Indications:

1. All chest pain, blunt trauma to the chest (unless injury due to penetrating injury)

2. Cardiac dysrhythmias, where patient presents with cardiac signs or symptoms including but not limited to:
   - Heart rate greater than 150 BPM
   - Heart rate less than 50 BPM
   - Epigastric pain, unless evidence of G.I. bleed
   - Thoracic back pain without trauma
   - Diaphoresis not explained by environment or fever
   - Syncope without seizure or obvious blood loss
   - Patient with PVC’s unchanged by oxygen and/or more than 6 per minute
   - CHF/ Pulmonary edema
   - Tricyclic overdose
   - All overdoses with associated abnormal heart rhythms

Patients with any of the following chief complaints should be treated as suspected AMI unless otherwise ordered.

   - Chest pain or pressure in any patient >25 years of age
   - Syncopal episode in any patient >25 years of age
   - Unexplained respiratory distress
   - Atypical chest pain (i.e. shoulder, arm or jaw pain) in the absence of chest pain, especially in patients having past cardiac history, irregular pulse, diabetes and in the elderly patient.
   - In young adults consider history of cocaine and methamphetamine use.

Contra-indications:

1. Treatment of life threatening problems (i.e. ABC’s abnormalities, dysrhythmias) should be initiated prior to obtaining a 12 lead ECG
2. Obtaining a 12 lead ECG should not delay transport of critically ill patients.
Preparation of patient:
1. Always protect the modesty of the patient
2. Lead placement area should be clear of items that may cause artifact such as jewelry and clothing.
3. Skin should be clean and dry
4. Shave chest hair as needed

12 lead ECG electrode placement:
The following describes the placement of all 10 electrodes and the order in which they should be placed on the patient.

Limb Leads:
1. Right arm (RA): upper arm or chest near the shoulder
2. Left arm (LA): upper arm or chest near the shoulder
3. Right leg (RL): lower leg or lower abdominal quadrant near the hip
4. Left leg (LL): lower leg or lower abdominal quadrant near the hip

Chest Leads:
5. V1- 4th intercostal space, right of the sternal border
6. V2- 4th intercostal space, left of the sternal border
7. V4- 5th intercostal space on the mid-clavicular line
8. V3- Placed between V2 and V4
9. V5- 5th intercostal space on the anterior axillary line
10. V6- 5th intercostal space on the mid axillary line

The anterior axillary line can be found by making an imaginary line down from the fold formed where the arm meets the chest.

The mid axillary line divides the body into anterior and posterior halves. It can be identified by drawing an imaginary line from the mid armpit down towards the waist
The correct placement of the precordial leads is dependent on the accuracy of finding the forth intercostal space. This can be found by identifying the sternal ridge (Angle of Lois). This is found on the upper third of the sternum and described as where the manubrium of the sternum meets the sternal body. The second rib joins the sternum at the level of the sternal ridge. Therefore, the space below the sternal ridge is the second intercostal space. Using moderate finger pressure and counting down from this space, the forth intercostal space is easily found.

It is important to remember that the 12 lead ECG is only a diagnostic tool, care providers should remember to treat the patient, not the monitor. It is possible to have a myocardial infarction in the presence of a normal ECG. Maintain a high index of suspicion especially with diabetics and the elderly.

The 12 lead ECG should not be used as a means of clearing a patient of having a heart attack in the pre-hospital setting. It is imperative that patients are informed that the means of AMI diagnosis in the pre-hospital setting are limited and further evaluation is needed by a physician.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
<th>Date of Policy Change</th>
<th>New Policy</th>
<th>Revised Policy</th>
<th>Medical Director</th>
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<td>ETCO2</td>
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<td>Centimeter</td>
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<td>CO</td>
<td>Carbon monoxide</td>
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### Approved EMS Abbreviations

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<th>Medical Director</th>
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<td>Carbon dioxide</td>
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<td>kilogram</td>
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<td>Cerebrospinal fluid</td>
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<td>Keep vein open</td>
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<td>Liter</td>
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<td>Discontinue</td>
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<td>Dead on arrival</td>
<td>LOC</td>
<td>Level of consciousness</td>
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<td>D5w</td>
<td>5% dextrose in water</td>
<td>LR</td>
<td>Lactated ringers</td>
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<td>D50</td>
<td>50% dextrose in water</td>
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<td>25% dextrose in water</td>
<td>LLQ</td>
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<td>LPM</td>
<td>Liters per minute</td>
<td>pr</td>
<td>Per rectum</td>
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<td>Left upper quadrant</td>
<td>p.r.n.</td>
<td>As needed</td>
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<tr>
<td>LSB</td>
<td>Long spine board</td>
<td>PSI</td>
<td>Pounds per square inch</td>
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<td>MAE</td>
<td>Moves all extremities</td>
<td>PSVT</td>
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<td>Medical (military) antishock trousers</td>
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<td>Every</td>
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<td>Rule out</td>
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<td>RLQ</td>
<td>Right lower quadrant</td>
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<td>min</td>
<td>Minute</td>
<td>RN</td>
<td>Registered Nurse</td>
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<tr>
<td>ml</td>
<td>Milliliter</td>
<td>ROM</td>
<td>Range of motion</td>
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<td>mm</td>
<td>Millimeter</td>
<td>Rt.</td>
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<td>MSO4</td>
<td>Morphine sulfate</td>
<td>RUQ</td>
<td>Right upper quadrant</td>
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<td>Motor vehicle collision</td>
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<td>Nausea and vomiting</td>
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<td>Subcutaneous</td>
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<td>Sublingual</td>
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<td>No known allergy</td>
<td>SOB</td>
<td>Shortness of breath</td>
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<td>NSR</td>
<td>Normal sinus rhythm</td>
<td>STAT</td>
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<td>Pediatric</td>
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<td>Pupils equal, reactive to light</td>
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<td>Three times a day</td>
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<td>Ventricular fibrillation</td>
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<td>w/s</td>
<td>Watt second setting</td>
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Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients

Advanced Treatment Guidelines
- Consider a 500 mL fluid bolus of Normal Saline if patient’s orthostatic vital signs are compromised.
- Consider EKG monitoring. Treat rhythms as conditions as warrants
- **FENTANYL: 50-100 mcg** slow IV/IO or IN
  
or
- **MORPHINE SULFATE: 2-5 mg** IV or IO initial dose. Titrate to effect with 2-5mg increments every 3-5 minutes until one of the following occurs.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stopped.
Basic Treatment Guidelines

- Place patient in position of comfort, loosen tight clothing and provide reassurance. If patient is complaining of shortness of breath, has signs of respiratory distress, or pulse oximetry of less than 94% then titrate oxygen to maintain a saturation of 94-96%.

- Obtain a 12 Lead EKG, and transmit to the receiving facility and/or medical control for interpretation as soon as possible

- If patient is alert and oriented and expresses no allergy to aspirin have patient chew 324 mg aspirin

- An initial management goal should be to identify STEMI and transport the patient with cardiac symptoms to the facility most appropriate for their needs

- Contact medical direction for orders

- If the patient has been prescribed nitroglycerin (patients nitro only) and blood pressure is greater than 100 systolic, give one dose. If patient is taking erectile dysfunction drugs such as Viagra, DO NOT GIVE NITROGLYCERINE

- Repeat one nitro dose in 5 minutes if pain continues and blood pressure is greater than 100 systolic, up to a maximum of three doses

- If blood pressure less than 100 systolic or patient does not have prescribed nitro, transport promptly continuing assessment and supportive measures
Advanced Treatment Guidelines

- Establish IV access, and infuse to maintain systolic BP >100mmHg.
- Administer ASPIRIN 324 mg orally if patient has not taken one prior to arrival of EMS.
- Perform 12 lead ECG. Continue to monitor ECG and treat dysrhythmias following appropriate protocol.
  - If inferior ST elevation perform right sided V4, V5, V6 12 lead.
  - If consistent with RVMI, DO NOT TREAT WITH NITROGLYCERIN
- NITROGLYCERIN 0.4 mg SL if blood pressure is >100mm/Hg systolic. Initial dose of NITROGLYCERIN may be given synchronous with IV initiation. Give three doses prior to administration of Morphine Sulfate or Fentanyl. DO NOT USE NITROGLYCERIN IN CASES OF PDE5 INHIBITOR USE (VIAGRA-LIKE MEDS).

- MORPHINE SULFATE
  - STEMI: 2-5 mg IV/IO, then 2-5 mg increments IV/IO titrated every 5 minutes to max dose of 20mg as long as vitals remain stable. DO NOT USE FOR SYSTOLIC BP <100mmHg
  - UA/NSTEMI: 2-5 mg IV/IO given once.

- Consider FENTANYL 50-100 mcg IV/IO/IN for patients allergic to MORPHINE SULFATE. DO NOT USE IF SYSTOLIC BP <100mmHg.

Special Considerations

Patients with any of the following chief complaints should be treated as suspected ACS unless otherwise ordered.

- Chest pain or pressure in any patient > 25 years of age.
- Syncopal episode in any patient > 25 years of age.
- Unexplained respiratory distress.
- Atypical chest pain (i.e. shoulder, arm, or jaw pain) in absence of chest pain, especially in patients having past cardiac history, irregular pulse, diabetes and in the elderly.
- In young adults consider history of cocaine and methamphetamine use.
Classification: Antiarrhythmic

Mechanism of Action:
Adenosine is used to slow conduction through the AV node of the heart. It may also interrupt re-entry pathways through the AV node.

Indications for Use:
Symptomatic paroxysmal supraventricular tachycardia (PSVT)

Contraindications:
Second or third degree heart block
Sick sinus syndrome.
Known hypersensitivity to the medication.
Patient taking dipyridamole (Persantine).

Precautions:
Arrhythmias, including blocks, are common at time of conversion.
Use with caution in patients with asthma.

Dosage:
Adults: 6mg given as rapid IV/IO bolus over 1-3 second period. If after 2 minutes cardioversion does not occur, administer 12mg given as rapid IV/IO bolus over 1-3 seconds.
Peds: First dose = 0.1 mg/kg (up to 6.0mg.) IV. Second dose= 0.2 mg/kg IV/IO

Route:
Intravenous. IV should be started in antecubital vein and medication administered directly into the medication port closest to the patient followed by flushing the line with IV fluid.

Intraosseous

Side Effects / Complications:
Facial flushing
Headache
Shortness of breath
Dizziness
Nausea
Sinus pause of 3-10 seconds is common
Basic Life Support (Adult)

No movement or response

PHONE 911 or emergency number
Get AED
or send second rescuer (if available) to do this

Open AIRWAY, check BREATHING

If not breathing, give 2 BREATHS that make chest rise

If no response, check pulse:
Do you DEFINITELY feel pulse within 10 seconds?

Give cycles of 30 COMPRESSIONS and 2 BREATHS
until AED/defibrillator arrives, ALS providers take over, or
victim starts to move
Push hard and fast (100/min) and release completely
Minimize interruptions in compressions

AED/defibrillator ARRIVES

Check Rhythm
Shockable rhythm?

Give 1 shock
Resume CPR immediately
for 5 cycles

Not Shockable

Resume CPR immediately
for 5 cycles
Check rhythm every 5 cycles; continue until ALS
providers take over or victim starts to move

• Give 1 breath every 5 to 6 seconds
• Recheck pulse every 2 minutes
ADULT CARDIAC ARREST

Date of Policy Change
7/1/2011

New Policy
Revised Policy
Medical Director
1/27/17
Dr. Travis Kain

CPR Quality
- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Pulse compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 3:1 compression-ventilation ratio.
- Quantitative waveform capngraphy
  - If \( P_{aO_2} \) < 100 mm Hg, attempt to improve CPR quality.
  - Intra-arterial pressure
    - If relaxation phase (diastolic) pressure < 20 mm Hg, attempt to improve CPR quality.

Shock Energy for Defibrillation
- Biphasic: Manufacturer recommendation (eg, initial dose of 120-200 J). If unknown, use maximum available.
- Second and subsequent doses should be equivalent, and higher doses may be considered.
- Monophasic: 360 J

Drug Therapy
- Epinephrine I/V dose: 1 mg every 3-5 minutes
- Amiodarone I/V dose: First dose: 300 mg bolus. Second dose: 150 mg.

Advanced Airway
- Endotracheal intubation or supraglottic advanced airway
- Waveform capngraphy or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Abrupt sustained increase in \( P_{aCO_2} \) (typically > 40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes
- Hypovolemia
- Hypo/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Torsade
- Thrombosis, pulmonary
- Thromboembolic, coronary

CPR
- Give oxygen
- Attach monitor/defibrillator

Rhythm shockable?

Yes

No

VF/pVT

Shock

CPR 2 min
- I/V access
- Epinephrine every 3-5 min
- Consider advanced airway, capngraphy

Rhythm shockable?

Yes

No

Epinephrine every 3-5 min
- Consider advanced airway, capngraphy

Yes

No

Amiodarone
- Treat reversible causes

If no signs of return of spontaneous circulation (ROSC), go to 10 or 11
- If ROSC, go to Post-Cardiac Arrest Care

Go to 5 or 7

If ROSC, go to Post-Cardiac Arrest Care

If no signs of return of spontaneous circulation (ROSC), go to 10 or 11
Indications
For sedation of combative patients, cardioversion, TCP and / or those patients requiring endotracheal intubation.

Contraindications
Pregnancy or patients allergic to benzodiazepines.

Complications
Nausea / Vomiting         Headache
Hiccoughs                   Laryngospasms
Bronchospasms              Dyspnea
Cardiac arrhythmias       Allergic reaction / Anaphylaxis

Preparation
1. Pre-oxygenate with 100% 02 via NRM for 1-2 minutes
2. Assist with ventilations as needed.
3. Patent IV access
4. Administer Lidocaine 1mg/kg IVP for suspected increased ICP one (1) minute prior to intubation.
5. SP02 and Cardiac monitoring.
6. Place patients head in “sniffing position” unless c-spine injury is suspected.

Equipment
1. BVM / Ventilator
2. Endotracheal tube and holder
3. Prepared medications
4. Suction
5. CO2 monitor or end cap

Procedure
1. If age < 60 years and weight > 50 kg, administer **VERSED 1-2 mg** IVP for initial dose, over 2 minutes, and titrate for desired effect. May repeat in 1-2 mg increments until desired effect is achieved or to a total of 5 mg.
2. If age > 60 years and weight < 50 kg, administer **VERSED 1-2 mg** IVP for initial dose, over 2 minutes, and titrate for desired effect. May repeat in 1 mg increments until desired effect is achieved or to a total of 5 mg.
3. Peak effect of Versed is 3-5 minutes after initial dose. Be prepared to ventilate patient.
4. **ROMAZICON 0.2 mg** for reversal of adverse effects from Versed. May repeat once after one minute.
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**Adult Elective Sedation**

**Adult Elective Sedation Flow Chart**

1. **Consider indications / contraindications**
2. **Prepare patient & Equipment**
3. **Administer Lidocaine**
   - Titrate for suspected elevated ICP
4. **Administer VERSED according to age / weight parameters for desired effect.**
5. **Desired effect achieved?**
   - **YES**: Intubation Desired?
     - **YES**: Attempt Intubation
       - **Successful?**
         - **YES**: Verify ETT placement
         - **NO**: Consider other options (i.e., BVM, Cricothyrotomy, Combitube)
     - **NO**: Monitor Patient
       - Repeat to desired effect or dose according to age / weight parameters
   - **NO**: Intubation Desired?
     - **YES**: Attempt Intubation
       - **Successful?**
         - **YES**: Verify ETT placement
         - **NO**: Consider other options (i.e., BVM, Cricothyrotomy, Combitube)

- Verify ETT placement
- Auscultate breath sounds frequently
- Listen over epigastrium
- Monitor SpO2 / CO2
- Secure ETT
- Sedate with 1-2 mg increments of Versed PRN to 5mg total

2
The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries.

**Step 1. Asses for time critical injuries: level of consciousness and vital signs**
- Glasgow Coma Score <14
- Heart rate >120 bpm
- Respiratory rate <10 or >29
- Systolic blood pressure <90

If ground transport time to a resource (Level 1) or regional (Level 2) TCF is less than 30 min.

**Transport to the nearest RESOURCE (LEVEL 1)**

**or**

**REGIONAL (LEVEL 2) Trauma Care Facility**

If greater than 30 minutes ground transport time to a Resource (Level 1) or Regional (Level 2), transport to the nearest appropriate Trauma Care Facility.

If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 1 does not apply, move on to step 2

**Step 2. Assess for anatomy of an injury**
- All penetrating injury to head, neck, torso, and extremities proximal to elbow or knee
- Partial or full thickness burns >10% TBSA or involving face/airway
- Amputation proximal to wrist or ankle
- Paralysis or Parasthesia
- Two or more suspected long bone fractures
- Suspected pelvic fracture
- Crushed, degloved, or mangled extremity
- Flail chest
- Any open long bone fracture
- Open or depressed skull fracture
- EMS provider judgment for possible abdominal or thoracic injuries

If ground transport time to a resource (Level 1) or regional (Level 2) TCF is less than 30 min.

**Transport to the nearest RESOURCE (LEVEL 1)**

**or**

**REGIONAL (LEVEL 2) Trauma Care Facility**

If greater than 30 minutes ground transport time to a Resource (level 1) or Regional (level 2), transport to the nearest appropriate Trauma Care Facility.

If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 2 does not apply, move on to step 3
Step 3. Consider mechanism of injury and high energy transfer
Falls: >20 feet (1 story = 10 feet)
High risk auto crash:
- Intrusion: >12 in. on occupant’s side. >18 in. anywhere else
- Ejection: (partial or complete)
- Death of passenger in same compartment
- Vehicle telemetry data consistent with high risk of injury
- Auto vs. pedestrian/ bicyclist thrown, run over, or with significant (>20 mph) impact
- Motor cycle crash >20 mph
- Rollover (unrestrained occupant)
- Bicyclist into the handlebars
Transport to the nearest appropriate Trauma Care Facility, need not be the highest level Trauma Care Facility.

If step 3 does not apply, move on to step 4

Step 4. Consider risk factors
- Age >55 years (risk of injury/ death increases
- Time sensitive extremity injury
- EMS provider judgment
- Anticoagulation and bleeding disorders
- Pregnancy >20 weeks
Transport to the nearest appropriate Trauma Care Facility, need not be the highest level Trauma Care Facility.

If none of the criteria in the above 4 steps are met, follow local protocol for patient disposition. When in doubt, transport to nearest trauma care facility for evaluation.

For all transported trauma patients:
Contact receiving trauma care facility:
- Give patient report to include: MOI, injuries, vital signs & GCS, treatment, age, gender, ETA
- Obtain further orders from Medical Control as needed.

Iowa Department of Public Health
Indications

• Apply the AED to people that are unresponsive, breathless, and pulseless.

Contraindications

• Patient weight less than 55 lbs.
• Patient age less than 8 years.

NOTE: PATIENT MUST MEET BOTH CONTRAINDICATIONS TO NOT BE CONSIDERED FOR AED USE!

Preparation

• Activate EMS as soon as possible.
• Perform CPR until the AED arrives and is ready to be attached.
• Remove hair with razor if necessary.

Procedure

1. Apply defibrillator pads firmly to upper right anterior chest and lower left anterolateral chest. Use alternate placement when implanted devices are present (i.e., pacemakers, AICD=s).
2. Remove any medication patches from the chest area.
3. Confirm that defibrillator pads are connected to AED.
4. Activate AED.
5. Follow prompts given by AED.
6. If a shock is advised, ensure that all rescuers are clear of the patient. Analyze, shock, perform CPR for one minute then check pulse. Repeat cycle as indicated.
7. If no shock advised, check pulse. If pulse is absent, administer CPR for one minute and reanalyze. Administer shock if indicated. Continue CPR if indicated.
8. If pulse returns, check breathing, rescue breathe if inadequate, or place patient in recovery position if breathing adequately.
9. Leave AED attached to patient in case further defibrillation is needed.
These guidelines have been developed to assist with the decision making for use of air medical transport by the emergency medical services community. The goal is to match the patient’s needs to the timely availability of resources in order to improve the care and outcome of the patient from injury or illness.

**CLINICAL INDICATORS:**

1. Advanced level of care need (skills or medications) exists that could be made available more promptly with an air medical tier versus tiering with ground ALS service, and further delay would likely jeopardize the outcome of the patient

2. Transport time to definitive care hospital can be significantly reduced for a critically ill or injured patient where saving time is in the best interest of the patient

3. Multiple critically ill or injured patients at the scene where the needs exceed the means available

4. EMS Provider ‘index of suspicion’ based upon mechanism of injury and patient assessment

**DIFFICULT ACCESS SITUATIONS:**

1. Wilderness or water rescue assistance needed

2. Road conditions impaired due to weather, traffic, or road construction / repair

3. Other locations difficult to access

The local EMS provider must have a good understanding of regional EMS resources and strive to integrate resources to assure that ground and air services cooperate as efficiently and effectively as possible in the best interest of the patient.

