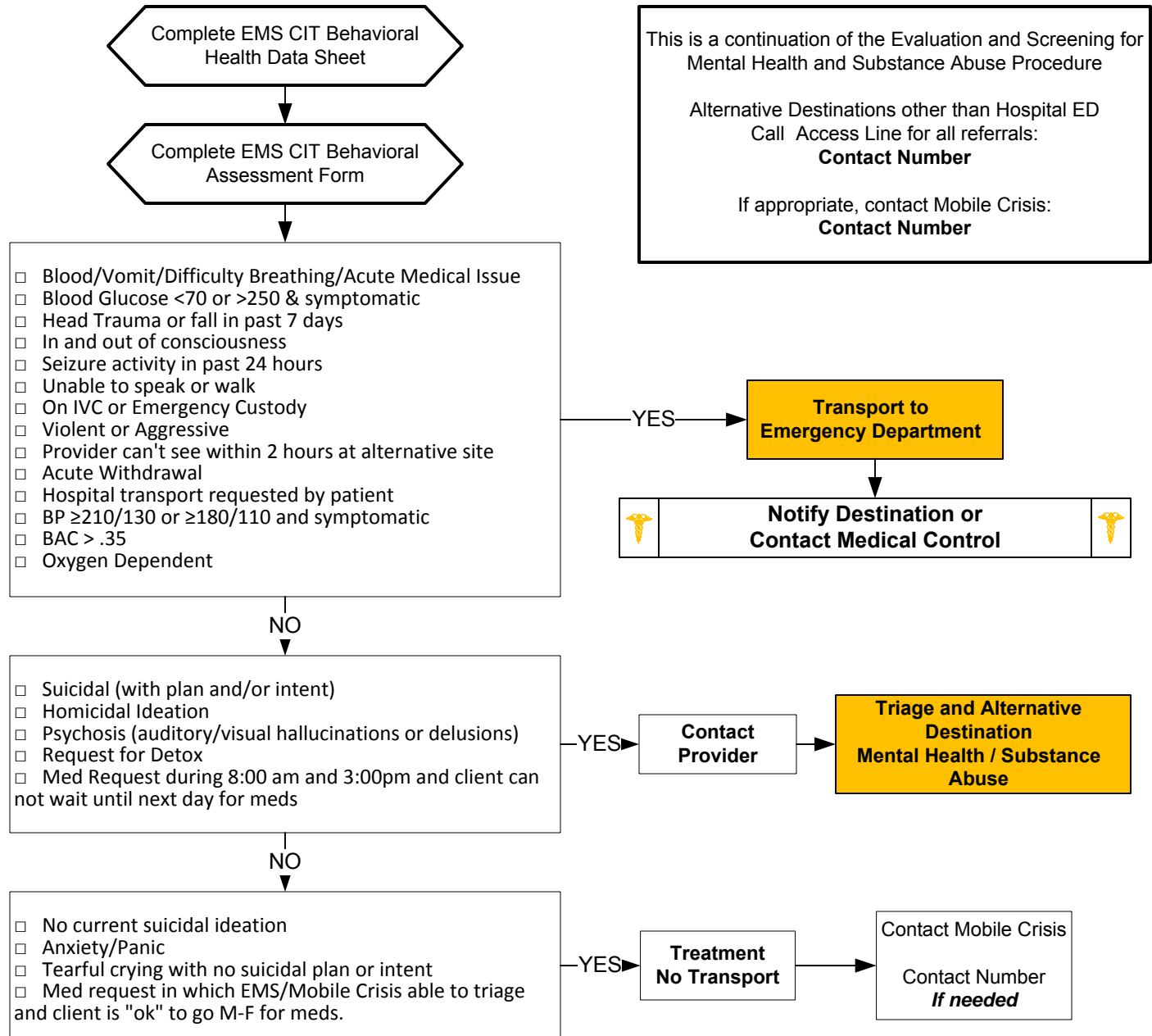
Extrapyramidal reactions:

Condition causing involuntary muscle movements or spasms typically of the face, neck and upper extremities. May present with contorted neck and trunk with difficult motor movements. Typically an adverse reaction to antipsychotic drugs like Haloperidol and may occur with your administration. When recognized give **Diphenhydramine 50 mg IV / IO / IM / PO** in adults or **1 mg/kg IV / IO / IM / PO** in pediatrics.

May add page 3 to protocol for specific for local mental health and / or substance misuse resources or destinations.



Behavioral CIT Paramedic (Optional)



Alternative Destinations / Crisis Providers For Centerpoint

County		
Resource Agency	Resource Agency	Resource Agency
Hours of Operation	Hours of Operation	Hours of Operation