

# Commonwealth of Kentucky

**EMT-Basic**  
**EMT-Advanced**  
**EMT-Paramedic**



## Patient Care Protocols



HIGHER EDUCATION BEGINS HERE



KENTUCKY COMMUNITY AND TECHNICAL COLLEGE SYSTEM



*Lexington— March 23, 2015* — The Kentucky Board of Emergency Medical Services announced immediate availability of amendments and additions to the Kentucky State EMS Protocol today. These amendments and additions are not meant to replace the forthcoming release of the new Kentucky State EMS Protocol; rather, they are updates of the currently published protocol.

Any licensed Kentucky EMS agency that has adopted the Kentucky State EMS Protocol will be required to implement these amendments and additions immediately. In the event that the agency wishes to “opt-out” of these new protocols, the agency should send a letter to that effect on agency letterhead with the signature of the Agency Director and Medical Director to [darby.mcdonald@kctcs.edu](mailto:darby.mcdonald@kctcs.edu).

**The following Protocols have been added:**

- Adrenal Crisis- Pages 401-402
- Selective Spinal Immobilization- Pages 403-406

**Addendums have been made to the following Protocol:**

- Protocol Table of Contents- pp. 2-5
- Cardiac Arrest- Page 50
- Asthma/COPD/RAD- Adult- Page 62
- Diabetic Emergencies: Hypoglycemia- Page 64
- Cyanide Poisoning (Adult)- Page 77
- Poisoning: Nerve Agents and Organophosphates MCI- Page 81

118 James Court, Suite 50 • Lexington, KY 40505  
(859) 256-3565 • Fax: (859) 256-3128  
Email: [KBEMS@kctcs.edu](mailto:KBEMS@kctcs.edu) • Website: [kbems.kctcs.edu](http://kbems.kctcs.edu)

KCTCS is an equal opportunity employer and education institution.

<b>Procedure Protocols</b> .....	241
Application of ECG Monitors and Electrodes.....	242
Mark I/Duodote Autoinjector Administration .....	244
External Jugular IV Access.....	247
Intraosseous Access .....	248
Umbilical Vein Cannulation.....	255
Vascular Access via Central Catheter .....	256
<b>Inter-facility Protocols</b> .....	258
Interfacility Transfer .....	259
Maintenance of Blood or Blood Products .....	262
Thoracostomy Tube Monitoring .....	264
Amiodarone Hydrochloride Infusion Monitoring .....	265
Heparin Infusion Monitoring.....	266
Lidocaine Infusion Monitoring.....	267
Magnesium Sulfate Infusion Monitoring.....	268
Nitroglycerin Infusion Monitoring .....	269
Potassium Chloride Infusion Monitoring .....	271
Tissue Plasminogen Activator (TPA) Infusion Monitoring.....	272
<b>Medication List</b> .....	273
<b>Specialized Protocols</b> .....	325
TASER Subdued Patient .....	326
Strenuous Activity/Firefighter Rehabilitation .....	328
STARTBand Emergency Response Tag System .....	333
START System of Triage.....	335
Mass Casualty Incidents.....	341
EMS Plan for Responding to Pandemic Influenza .....	363
<b>Toxmedic Emergency Care Protocols</b> .....	367

*Addendum (revised March 4, 2015)*

Adrenal Crisis .....	401
Selective Spinal Immobilization .....	403

# Adrenal Crisis

KBEMS Approved 2/11/2015



□

Adrenal Crisis or Acute adrenal insufficiency occurs in patients with a history of adrenal insufficiency in times of stress (infections, fevers, trauma, recent surgery) or non-compliance with medications. It would be a rare incidence that an EMS agency would encounter an undiagnosed acute adrenal insufficiency patient.

Adrenal insufficiency results when the body does not produce the essential life-sustaining hormones cortisol and aldosterone. These hormones are vital to maintain blood pressure, cardiac contractibility, water and salt balance.

Chronic adrenal insufficiency can be caused by number of conditions:

- Disorders of the adrenal gland
- Disorders of the pituitary gland
- Long-term use of steroids (DOPD, asthma, rheumatoid arthritis, and transplant patients)

Acute adrenal crisis can result in refractory shock or death in patients (on maintenance dose of hydrocortisone (SoluCortef)/ prednisone) who have acute illness or trauma in which there is a need for additional cortisone for the body to response to the acute stress. It is critical that these patients receive a stress dose of hydrocortisone as soon as possible.

**Signs and symptoms** of acute adrenal crisis include

- Pallor
- Dizziness
- Headache
- Weakness/lethargy
- Abdominal pain
- Vomiting/ nausea
- Hypoglycemia
- Hypernatremia
- Hyperkalemia
- Hypotension
- Shock
- Heart Failure
- Fever
- Confusion, disorientation

**Treatment Goals:**

1. Restore intravascular volume
2. Give stress dose Steroids
3. Treat hypoglycemia
4. Vasopressors for refractory shock

**Treatment guide for Adrenal Crisis:**

Fluids: 20 mL/kg bolus of Normal Saline , repeat up to 60 mL/kg

Hydrocortisone: 100mg IM/IV/IO

Glucose:

Adult: 25gm of D50

Infant up to age 12: 2.5 ml/kg of 10% dextrose

Kids > 12: 1 mL.kg of 25% dextrose

Vasopressors: Use for shock refractory to 60 mL/kg fluid bolus

Dosing of **steroids** is as indicated below with **HYDROCORTISONE** being the **PREFERRED** medication if available (may use patient's own medication if available):

**Adult patients:**

Administer **hydrocortisone** sodium succinate (Solu-Cortef) 100mg IM/IO/IV Push

Or

Administer **methylprednisolone** (Solu-Medrol) 125mg IM/IO/IV Push

Or

Administer **dexamethasone** (Decadron) 4 or 5 mg IM/IO/IV Push

**Pediatric patients:**

Administer **hydrocortisone** sodium succinate (Solu-Cortef) 2mg/kg IM/IO/IV push (to maximum 100mg)

Or

Administer **methylprednisolone** (Solu-Medrol) 2mg/kg IM/IO/IV Push (to maximum 125mg)

Or

Administer **dexamethasone** (Decadron) 4 or 5 mg IM/IO/IV Push

**Alternative Pediatric Dosing:**    Hydrocortisone    Methylprednisolone    Dexamethasone

Newborn to infant (up to 1 year)	25mg	25 mg	1 mg
1 year old to 7 years old	50mg	50 mg	2 mg
7 years and older	100mg	125 mg	4-5 mg

**Solu-Cortef Act-O-Vial** (most common home hydrocortisone prep):

To Use: Push down on the top which will break the seal and mix the liquid and powdered hydrocortisone together. The vial contains 100mg of hydrocortisone in 2ml of diluent. Give the entire contents of the vial to the patient either IV/IM /IO.

*References:*

1. Tucci V, Sokari T. The Clinical Manifestations, Diagnosis and Treatment of Adrenal Emergencies. Emerg Med Clin North Am 32 (2014) 465-484.