Medical directors for ambulance services should assure that EMS providers are aware of their own service’s abilities and limitations given the level of care and geographic response area being served. Audits should be conducted on an ongoing basis to assure that utilization of regional resources (ground and air) is appropriate in order to provide the level of care needed on a timely basis.
Classification: Sympathomimetic

Mechanism of Action:
Albuterol is a β2-adrenergic (pulmonary) agonist. It causes bronchodilation and stimulates the central nervous system and the heart.

Indications for Use:
- Bronchial Asthma
- Reversible bronchospasm associated with COPD.
- Pulmonary edema / CHF if wheezing

Contraindications:
- Known history of hypersensitivity to the medications.

Precautions:
- Vital signs must be monitored, especially in cases of cardiovascular disease of hypertension.

Dosage:
- 2.5 mg in 3cc (prepackaged) administered with a nebulizer.

Route:
- Inhalation via nebulizer

Side Effects / Complications:
- Tachycardia
Basic Treatment Guidelines:

Follow Initial Treatment Protocol for all patients.

- **If patient has an EPI auto-injector:** Administer **Epinephrine 0.3mg** IM to the upper lateral aspect of the thigh. May administer a second and third auto-injector every 5-10 minutes if condition worsens.

Advanced Treatment Guidelines:

- **EPINEPHRINE 1:1,000: 0.3mg-0.5mg** (0.3-0.5cc) SQ, or IM. If a bite or sting, inject proximal to site when possible. May repeat every 5-10 minutes up to a maximum of 3 doses.
- Consider **BENADRYL 25mg-50mg** IM or slow IV/IO push.
- Consider **SOLU-MEDROL 125mg** slow IV push/IM.
- Consider **ALBUTEROL 2.5mg** via nebulizer for respiratory distress.
- Consider **IPRATROPIUM BROMIDE 0.5mg/ALBUTEROL 3mg** via nebulizer.
Adult Standard Operating Protocol

Altered Mental Status

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Basic Treatment Guidelines

Follow Initial Treatment Protocol for All Patients

- Obtain blood sugar level.
- If blood sugar < 60mg/dl, administer oral GLUTOSE if patient is able to swallow.

Advanced Treatment Guidelines

- If blood sugar < 60mg/dl, administer 50% DEXTROSE 25G IV and observe for changes. If unable to establish IV access, administer GLUCAGON 1mg IM.
- If symptoms suggest hypoglycemia, administer 50% DEXTROSE 12.5G IV even if BS > 60mg/dl.
- If unknown history of events or history of drug abuse, administer NALOXONE 1-2mg IV/IO/IM or 2mg IN, and observe for response. May repeat one time after 3 minutes if necessary.
Classification: Antiarrhythmic

Mechanism of Action
1. Prolonged repolarization.
2. Lengthens action potential duration in all cardiac tissues.

Indications for Use
1. Pulseless VF
2. Pulseless VT
3. Wide complex tachycardia with pulse in unstable (but not arrested) patient.

Contraindications
1. Known hypersensitivity to any of its components.
2. Cardiogenic shock
3. Marked sinus bradycardia
4. 2nd or 3rd degree AV block unless a functioning pacemaker is available.

Precautions
Administer only to life threatening arrhythmias.

Dosage
Adult: 300mg IV/IO for cardiac arrest.
150 mg over 10 mins for VT
Peds: 5mg/kg for VF/VT
5mg/kg over 20-60 minutes for tachycardia with perfusion IV or IO.

Route
IV/IO

Side Effects / Complications
1. Hypotension
2. Asystole/PEA
3. Cardiogenic shock
4. CHF
5. Bradycardia
6. VT
7. AV Blocks
8. Hepatic dysfunction
9. Vomiting
Basic Treatment Guidelines

1. Follow Initial Treatment Protocol for All Patients

2. Care of Amputated Part
   - Rinse part gently with normal saline to remove loose debris; do not scrub.
   - Wrap amputated part in saline moistened gauze and transport with the patient.
   - Place wrapped part in a plastic bag and seal (do not immerse part in water/saline).
     Label bag with name, date and time of day.
   - Do NOT place part in direct contact with ice.

Advanced Treatment Guidelines

- Treat for shock if appropriate

**Consider pain control as follows**

- **FENTANYL: 50-100 mcg** slow IV/IO push or IN
  
or

- **MORPHINE SULFATE: 2-5 mg** IV push initial dose. May administer 5-10mg IM if unable to obtain IV access. Titrate to effect with 2-5mg increments every 3-5 minutes until one of the following occurs.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

*The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop*
Basic Treatment Guidelines

Follow initial protocols for all patients

- Make determination of apparent death. Patient will meet at least one of the following criteria;
  1. No respiratory effort on examination over a 30 second time frame.
  2. No palpable carotid pulse on examination over a 30 second time frame.
  3. No pupillary response.
  4. Lividity
  5. Rigor Mortis
  6. Signs of trauma are conclusively incompatible with life.

If signs of apparent death are present, resuscitation may or may not be initiated.

Advanced Treatment Guidelines

The cardiac monitor may be used to document asystole if patient is accessible and/or if no hazards are present to care providers.

If apparent death is confirmed

- Law enforcement shall be contacted. Request that Westcom contact the Polk County Medical Examiner after consulting with the senior police officer on the scene.
- Where possible contact Iowa Donor Network at 800-831-4131
- Remain on scene until released by law enforcement or Medical Examiner.
- Provide emotional support to family/survivors.
- Complete appropriate documentation
- Consider notification of supervisor if high profile event or there is the potential for it to be.
- Be aware of possible crime scene.
### Aspirin

<table>
<thead>
<tr>
<th>Classification:</th>
<th>Anti-platelet</th>
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<tr>
<td><strong>Mechanism of Action</strong></td>
<td>Blocks formation of thromboxane A\textsubscript{2} which prevents platelet aggregation and arteriole constriction.</td>
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<tr>
<td><strong>Indications for Use</strong></td>
<td>All patients with signs and symptoms of acute coronary syndrome.</td>
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</tbody>
</table>
| **Contraindications** | 1. Known hypersensitivity to aspirin.  
2. Patients with history of active ulcer disease or asthma.  
3. Use with females in last trimester of pregnancy.  
4. History of blood coagulation defects or in conjunction with anticoagulation therapy. |
| **Precautions** | Higher doses can interfere with prostacyclin production and interfere with positive benefits. |
| **Dosage** | 324mg equal to 81 mg baby aspirin x 4 |
| **Route** | Orally(chewed) |
| **Side Effects / Complications** | 1. Dyspepsia  
2. Heartburn  
3. Anorexia  
4. Nausea  
5. Occult blood loss  
6. Epigastric discomfort |
The following represents clinical criteria for initial assessment of spine injury for patients with an uncertain mechanism of injury. The use of this procedure is only approved for the Paramedic Specialist level as outlined in the Iowa EMS Scope of Practice.

**Mechanism of Injury**

Positive (immobilize)  
Uncertain  
Negative (negative spine injury)

**Does the patient have spinal pain (tenderness)?**

YES (immobilize)  
NO

**Is the motor/sensory exam abnormal?**

YES (immobilize)  
NO

**Is the patient/exam unreliable?**

YES (immobilize)  
NO (no immobilization required)

**Definition of “Spinal Immobilization”:** Mechanical immobilization of the entire spinal column that is inclusive of the head through the pelvis.

**References**


*Qualified EMS provider: A certified Paramedic Specialist who has demonstrated the skills necessary to competently perform this procedure and has the approval of the medical director.*
Basic Treatment Guidelines

- Follow Initial Treatment Protocol for all patients.
- Keep patient at rest.
- Place patient in a sitting position, allowing for proper drainage from the mouth. It often helps if the patient can support themselves by the forearms when in a sitting position.
- Cover the patient to conserve body heat, but do not allow the patient to overheat.
- Provide emotional support.
- Continue to monitor the patient and update the responding ambulance of current patient status and any changes.

- If patient has a physician prescribed, hand-held metered dose inhaler.
- Assure medication is prescribed for patient.
- Is patient alert enough to take treatment?
- Check expiration date.
- Shake inhaler vigorously several times.
- Have patient exhale as deeply as possible, and put lips around inhaler opening.
- Depress inhaler, have patient inhale as deeply as possible and have them hold their breath as long as possible to facilitate medication absorption.
- Replace oxygen and allow patient to breathe a few times.
- Reassess patient and repeat second dose if necessary per medical direction.
Advanced Treatment Guidelines

Asthma

- Consider **IPRATROPIUM BROMIDE 0.5 mg / ALBUTEROL 3mg pre-mixed in 3ml of NS.** Administer by nebulizer for one dose followed by **ALBUTEROL 2.5mg in 3.0cc NS as needed.**

- Consider **EPINEPHRINE 0.3mg-0.5mg of 1:1000 solution SQ or IM** Repeat in 12-15 min per medical direction.

Status asthmaticus

- Consider **SOLU-MEDROL 125mg** IV over 1 minute. Can be given IM if no IV access.

- Consider **MAGNESIUM SULFATE 2G-4G** in 50ml NS given IV/IO over 5 minutes if patient not responding promptly to above listed treatments.

- If condition is severe, consider administration of **EPINEPHRINE 0.5mg to 1.0mg slow IV/IO of 1:10,000 solution or EPINEPHRINE 0.3mg-0.5mg of 1:1,000 solution SQ.**

- Consider **CPAP.** Refer to Standard Operating Protocol for CPAP.
Classification: Antiarrhythmic / Anticholinergic

Mechanism of Action
Atropine competes with the neurotransmitter acetylcholine for receptor sites, blocking the stimulation of the parasympathetic nerve fibers; this blocking action enhances both the sinus node and atrioventricular conduction.

Indications for Use
1. Symptomatic bradycardia.
2. Organophosphate poisoning.

Contraindications
None when used in the emergency situation.

Precautions
1. Maximum dose of 3mg should not be exceeded except in organophosphate poisoning.
2. Tachycardia, hypertension.
3. Use with caution in patients with myocardial ischemia, Type II AV block or third degree block with wide QRS. Be prepared to pace.

Dosage
Adult: Bradycardia 0.5mg every 3-5 minutes to maximum dose of 3mg.
Organophosphate poisoning - 2-5mg. every 15 minute until secretions dry up.
Peds: 0.02 mg/kg (minimum dose 0.1mg: max dose 0.5mg) for first dose may double for second dose.

Route
IV, IM, ETT, IO

Side Effects / Complications
1. Palpitations
2. Tachycardia
3. Headache
4. Dizziness
5. Anxiety
6. Dry mouth
7. Pupillary dilation
8. Blurred vision
9. Urinary retention
**Indications**

The following is a list of possible situations where the use of the BAAM device may be beneficial.

1. To assist in blind nasotracheal intubation
2. To check for endotracheal tube placement and/or airway patency with the patient spontaneously breathing.
3. As a respiratory monitor

**Contraindications**

There are no contraindications when used in an emergency setting.

**Procedure for Blind Nasotracheal Intubation**

1. Connect the BAAM device to a 15mm endotracheal connector attached to proper size ETT for patient.
2. While advancing the ETT listen for whistling during inhalation and exhalation.
3. Whistling should become louder with increasing advancement. Deviation from the airflow tract will result in immediate diminution or loss of whistle sounds and indicates the need to withdraw the tube a short distance and redirect.
4. Once intubation has been achieved, proceed with confirmation and securing as per intubation protocol.
Verify scene safety.

Victim is unresponsive. Shout for nearby help. Activate emergency response system via mobile device (if appropriate). Get AED and emergency equipment (or send someone to do so).

Normal breathing, has pulse

Monitor until emergency responders arrive.

Look for no breathing or only gasping and check pulse (simultaneously). Is pulse definitely felt within 10 seconds?

No normal breathing, has pulse

Provide rescue breathing: 1 breath every 5-6 seconds, or about 10-12 breaths/min.
- Activate emergency response system (if not already done) after 2 minutes.
- Continue rescue breathing; check pulse about every 2 minutes. If no pulse, begin CPR (go to “CPR” box).
- If possible opioid overdose, administer naloxone if available per protocol.

No breathing or only gasping, no pulse

By this time in all scenarios, emergency response system or backup is activated, and AED and emergency equipment are retrieved or someone is retrieving them.

CPR
Begin cycles of 30 compressions and 2 breaths. Use AED as soon as it is available.

AED arrives.

Check rhythm. Shockable rhythm?

Yes, shockable
Give 1 shock. Resume CPR immediately for about 2 minutes (until prompted by AED to allow rhythm check). Continue until ALS providers take over or victim starts to move.

No, nonshockable
Resume CPR immediately for about 2 minutes (until prompted by AED to allow rhythm check). Continue until ALS providers take over or victim starts to move.
Basic Treatment Guidelines

- Follow Initial Treatment Protocol for All Patients.
- Protect yourself and others by summoning law enforcement.
- Avoid physical restraints unless absolutely necessary to protect patient or yourself.
- May need to obtain consent to place patient in protective custody.
- Transporting patient without their consent. Obtain consent from law enforcement officer by having the patient placed in protective custody.

Advanced Treatment Guidelines

- If severe anxiety or agitation causes a threat consider **VALIUM 5mg IVP**. May repeat every 5 minutes as needed up to a maximum dose of 10 mg.
- If IV access cannot be made **VALIUM 5-10mg** IM can be administered.
- Consider **VERSED 0.2mg/kg or 10mg** IN maximum dose 10mg.
Indications
Altered mental status

Contraindications
None

Supplies
- Advantage monitor
- Test strips
- Lancet
- Gauze pad / Band-Aid
- Alcohol wipe

Procedure
- Prepare lancet device.
- Remove new test strip from vial.
- Insert test strip into Glucometer, this will automatically turn on the device. Make sure that the glucometer code on the strip’s vial and the meter are the same.
- Wipe area to be lanced with alcohol wipe.
- Lance finger tip with lancet
- Obtain blood sample by touching and holding a drop of blood to the tip of the strip. If you see any yellow color in the test strip window after you have applies the first drop of blood, a second drop of blood may by applied within 15 seconds of the first drop. If more than 15 seconds have passed, the test result may not be correct and you should discard the test strip and repeat the test.
- When blood is applied correctly to strip, a 5 second countdown begins on the meters display.
- The blood glucose result is displayed.

Results
If LO is displayed, the blood glucose result is lower than 20 mg/dl.
If HI is displayed, the blood glucose result is higher than 600 mg/dl.
NOTE: IO access may be established in lieu of IV if needed.
Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients.

Thermal Burns
- Do not apply any type of ointment, lotion, or antiseptic.
- Prevent further contamination
- Remove smoldering clothing and jewelry
- Stop the burning process, initially with water or saline. Avoid hypothermia. Do not use ice water.
- Do not break blisters
- Cover the burned area with a dry sterile dressing
- Continually monitor the airway for evidence of obstruction.
- Use the “rule of nines” to estimate the percent of body surface area injured. If the wound is less than 10% of the body surface area may use Normal Saline to cool area.
- Estimate depth of the burn as superficial, partial thickness, or full thickness.

Chemical Burns
- Brush off powders prior to flushing.
- Immediately begin to flush with large amounts of water.
- Continue flushing the contaminated area when in route to the hospital. Take precautions to prevent “run off” from contaminating the ambulance.
- Do not contaminate uninjured areas while flushing.
- Attempt to identify contaminant.

Toxin in the Eyes
- Flood eyes with luke-warm water for at least 20 minutes, having patient blink frequently during irrigation.
- Continue irrigation during transport to hospital.
- Attempt to identify contaminant.

Electrical Burns
- Treat soft tissue injuries associated with the burn, with dry dressings.
Advanced Treatment Guidelines

- Establish an IV of NS. Using the Parkland Burn Formula: 4 ml x total body surface area sustaining 2nd/3rd/4th degree burns x person’s weight in kilograms. Infuse half of this volume over the first 8 hours from the time of the burn, with the remainder infused over the following 16 hrs. **Quick Calculation for the first hour:** Patient’s weight in kilograms x 20 cc = volume for the first hours. The total volume can be calculated when there is time.

- Anticipate the need for advanced airway management especially in the presence of singed nasal hair and mucosa with respiratory distress, or facial / oral burns.

- Consider EKG monitoring. Treat rhythms as conditions as warrants.

- **FENTANYL 50-100 mcg** slow IV/IO push or IN

  or

- **MORPHINE SULFATE 2-5 mg** IV/IO push initial dose. May administer 5-10 mg IM if unable to obtain IV access. Titrate to effect with 2-5 mg increments every 3-5 minutes until one of the following occurs.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

*The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop.*
Basic Treatment Guidelines

- Follow Initial Treatment Protocol for All Patients.

Advanced Treatment Guidelines

- Obtain 12 lead EKG. Monitor for and treat any dysrhythmias found
- CPAP: If patient has adequate spontaneous breathing but with shortness of breath/dyspnea, hypoxia due to CHF/Pulmonary edema. Refer to and follow the Continuous Positive Airway Pressure (CPAP) procedure.

  - NITROGLYCERIN PASTE 0.5 inch transdermally if B/P > 90mm/hg systolic.

  Consider

  - MORPHINE SULFATE 2-5 mg IV/IO for initial dose and then 2-5 mg increments until patients improves or maximum of 20 mg has been delivered.

Special considerations

- Be prepared to intubate patient.
- As time allows, establish 2\textsuperscript{nd} point of IV access.
Basic Treatment Guidelines

Follow Initial Treatment Protocol for All Patients

- **EXPOSURE TO THE COLD**
  - Remove the patient from the cold environment- protect from further heat loss
  - Remove wet clothing and cover with blanket and keep warm
  - Handle the patient gently
  - Do not allow the patient to exert themselves
  - The patient should not be given anything by mouth
  - Do not massage extremities
  - Actively re-warm with hot packs to the neck, armpits and groin
  - Obtain vital signs every 5 minutes
  - Maintain horizontal position of patient
  - Avoid rough handling
  - Transport as soon as possible to an appropriate medical facility

- **LOCAL COLD INJURIES (FROSTBITE)**
  - Remove the patient from the cold environment
  - Protect the cold injured extremity from further injury
  - Remove wet or restrictive clothing
  - Do not rub or massage
  - Do not re-expose to the cold
  - Remove jewelry
  - Cover with dry clothing or dressing

- **COLD INJURY WITH DELAYED TRANSPORT**
  - Contact medical control prior to the following:
  - Start rapid re-warming (immerse the affected part in warm water of 100-105°F)
  - Monitor the water to ensure it does not cool from the frozen part
  - Continuously stir water
  - Continue until the part is soft and color and sensation return
  - Apply dry sterile dressings to the injured area
  - Protect against refreezing
Special Considerations:

- Do not allow the patient to eat or drink stimulants
- Unwarmed high flow oxygen may cause hypothermia
- The hypothermic heart may be unresponsive to defibrillation
- After failed initial resuscitative measures, avoid defibrillation until core temperature is greater than 86°F

Advanced Treatment Guidelines

- Administer oxygen unless patient condition warrants otherwise.
- Monitor EKG and treat dysrhythmias following appropriate protocol.
- Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
- Establish IV access, infuse as patient condition warrants
- **FENTANYL 50-100 mcg** slow IV/IO push or IN
  
  or

- **MORPHINE SULFATE 2-5 mg** IV/IO push initial dose. May administer 5-10 mg IM if unable to obtain IV access. Titrate to effect with 2-5 mg increments every 3-5 minutes until one of the following occurs.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop
Standard Procedure Guidelines

Basic Life Support (child & infant)

Date of Policy Change: 7/1/2011
New Policy: 1/1/14
Medical Director: Dr. Travis Kain

1. No movement or response
   Send someone to phone 911, get AED

2. Lone Rescuer: For SUDDEN COLLAPSE, PHONE 911, Get AED

3. Open AIRWAY, check BREATHING

4. If not breathing, give 2 BREATHS that make chest rise

5. If no response, check pulse: DEFINITE pulse within 10 seconds?
   - Definite Pulse
     - Give 1 breath every 3 seconds
     - Recheck pulse every 2 minutes

5A. No Pulse

6. One Rescuer: Give cycles of 30 COMPRESSIONS and 2 BREATHS
   Push hard and fast (100/min) and release completely
   Minimize interruptions in compressions

   Two Rescuers: Give cycles of 15 COMPRESSIONS and 2 BREATHS

7. If not already done, PHONE 911, for child get AED/defibrillator
   Infant (<1 year): Continue CPR until ALS responders take over or
   victim starts to move
   Child (>1 year): Continue CPR; use AED/defibrillator after 5 cycles of CPR
   (Use AED as soon as it is available for sudden, witnessed collapse)

8. Child >1 year: Check rhythm
   Shockable rhythm?
   - Shockable
     - Give 1 shock
     - Resume CPR immediately for 5 cycles
   - Not Shockable
     - Resume CPR immediately for 5 cycles
     - Check rhythm every 5 cycles; continue until
     - ALS providers take over or victim starts to move
Basic Treatment Guidelines

- Follow initial protocols for all patients
- If possible, obtain oxygen saturation level prior to applying oxygen.

Advanced Treatment Guidelines

- **CPAP** if patient has adequate spontaneous breathing but with shortness of breath, hypoxia due to Chronic Obstructive Pulmonary Disease (COPD). Refer to and follow the Continuous Positive Airway Pressure (CPAP) procedure.

- Administer **IPRATROPIUM 0.5mg** mixed with **ALBUTEROL 2.5mg** via nebulizer.

- Second dose **ALBUTEROL 2.5mg** via nebulizer

- **SOLU-MEDROL 125mg** IV over 1 minute for acute onset settings

- Consider **MAGNESIUM SULFATE 2-4G** in 10cc of NS given IV over 5 minutes if the patient is not responding promptly to previous treatments.
Standard Operating Protocol

CPAP

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<tr>
<th>Date of Policy Change</th>
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<tbody>
<tr>
<td>7/1/2011</td>
<td></td>
<td>1/1/14</td>
<td>Dr. Travis Kain</td>
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</table>

**Indications:**

- Treatment of Hypoxemia secondary to congestive heart failure (CHF) and acute cardiogenic pulmonary edema.
- Treatment for Hypoxemia and Shortness of Breath in Chronic Obstructive Pulmonary Disease (COPD)
- An adequately breathing patient

**Contraindications:**

- Respiratory Arrest
- Agonal Respirations
- Decreased level of consciousness/ inability to follow commands or directions
- Cardiogenic Shock
- Pneumothorax
- Penetrating chest trauma
- Persistent nausea/vomiting
- Facial Anomalies / Trauma

**Signs and Symptoms:**

- Adults in respiratory distress that have bibasilar rales or wheezes plus one of the following
- Increased work of breathing
- Initial room air O2 saturation < 90%
- Respiratory rate > 28/min
- Patient over 12 years old and mask fits patient’s face

**Procedure:**

- Assess Vital Signs
- Attach heart monitor and pulse oximeter
- If BP <100 systolic, contact Medical Control prior to beginning CPAP
- Verbally instruct patient:
  - Patient requires “verbal sedation” to be used effectively
• Example: Patient - “I can’t get air in!” Caregiver- “This will help you get air in.” “This will help you breath easier”.
• Start CPAP at 5 cm H2O- increase to 7.5 if patient is tolerating pressure at 5.0 cm, but is not improving significantly (i.e. SpO2> 92%; decreased work of breathing without evidence of tiring; improving skin parameters)
• Instruct patient to breath in through their nose slowly and exhale through their mouth as long as possible (count out loud slowly to four and then instruct to inhale slowly)
• Treatment should be given continuously throughout transport to ED
• Vitals should be assessed / recorded every 5 minutes
• If the patient condition deteriorates despite CPAP and/or medications, then terminate CPAP and manage airway as needed.
• Notify emergency department early during transport that CPAP is being utilized
Standard Procedure Guideline

Cricothyrotomy: Quicktrach

<table>
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Indications
- Inability to gain airway access by other means
- Upper airway obstruction
- Securing airway in a tactical environment when other means are not achievable or practical

Contraindications
- Pre-existing laryngeal pathology
- Anatomical barriers
- Anticoagulation therapy

Complications
- Injury to surrounding structures
- Severe hemorrhaging
- Esophageal perforation
- Aspiration of blood
- Subcutaneous and/or mediastinal emphysema
- Edema
- Infection

Procedure
- Place patient in supine position
- Hyperextend neck, if no c-spine concerns
- Locate cricothyroid ligament
- Firmly hold Quicktrach and puncture ligament at a 90 degree angle
- Aspirate air through syringe
- Change angle of insertion to 60 degrees and advance forward into trachea to the level of the stopper
- Remove stopper- Do NOT advance any further until the needle is removed
- Hold needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck
- Carefully remove the needle and syringe
- Secure the cannula with an appropriate securing device
- Apply the connecting tube to the 15mm connection and the other end to the BVM
- Ventilate the patient
EMS personnel are frequently called to the scene of a crime, and may or may not be the first agency to arrive. When entering a crime scene with the presence of police EMS personnel should be cautious and alert, noting persons, autos, etc. leaving or involved with a crime scene.

It is our policy that we will not enter a crime scene that has not been secured by the law enforcement agency having jurisdiction. Upon entering a scene and finding that it is a crime scene or a suspected crime scene, the law enforcement agency having jurisdiction should immediately be notified as well as the shift supervisor. EMS personnel should avoid touching or disturbing any items in the crime scene short of that which interferes with patient care. Dead bodies should not be moved if possible, and on-lookers should be prevented from entering or leaving the scene. Any non-essential responders should be cleared from the crime scene as soon as possible. Off duty personnel, or additional personnel arriving at the scene shall not be allowed to enter a crime scene if they are not needed for patient care. Always enter and leave the crime scene in the same route or door when possible. Remember to supply the law enforcement agency charged with investigating the crime scene with your name and unit number. All things noted by you will be considered privileged information and shall not be discussed, as it may compromise an investigation.
Basic Treatment Guidelines

- Follow Initial Treatment Protocol for All Patients.
- Determine exact time of symptom(s) onset if possible
- Notify Emergency Department of Stroke Alert if applicable.

Advanced Treatment Guidelines

- Perform a Cincinnati Stroke Test.
  - Facial droop
  - Arm drift
  - Speech deficit
- Obtain blood sugar level.
- If blood sugar < 60mg/dl, administer 50% DEXTROSE 25G slow IV/IO and observe for changes. If unable to establish IV/IO access, administer GLUCAGON 1mg IM.
- Gain IV/IO access
- Acquire a 12 lead EKG.
- Do not treat hypertension, regardless of systolic or diastolic readings. Repeat blood pressure every 5 minutes.
- Transport patient with their head elevated 30 degrees.
- Call prehospital Stroke Alert and transport to appropriate facility (Mercy or IMMC).
Classification: Carbohydrate

Mechanism of Action
Rapidly elevates blood glucose level.

Indications for Use
1. Hypoglycemia
2. Coma of unknown origin.

Contraindications
None when used in the emergency setting.

Precautions
Make sure IV is patent, extravasation of D50 may cause necrosis of tissue. Should be given slow push followed by flush of NS.

Dosage
Adult: 25g D50 (50ml) slow IV/IO
Peds: > 3 y.o. 1G/kg (4ml/kg) D25 slow IV/IO not to exceed 25G
< 3 y.o. 500mg/kg (2ml/kg) D25 slow IV/IO not to exceed 25G

Route
Intravenous
Intraosseous

Side Effects / Complications
Local venous irritation

NOTE: D25 can be created by injecting 50ml D50 into 50ml NS bag for pediatric patients. Fluid can then be withdrawn at the D25 concentration of 1G/4ml and used for pediatric patients (4ml/kg or 2ml/kg).
Medication Information

Diazepam (Valium)

Classification: Tranquilizer

Mechanism of Action
1. Anticonvulsant
2. Skeletal muscle relaxant
3. Sedative
4. Causes amnesia

Indications for Use
Skeletal muscle relaxant

Contraindications
Patients with hypersensitivity to the medication.

Precautions
1. Can cause local venous irritation.
2. Has short duration of effects.
3. Do not mix with other drugs because of possible precipitation problems.

Dosage
Muscle Spasm-5mg IV/IO
Sedation- 5mg IV/IO. May repeat in 5 minutes up to max of 10mg.

Route
Intravenous
Intraosseous

Side Effects / Complications
1. Drowsiness
2. Hypotension
3. Respiratory depression
4. Apnea
Classification: Antihistamine

Mechanism of Action
1. Blocks histamine receptors.
2. Has some sedative effects.

Indications for Use
1. Anaphylaxis
2. Allergic reactions
3. Dystonic reactions due to phenothiazine.

Contraindications
1. Asthma
2. Nursing mothers

Precautions
1. Hypotension

Dosage
Adults: 25-50mg - IV Slowly
Adults: 25-50mg IM
Peds: 1-2 mg/kg IV Slowly or IM to max of 25 mg.

Route
Slow IV push
Deep IM

Side Effects / Complications
1. Sedation
2. Dries bronchial secretions
3. Blurred vision
4. Headache
5. Palpitations
**Purpose:** This guideline is intended to avoid unwarranted resuscitation by emergency care providers in the out-of-hospital setting for a qualified patient (see note below). There must be a valid Out-Of-Hospital Do-Not-Resuscitate (OOH DNR) order or IPOST (Iowa Physician Orders for Scope of Treatment) form signed by the qualified patient’s attending physician or the presence of the OOH DNR identifier indicating the existence of a valid OOH DNR order.

**No resuscitation** means withholding any medical intervention that uses a mechanical or artificial means to sustain, restore or replace a spontaneous vital function including, but not limited to:

1. Chest compressions
2. Defibrillation
3. Advanced airways including Combitube or endotracheal intubation
4. Emergency drugs to alter cardiac or respiratory function or otherwise sustain life

**Patient criteria:** The following patients are recognized as qualified patients to receive no resuscitation:

1. The presence of the uniform OOH DNR order or uniform OOH DNR identifier, or,
2. The presence of the attending physician to provide direct verbal orders for care of the patient, or,
3. Properly completed IPOST form with validating signatures

The presence of a signed physician order on a form other than the uniform OOH DNR order form approved by the State may be honored if approved by the service program medical director. However, the immunities provided by law apply only in the presence of the uniform OOH DNR form, OOH DNR identifier or IPOST form. When the uniform OOH DNR form, OOH DNR identifier or IPOST form is not present, contact must be made with medical control and online medical control must concur that no resuscitation is appropriate.

**Revocation:** An OOH DNR order or IPOST form is deemed revoked at any time that a patient, or an individual authorized to act of the patient’s behalf as listed on the OOH DNR order or IPOST form, is able to communicate in any manner the intent that the order be revoked. The personal wishes of the family members or other individuals who are not authorized in the order to act on the patient’s behalf shall not supersede a valid OOH DNR order or IPOST form.

**Comfort Care:** When a patient has met the criteria for no resuscitation under the foregoing information, the emergency care provider should continue to provide that care which is intended to make the patient comfortable (Comfort Care). Whether the other types of care are indicated will depend upon the individual circumstances for which medical control may be contacted by the EMS agency personnel. **Comfort Care** may include, but is not limited to: pain medication, fluid therapy, and respiratory assistance (including oxygen and suctioning).

THE FOLLOWING PAGES CONTAIN ACCEPTED EXAMPLES OF THE OOH DNR ORDER AND THE IPOST FORM. THE ORIGINAL IPOST FORM IS A PEACH COLORED FORM PRINTED ON FRONT AND BACK.
# Standard Procedure Guidelines

## DO NOT RESUSCITATE (DNR)

<table>
<thead>
<tr>
<th>Date of Policy Change</th>
<th>New Policy</th>
<th>Revised Policy</th>
<th>Medical Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/11</td>
<td></td>
<td>1/13/17</td>
<td>Dr. Travis Kain</td>
</tr>
</tbody>
</table>

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Iowa Department of Public Health  
OUT-OF-HOSPITAL DO-NOT-RESUSCITATE ORDER  
(Please type or print)

<table>
<thead>
<tr>
<th>Date of Order:</th>
<th>/ /</th>
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<tbody>
<tr>
<td>Patient Information:</td>
<td>(First)</td>
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<tr>
<td>Name: (Last)</td>
<td></td>
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<tr>
<td>Address:</td>
<td>(City)</td>
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<tr>
<td>Date of Birth:</td>
<td>/ /</td>
</tr>
<tr>
<td>Name of Hospice or Care Facility (if applicable):</td>
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</table>

### Attending Physician Order

As the attending physician for the above-named patient, I certify that this individual is over 18 years of age and has a terminal diagnosis. After consultation with this patient (or the patient’s legal representative), I hereby direct any and all health care providers, including qualified emergency medical services (EMS) personnel, to withhold or withdraw the following life-sustaining procedures in accordance with Iowa law (Iowa Code chapter 144A):

- Cardiopulmonary Resuscitation/Cardiac Compression (Chest Compressions).
- Endotracheal Intubation/Artificial or Mechanical Ventilation (Advance Airway Management).
- Defibrillation and Related Procedures.
- Use of Resuscitation Drugs.

This directive does NOT apply to other medical interventions for comfort care.

<table>
<thead>
<tr>
<th>Signature of Attending Physician (MD, DO)</th>
<th>Date</th>
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**Printed** Name of Attending Physician

<table>
<thead>
<tr>
<th>Physician’s Telephone (Emergency)</th>
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To the extent that it is possible, a person designated by the patient may revoke this order on the patient’s behalf. If the patient wishes to authorize any other person(s) to revoke this order, the patient **MUST** list those persons’ names below:

<table>
<thead>
<tr>
<th>Name:</th>
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**Patients please note:** Directions for obtaining a uniform identifier are listed on the back of this form. The uniform identifier is the key way the health care provider and/or EMS personnel can quickly recognize that you have an Out-of-Hospital Do-Not-Resuscitate order. If you are not wearing an identifier, the health care provider and/or EMS personnel may not realize that you do not want to be resuscitated.

**Physicians please note:** Information regarding the completion of an Out-of-Hospital Do-Not-Resuscitate order is on the back of this form.
DO NOT RESUSCITATE (DNR)

Date of Policy Change: 7/1/11

New Policy: 

Revised Policy: 1/13/17

Medical Director: Dr. Travis Kain

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**Iowa Physician Orders for Scope of Treatment (IPOST)**

First follow these orders, THEN contact the physician, nurse practitioner or physician's assistant. This is a medical order sheet based on the person's current medical condition and treatment preferences. Any section not completed implies full treatment for that section. Everyone shall be treated with dignity and respect.

<table>
<thead>
<tr>
<th>A</th>
<th>Check one</th>
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<tbody>
<tr>
<td></td>
<td>CARDIOPULMONARY RESUSCITATION (CPR):</td>
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<th>B</th>
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<td>MEDICAL INTERVENTIONS:</td>
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<tr>
<td></td>
<td>Additional Orders:</td>
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<table>
<thead>
<tr>
<th>C</th>
<th>Check one</th>
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<tbody>
<tr>
<td></td>
<td>ARTIFICIALLY ADMINISTERED NUTRITION Always offer food by mouth if feasible.</td>
</tr>
<tr>
<td></td>
<td>No artificial nutrition by tube.</td>
</tr>
<tr>
<td></td>
<td>Defined trial period of artificial nutrition by tube.</td>
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<tr>
<td></td>
<td>Long-term artificial nutrition by tube.</td>
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<table>
<thead>
<tr>
<th>D</th>
<th>Medical Decision Making</th>
</tr>
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<tbody>
<tr>
<td>Directed by:</td>
<td>(listed in order of Iowa Code/Statute for Priority of Surrogates; check only one)</td>
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<tr>
<td></td>
<td>Patient</td>
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<td></td>
<td>Durable Power of Attorney for Health Care</td>
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<td></td>
<td>Spouse</td>
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<td></td>
<td>Majority of Adult Children</td>
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<td></td>
<td>Parents</td>
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<td></td>
<td>Majority rule for nearest relative</td>
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<tr>
<td></td>
<td>Other:</td>
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<tr>
<td></td>
<td>Rationale for these orders: (check all that apply)</td>
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<td></td>
<td>Advance Directives</td>
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<td>Patient’s known preference</td>
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<td>Limited treatment options</td>
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<tr>
<td></td>
<td>Poor prognosis</td>
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<td></td>
<td>Other:</td>
</tr>
</tbody>
</table>

| Physician/ARNP/PA signature (mandatory) | Print Physician/ARNP/PA Name | Date | Phone Number |

| Patient/Resident or Legal Surrogate for Health Care Signature as identified above (mandatory) | Date |

SEND IPOST WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED

DOCUMENT THAT IPOST FORM WAS TRANSFERRED WITH PERSON

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3
# Standard Procedure Guidelines

## DO NOT RESUSCITATE (DNR)

<table>
<thead>
<tr>
<th>Date of Policy Change</th>
<th>New Policy</th>
<th>Revised Policy</th>
<th>Medical Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/11</td>
<td></td>
<td>1/13/17</td>
<td>Dr. Travis Kain</td>
</tr>
</tbody>
</table>

Use of original form is strongly encouraged. Photocopies and Faxes of signed IPOST forms are legal and valid.

**HIPAA PERMITS DISCLOSURE OF IPOST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY**

<table>
<thead>
<tr>
<th>Information for Person named on this Form</th>
<th>Person’s Name (print)</th>
</tr>
</thead>
</table>

This form records your preferences for life-sustaining treatment in your current state of health. It can be reviewed and updated by your health care professional at any time if your preferences change. If you are unable to make your own health care decisions, the orders should reflect your treatment preferences as best understood by your surrogate.

**Contact Information**

<table>
<thead>
<tr>
<th>Surrogate (optional)</th>
<th>Relationship</th>
<th>Phone Number</th>
</tr>
</thead>
</table>

**Directions For Health Care Professionals**

**Completing IPOST**

- Must be completed by a health care professional based on patient treatment preferences and medical indications.
- IPOST must be signed by a physician, nurse practitioner or physician’s assistant to be valid. Verbal orders are acceptable with follow-up signature by physician, nurse practitioner or physician’s assistant in accordance with facility/community policy.
- Use of original form is strongly encouraged. Photocopies and FAXes of signed IPOST forms are legal and valid.

**Using IPOST**

- Any section of the IPOST not completed implies full treatment for that section.
- A semi-automatic external defibrillator (AED) should not be used on a person who has chosen “Do Not Attempt Resuscitation” unless otherwise specified.
- Deactivation of internal defibrillators if comfort measures only are in effect.
- Medications by alternative routes of administration to enhance comfort may be appropriate for a person who has chosen “Comfort Measures Only.”

**Voiding IPOST**

- A person with capacity, or the valid surrogate of a person without capacity, can void the form and request alternative treatment.
- To void this form, draw line through sections A through C and write “VOID” in large letters across the form and sign and date that line if IPOST is replaced or becomes invalid.
- Any changes require a new IPOST.

**Transferring/Discharging with IPOST**

- The IPOST form belongs to the person.
- The IPOST form MUST accompany the person upon all transfers between care settings.
- Document that the IPOST was sent with the person.
- Recommended use at home: Advise patient they must keep IPOST in easily accessible location that the ambulance service could find if no family or friends present (example may be in an envelope or baggie on the refrigerator).

**Reviewing IPOST**

- This IPOST should be reviewed periodically whenever:
  1. The person is transferred from one care setting or care level to another, or
  2. There is a substantial change in the person’s health status, or
  3. The person’s treatment preferences change.

<table>
<thead>
<tr>
<th>Reviewed by</th>
<th>Date</th>
<th>Reviewed by</th>
<th>Date</th>
<th>Reviewed by</th>
<th>Date</th>
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</thead>
</table>

Prepared by:

<table>
<thead>
<tr>
<th>Health Care Professional Preparing Form</th>
<th>Preparer Title</th>
<th>Phone Number</th>
<th>Date Prepared</th>
</tr>
</thead>
</table>

**ORIGINAL TO ACCOMPANY PERSON IF TRANSFERRED OR DISCHARGED**

**DOCUMENT THAT IPOST FORM WAS TRANSFERRED WITH PERSON**

Revised 07/23/09, 9/30/09, 3/18/09, 6/19/10, 4/25/12
**Classification:** Sympathomimetic

**Mechanism of Action**
1. Increases cardiac contractility
2. Causes peripheral vasoconstriction

**Indications for Use**
1. Significant hypotension (<100mg Hg) with signs and symptoms of hypoperfusion (shock).
2. Hypovolemic shock (only after complete fluid resuscitation).

**Contraindications**
Hypovolemic shock when complete fluid resuscitation has not occurred.

**Precautions**
1. Use with caution in cardiogenic shock and CHF.
2. Should not be administered in the presence of severe tachyarrhythmias.
3. Should not be administered in the presence of ventricular fibrillation.
4. Ventricular irritability.

**Dosage**
- **Adult:** 5-20 mcg/kg/min. Increase as needed and titrate to effect.
- Mix 400mg in 250ml of NS giving a concentration of 1600 mcg/ml.
- **Peds:** 2-20 mcg/kg/min.

**Route**
IV drip only

**Side Effects / Complications**
1. Vasoconstriction
2. Ventricular tachyarrhythmias
3. Hypertension
Drugs listed on this page are those referenced in the protocols. Medical Directors may add, delete, and/or substitute drugs as appropriate for their service program. Additional drugs, such as those from current AHA/ACLS guidelines, may be determined and/or used by the service program medical directors based upon identified EMS system factors.

<table>
<thead>
<tr>
<th>Basic</th>
<th>Advanced</th>
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<tbody>
<tr>
<td>Oxygen</td>
<td>Adenosine</td>
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<tr>
<td>Aspirin</td>
<td>Albuterol</td>
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<tr>
<td>Glucose Paste</td>
<td>Amiodarone</td>
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<tr>
<td>Patient Assisted Inhaler</td>
<td>Dextrose</td>
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<tr>
<td>Patient Assisted Epi Pen</td>
<td>Diphenhydramine</td>
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<td>Patient Assisted Nitroglycerin</td>
<td>Dopamine</td>
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<td>Epinephrine</td>
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<td>Etomidate</td>
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<td>Fentanyl</td>
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<td>Glucagon</td>
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<td>Ipratropium bromide/albuterol pre-mix</td>
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<td>Ketamine</td>
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<td>Lidocaine 2%</td>
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<td>Magnesium sulfate</td>
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<td>Narcan (naloxone)</td>
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<td>Nitroglycerine</td>
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<td>Normal saline</td>
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<td>Sodium bicarbonate</td>
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<td>Solu-medrol</td>
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<td>Succinylcholine</td>
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<td>Valium</td>
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<td>Versed (Midazolam)</td>
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<td></td>
<td>Zofran (Ondansetron)</td>
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</table>

Staff training must be documented & on file.

**SERVICE NAME:** Urbandale Fire Department

**PHYSICIAN MEDICAL DIRECTOR:** Dr. Travis Kain

Signature: _____________________________ Date: _______________
Indications
For sedation of:
- Combative patients
- Cardioversion
- Transcutaneous pacing

Basic Treatment Guidelines
Follow initial protocol for all patients.

Advanced Treatment Guidelines
- Consider MIDAZOLAM 2-5 mg increments until desired effect or a total of 10 mg.
- For combative patient with no IV access consider MIDAZOLAM 0.1 mg/kg IM up to total of 10 mg.
## Electrical Cardioversion

**Indications**
- In situations where there is rapid rhythm associated with inadequate cardiac output and sign of poor perfusion.
- Stable ventricular tachycardia with pulses refractory to Amiodarone and Lidocaine with presence of chest pain or hypotension.
- SVT refractory to Adenosine with presence of chest pain or hypotension.
- Wide complex tachycardia of unknown origin that is refractory to Amiodarone, Lidocaine and Adenosine with presence of chest pain or hypotension.

**Precautions**
- All of the precautions for defibrillation apply.
- A patient who is alert and oriented is probably perfusing adequately. Pharmacological intervention is the first modality of a stable patient.
- If sinus rhythm is achieved only transiently with cardioversion, subsequent cardioversion at higher energy setting will be of no additional value. Leave the energy setting the same and consider alteration of other variables.
- Beware of patients with chronic atrial fibrillation. They will not cardiovert easily and are almost certainly decompensated for another reason.
- Sinus tachycardia is a symptom of an underlying problem. The patient must be treated for the underlying cause. Initial treatment should be for shock if perfusion is poor. Cardioversion is not indicated.

**Procedure**
1. Remove all clothing covering the patient’s chest. Dry chest if necessary. If the patient has excessive chest hair, clip or shave to ensure proper adhesion of electrodes.
2. Attach ECG electrodes and monitor in lead II.
3. Apply Quik-Combo pads according to instructions. Ensure that electrodes are in good contact with the patient’s skin and are not covering any part of any other cables.
4. Ensure the Quik-Combo pads are securely attached to multi-function cables.
5. Consider elective sedation protocol.
6. Place selector switch to DEFIB position. Monitor ECG in lead II.
7. Select desired energy level.
8. Press the SYNC softkey. SYNC marker “↓” will appear on the monitor above each detected R-wave to indicate where discharge will occur. Verify that markers are clearly visible on the monitor and their location is appropriate and consistent from beat to beat. If necessary, use LEAD button and SIZE button to establish settings that yield the best display. **Unless otherwise configured, the unit automatically goes out of sync mode**
after each shock or if the selector switch has been moved to PACER or OFF. You will need to press the SYNC button again to reactivate sync mode.

9. Press the CHARGE button. Changing the selected energy while the unit is charging or charged will cause the defibrillator to disarm itself. Press the CHARGE button again to charge the unit.

10. After charging to selected energy, the SHOCK button will light along with an audible tone and the energy ready “SYNC XXXJ READY” message will be displayed on the screen. The defibrillator is now ready.

11. Warn all persons in attendance of the patient to stand clear prior to discharge. Verify that no one is in contact with the patient, monitoring cables or leads, bed rails, or any other potential current pathway.

12. Deliver the shock by pressing and HOLDING the shock button. The discharge will occur on the next detected R-wave.

13. Monitor for change in rhythm and treat accordingly.

Side Effects and Special Notes

- Erythema or irritation of skin will occur, particularly if good lubrication and skin contact are not achieved.
- Cardioversion is rarely indicated in children.
- Tachycardias are particularly devastating in patients with artificial valves which cannot move fast therefore causing circulatory backflow.
- Ventricular fibrillation and asystole are rare as complications of cardioversion and usually occur in the setting of a digitalis-toxic patient.
Standard Procedure Guidelines

Endotracheal Intubation

Indications

- Patient with respiratory compromise, deep coma, respiratory arrest, or cardiopulmonary arrest.
- Patient where complete obstruction of the airway appears imminent (i.e. respiratory burns)

Contraindications

- Patient with intact gag reflex.
- Patient with preexisting condition that may cause laryngeal spasm (i.e. epiglottitis, croup)

Possible Complications

- Accidental intubation of the esophagus.
- Oropharyngeal trauma.
- Fractured teeth or dentures.
- Spasm of the vocal cords.

Procedure

1. Prepare and check equipment.
2. Ventilate patient with 100% oxygen.
3. Place the patient in the sniffing position and with the head extended, unless c-spine injury is present or suspected. If so, maintain in-line neutral position during intubation.
4. Insert laryngoscope into mouth and visualize cords.
5. Use endotracheal tube exchanger (Bougie) to facilitate intubation if needed. Insert curved tip through the vocal cords, gently advance into trachea approximately 2-3cm, feel the tip of the endotracheal tube exchanger tapping tracheal rings to confirm tracheal placement. Carefully advance the endotracheal tube over the endotracheal tube exchanger until it is at the appropriate distance to the lips. Remove endotracheal tube exchanger.
6. If step 5 is not needed, insert ETT while maintaining visualization as the tube passes through the laryngeal opening.
7. Inflate cuff with 5-10cc of air.
8. Ventilate and check tube placement by auscultating epigastric area first, then axillary areas.
9. Confirm ETT placement with End-Tidal C02 detector.
10. Secure tube with appropriated device or tape.

NOTE: King Vision may be used if direct laryngoscopy is unsuccessful or difficult airway signs are discovered and documented using LEMON acronym (Look, Evaluate, Mallampati, Obstruction, Neck Mobility).

WHEN KING VISION IS USED, THE BULB SHOULD BE INFLATED PRIOR TO REMOVING THE ETT FROM THE KING VISION BLADE.
Classification: Sympathomimetic

Mechanism of Action
1. Increases heart rate and cardiac contractility.
2. Causes bronchodilation.

Indications for Use
1. Cardiac arrest.
2. Anaphylactic shock
3. Bronchial asthma.

Contraindications
1. Patients with underlying cardiovascular disease.
2. Hypertension
3. Pregnancy
4. Patients with tachyarrhythmias
5. None in the cardiac arrest setting.

Precautions
1. Should be protected from light.
2. Can be deactivated by alkaline solutions.
3. Blood pressure, pulse, and EKG must be constantly monitored.

Dosage
**Adult:** Cardiac Arrest - 1mg IVP every 3-5 min.
Anaphylaxis - 0.3 - 0.5mg SQ

**Peds:** 0.01 mg/kg SQ
0.1 mg/kg(0.1 ml/kg) ETT

Route
1. Intravenous
2. Endotracheal
3. Intraosseous

Side Effects / Complications
1. Tachyarrhythmias
2. Palpitations
3. Anxiousness
4. Headache
5. Tremor
Classification: Sympathomimetic

Mechanism of Action
- Increases heart rate.
- Increases cardiac contractility.
- Causes bronchodilation.

Indications for Use
- Cardiac arrest.
- Anaphylactic shock

Contraindications
- None when used in situations listed.

Precautions
- Should be protected from light.
- Can be deactivated by alkaline solutions.

Dosage
- **Adults:** Cardiac Arrest - 1mg IVP every 3-5 minutes
  - Severe Anaphylaxis / Asthma - 0.5 - 1.0mg IV
- **Peds** 0.01mg/kg(0.1ml/kg) IV, IO
  - 0.1-1.0mcg/kg Infusion, initial dose; may require higher doses

Route
1. Intravenous
2. Endotracheal
3. Intraosseous

Side Effects / Complications
1. Tachyarrhythmias
2. Palpitations
**Classification:** Non-barbiturate hypnotic

**Action**
General anesthetic without analgesic activity; has minimal effects on myocardial activity, BP and respirations; onset: 30-60 seconds; duration: 3-5 minutes

**Indications**
For general anesthesia in medicated airway management. May be used in conjunction with pharmacological paralysis if indicated.

**Contraindications**
1. Known hypersensitivity
2. Inability to manage airway with BVM

**Precautions**
1. Make sure all possibly needed medications and equipment are prepared prior to beginning Medicated Airway Management protocol.
2. Maintain patent airway and assist respirations as necessary.

**Adverse Reactions**
1. Hypotension
2. Transient pain at injection site.
3. Transient clonic jerking of skeletal muscle
4. Nausea and/or Vomiting
5. Hiccoughs
6. Laryngospasm
7. Allergic reactions (rare)

**Dosage**
- **Adult** – 0.3 mg/kg IV/IO
- **Pediatric** - 0.5 mg/kg IV/IO

**Route**
- Intravenous
- Intraosseous
Indications
• Hemodynamically unstable bradycardias (heart rate <60, blood pressure <90) that are unresponsive to Atropine.
• Some cases of bradyasystolic arrests, including post-defibrillation asystole that are unresponsive to ACLS drug therapy.

Contraindications
None when used in the emergency setting.

Procedure
1. Apply external pacing electrodes in the proper position and connect to Zoll Series via dual purpose cables. The 4 lead monitoring patches must be on and the lead selector must be in Lead I, II or III. The pacer will not function if using fast patch system for monitoring in "paddles" mode.
2. Apply external pacing pads according to the instructions on the product. Ensure that all electrodes are making good contact with the patient’s skin and are not covering any part of the other electrodes.
3. If pacing a conscious patient, pain/discomfort from the pacing current may be excessive. Consider VALIUM 2-10 mg slow IV push or VERSED 1-3 mg IVP if sedation is indicated.
4. Turn selector switch to PACER.
5. Set PACER OUTPUT to 0 mA. If the unit has just been turned on, the PACER OUTPUT will automatically be set to 0 mA.
6. Set PACER RATE to a value 10-20 bpm higher than patient’s intrinsic rate. If no intrinsic rate exists, use 100 bpm.
7. Increase PACER OUTPUT mA until stimulation is effective (capture)
8. Determine capture. Electrical capture is determined by the presence of a widened QRS complex, the loss of any underlying intrinsic rhythm, and the appearance of an extended, and sometimes enlarged T-wave. Mechanical capture is assessed by palpation of peripheral pulse. In order to avoid mistaking muscular response to pacing stimuli for arterial pulsations the FEMORAL and RIGHT BRACHIAL or RADIAL arteries are the ONLY recommended locations for palpating pulse during pacing.
9. Determine optimum threshold. The ideal output current is lowest value that will maintain capture. This is usually about 10% above threshold. Typical threshold currents are between 40 and 80 mA. Location of pacing pads will affect the current required to obtain capture.

10. Constant monitoring for loss of capture should be performed.

**Asynchronous Pacing**
If ECG electrodes are not available or there is some circumstance that prevents or interferes with the surface ECG, it may be necessary to operate the pacemaker asynchronously. Asynchronous pacing should only be performed in emergency situations when there are no other alternatives.

To pace asynchronously press the AAAsync Pacing On / OFF@ softkey. The display will showAASYNC PACE@ to indicate that asynchronous pacing has been activated. To return to demand pacing, press the AAAsync Pacing On / OFF@ softkey again and the display will return to APACE@.

**Pediatric Pacing**
Noninvasive pacing of pediatric patients is done in an identical manner to adult pacing.
Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients.

- Assess extent of injury, including presence or absence of pulse
- Establish and maintain manual stabilization of injured extremity by supporting above and below the injury.
- Remove or cut away all clothing and jewelry.
- Cover open wounds with a sterile dressing
- Do not intentionally replace any protruding bones.
- Apply cold pack to area of pain or swelling.
- If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting and transport immediately. Reassess extremity for PMSC after splinting.
- Pad each splint to prevent pressure and discomfort to the patient.
- Splint the patient before moving when feasible.

*FOR SEVERE EXTREMITY INJURIES, REFER TO TRAUMA PROTOCOL*

Advanced Treatment Guidelines

- Administer oxygen unless patient condition warrants otherwise.
- Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
- Administer **FENTANYL 50-100 mcg** slow IV/IO push or IN.
- Administer **MORPHINE SULFATE 2-5 mg** IV/IO push initial dose. May administer 5-10mg IM if unable to obtain IV access. Titrate to effect with 2-5 mg increments every 3-5 minutes until one of the following occurs:
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

- Consider **VALIUM 1-5 mg** for muscle spasms that may be present with fractures, dislocations or strains.

The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop.
Indications:
Intravenous fluids or medications are urgently needed and a peripheral IV cannot be established in 2 attempts or 90 seconds AND the patient exhibits one or more of the following:

- An altered mental status (GCS of 8 or less)
- Respiratory compromise: (SaO2 90% after appropriate oxygen therapy, RR <10 or > 40/min).
- Hemodynamic instability (Systolic BP <90mm HG)

EZ-IO should be considered prior to peripheral IV attempts in the following situations:

- Cardiac arrest
- Profound hypovolemia with altered mental status
- Patient in extremis with immediate need for delivery of fluids and/or medications

Contraindications:
Fracture of the bone selected for IO insertion.
Excessive tissue at the insertion site with the absence of anatomical landmarks.
Previous significant orthopedic procedures (IO with 24 hours, prosthesis, etc)
Infection at the insertion site

Precautions:
THE EZ-IO IS NOT INTENDED FOR PROPHYLACTIC USE

Considerations:
PAIN: Insertion of the EZ-IO in conscious patients has been noted to cause mild to moderate discomfort. HOWEVER, IO infusion for conscious patients has been noted to cause severe discomfort

Prior to IO syringe bolus or continuous infusion in alert patients, SLOWLY administer preservative free Lidocaine 2% through the EZ IO hub (ensure patient has no allergies or sensitivity to Lidocaine). Dosage as follows:

EZ-IO AD-slowly administer 20-40mg Lidocaine 2%
EZ-IO PD-slowly administer 0.5mg/kg Lidocaine 2%
**FLOW RATE:** Due to the anatomy of the IO space, flow rates may appear to be slower than those achieved with an IV catheter.

Ensure the administration of an appropriate rapid SYRINGE bolus (flush) prior to infusion. NO FLUSH=NO FLOW.

EZ-IO AD=Rapid syringe bolus with 10ml NS
EZ-IO PD=Rapid syringe bolus with 5ml of NS

To improve continuous flow rates, always use a syringe or pressure bag.

**Equipment:**

EZ-IO driver
EZ-IO AD or EZ IO PD needle set
Alcohol or Betadine swab
EZ-Connect or standard extension set
10ml syringe
1000cc bag of NS
Pressure infuser bag
2% Lidocaine (preservative free)
EZ-IO yellow wristband
**Procedure:**

If patient is conscious, advise of EMERGENT NEED for this procedure and obtain informed consent.

1. Wear approved BSI equipment
2. Determine EZ-IO AD or EZ-IO PD indications
3. Rule out contraindications
4. Locate insertion site at proximal tibia or proximal humerus.
5. Prepare insertion site using aseptic technique
6. Prepare EZ-IO Driver and appropriate needle set
7. Stabilize the site insert appropriate needle set
8. Remove EZ-IO Driver from needle set while stabilizing catheter hub
9. Remove stylette from catheter, place stylette in sharps container
10. Confirm placement
11. Connect primed EZ-Connect
12. Slowly administer 20-40mg of preservative free Lidocaine 2% IO to conscious adult patients (0.5mg/kg in pediatrics)
13. Syringe bolus (flush) the EZ-IO catheter with the appropriate amount of normal saline
14. Utilize pressure (pressure bag or syringe bolus) for continuous infusions
15. Begin infusion
16. Dress site, secure tubing and apply wristband as directed
17. Monitor EZ-IO site and patient condition - Remove catheter within 24 hours
**Classification:** Narcotic Analgesic

**Mechanism of Action**
1. Inhibits pain pathways in CNS
2. Increases pain threshold
3. Alters pain perception

**Indications for Use**
Severe pain (non-cardiac)

**Contraindications**
1. Hypersensitivity to opiates
2. Myasthenia gravis

**Precautions**
1. Elderly
2. Respiratory depression
3. Increased ICP
4. Seizure disorders
5. Respiratory disorders
6. Cardiac dysrhythmias

**Dosage**
- Adults 50-100 mcg. to total of 200 mcg. IV/IO/IN
- Adults 50-100 mcg IM.
- Peds 2-3 mcg/kg to max of 5.0 mcg/kg to total of 200 mcg IV/IO.

**Route**
IV/IO/IM/IN

**Side Effects / Complications**
1. Dizziness, delirium, euphoria
2. Nausea, vomiting
3. Muscle rigidity
4. Blurred vision
5. Cardiac arrest, bradycardia
6. Hypertension, hypotension
7. Respiratory arrest/depression, laryngospasm
Medication Information

**Furosemide (Lasix)**

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<td>1/1/14</td>
<td>Dr. Travis Kain</td>
</tr>
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</table>

**Classification:** Potent diuretic

**Mechanism of Action**
1. Inhibits reabsorption of sodium chloride.
2. Promotes prompt diuresis.

**Indications for Use**
1. Congestive heart failure
2. Pulmonary edema

**Contraindications**
1. Pregnancy
2. Dehydration
3. Hypotension

**Precautions**
1. Should be protected from light.
2. Dehydration

**Dosage**
40-80 mg IVP over 1-2 minutes

**Route**
IV

**Side Effects / Complications**
Hypotension secondary to diuresis.
**Classification:** Hormone

**Mechanism of Action**
- Causes breakdown of glycogen to glucose.
- Inhibits glycogen synthesis.
- Elevates blood glucose level.
- Increases cardiac contractile force.
- Increases heart rate.

**Indications for Use**
- Hypoglycemia

**Contraindications**
- Hypersensitivity to the drug.

**Precautions**
- Only effective if there are sufficient stores of glycogen within the liver.
- Use caution in patients with cardiovascular or renal disease.
- Draw blood glucose prior to administration.

**Dosage**
- **Adult:** 1mg IM
- **Peds:** < 20kg: 0.5mg IM

**Route**
- Intramuscular injection.

**Side Effects / Complications**
- Few in emergency situations
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Remove the patient from the hot environment and place in a cool environment.
- Loosen or remove clothing.
- Place in recovery position.
- Cool patient by fanning, applying water and cool packs to neck, groin and armpits.
- If patient is alert, stable and not nauseated, have the patient slowly drink small sips of water.
- If patient is unresponsive or is vomiting, transport to an appropriate medical facility with the patient on their left side.

Advanced Treatment Guidelines
Monitor EKG and treat dysrhythmias following the appropriate protocol(s)

Special Considerations:
Not all heat emergencies are environmental in nature. They may have febrile or neurological etiology.

- High body temperature may cause seizures
- Rapid cooling may cause vomiting
At a minimum, all providers should do the following when dealing with a patient who is conscious and able to communicate:

1. Obtain the patient’s verbal consent prior to patient contact, evaluation or treatment.
2. Assess the patient’s ability to understand the medical condition and information communicated.
3. Be courteous to any patient who refuses an offer of evaluation, treatment, or transportation.
4. Evaluate the patient to determine the urgency of the condition.
5. Determine if the patient is capable of seeking assistance or taking actions for his/her own well being. **Refer to the “Restraint / Transportation Against Patient Will” procedure for more guidelines when a patient’s competency to refuse care and evaluation is in question.**
6. If the patient refuses treatment and/or transportation, fully describe the potential consequences of their decision, and encourage them to immediately re-contact 911 if their condition worsens or further medical assistance is needed.

A managing conservator is an individual appointed by the court, usually during divorce proceedings, to have custody of a minor, to make decisions for the minor and to make a home for the minor. A managing conservator is responsible for caring for the minor.

- Refer to the State of Iowa basic care protocol for the Basic Treatment Guidelines.
- Initial treatment protocol shall be considered the content of this Initial Protocol for all patients.
- Advanced patient care protocols shall be the Urbandale Fire Department Protocols.
- Any person weighing greater than 90lbs (40kg) or is greater than 12 years of age should be administered adult medication doses unless otherwise specified in the protocol.
- Any person weighing less than 90lbs (40kg) or is less than 12 years of age should be administered pediatric medication doses unless otherwise specified in the protocol.
Scene Size-up
While responding review dispatch information. As you approach the scene, assure safety for yourself and the patient. Establish and follow Incident Management System.

BSI (Body Substance Isolation)
Prior to patient assessment, employ precaution to prevent contact with potentially infectious body fluid or materials.

Initial Assessment
Perform initially on every patient to form a general impression of needs and priorities

Assess mental status. Maintain spinal immobilization if needed. Begin by speaking to the patient. State your name, tell the patient that you are an EMT, and explain that you are here to help.

A) Assess the patient’s airway status
1) Responsive patient- assess for adequacy of breathing
2) Unresponsive patient- check for and maintain open airway
   a) Position the patient according to age and size
   b) Trauma patients or those with unknown nature of illness, the cervical spine should be stabilized/immobilized and the jaw thrust maneuver performed as indicated

B) Assess the patients breathing
1) If breathing is adequate and the patient is responsive, oxygen may be indicated
2) Maintain oxygenation with Nasal Cannula or Non-Rebreather mask if oxygen saturations are below 94% titrate to 94%-96%
3) All responsive patients breathing >29 breaths per minute or <10 breaths per minute should receive high flow oxygen (10-15LPM via non-rebreather mask)
4) If the patient is unresponsive and the breathing is adequate, provide high concentration oxygen
5) If the breathing is adequate, assist the patient’s breathing and utilize basic and/or advanced airway adjuncts, and high flow oxygen.
6) If the patient is breathing spontaneously on initial assessment but without adequate ventilation present
   a) Check airway for obstruction and clear if needed
b) After airway is clear, assist ventilations with an appropriate airway adjunct and oxygen
c) If adequate ventilation is not maintained proceed to an advanced airway.

7) If the patient is not breathing:
   a) Open the airway with a head-tilt, chin-lift maneuver, or modified jaw thrust maneuver. If patient begins to breathe assist ventilations at an adequate rate & depth. Continue to reassess.
   b) If head tilt chin lift not successful check airway for obstruction and clear if needed.
   c) After airway clear, assist ventilation
d) If adequate ventilation is not maintained proceed to an advanced airway.

8) COPD patients:
   a) If in no distress, administer oxygen by NC (usually 1-2LPM)
   b) If in distress, use high flow oxygen by mask and be prepared to use ventilator adjunct.
9) If utilizing pulse oximetry, titrate oxygen delivery to keep oxygen saturation greater than 90 percent.
10) If utilizing endotracheal intubation, confirm placement with an end-tidal CO2 detector or esophageal detection device.
11) Secure the endotracheal tube with a manufactured tracheal tube holder to prevent dislodgment and utilize end-tidal CO2 monitoring or capnography to detect dislodgment, and assure head immobilization to prevent tube dislodgment.

C) Assess the patient’s circulation
   1) Check for a pulse. If absent begin CPR
   2) Check for major bleeding. If present, control
   3) Check perfusion by evaluating skin color and temperature

NOTE: Repeat evaluation, effects of interventions and vitals every 5 minutes for unstable patients and every 15 minutes for stable patients.

Assess the patient and determine if the patient has a life threatening condition
   A) If a life threatening condition is found, treat immediately
   B) Assess nature of illness(NOI) or mechanism of injury (MOI)
   C) Monitor EKG and treat dysrhythmias following the appropriate protocol(s) / current ACLS guidelines.
Identify Priority Patients

A) Consider
   1) Poor general impression
   2) Unresponsive patients
   3) Responsive, not following commands
   4) Breathing difficulty
   5) Shock (hypoperfusion)
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   7) Chest pain with suspected MI
   8) Uncontrolled breathing
   9) Severe pain
   10) Syncope
   11) Acute brain attack (CVA / TIA)

B) Trauma patients
   Follow the Out of Hospital Trauma Triage Destination Decision Protocol for identification of time critical injuries, method of transportation and trauma facility resources necessary for treatment of those injuries.

Conduct the appropriate focused history and physical examination

Treatment:

A) Follow specific protocol(s) and standing orders approved by the service Medical Director.

B) IV’s should be started en route to the hospital, except when there is an unavoidable delay. If Paramedic level intervention for an unstable patient requires IV access, the IV should be started as soon as feasible.

   1) Venous access can be achieved using
      a) Saline lock- used only on patients who have stable vital signs and do not require volume replacement
      b) IV of Normal Saline for IV fluid administration.
c) Intraosseous access should be considered in a life threatening situation and other IV access is not possible

d) Use pre-existing venous port access during an emergency.

2) IV fluid administration is at the following rates:
   a) TKO- slow drip for patients that may need IV medication or fluid bolus
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Before administration of a drug you must ask yourself the following questions as you select the medication and confirm that it is not expired.
1. Do I have the right patient?
2. Is this the right medication?
3. Is this the right dose?
4. Is the medication within date?
5. Am I giving this medication by the right route of administration?

Transporting / Tiers

A) Patients should be transported as soon as feasible to an appropriate medical facility. Immediate transport with treatment en route is recommended for patients with significant trauma or unstable airways.

B) Tier with an appropriate service if assistance or level of care needs exist and can be met timely through tiered response.

Communications

A) Contact medical direction as soon as feasible in accordance with local protocol for further orders. For seriously injured or critically ill patients, give a brief initial report from the scene when possible, with a more detailed report given to medical direction while en route.

B) Call Poison Control for direction when called to a poisoning case.

C) When communicating with medical direction or receiving facility, a brief verbal report should include these essential elements when possible
   1) Identify your unit and level of provider
   2) Patient’s age and sex
3) Patient’s Physician
4) Patient’s chief complaint
5) Brief pertinent history of the present illness
6) Major past illnesses
7) Baseline vital signs including mental status/ GCS when appropriate
8) Pertinent findings of physical exam
9) Emergency medical care given
10) Patient response to emergency care given
11) Estimated time of arrival
12) Initiate Out of Hospital Trauma Alert if indicated

D) Advise receiving facility of changes occurring in patient’s status en route. Update patient status upon arrival at the receiving facility.

E) Complete written patient care report and provide a copy as soon as possible for the receiving facility to assure continuity of patient care.

**Other**

A) Notify dispatch when assignment is completed. Clean, restock, and check over the vehicle and equipment for next assignment.

B) Consider having a Critical Incident Stress Management (CISM) provided anytime rescuers and health care providers have been involved in a major incident or one which produces an adverse reaction.

C) Remember the importance of patient confidentiality.

D) You may need to use more than one protocol for any single patient.

E) Physician on scene if involved should be qualified and willing to remain with patient.
At a minimum, all providers should do the following when dealing with a patient who is conscious and able to communicate:

1. Obtain the patient’s verbal consent prior to patient contact, evaluation or treatment.
2. Assess the patient’s ability to understand the medical condition and information communicated.
3. Be courteous to any patient who refuses an offer of evaluation, treatment, or transportation.
4. Evaluate the patient to determine the urgency of the condition.
5. Determine if the patient is capable of seeking assistance or taking actions for his/her own well being. Refer to the “Restraint / Transportation Against Patient Will” procedure for more guidelines when a patient’s competency to refuse care and evaluation is in question.
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Indications
The intranasal route may be used for administering medications as an alternate route for the following medications:
- Fentanyl
- Midazolam (Versed)
- Naloxone (Narcan)
- Ketamine (Ketalar)

Contraindications
- Epistaxis
- Facial trauma
- Nasal congestion or discharge
- Any recognized nasal mucosal abnormality

Equipment
- 3cc syringe with MAD (Mucosal Atomization Device) attached
- Appropriate medication

Procedure
1) Determine correct medication
2) Disconnect MAD from included syringe
3) Fill syringe with desired volume of medication and eliminate remaining air
4) Reconnect the MAD to the syringe
5) Place the MAD tip in the nostril
6) Compress the syringe plunger to spray ½ of the atomized solution in each nostril
7) The MAD may be reused on the same patient as needed

Dosages
Pain Relief (FENTANYL)
Adults: 50-100 mcg as needed. Max dose of 200 mcg total
Pediatrics: 1 mcg/kg as needed. Max dose 3 mcg/kg

Pain Relief with hypotension only (KETAMINE)
Adults: 0.5 mg/kg IN. May repeat in 5 minutes at 0.5 mg/kg. May be used secondary to ineffective pain control with morphine or fentanyl as well.

Seizures (MIDAZOLAM-VERSED)
Adults: 0.1-0.2 mg/kg. Max dose 10mg
Pediatrics: 0.1 mg/kg

Unconscious patients (NALOXONE-NARCAN)
Adults: 2 mg. May repeat after 3 minutes. See note below.
Pediatrics: None

**NOTE:** Adult patient should regain respiratory drive prior to administration of 8mg. If no change after 3 doses, OD is not narcotic related and medic should be looking at other causes for patient condition. Max dose is 10mg.
Indications
- Child who is less than 8 years of age.
- Existence of shock or cardiac arrest.
- Unresponsiveness.
- Attempts at peripheral IV insertion unsuccessful.

Contraindications
- Placement of an intraosseous line distal to a fractured bone, (i.e. tibial placement with femur fracture.)

Possible Complications
- Osteomyelitis
- Fracture

Procedure
1. Prep the anterior surface of the leg below the knee.
2. Insert the intraosseous needle in a twisting fashion, 1-3 cm below the tibial tuberosity. Insertion should be slightly inferior in direction and perpendicular to the skin. Successful placement can be determined by noting a lack of resistance as the needle passes through the bony cortex. Other indications include the needle standing without support.
3. Confirm placement by aspirating with a syringe. Bloody tinged bone marrow should be present. Your IV should flow freely.
4. Secure needle with tape as needed.
Indications

1. Trauma: To replace lost fluids, electrolytes, or blood products.
2. Medical: To maintain immediate access to the circulatory system for the administration of medications.

Contraindications
- None

Possible Complications

1. Pain at puncture site.
2. Hematoma or infiltration.
3. Local infection.
5. Inadvertent arterial puncture.
6. Circulatory overload.
7. Thrombophlebitis
8. Air embolism.

Procedure

1. Locate suitable site.
2. Place a constricting band to halt venous return, without obstructing arterial flow.
3. Locate a suitable vein.
4. Cleanse the site.
5. Insert needle and catheter. With the bevel up, enter the skin at about a 30-45 degree angle until you feel the needle pop into the vein and see a flashback of blood. Then reduce he angle with the skin and ease the catheter about 1cm further.
6. While holding the needle hub, advance the catheter with gentle twisting motion. Continue advancement until the catheter hub is about 1cm from site.
7. Place one finger firmly on the vein just above the end of the catheter to occlude blood
8. Flow while you withdraw the needle.
9. Hold the catheter firmly in place and attach the primed IV administration set or primed saline lock.
10. Allow fluid to flow at appropriate rate if administration set is used or flush with 5-10ml NS if saline lock.
11. Secure the catheter and tubing with tape or device.
12. Monitor for infiltration, local irritation.
Medication Information

Ipratropium bromide 0.5mg/albuterol 3mg

<table>
<thead>
<tr>
<th>Date of Policy Change</th>
<th>New Policy</th>
<th>Revised Policy</th>
<th>Medical Director</th>
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<tbody>
<tr>
<td>7/1/2011</td>
<td></td>
<td>11/13/16</td>
<td>Dr. Travis Kain</td>
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</tbody>
</table>

**Classification:** Anticholinergic, Bronchodilator

**Mechanism of Action**
Inhibits interaction of acetylcholine at receptor sites on bronchial smooth muscle, resulting in bronchodilation

**Indications for Use**
Wheezes in Asthma, COPD, Anaphylaxis

**Contraindications**
1. Hypersensitivity to this medication
2. Hypersensitivity to Atropine
3. Hypertrophic cardiac myopathy
4. Pregnancy or breast feeding

**Precautions**
1. Pregnancy
2. Narrow-angle glaucoma

**Dosage**
3ml contains 0.5mg ipratropium bromide and 3mg albuterol

**Route**
Inhalation

**Side Effects / Complications**
1. Dizziness, anxiety, headache
2. Nausea, vomiting, cramps
3. Rash
4. Blurred vision, dry mouth
5. Cough
6. Palpitations
Classification: Anesthetic

Mechanism of Action
Rapid acting nonbarbiturate anesthetic

Indications for Use
Induction agent for medication assisted airway management
Pain control secondary to morphine or fentanyl administration

Contraindications
- Eye injury
- Severe hypertension
- Myocardial ischemia
- Underlying ischemic cardiac disease

Precautions
Ensure equipment is prepared for immediate endotracheal intubation

Dosage
2 mg/kg IV/IO for induction agent
0.2 mg/kg IV/IO for pain control after morphine or fentanyl
or
0.5 mg/kg IN for pain control. May repeat in 5 minutes at 0.5 mg/kg.

Route
IV/IO
IN for pain control only

Possible Side Effects or Complications
- Hypersensitivity
- Respiratory depression
- Increased intracranial pressure
- Bradycardia
- Vivid dreams
Classification: Local Anesthetic

Mechanism of Action
If the patient responds to pain; 2% Lidocaine without preservatives or epinephrine (cardiac Lidocaine) has been demonstrated to be an effective local anesthetic for numbing the intraosseous space.

Indications for Use
Pain associated with EZ IO insertion and IV fluid delivery

Contraindications
Known hypersensitivity to anesthetics of the amide type or to any of the excipients in the injection.

Precautions
Allergies or sensitivity to Lidocaine. As with other local anesthetics, lidocaine should be used with caution in patients with epilepsy, impaired cardiac conduction, congestive cardiac failure, bradycardia or impaired respiratory function, if the dose or site of administration is likely to produce high blood levels. Lidocaine is metabolized in the liver and it should be used with caution in patients with impaired hepatic function.

Dosage
Adults: 20-40mg Slow IVP
Peds: 0.5mg/kg Slow IVP

Route for 2% Lidocaine
- IVP through the EZ IO system

Side Effects / Complications
- CNS manifestations: excitatory and/or depressant and may be characterized by lightheadedness, nervousness, apprehension, euphoria, confusion, dizziness, drowsiness, tinnitus, blurred or double vision, vomiting, sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, respiratory depression and arrest. The excitatory manifestations may be very brief or may not occur at all, in which case the first manifestation of toxicity may be drowsiness merging into unconsciousness and respiratory arrest.
- Drowsiness following the administration of lidocaine is usually an early sign of a high blood level of the drug and may occur as a consequence of rapid absorption.
- Cardiovascular System: Cardiovascular manifestations are usually depressant and are characterized by bradycardia, hypotension, and cardiovascular collapse, which may lead to cardiac arrest.
Classification: Antiarrhythmic

Mechanism of Action
1. Suppress ventricular ectopic activity.
2. Increase ventricular fibrillation threshold.
3. Reduces velocity of electrical impulse through conductive system.

Indications for Use
1. Malignant PVC’s.
2. Ventricular tachycardia
3. Ventricular fibrillation.
4. Prophylaxis of arrhythmias associated with acute myocardial infarction.

Contraindications
1. High degree heart blocks.
2. PVC’s in conjunction with bradycardia.

Precautions
1. Dosage should not exceed 3mg/kg in 24 hour period.
2. Monitor for CNS toxicity.

Dosage
Adults:
Ectopy: Initial bolus of 1-1.5 mg/kg. Additional bolus of 0.5 - 0.75 mg/kg can be repeated at 8-10 minute intervals until the arrhythmia has been suppressed or until 3mg/kg have been administered.
V-Fib: 1.5 mg/kg can be repeated in 3-5 minutes.
IV Drip: After arrhythmia suppressed a 2-4 mg/min infusion may be started.

Peds:
1.0 mg/kg IV, IO, ETT

Route
1. Intravenous bolus
2. Intravenous infusion
3. Endotracheal
4. Intraosseous

Side Effects / Complications
1. Anxiety
2. Convulsions
3. Drowsiness
4. Widening of QRS
5. Dizziness
6. Confusion
7. Psychosis
8. Nausea/vomiting
## Classification:
Anticonvulsant

## Mechanism of Action
1. CNS depressant
2. Anticonvulsant
3. Bronchodilator
4. Smooth muscle relaxer (bronchial, uterine, coronary)

## Indications for Use
1. Severe bronchospasm.
2. Tricyclic overdose
3. Ventricular fibrillation or Tachycardia refractory to Lidocaine
4. Cardiac arrest associated with Torsades de Pointes

## Contraindications
Any patient with heart block.

## Precautions
1. Caution should be used in patients using digitalis.
2. Hypotension
4. Do not give simultaneously with other drugs, may precipitate in IV line.

## Dosage
**Adults:**
- Cardiac Patients: 2 grams diluted in 50ml of NS given IV/IO over 1-2 minutes.
- Respiratory Patients: 2-4 grams diluted in 50ml of NS given over 5 minutes.
- Tricyclic Overdose: with PVC’s/VT, 2 grams diluted in 50ml NS given IV/IO over 10 minutes.

**Peds:**
- 25-50 mg/kg diluted in 50ml NS given IV/IO over 10 minutes for VT/VF.

## Route
- Intravenous
- Intraosseous

## Side Effects / Complications
1. Respiratory depression
2. Drowsiness
3. Depressed reflexes - knee jerk
Basic Treatment Guidelines
Follow initial protocols for all patients.

Advanced Treatment Guidelines:
Follow appropriate patient protocols as patient condition warrants.

Department of Human Services: 1-800-362-2178 24 hours a day, 365 days a year.

Definitions:
- Mandatory Reporter: All EMS providers that are on duty regardless of employment status.
- Permissive Reporter: Any EMS provider that is off duty. A Permissive Reporter becomes a Mandatory Reporter when that person is on a responding unit that is en route to the call.
- Child: Any person under the age of 18 is considered a child.
- Dependant Adult: Any person over the age of 18 that is incapable of adequate self care. They may be elderly and/or of diminished capacities.
- Caretaker: Any person without regard to time, age or money that is responsible for the care of a child or dependant adult.
- Allegations of Abuse: Abuse need only be stated by the victim. We do not need to see abuse. We can act on the patient’s behalf if they are unable or unwilling to make an allegation of abuse.

Reportable Criteria:
All three reportable criteria need to be met in order for an abuse case to be considered by the Department of Human Services (DHS).
- The victim must be either a child or dependant adult as defined above.
- There must be a caretaker involved.
- There has to be an allegation of abuse.
Forms of abuse:
- Physical
- Sexual
- Mental injury
- Denial of critical care
- Child prostitution
- Presence of illegal drugs
- Manufacturing of illegal drugs or possession of a dangerous substance used in making of illegal drugs.
- Cohabitation with a registered sex offender

How to report abuse:
- If you believe that the victim is in imminent danger call for police intervention
- Within 24 hours of the run you must contact the DHS to file a verbal report 1-800-362-2178
- Within 48 hours you must submit the Written Report Form to DHS. During your verbal report DHS will advise you of where to send the written report.

You will also need to provide a verbal report to the shift officer in charge as soon as practical following the incident.
You will need to maintain a copy of your written report that was filed with DHS.
Basic Treatment Guidelines
• Follow Initial Treatment Protocol for all patients.

Advanced Treatment Guidelines
Indications
• Conscious patient in severe respiratory distress with failure to oxygenate or ventilate requiring ventilatory assistance or control.
• Patient failure to maintain and/or protect airway due to altered level of consciousness or injury
• Clinical course with anticipated rapid deterioration and/or impending airway compromise

Contraindications
• Patients who would be a difficult candidate for cricothyrotomy
• Total upper airway obstruction requiring a surgical airway
• Anticipated difficult intubation or severe maxilla-facial trauma requiring a surgical airway

Preparation
• Place the patient on the cardiac monitor, pulse oximetry, automatic blood pressure cuff, and establish IV/IO access
• Failed Airway Equipment must be immediately available (King LT and/or Bougie and King Vision)

Pre-oxygenate
• Pre-oxygenate with 15 L/minute O2 by non-rebreather mask for 3 minutes or 8 vital capacity breaths via 100% O2 with bag-valve-mask ventilations
• Assist with ventilations as needed prior to medications

Pretreatment Considerations
• For prevention of an increase in intracranial pressure due to the reflex sympathetic response to laryngoscopy and/or to decrease reflex-induced bronchoconstriction in patients with reactive airway disease/asthma consider administering LIDOCAINE 1.5mg/kg IV/IO 3-5 minutes prior to anticipated sedation.
• For prevention of an increase in intracranial pressure due to the reflex sympathetic response to laryngoscopy and/or attenuation of the potential harmful effect of the catecholamine surge due to the reflex sympathetic response to laryngoscopy in patients with myocardial ischemia, abdominal aortic aneurysm, or aortic dissection consider administering FENTANYL 2mcg/kg IV/IO 3-5 minutes prior to anticipated sedation.
Procedure

- Administer **ETOMIDATE 0.3mg/kg IV/IO.**

  **OR**

- Administer **KETAMINE 2mg/kg IV/IO** as long as none of the following contraindications apply:
  - the patient has an acute head/eye injury or stroke
  - severe hypertension
  - myocardial ischemia or underlying ischemic cardiac disease

  **AND**

- Administer **SUCCINYLCHOLINE 1.5mg/kg IV/IO** as long as none of the following contraindications apply:
  - unable to adequately oxygenate with bag-valve-mask ventilation
  - history of malignant hyperthermia, recent stroke/burn/crush injury greater than 72 hours old, neuromuscular junction disease, muscular dystrophy, or preexisting hyperkalemia/strong suspicion of hyperkalemia

- Perform intubation (2 attempts only) then consider alternative airway management

Post intubation

- Confirm placement with end-tidal CO2 detection and auscultation of lungs and epigastric region.
- Maintain sedation using **FENTANYL 2mcg/kg IV/IO** bolus every 15 minutes.

  **AND IF NEEDED**

- Maintain sedation using **VERSED 0.05 mg/kg IV/IO** as needed. Maximum dose of 10 mg.
Medication restocking:
Medications used during the treatment of patients need to be replaced as soon as possible to ensure the readiness of the ambulance. Any time a medication is used for patient care, it needs to be properly documented (with the exception of Glutose paste) and replaced in the ambulance’s sealed drug bag or the appropriate medic bag (basic bag or first out bag) The process of replacing medications should be consistent to provide an accurate accounting of these medications.

General procedure for obtaining medications from the medication vending machine:
1. Paramedics will be able to dispense all medications from the vending machine. The EMT-I and EMT-B will be able to dispense ASPIRIN and EPI-PENS.
2. The EMT-I and EMT-B can also function as the second person in a dual vend situation (see procedure for vending controlled medications)
3. Swipe your employee specific key fob in front of the mechanical fob reader. 
   Important: the Paramedic must swipe their key fob first for dual vend situations.
4. In the machine display window it will ask you for the call run number. Enter that number as follows: the last two digits of the year followed by the four digit run number then the # sign (example: 110123#)
5. The display will then ask for the vehicle number. Enter that number as follows: use only the vehicle identification number and then the # sign (example for ambulance 423 enter: 423#)
6. The machine will only allow you to vend three (3) items per fob swipe. This means that if you used five medications you will have to follow steps 1-3 twice in order to vend all of the medications you need.
7. The machine display will ask for the item number of the medication you wish to vend. Each medication in the machine has a two (2) digit vend number and medication name visible for easy identification. Enter the two (2) digit number for the desired medication followed by the # sign (example 10#).
8. When vending multiple items, select medications that are the heaviest first, followed by the lighter and smaller items. This will prevent heavier items from falling on top of lighter items and causing them to break.
9. In the event of a misvend of a medication, the Paramedic will simply return the medication to the machine via the Parot drop chute. The Parot drop chute is located on the front of the machine, directly below the fob reader.
Procedure for obtaining controlled medications from the medication vending machine:
1. The following medications require a dual identification process in order to dispense the product. MORPHINE, FENTANYL, DIAZEPAM, ATIVAN, VERSED, AND ETOMIDATE.
2. The Paramedic and a second employee will need to swipe their employee specific key fobs before the machine will allow the above medications to be dispensed. **Important: the Paramedic must swipe their key fob first the EMT-I or EMT-B.**
3. Follow the general procedure as stated to dispense desired medications.

Procedure for documenting medication usage from the locked medication bags:
1. The Paramedic will document the medication’s usage and waste on the Medication Accountability Form located in the drug bag. This form will denote the date of the call, the old and new tags numbers of both the medication bag and the controlled medication pouch, the run number of the call, the reason for opening the bag and the medication used, the amount used and wasted, and the signatures of the attending Paramedic and their partner.
2. Place this form back into the medication bag and lock the bag with the appropriate identification drug tag.

Procedure for documenting medication disposal:
On occasion, a Paramedic must remove medications from stock or service due to breakage, leaking container, being obviously contaminated, a broken or missing safety seal or expired dates. The Paramedic must then document the medication removal from stock or service.
1. On the side of the vending machine is the Drug Disposal-Replacement Form.
2. The Paramedic will note the date of disposal, the medication name, the amount used if any, the amount disposed, and the call-run number if applicable.
3. The Paramedic and a witness to the disposal MUST sign this form.
4. Broken medication containers need to be disposed of in a sharps container.
5. **DO NOT PUT BROKEN MEDICATION CONTAINERS BACK IN THE MACHINE VIA THE PAROT DROP.**
Classification: Narcotic

Mechanism of Action
1. CNS depressant
2. Causes peripheral vasodilation.
3. Decreases sensitivity to pain.

Indications for Use
1. Severe pain.
2. Pulmonary edema.

Contraindications
1. Head injury.
2. Volume depletion
3. Undiagnosed abdominal pain
4. Patients with history of hypersensitivity to the medication.

Precautions
1. Respiratory depression
2. Hypotension
3. Nausea

Dosage
Adult:
IV/IO: 2-5 mg followed by 2-5 mg every five minutes until pain is relieved or respiratory depression occurs or total of 20 mg has been given.
IM: 5 mg.

Peds:
IV: 0.1-0.2 mg/kg To max initial dose of 1-3 mg with repeat of 1.0 mg every 5 minutes. Total dose of 0.5 mg/kg.
IM: 0.1 mg/kg.

Route
1. Intravenous
2. Intramuscular
3. Intraosseous

Side Effects / Complications
1. Dizziness
2. Altered level of consciousness
3. Hypotension
4. Respiratory depression
Classification: Narcotic Antagonist

Mechanism of Action
Reverse the effect of narcotics

Indications for Use
1. Narcotic overdoses including Morphine, Dilaudid, Fentanyl, Demerol, Paregoric, methadone, Heroin, Percodan, Tylox
2. Synthetic analgesic overdoses including Nubain, Stadol, Talwin, Darvon.
3. Alcohol coma.
4. To rule out narcotics in coma of unknown origin.

Contraindications
Patients with hypersensitivity to the drug.
Use with caution in narcotic dependent patients due to withdrawal syndrome.

Precautions
1. Should be administered with caution to patients dependent on narcotics as this may cause withdrawal effects.
2. Short-acting, should be augmented every 5 minutes.

Dosage
Adult: 2 mg IV/IO/IM/ IN; may repeat 2mg after 3 minutes if needed. See note below.
Peds: 0.1 mg/kg IV/IO

Route
1. Intravenous
2. Intraosseous
3. Intranasal
4. Intramuscular

Side Effects / Complications
None

NOTE: Adult patient should regain respiratory drive prior to administration of 8mg. If no change after 3 doses, OD is not narcotic related and medic should be looking at other causes for patient condition. Max dose is 10mg.
Indications

1. Patients who are still breathing yet who are unable to adequately manage their own airway or need their airway protected.

Contraindications

1. Patients with serious facial fractures.
2. Patients who have a significantly deviated nasal septum.
3. Patients with nasal obstruction.

Possible Complications

1. Accidental intubation of the esophagus.
2. Oropharyngeal and laryngopharyngeal trauma.
3. Spasm of the vocal cords.

Procedure

1. Hyperventilate patient with 100% oxygen.
2. Assemble and check your equipment. Lubricate the distal end of a proper sized tube.
3. Place the patient’s head and neck into a relaxed position. If spinal injury is suspected, maintain the head and neck in neutral, in-line position.
4. Inspect the nose, and select the larger nostril as your passageway.
5. Insert tube into the nostril, with the flanged end of the tube along the floor of the nostril or facing the nasal septum. Gently guide the tube in an anterior to posterior direction.
6. As the tube is felt to drop into the posterior pharynx, listen closely at tubes end for patient’s respiratory sounds.
7. With the patient’s next inhaled breath, advance the tube rapidly into the glottic opening, and continue passing it until the distal cuff is just past the vocal cords. At this point, the patient may cough, buck or strain. When correctly placed in the trachea, the patient’s exhaled air will be felt coming from the proximal end of tube. At the same time, breath condensation should intermittently fog the clear plastic tube.
8. Hold the tube in place with one hand to prevent displacement.
9. Inflate the distal cuff with 5-10cc of air.
10. Recheck for proper placement by observing breath sounds, chest rise, and absence of epigastric sounds.
11. Confirm ETT placement with “Tube Check Device” or End-Tidal C02 detector.
12. Secure the endotracheal tube.
Basic Treatment Guidelines

- Follow initial protocol for all patients.
- If other conditions exist, refer to appropriate protocol
- Be alert for airway compromise caused by vomiting
- Administer oxygen as patient condition warrants
- Transport in position of comfort
- Keep the patient NPO

Advanced Treatment Guidelines

- Establish IV access and infuse as patient condition warrants
- Consider monitoring ECG and performing 12-lead ECG if patient condition warrants
- Consider **ZOFRAN 4 mg IV. Push over one (1) minute. IN ADULTS ONLY**

Special Considerations

When treating patients with certain medical conditions, nausea and vomiting may be present, and in many cases, the nausea and vomiting may be causing patients more distress than the actual illness itself. Providing relief to these patients will be beneficial. Possible medical conditions that may be present but are not limited to:

- Flu
- Pancreatic and gall bladder disease
- Inner ear disorders
- GI bleeding
- Patients that may become nauseated due to motion sickness.

Remember that nausea and vomiting are a symptom and may be due to a serious underlying trauma or medical condition. It is important to obtain a thorough medical history on all patients to ensure that a more serious condition does not exist. Do not hesitate to consult with medical control.
Indications
The following is a list of possible patient presentations in which a needle thoracostomy should be considered:

Respiratory Compromise associated with two or more of the following:

♦ Absent or greatly decreased breath sounds over hemithorax area.
♦ Trachea shift to the unaffected side.
♦ Subcutaneous emphysema
♦ Multiple rib fractures
♦ Signs and symptoms of shock

Contraindications
There are no contraindications when used in the setting of a tension pneumothorax.

Possible Complications
1. Puncture of the lung.
2. Hemorrhage from the puncture of the intercostal vessels.
3. Hemorrhage from puncture of a pulmonary vessel.

Preparation
1. Expose and cleanse anterior chest at level of 2nd intercostal space on the affected side.
2. Find 2nd intercostal space midclavicular line with gloved finger.

Procedure
1. Using 14 gauge or larger over the needle catheter with syringe attached direct needle over the third rib into the 2nd intercostal space.
2. Apply enough pressure to push the needle through the intercostal muscle and into the pleural cavity.
3. You should pull back air in the syringe or if no syringe on the needle you should hear a rush of air, either of these should be considered positive placement.
4. Remove the needle leaving catheter in place and secure with tape or provided device.
5. If extended transport time, connect to one way valve.
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Suction the airway using a bulb syringe as soon as the head is delivered and before delivery of the body. Suction the mouth first, then the nasopharynx.

- Once the body is fully delivered, dry the baby, replace wet towels with dry ones, and wrap the baby in a thermal blanket or dry towel. Cover the scalp to preserve warmth.

- Open and position the airway. Suction the airway again using a bulb syringe. Suction the mouth first, then the nasopharynx.

- Assess breathing and adequacy of ventilation.

- If ventilation is inadequate, stimulate by gently rubbing the back and flicking the soles of the feet.

- If ventilation is still inadequate after brief stimulation, begin assisted ventilation at 40 to 60 breaths per minute using a bag-valve-mask device with high-flow 100% concentration oxygen.

- If ventilation is adequate and the infant displays central cyanosis, administer high-flow, 100% concentration oxygen via blow-by. Hold the tubing 1 to 1-1/2 inches from the mouth and nose and cup a hand around the end of the tubing to help direct the oxygen flow toward the face.

- If the heart rate is slower than 60 beats per minute after 30 seconds of assisted ventilation with high-flow, 100% concentration oxygen, initiate the following actions:

  - Continue assisted ventilation.
  - Begin chest compressions at a combined rate of 120/minute (three compressions to each ventilation).
Advanced Treatment Guidelines

If there is no improvement in heart rate after 30 seconds. Perform endotracheal intubation

If there is no improvement in heart rate after intubation and ventilation, administer:

- **EPINEPHRINE 1:10,000** 0.01 mg/kg (maximum Individual dose 1.0 mg) via endotracheal tube, or establish vascular access and administer the same dose. In the neonate, vascular access may be obtained intraosseously, intravenously, or through the umbilical vein (if available). Repeat **EPINEPHRINE** at the same dose every 3 to 5 minutes as needed. Initiate transport. Reassess heart rate and respirations en route

**If the heart rate is between 60 and 80 beats per minute, initiate the following actions:**

- Continue assisted ventilation with high-flow, 100% concentration oxygen. If there is no improvement in heart rate after 30 seconds, initiate management sequence described in step H above, beginning with chest compressions
- Initiate transport. Reassess heart rate and respirations en route

**If the heart rate is between 80 and 100 beats per minute, initiate the following actions:**

- Continue assisted ventilation with high-flow, 100% concentration oxygen. Stimulate as previously described
- Initiate transport. Reassess heart rate after 15 to 30 seconds

**If the heart rate is faster than 100 beats per minute, initiate the following actions:**

- Assess skin color. If central cyanosis is still present, continue blow by oxygen. Initiate transport. Reassess heart rate and respirations en route

**If thick meconium is present**

- Initiate endotracheal intubation before the infant takes a first breath. Suction the airway using an appropriate suction adapter while withdrawing the endotracheal tube. Repeat this procedure until the endotracheal tube is clear of meconium. If the infant’s heart rate slows, discontinue suctioning immediately and provide ventilation until the infant recovers
  
  Note: If the infant is already breathing or crying, this step may be omitted.
Classification: Antianginal

Mechanism of Action
1. Smooth muscle relaxant
2. Reduces cardiac work load
3. Dilates coronary and systemic arteries and veins

Indications for Use
1. Angina Pectoris
2. Chest pain associated with myocardial infarction
3. Hypertensive crisis

Contraindications
1. Children under 12 years of age
2. Hypotension
3. Patient use of Viagra (sildenafil) within the past 24 hours

Precautions
1. Constantly monitor blood pressure.
2. Syncope
3. Drug must be protected from light
4. Expires quickly once bottle is open

Dosage
1. Tablet 0.4 mg repeated every 5 minutes up to 3 times.
2. Metered spray 0.4 mg repeated every 5 minutes up to 3 times
3. Ointment: 0.5 inch transdermal

Route
1. Sublingual
2. Topical

Side Effects / Complications
1. Headache
2. Dizziness
3. Hypotension
Normal Delivery

Basic Treatment Guidelines

- Follow initial protocols for all patients
- If delivery is imminent with crowning, prepare for onsite delivery. If delivery does not occur within 10 minutes, contact medical direction for permission to transport.
- Have mother lie with knees drawn up and spread apart.
- Elevate buttocks with blankets or pillow.
- If time allows, create sterile field around vaginal opening with sterile towels or paper barriers.
- When the infant’s head appears during crowning, place fingers on bony parts of skull (not fontanelle or face) and exert very gentle pressure to prevent explosive delivery. Use caution to avoid fontanelle.
- If the amniotic sac does not break, or has not broken, use a clamp to puncture the sac and push it away from the infant’s head and mouth as they appear.
- As the infant’s head is being born, determine if the umbilical cord is around the infant’s neck; slip over the shoulder or clamp, cut and unwrap.
- After the infant’s head is born, support the head; suction the mouth two or three times and the nostrils. Use caution to avoid contact with back of the mouth.
- As the torso and full body are born, support the infant with both hands.
- As the feet are born, grasp the feet.
- Wipe blood and mucus from the mouth and nose with sterile gauze, suction mouth and nose again.
- Vigorously rub the infant with dry towel to stimulate and dry.
- Wrap infant in a warm blanket and place on its side, head slightly lower than trunk.
- Keep infant level with vagina until the cord is cut.
- Assign partner to monitor infant and complete initial care of the newborn.
- Clamp, tie and cut umbilical cord (between clamps) as pulsations cease approximately 4 finger’s width from infant.
- Observe for delivery of placenta while preparing mother and infant for transport.
- When delivered wrap placenta in towel and put in plastic bag; transport placenta to hospital with mother.
- Perform APGAR score at one and five minutes.
- Record the time of birth.
- If mother and infant’s conditions permit, place infant on mother’s chest.
- Continuously warm infant and place hat on infant’s head.
Post Delivery

- Stimulate the newborn to breathe. Continue to stimulate newborn if not breathing by flicking soles of feet, or rubbing infants back. If the newborn does not begin to breathe or continues to have breathing difficulty after one minute, consider the need for additional measures.
- Ensure open and patent airway.
- Ventilate at a rate of 40 breaths per minute with 100% oxygen to maintain saturations of 94 - 96%.
- Reassess after 30 seconds.
- If the heart rate is absent or remains <60 BPM after 30 seconds of adequate assisted ventilation, second rescuer should start chest compression with 2 thumbs and encircling fingers at recommended AHA rate and depth.
- Prevent/minimize heat loss to maintain normothermia:
  - Dry the infant thoroughly, removing the wet linen immediately after drying.
  - Wrap the newborn in blankets and cover the head in order to minimize heat loss.
- Repeat suctioning if necessary, and continue to monitor and support baby's respiratory/circulatory status

Abnormal Delivery

Frank Breech Delivery (Buttocks presentation)

- Allow spontaneous delivery.
- Support the infant’s body as it is delivered. If head delivers spontaneously, proceed with normal delivery guidelines.
- If head DOES NOT deliver within 3 minutes, insert gloved hand into the vagina, keeping your palm TOWARD baby’s face; form a V with your fingers and push wall of vagina away from baby’s face, thereby creating an airway for baby.
- TRANSPORT IMMEDIATELY AND DO NOT REMOVE YOUR HAND UNTIL RELIEVED BY HOSPITAL STAFF.

Limb Presentation

- Place mother in Trendelenburg position.
- Cover any exposed limbs to maintain warmth.
Prolapsed Cord

- Place mother in Trendelenburg position
- Insert gloved hand into the vagina and gently push up on the baby’s head to take pressure off the cord. DO NOT REMOVE YOUR HAND UNTIL RELIEVED BY HOSPITAL STAFF.

Multiple Births

- This is usually not a surprise to mother, as she has probably already been told to expect the same by her doctor, but BE ALERT for the multiple birth possibility. Monitor your patient closely.
- Deliver as you would for normal delivery of one infant.

Heavy Vaginal Bleeding Following Delivery

- Control bleeding - massage lower abdomen firmly.
- Consider putting baby to breast.

Miscarriage

- May result in profuse vaginal bleeding.
- Save all expelled tissues, (to include fetus), and transport with patient.

Special Considerations

Consider the possibility of pregnancy in any female of child bearing age with complaints of vaginal bleeding, menstrual cycle irregularity, abdominal cramping and / or pain, low back pain (not associated with trauma), or shoulder pain (not associated with trauma).

The greatest risk to the mother is postpartum hemorrhage so watch closely for signs of hypovolemic shock and excess vaginal bleeding.

In instances where delivery is not proceeding normally and the mother exhibits sudden onset of severe abdominal pain and the clinical signs of shock, treat for shock.
Advanced Treatment Guidelines

**Infant care:** When meconium staining is observed in amniotic fluid, deliver the head and suction meconium from the hypopharynx. In the vigorous infant there is no need for direct tracheal suctioning, regardless of the consistency of meconium. When meconium is observed in amniotic fluid and the newly born infant demonstrates any of the following:

1) absent or depressed respirations
2) HR <100 bpm
3) Poor muscle tone

Then direct tracheal suctioning is recommended
Indications: Painful conditions requiring pain medication intervention such as the following but not limited to:

- Abdominal pain
- Burns
- Fractures
- Cardiovascular emergencies
- Traumatic injuries without neurological involvement
- Acute and chronic back pain

Contra-indications:

- Systolic BP less than 100 mmHg (call medical control)
- Known sensitivity to the medication
- Respiratory Depression
- Major trauma to the head, chest, abdomen, or pelvis (follow appropriate protocol)

Precautions:

- Hypotension
- Respiratory depression
- CNS depression
Basic Treatment Guidelines

Follow Initial Treatment Protocol for All Patients

Advanced Treatment Guidelines

- Perform thorough assessment to rule out major trauma or serious medical problem.
- Administer oxygen unless patient condition warrants otherwise.
- Continuously monitor vital signs, SpO2, cardiac rhythm and mental status for changes.
- Establish IV access, infuse as patient condition warrants
- For patients that have significant pain, do not have a decreased level of consciousness, are hemodynamically stable, and with oxygen saturations above 94%, administer pain medication as follows:
  
  - **FENTANYL 50-100 mcg** slow IV/IO/IN
  
  or

  - **MORPHINE SULFATE 2-5 mg** IV/IO initial dose. May administer 5 mg IM if unable to obtain IV access. Titrate to effect with 2-5 mg increments every 5 minutes until one of the following occurs.
    - Relief of pain
    - Hypotension develops
    - Respiratory depression occurs
    - CNS depression occurs
    - 20mg total has been administered

  If fentanyl or morphine is ineffective for providing pain relief, or patient is hypotensive, administer **KETAMINE 0.2 mg/kg IV/IO or 0.5 mg/kg IN**. IN dose may be repeated after 5 minutes if necessary.

- Consider **VALIUM 5 mg** IV/IO for muscle spasms that may be present with fractures, dislocations or strains.

*The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of morphine must stop*
Guidelines for EMS Provider Initiating Organ & Tissue Donation
At the Scene of the Deceased

I. All appropriate patient care protocols will be enacted to assure patient care is provided according to prevailing standards.

II. If resuscitation efforts are unsuccessful or if upon arrival the patient is deceased and without indications to initiate resuscitation, then on-line medical direction will be contacted to confirm that no further medical care is to be given.

III. As per Iowa Code 142C.7 a medical examiner or a medical examiner’s designee, peace officer, fire fighter, or emergency medical care provider may release an individual’s information to an organ procurement organization, donor registry, or bank or storage organization to determine if the individual is a donor.

IV. As per Iowa Code 142C.7 any information regarding a patient, including the patient’s identity, however, constitutes confidential medical information and under any other circumstances is prohibited from disclosure without the written consent of the patient or the patient’s legal representative.

V. At least one EMS provider should remain at the scene until the appropriate authority (medical examiner, funeral home, public safety, etc.) is present.

VI. Contact IOWA DONOR NETWORK at 800-831-4131
Indications

Although the situations may be rare, EMS personnel may be asked to assist a patient in administering his/her medications. Approved medications for administration by assistance are inhalers and nitroglycerin.

Contraindications

EMT’s should use caution in that they are delaying transport of a patient that needs further medical attention. Patient condition should dictate the extent of self medication treatment. If you suspect that further treatment will be needed time should not be wasted treating a patient on scene with his/her own medications.

INHALERS

Care givers may assist the patient in administering prescribed inhalers (i.e. albuterol, proventil, ventolin, isotharine, alupent, metaproteranol, bronkosol, bronkometer, etc.) when the patient is experiencing respiratory distress.

Basic Treatment Guidelines

1. Follow initial protocols for all patients.
2. Assure that inhaler is prescribed for patient, check expiration date.
3. If patient is short of breath, has wheezes and has not administered more that one dose in the last hour, assist the patient in administering inhaler.

Administer one metered dose by depressing the canister of medication. Ensure that the dose is administered with the patient inhaling as forceful as possible.
Encourage the patient not to exhale for a few seconds. This will allow time for the medication to absorb. Reassess lung sounds and patient for improvement in respiratory status.
NITROGLYCERIN

The care giver may assist the patient in administering prescribed nitroglycerin when the patient is experiencing chest pain and the systolic BP is > 100mm/Hg.

Basic Treatment Guidelines

1. Follow initial protocols for all patients. EMT’s should be alert for more severe signs and symptoms associated with an acute cardiac episode (i.e. pulmonary edema, nausea/vomiting, respiratory distress)
2. Monitor ECG if paramedic is present.
3. Assure that nitroglycerin is prescribed to patient, check expiration date.
4. If patient is having chest pain and systolic BP is > 100mg/Hg, administer nitroglycerin 0.4mg either as a tablet or spray under the tongue.
5. After 3-5 minutes, if chest pain continues, recheck BP. If systolic BP is > 100 mm/Hg, repeat dose.
6. After 3-5 minutes, if chest pain continues, recheck BP. If systolic BP is > 100 mm/Hg, repeat dose.
7. Do not repeat after third dose is given.

If patient continues to have chest pain or discomfort, patient is in need of further evaluation and care givers should proceed with chest pain protocol and prepare for transport.
The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries:

### Step 1 - Assess for Time Critical Injuries: Level of Consciousness & Vital Signs

**Abnormal Responsiveness:** abnormal or absent cry or speech. Decreased response to parents or environmental stimuli. Floppy or rigid muscle tone or not moving. **Verbal, Pain, or Unresponsive** on AVPU scale.

**OR**

**Airway/Breathing Compromise:** obstruction to airflow, gurgling, stridor or noisy breathing. Increased/excessive retractions or abdominal muscle use, nasal flaring, stridor, wheezes, grunting, gasping, or gurgling. Decreased/absent respiratory effort or noisy breathing. Respiratory rate outside normal range.

**OR**

**Circulatory Compromise:** cyanosis, mottling, paleness/pallor or obvious significant bleeding. Absent or weak peripheral or central pulses; pulse or systolic BP outside normal range. Capillary refill > 2 seconds with other abnormal findings.

*If ground transport time to a TCF is less than 30 minutes*, Transport to the nearest **Resource (Level I)** or **Regional (Level II)** Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 1 does not apply, move on to step 2

### Step 2 - Assess for Anatomy of an Injury

All Penetrating injury to head, neck, torso, and extremities proximal to elbow and knee Partial or full thickness burns > 10% TBSA or involving face/airway Amputation proximal to wrist or ankle Crushed, degloved, or mangled extremity Paralysis or Parasthesia Flail chest Suspected two or more long bone fractures Any open long bone fracture Suspected pelvic fracture Open or depressed skull fracture EMS provider judgment for possible abdominal or thoracic injuries.

*If ground transport time to a TCF is less than 30 minutes*, Transport to the nearest **Resource (Level I)** or **Regional (Level II)** Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 2 does not apply, move on to step 3
**Pediatric Trauma Destination**

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<th>New Policy</th>
<th>Revised Policy</th>
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<td>Dr. Travis Kain</td>
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**Step 3 - Consider Mechanism of Injury & High Energy Transfer**

Falls – > 10 feet or Pediatric: > 2-3 times the victims height.

High-risk auto crash:
- Intrusion: > 12 in, occupant site; > 18 in, any site, *Ejection (partial or complete) from automobile. Death in same passenger compartment, Vehicle telemetry data consistent with high risk of injur*
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact
- Motorcycle crash > 20 mph
- Any intentional injury

Transport to the nearest *(Any Level)* Trauma Care Facility.

**Step 4 - Consider risk factors:**

Age <5 yrs (Risk of injury/death increases)  ETOH/drugs
- Time-sensitive extremity injury

Transport to the nearest *(Any Level)* Trauma Care Facility.

**For all Transported Trauma Patients**

**Contact Medical Control:**

1. Give patient report to include: MOI, Injuries, Vital Signs & GCS, Treatment, Age, Gender and ETA
2. Obtain further orders as needed
Medication Information

Racemic Epinephrine

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Classification
Sympathomimetic, bronchodilator

Mechanism of Action
Stimulates alpha and beta receptors causing bronchodilation and vasoconstriction

Indications for Use
Dyspnea in croup patients

Contraindications
1. Epiglottitis
2. Known hypersensitivity to the medication

Precautions
Pregnancy

Dosage

< 4 y.o., 0.05ml/kg of 2.25% solution in 3ml NS via nebulizer up to a max dose of 0.5ml of 2.25% solution in 3ml NS via nebulizer

>= 4 y.o., 0.5ml of 2.25% solution in 3ml NS via nebulizer

Route
Nebulized inhalation

Side effects/complications
Palpitations, tachycardia, headache, hypertension, nausea, vomiting, anxiety, headache
Basic Treatment Guidelines:

Follow initial protocols for all patients

Advanced Treatment Guidelines:

- Monitor EKG and treat dysrhythmias following the appropriate protocol(s). If reaction is not life threatening consider administration of:
- **EPINEPHRINE 1:1,000**: 0.01mg/kg SQ, or IM up to 0.3mg. If a bite or sting, inject proximal to site when possible. May repeat every 5-10 minutes up to a maximum of 3 doses.
- Consider **BENADRYL**: 1mg/kg slow IVP up to Max. dose 50mg
- Consider **ALBUTEROL**: 2.5mg via Nebulizer for respiratory distress.
Basic Treatment Guidelines

Follow initial protocols for all patients

- Obtain blood sugar level.

- If blood sugar < 60mg/dl, administer oral GLUCOSE if patient is able to swallow.

Advanced Treatment Guidelines

If Hypoglycemic

a) Patient unconscious give DEXTROSE D25 1G/kg (4ml/kg) slow IV/IO push.

b) Monitor cardiac rhythm

c) If no improvement in level of consciousness after glucose administration give NARCAN 0.1 mg/kg up to maximum dose of 2.0 mg per dose

d) If there is evidence of shock or a history of dehydration, administer a fluid bolus of normal saline at 20 ml/kg set to maximum flow rate

e) Reassess patient, if signs of shock persist, bolus may be repeated at the same dose up to two times for a maximum total of 60 ml/kg

NOTE: D25 can easily be made the following way:
Inject 50ml D50 into 50ml bag of normal saline. You now have 100ml of D25 at a concentration of 1G/4ml. Draw up required dosage and administer to patient.
Basic Treatment Guidelines

1. Follow initial protocols for all patients

2. Care of Amputated Part
   • Rinse part gently with normal saline to remove loose debris; do not scrub.
   • Wrap amputated part in saline moistened gauze and transport with the patient.
   • Place wrapped part in a plastic bag and seal (do not immerse part in water/saline).
     Label bag with name, date and time of day.
   • Do NOT place part in direct contact with ice.

Advanced Treatment Guidelines

• Treat for shock if appropriate
• Perform thorough assessment to rule out major trauma or serious medical problem.
• Administer oxygen unless patient condition warrants otherwise.
• Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
• Establish IV access, infuse as patient condition warrants.
• For patients that have significant pain, and do not have a decreased level of consciousness, and who are hemodynamically stable, and with oxygen saturations above 94% administer pain medication.
• After drug administration, reassess the patient using the appropriate pain scale.

• MORPHINE SULFATE: 0.1mg/kg IV push initial dose. May repeat every 5 minutes if needed. Administration of narcotic medication must stop if at any time there is a
  o decreased level of consciousness,
  o decrease in oxygen saturation below 92%
  o blood pressure drops to 100 mmHg or less

• Consider FENTANYL 1mcg/kg IN up to maximum dose of 3mcg/kg
• The patient must have vital signs taken prior to each dose and be monitored closely
Basic Treatment Guidelines
Follow initial protocols for all patients. Apparent death indications are as follows:

- Signs of trauma are conclusively incompatible with life
- Physical decomposition of the body
- Rigor mortis and/or dependent lividity

If apparent death is confirmed, then continue as follows:

a) The county Medical Examiner and law enforcement shall be contacted
b) Where possible contact Iowa Donor Network at 800-831-4131.
c) At least one EMS provider should remain at the scene until the appropriate authority is present
d) Provide psychological support for grieving survivors
e) Document reason no resuscitation was initiated
f) Preserve the crime scene if present
g) In all other circumstances (except where “NO CPR/DNR” protocol applies) full resuscitation must be initiated

Advanced Treatment Guidelines

Use cardiac monitor to document Asystole
Pediatric Standard Operating Protocol

Asystole/ PEA & Pulseless VF/VT

Date of Policy Change: 7/1/2011

New Policy: 1/1/14

Revised Policy: 1/1/14

Medical Director: Dr. Travis Kain

PULSELESS ARREST
- BLS Algorithm: Continue CPR
- Give oxygen when available
- Attach monitor/defibrillator when available

1. Check rhythm: Shockable rhythm?
   - VF/VT
     - Give 1 shock
       - Manual: 2 J/kg
       - AED: >1 year of age
       - Use pediatric system if available for 1 to 3 years of age
       - Resume CPR immediately
       - Give epinephrine
         - IV: 0.01 mg/kg
         - (1:1000 0.1 mL/kg)
         - Endotracheal tube: 0.1 mg/kg
         - (1:1000 0.1 mL/kg)
         - Repeat every 3 to 5 min

2. Not Shockable
   - Asystole/PEA
     - Resume CPR immediately
     - Give epinephrine
       - IV: 0.01 mg/kg
       - (1:1000 0.1 mL/kg)
       - Endotracheal tube: 0.1 mg/kg
       - (1:1000 0.1 mL/kg)
       - Repeat every 3 to 5 min

3. Shockable
   - Give 5 cycles of CPR
     - Check rhythm: Shockable rhythm?

4. Shockable
   - Give 1 shock
     - Manual: 4 J/kg
     - AED: >1 year of age
     - Resume CPR immediately
     - Consider antiarrhythmics
       - eg. amiodarone 5 mg/kg IV/IO
       - lidocaine 1 mg/kg IV/IO
     - Consider magnesium 25 to 50 mg/kg IV/IO, max 2 g for torsades de pointes
     - After 5 cycles of CPR, go to Box 5 above

5. Not Shockable
   - Check rhythm: Shockable rhythm?

6. Shockable
   - Continue CPR while defibrillator is charging
     - Give 1 shock
       - Manual: 6 J/kg
     - AED: >1 year of age
     - Resume CPR immediately
     - Consider antiarrhythmics
       - eg. amiodarone 5 mg/kg IV/IO
       - lidocaine 1 mg/kg IV/IO
     - Consider magnesium 25 to 50 mg/kg IV/IO, max 2 g for torsades de pointes
     - After 5 cycles of CPR, go to Box 5 above

7. Not Shockable
   - Check rhythm: Shockable rhythm?

8. Shockable
   - Continue CPR while defibrillator is charging
     - Give 1 shock
       - Manual: 4 J/kg
     - AED: >1 year of age
     - Resume CPR immediately
     - Consider antiarrhythmics
       - eg. amiodarone 5 mg/kg IV/IO
       - lidocaine 1 mg/kg IV/IO
     - Consider magnesium 25 to 50 mg/kg IV/IO, max 2 g for torsades de pointes
     - After 5 cycles of CPR, go to Box 5 above

During CPR
- Push hard and fast (100/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- One cycle of CPR: 15 compressions then 2 breaths; 5 cycles =1 to 2 min
- Avoid hyperventilation
- Secure airway and confirm placement
- After an advanced airway is placed, rescuers no longer deliver “cycles” of CPR. Give continuous chest compressions without pauses for breaths. Give 8 to 10 breaths/minute. Check rhythm every 2 minutes.
- Rotate compressors every 2 minutes with rhythm checks
- Search for and treat possible contributing factors:
  - Hypoxemia
  - Hypotension
  - Hypoaesthesia
  - Hypertension
  - Acidosis
  - Alkalosis
  - Arrhythmias
  - Toxins
  - Tamponade, cardiac
  - Tension pneumothorax
  - Thoracotomy (pulmonary or pulmonary)
  - Trauma
Pediatric Standard Operating Protocol

Bradycardia

Date of Policy Change: 7/1/2011
New Policy: 1/1/14
Revised Policy: 1/1/14
Medical Director: Dr. Travis Kain

1. BRADYCARDIA With a Pulse
   Causing cardiorespiratory compromise

2. • Support ABCs as needed
   • Give oxygen
   • Attach monitor/defibrillator

3. Yes
   - Bradycardia still causing cardiorespiratory compromise?

4. Perform CPR if despite oxygenation and ventilation
   HR <60/min with poor perfusion

5A. • Support ABCs; give oxygen if needed
     • Observe
     • Consider expert consultation

5. No

6. Persistent symptomatic bradycardia?
   Yes
   - Give epinephrine
     - IV/O: 0.01 mg/kg
       (1:1000: 0.1 mL/kg)
     - Endotracheal tube: 0.1 mg/kg
       (1:1000: 0.1 mL/kg)
     - Repeat every 3 to 5 minutes
   No

7. • If increased vagal tone or primary AV block:
     Give atropine, first dose: 0.02 mg/kg, may repeat.
     (Minimum dose: 0.1 mg; maximum total dose for child: 1 mg.)
     • Consider cardiac pacing

Reminders
- During CPR, push hard and fast (100/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- Support ABCs
- Secure airway if needed: confirm placement
- Search for and treat possible contributing factors:
  - Hypovolemia
  - Hypoxia or ventilation problems
  - Hyponatremia
  - Hypoglycemia
  - Hypothermia
  - Toxins
  - Tamponade, cardiac
  - Tension pneumothorax
  - Thrombosis (coronary or pulmonary)
  - Trauma (hypovolemia, increased ICP)

If pulseless arrest develops, go to Pulseless Arrest Algorithm
Pediatric Standard Operating Protocol

Breathing Difficulty

Date of Policy Change
7/1/2011

New Policy

Revised Policy
2/16/18

Medical Director
Dr. Travis Kain

Basic Treatment Guidelines

- Follow Initial Treatment Protocol for All Patients
- Keep patient at rest and comfortable
- Place patient in a sitting position, allowing for proper drainage from the mouth. It often helps if the patient can support themselves by the forearms when in a sitting position.
- Apply oxygen if not contraindicated

Advanced Treatment Guidelines

Asthma

- Consider ALBUTEROL 2.5 mg/3.0 cc of NS. Administer by nebulizer
- Consider EPINEPHRINE 0.01mg/kg of 1:1000 solution SQ or IM up to maximum of 0.3cc. May repeat in 20 min as needed up to 3 doses

Croup

- Do not initiate IV access unless indicated by patient deterioration
- Monitor ECG
- For mild to severe symptoms (inspiratory stridor, low-grade fever, bark-like cough with gradual onset), administer RACEMIC EPINEPHRINE as follows:

  < 4 y.o., 0.05ml/kg of 2.25% solution in 3ml NS via nebulizer up to a max dose of 0.5ml of 2.25% solution in 3ml NS via nebulizer

  >= 4 y.o., 0.5ml of 2.25% solution in 3ml NS via nebulizer

DO NOT ADMINISTER RACEMIC EPINEPHRINE TO PATIENTS WITH SUSPECTED EPIGLOTITUS (high-grade fever, acute onset)
### Basic Treatment Guidelines

Follow initial protocols for all patients.

#### Thermal Burns
- Do not apply any type of ointment, lotion, or antiseptic.
- Prevent further contamination
- Remove smoldering clothing and jewelry
- Stop the burning process, initially with water or saline. Avoid hypothermia. Do not use ice water.
- Do not break blisters
- Cover the burned area with a dry sterile dressing
- Continually monitor the airway for evidence of obstruction.
- Use the “rule of nines” to estimate the percent of body surface area injured.
- Estimate depth of the burn as superficial, partial thickness, or full thickness.

#### Chemical Burns
- Brush off powders prior to flushing.
- Immediately begin to flush with large amounts of water.
- Continue flushing the contaminated area when in route to the hospital.
- Do not contaminate uninjured areas while flushing.
- Attempt to identify contaminant.

#### Toxin in the Eyes
- Flood eyes with luke-warm water for at least 20 minutes, having patient blink frequently during irrigation.
- Continue irrigation during transport to hospital.
- Attempt to identify contaminant.

#### Electrical Burns
- Treat soft tissue injuries associated with the burn, with dry dressings.
Advanced Treatment Guidelines

- Anticipate the need for advanced airway management especially in the presence of singed nasal hair and mucosa with respiratory distress, or facial / oral burns.
- Consider EKG monitoring. Treat rhythms as conditions as warrants.
- Perform thorough assessment to rule our major trauma or serious medical problem.
- Administer oxygen unless patient condition warrants otherwise.
- Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
- Establish IV access, infuse as patient condition warrants.
- For patients that have significant pain, and do not have a decreased level of consciousness, and who are hemodynamically stable, and with oxygen saturations above 94% administer pain medication
- After drug administration, reassess the patient using the appropriate pain scale

**MORPHINE SULFATE: 0.1mg/kg** IV push initial dose. May repeat every 5 minutes if needed Administration of narcotic medication must stop if at any time there is a
  - decreased level of consciousness,
  - decrease in oxygen saturation below 92%
  - blood pressure drops to 100 mmHg or less

- Consider **FENTANYL 1mcg/kg** IN up to maximum dose of 3mcg/kg

- The patient must have vital signs taken prior to each dose and be monitored closely

- Using the Parkland Burn Formula: 4 ml x total body surface area sustaining 2nd/3rd/4th degree burns x person’s weight in kilograms. Infuse half of this volume over the first 8 hours from the time of the burn, with the remainder infused over the following 16 hrs. **Quick Calculation for the first hour:** Patient’s weight in kilograms x 20 cc = volume for the first hours. The total volume can be calculated when there is time
Basic Treatment Guidelines

Follow initial protocols for all patients

- **EXPOSURE TO THE COLD**
  - Remove the patient from the cold environment- protect from further heat loss
  - Remove wet clothing and cover with blanket and keep warm
  - Handle the patient gently
  - Do not allow the patient to exert themselves
  - The patient should not be given anything by mouth
  - Do not massage extremities
  - Actively re-warm with hot packs to the neck, armpits and groin
  - Obtain vital signs every 5 minutes
  - Maintain horizontal position of patient
  - Avoid rough handling
  - Transport as soon as possible to an appropriate medical facility

- **LOCAL COLD INJURIES (FROSTBITE)**
  - Remove the patient from the cold environment
  - Protect the cold injured extremity from further injury
  - Remove wet or restrictive clothing
  - Do not rub or massage
  - Do not re-expose to the cold
  - Remove jewelry
  - Cover with dry clothing or dressing

- **COLD INJURY WITH DELAYED TRANSPORT**
  - Contact medical control prior to the following:
  - Start rapid re-warming (immerse the affected part in warm water of 100-105*F)
  - Monitor the water to ensure it does not cool from the frozen part
  - Continuously stir water
  - Continue until the part is soft and color and sensation return
  - Apply dry sterile dressings to the injured area
  - Protect against refreezing
Special Considerations:

- Do not allow the patient to eat or drink stimulants
- Unwarmed high flow oxygen may cause hypothermia
- The hypothermic heart may be unresponsive to defibrillation
- After failed initial resuscitative measures, avoid defibrillation until core temperature is greater than 86°F

**Advanced Treatment Guidelines**

Be prepared to treat hypoglycemia. Monitor EKG and treat dysrhythmias following appropriate protocol.
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Assess extent of injury, including pulse, motor, sensory and capillary refill function.
- Establish and maintain manual stabilization of injured extremity by supporting above and below the injury.
- Remove or cut away all clothing and jewelry.
- Cover open wounds with a sterile dressing
- Do not intentionally replace any protruding bones.
- Apply cold pack to area of pain or swelling.
- If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting and transport immediately.
- Pad each splint to prevent pressure and discomfort to the patient.
- Splint the patient before moving when feasible.
- Post splinting of extremity reassess pulse, motor, sensory and capillary refill function.

Advanced Treatment Guidelines

- Administer oxygen unless patient condition warrants otherwise.
- Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
- **MORPHINE SULFATE: 0.1mg/kg** IV push initial dose. May repeat every 5 minutes if needed and vital signs are stable or one of the following develops discontinue administration.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occur
- Consider **FENTANYL 1mcg/kg** IN up to maximum dose of 3mcg/kg
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Remove the patient from the hot environment and place in a cool environment.
- Loosen or remove clothing.
- Place in recovery position.
- Cool patient by fanning, applying water and cool packs to neck, groin and armpits.
- If patient is alert, stable and not nauseated, have the patient slowly drink small sips of water.
- If patient is unresponsive or is vomiting, transport to an appropriate medical facility with the patient on their left side.
- Be prepared to treat febrile seizures in infants
- Consider sponging with ONLY COOL water during transport. If shivering occurs stop sponging.

Advanced Treatment Guidelines
Monitor EKG and treat dysrhythmias following the appropriate protocol(s)
For dehydration therapy administer fluid at 20cc/kg.

Special Considerations:
Not all heat emergencies are environmental in nature. They may have febrile or neurological etiology.

High body temperature may cause seizures

Rapid cooling may cause vomiting
Basic Treatment Guidelines
Follow initial protocols for all patients.

Advanced Treatment Guidelines

a) Initiate IV access

b) Consider fluid bolus if evidence of hypovolemia

c) If patient nauseated or is vomiting administer anti-emetic medication such as ZOFRAN 0.1 mg/kg up to 4 mg maximum

d) Consider intubating patients with altered mental status who are vomiting and can’t protect their airway
# Pediatric Standard Operating Protocol

## Near Drowning

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<td>Dr. Travis Kin</td>
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### Basic Treatment Guidelines

Follow initial protocols for all patients.

- Establish patient responsiveness

- If cervical spine trauma is suspected, manually stabilize the spine.

- Assess airway for patency, protective reflexes and the possible need for advanced airway management. Look for signs of airway obstruction.

- Open the airway using head tilt/chin lift if no spinal trauma is suspected, or modified jaw thrust if spinal trauma is suspected.

- Suction as necessary

- Consider placing an oropharyngeal or nasopharyngeal airway adjunct if the airway cannot be maintained with positioning and the patient is unconscious.

- Assess breathing. Obtain pulse oximeter reading.

- If breathing is inadequate, assist ventilation using an appropriate adjunct with high-flow, 100% concentration oxygen.

- Assess circulation and perfusion.

- If breathing is adequate, place the child in a position of comfort and administer high flow, 100% concentration oxygen as necessary. Use a nonrebreather mask or blow-by as tolerated.

- Assess mental status.

- If spinal trauma is suspected, continue manual stabilization, apply a rigid cervical collar, and immobilize the patient on a long backboard or similar device.

- Expose the child only as necessary to perform further assessments. Maintain the child’s body temperature throughout the examination.

- If the child’s condition is stable, perform focused history and detailed physical examination on the scene, then initiate transport.
Advanced Treatment Guidelines

If abdominal distention arises, consider placing a nasogastric tube to decompress the stomach if available

If the airway cannot be maintained by other means, including attempts at assisted ventilation, or if prolonged assisted ventilation is anticipated

Perform sedatives and paralytic agents, to aid with intubation as permitted by medical direction. Confirm placement of endotracheal tube using clinical assessment and end-tidal CO2 monitoring as per medical direction

Initiate cardiac monitoring and determine rhythm. Consult the appropriate protocol for treatment of specific dysrhythmias. Refer to AHA guidelines

Obtain vascular access. Administer normal saline at a sufficient rate to keep the vein open

If the child’s condition is critical or unstable, initiate transport as quickly as possible. Perform focused history and detailed physical examination en route to the hospital if patient status and management of resources permit
Indications: Painful conditions requiring pain medication intervention such as the following but not limited to:

- Abdominal pain
- Burns
- Fractures
- Cardiovascular emergencies
- Traumatic injuries without neurological involvement
- Acute and chronic back pain

Contra-indications:

- Systolic BP less than 90 mmHg (call medical control)
- Known sensitivity to the medication
- Respiratory Depression
- Major trauma to the head, chest, abdomen, or pelvis (follow appropriate protocol)

Precautions:

- Hypotension
- Respiratory depression
- CNS depression
Basic Treatment Guidelines

Follow initial protocols for all patients

Advanced Treatment Guidelines

- Perform thorough assessment to rule out major trauma or serious medical problem.
- Administer oxygen unless patient condition warrants otherwise.
- Continuously monitor vital signs, pulse oximetry, cardiac rhythm and mental status for changes.
- Establish IV/IO access, infuse as patient condition warrants.
- For patients that have significant pain, do not have a decreased level of consciousness, are hemodynamically stable, and with oxygen saturations above 94%. Administer pain medication as follows:
  - **FENTANYL 50-100mcg** slow IV/IO/IN
  - or
  - **MORPHINE SULFATE 2-4mg** IV/IO initial dose. May administer **4mg** IM if unable to obtain IV access. Titrate to effect with **2-4mg** increments every 5 minutes until one of the following occurs.
    - Relief of pain
    - Hypotension develops
    - Respiratory depression occurs
    - CNS depression occurs
    - 20mg total has been administered
  - Consider **VALIUM 1-5mg** IV/IO for muscle spasms that may be present with fractures, dislocations or strains.

*The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop*
## Adult Standard Operating Protocol

### Pain Management

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<td>Dr. Travis Kain</td>
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Medical Director:
Dr. Travis Kain
Basic Treatment Guidelines

Follow initial protocols for all patients.

- Identify contaminate and call Poison Control and follow directions given to provide care: 1-800-222-1222
- Contact Medical Direction as soon as possible with information given by Poison Control and care given

**Ingested Poisons**

a) Identify and estimate amount of substance ingested

**Inhaled Poisons:**

a) Remove patient to fresh air  
b) Administer high flow oxygen  
c) Estimate duration of exposure to inhaled poison

**Absorbed Poisons**

a) If it will be a hazard to you, use protective clothing and extreme caution

**Injected Poisons**

a) Be alert for respiratory difficulty. Maintain airway and give high flow oxygen  
b) Check patient for marks, rashes, or welts

Advanced Treatment Guidelines

Monitor patient and treat if indicated following the appropriate protocol
Basic Treatment Guidelines

- Follow initial protocols for all patients.
- Protect patient from injury, by clearing area of all possible hazards.
- Avoid physical restraints unless absolutely necessary to protect patient or yourself.
- Obtain blood sugar level.
- Provide oxygen by pediatric NRB or blow-by

Advanced Treatment Guidelines

- Consider VALIUM 0.1-0.3 mg/kg slow IV push. Or 0.3-0.5mg/kg rectally.

- Consider VERSED 0.1 mg/kg IN.

- If blood glucose level is less than 60mg/dl administer DEXTROSE 500mg/kg slow IVP. Max dose 25G

Special Considerations

- Status epilepticus is a true life-threatening emergency and requires immediate transport.
- Approximately 5% of children have seizures as a result of fever. Febrile seizures are most common between ages of 6 months and 4 years.
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Identify yourself to the patient, assure patient that they are safe, and are in no further danger.
- Do NOT burden patient with questions about the details of the crime; you are there to provide emergency medical care.
- Gather information from the parents or care giver away from the child without expression of disbelief or judgment.
- Talk with the child separately about how the injury occurred.
- BE alert to immediate scene and document what you see. Touch only what you need to touch at the scene.
- Do not disturb any evidence unless necessary for treatment of patient. If it is necessary to disturb evidence you must document why and how it was disturbed.
- Treat for shock if indicated.
- Treat other injuries as indicated.
- Preserve evidence, such as clothing you may have had to remove for treatment, and make sure that it is never left unattended at any time, in order to preserve the “chain of custody” for evidence.
- Contact law enforcement if not present.
- If the incident meets the requirements contact Child Abuse Hotline.

Advanced Treatment Guidelines
Monitor patient and treat if indicated following the appropriate protocol

Special considerations:
Crewmembers of the same sex may relate better to the patient in time of such emotional crisis. Accurately record your observations and conversations with the patient.

Do not allow the patient to bathe, douche, change clothes, or go to the bathroom.
Basic Treatment Guidelines
Follow initial protocols for all patients.

Advanced Treatment Guidelines

a) Initiate cardiac monitoring

b) Establish IV access using an age-appropriate large-bore catheter with large-caliber tubing. If intravenous access cannot be obtained in a child younger than six years, proceed with intraosseous access. Do not delay transport to obtain vascular access

c) Administer a fluid bolus of normal saline at 20 ml/kg set to maximum flow rate. Reassess patient after bolus. If signs of shock persist, bolus may be repeated at the same dose up to two times for a maximum total of 60 ml/kg
Standard Procedure Guidelines

Pediatric jump S.T.A.R.T.

Date of Policy Change
7/1/2011

New Policy
Revised Policy
1/1/14

Medical Director
Dr. Travis Kain

JumpSTART Pediatric MCI Triage

- Able to walk?
  - YES: MINOR
  - NO: Breathing?
    - NO: Position upper airway, BREATHING
      - APNEIC
        - Palpable pulse?
          - NO: DECEASED
          - YES: 6 rescue breaths
            - APNEIC
              - DECEASED
            - BREATHING
              - IMMEDIATE
        - DECEASED
    - YES: Respiratory Rate
      - <15 OR >45
        - IMMEDIATE
      - 15-45
        - Palpable Pulse?
          - NO: IMMEDIATE
          - YES: AVPU
            - "P" (INAPPROPRIATE), POSTURING OR "U"
              - IMMEDIATE
            - "A", "V", OR "P" (APPROPRIATE)
              - DELAYED

*Evaluate infants first in secondary triage using the entire JS algorithm

© Lou Pomiag MD, 2002
Basic Treatment Guidelines
Follow initial protocols for all patients.

a) Approach child slowly to establish rapport (except in life-threatening situations), then perform exam
b) Treat obvious injuries according to appropriate protocol
c) Genital exam only if indicated in the presence of blood, known or obvious injury and or trauma
d) Interview parents separate from child, if possible
e) Transport if permitted by parents
f) If parents do not allow transport, notify law enforcement for assistance
g) Communicate vital information only - additional info can be given to attending RN and/or Physician on arrival
h) Record observations and factual information on run report
i) Report all suspected abuse to the National hotline at 1-800-362-2178 within 24 hours of your contact of the patient. This will be an oral report only
j) Within 48 hours of oral reporting, you must submit a written report for all suspected abuse to the Department of Human Services

Advanced Treatment Guidelines
Monitor patient and treat if indicated following the appropriate protocol
Pediatric Standard Operating Protocol

Tachycardia

Date of Policy Change: 7/1/2011
New Policy: Revised Policy: 1/1/14
Medical Director: Dr. Travis Kain

1. TACHYCARDIA With Pulsus and Poor Perfusion
   - Assess and support ABCs as needed
   - Give oxygen
   - Attach monitor/defibrillator

2. Evaluate QRS duration
   - Narrow QRS (<0.08 sec)
   - Evaluate rhythm with 12-lead ECG or monitor
   - Narrow QRS (<0.08 sec)

3. Symptoms Persist
   - Evaluate QRS duration
   - Wide QRS (>0.08 sec)
   - Possible Ventricular Tachycardia

4. Probable Sinus Tachycardia
   - Compatible history consistent with known case
   - P waves present/normal
   - Variable R-R, constant P-R
   - Infants: rate usually <220 bpm
   - Children: rate usually <180 bpm

5. Probable Supraventricular Tachycardia
   - Compatible history (vague, nonspecific)
   - P waves absent/abnormal
   - HR not variable
   - History of abrupt rate changes
   - Infants: rate usually >220 bpm
   - Children: rate usually ≥180 bpm

6. Search for and treat cause

7. Consider vagal maneuvers (No delays)

8. If IV access readily available:
   - Give adenosine 0.1 mg/kg (maximum first dose 6 mg) by rapid bolus
     May double first dose and give once (maximum second dose 12 mg)
   - Synchronized cardioversion: 0.5 to 1 J/kg; if not effective, increase to 2 J/kg
     Sedate if possible but don’t delay cardioversion

9. Expert consultation advised
   - Amiodarone 5 mg/kg IV over 20 to 60 minutes
   - Synchronized cardioversion: 0.5 to 1 J/kg; if not effective, increase to 2 J/kg
     Sedate if possible but don’t delay cardioversion
   - Procainamide 15 mg/kg IV over 30 to 60 minutes
     Do not routinely administer amiodarone and procainamide together

10. During Evaluation
    - Secure, verify airway and vascular access when possible
    - Consider expert consultation
    - Prepare for cardioversion

11. Treat possible contributing factors:
    - Hypovolemia
    - Hypoxia
    - Metabolic acidosis
    - Hypo-/hyperkalemia
    - Hypoglycemia
    - Hypothermia
    - Toxins
    - Tamponade, cardiac
    - Tension pneumothorax
    - Thrombosis (coronary or pulmonary)
    - Trauma (hypovolemia)
Special Considerations:
Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion, pallor, dyspnea, tachycardia, low blood pressure or altered mental status).

It is necessary that all EMTs use the Glasgow Coma Score and the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol

Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients.

Hemorrhage Control

- Control bleeding with direct pressure. Large gaping wounds may need application of a bulky sterile gauze dressing and direct pressure by hand
- If unable to control hemorrhage of an extremity with direct pressure, consider application of a tourniquet

Abdominal trauma

- Control external bleeding. Dress open wounds to prevent further contamination
- Evisceration should be covered with a sterile saline soaked occlusive dressing
- Impaled objects should be stabilized with bulky dressings for transport

Chest trauma

- Seal open chest wounds immediately. Use occlusive dressing taped down. If the breathing becomes worse, loosen one side of the dressing to release pressure and then reseal
- Impaled objects must be left in place and should be stabilized by building up around the object with multiple trauma dressings or other cushioning material
- Take care that the penetrating object is not allowed to do further damage
Adult Standard Operating Protocol

Trauma

Date of Policy Change
7/1/2011

New Policy

Revised Policy
5/20/17

Medical Director
Dr. Travis Kain

Extremity trauma

- Assess extent of injury including presence or absence of pulse
- Establish and maintain manual stabilization of injured extremity by supporting above and below the injury
- Remove or cut away clothing and jewelry
- Cover open wounds with a sterile dressing
- Do not intentionally replace any protruding bones
- Apply cold pack to area of pain or swelling
- If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting, and transport immediately

Head and neck trauma

- Establish and maintain manual spinal immobilization
- Place the head in a neutral in-line position unless the patient complains of pain or the head does not easily move into this position
- Apply cervical collar and maintain manual stabilization
- Closely monitor the airway. Provide suctioning of secretions or vomit as needed. Be prepared to log roll the patient if they vomit. Maintain manual spinal stabilization if patient is log rolled
- Impaled objects in the cheek may be removed if causing airway problems, or you are having trouble controlling bleeding. Use direct pressure on injury after removal to control any bleeding
- Reassess vitals and Glasgow Coma Score (GCS) frequently
Advanced Treatment Guidelines

- Monitor EKG and treat dysrhythmias if indicated and following the appropriate protocol
- Establish IV and infuse fluids to maintain a systolic pressure of 90 – 100 mmHg for shock. If unable to establish an IV line, consider placing an IO catheter
- Consider a second IV if severe trauma

Extremity trauma

- Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol
- FENTANYL 50-100mcg slow IV/IO/IN
- MORPHINE SULFATE 2-4mg IV/IO push initial dose. May administer 4mg IM if unable to obtain IV access. Titrate to effect with 2-4mg increments every 5 minutes until one of the following occurs.
  - Relief of pain
  - Hypotension develops
  - Respiratory depression occurs
  - CNS depression occurs
  - 20mg total has been administered

- Consider VALIUM 5 mg for muscle spasms that may be present with fractures, dislocations or strains.

The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop

Head and neck trauma

- Consider intubation if GCS is less than 8 or airway can not be maintained
- If patient is intubated or has an airway such as Combitube or King LT, P_{ET}CO2 levels should be continually monitored and maintained at 33 – 43 mmHg if available
Your offer of assistance is appreciated. However, this EMS service, under law and in accordance with nationally recognized standards of care in Emergency Medicine, operates under the direct authority of a Physician Medical Director. Our Medical Director and physician designees have already established a physician-patient relationship with this patient. To ensure the best possible patient care, and to prevent inadvertent patient abandonment or interference with an established physician-patient relationship, please comply with our established protocols.

Please review the following if you wish to assume responsibility for this patient:

1. You must be recognized or identify yourself as a qualified physician.
2. You must be able to provide proof of licensure and identify your specialty.
3. If requested, you must speak directly with the on-line medical control physician to verify transfer of responsibility for the patient from that physician to you.
4. EMS personnel, in accordance with state law, can only follow orders that are consistent with the approved protocols.
5. You must accompany this patient to the hospital, unless the on-line medical control physician agrees to re-assume responsibility for this patient prior to transport.
Basic Treatment Guidelines:

- Follow initial protocols for all patients
- Identify and estimate the amount of substance that is ingested, inhaled, absorbed or injected.
- Remove any clothing and flush affected areas with copious amount of water if appropriate.
- Contact POISON CONTROL and follow directions given to provide care 1-800-222-1222

- Inhaled poisons:
  - Remove patient to fresh air
  - Administer high flow oxygen
  - Estimate duration of exposure to inhaled poison

- Absorbed poisons:
  - Identify contaminate! If it will be a hazard to you, use protective clothing and extreme caution

- Injected poisons:
  - Be alert for respiratory difficulty. Maintain airway and give high flow oxygen.
  - Check patient for marks, rashes, or welts
  - Try to identify source of injected poison

Advanced Treatment Guidelines:

- Contact Medical Direction as soon as possible with information given by Poison Control and care you have given.

Tricyclic Antidepressant Overdose

Ingestion of 10mg/kg or greater

- Administer SODIUM BICARBONATE 1meq/kg slow IV for ventricular arrhythmias or hypotension not responding to fluid challenge of 500-1000cc.

- Administer NS fluid bolus for hypotension.

- Administer DOPAMINE 10mcg/kg/min for hypotension. Titrate to desired effect.

- Begin fluid infusion of 1-2 L NS to assist treatment of toxicity.
• Consider **MAGNESIUM SULFATE 2 grams** IV over 10 minutes for ventricular arrhythmias.

**Narcotic Overdose**
In cases of suspected narcotic overdose:

Administer **NALOXONE 2mg** IV/IO/ET/IM, may repeat every 3 minutes as necessary to restore respiratory drive. Respiratory drive should be restored prior to 8mg. 10mg is max dose.

**Special Considerations**
• It is important to find out patients weight, in combination with the estimated amount of the poisonous substance that was ingested.
• Because it is usually extremely difficult or impossible to be sure exactly how much the patient has taken, always treat for the worst.
Making a decision to develop a new protocol or evaluate an existing one should be based on a rational process. Questions that should be asked and answered when considering a new drug therapy or procedure are as follows:

**Key Questions for any New Protocol**
- Is the drug therapy or procedure medically indicated and safe?
- Is it within the scope of practice for the provider?
- How specifically will this protocol benefit patient care?
- What specifically is needed to implement this protocol?
- How will this protocol impact operations?
- What is the opinion of providers concerning this protocol?
- Does the medical community support this protocol change?
- What are all the cost versus benefits associated with implementation and maintenance?
- What are the medical-legal implications?
- What ongoing provider involvement such as skills maintenance and continuous quality improvement is necessary?
- How will success be measured?

**Rational Protocol Development Process to Make the Right Protocol Decision**
- Study the issue thoroughly
- Identify key questions
- Compare with goals
- Assess fit with system
- Cost benefit analysis
- Identify measuring tools
Stakeholders in this process are recognized to include, but not be limited to:

- Medical direction (on-line and off-line)
- Educators/ training programs
- Regulators of policy and rules
- Service directors
- Service providers
- Consumers
- Third party payers

Calls to the Jail:

The EMT shall examine a detained patient only in the presence of a Police Officer. Personnel should never be left alone with a detained patient.

If worn, prior to entering the jail cell, hip kits, or other objects that could be used as weapons (Multi-tools, knives, trauma shears, radio harness, etc.) should be removed.

Patients under Arrest:

Patients under arrest may be transported while wearing handcuffs or other restraints placed on them by Police Officers when the restraints are not causing circulation or breathing problems.

Prevention of a patient under arrest from escaping while being transported in an UFD ambulance is the responsibility of the Police Department or appropriate law enforcement agency. No attempt should be made by UFD personnel to abate any escape attempt by a patient. If the medics involved with patient care feel their safety is in jeopardy they should take whatever means available to them to become safe.

Patients under arrest will not be transported unless accompanied by a Police Officer. (The medic in charge may elect to have the officer follow immediately behind the ambulance).

In cases where a patient has been handcuffed to the cot a Police Officer must accompany the patient.
Purpose: To establish guidelines for handling and documenting patient refusal of care or transportation.

Policy:

Whenever a qualified person refuses emergency medical evaluation or treatment, prehospital personnel shall utilize the following steps to document the circumstances of the refusal:

1. Evaluate the patient as much as capable or allowed;
2. Document the history and physical on the patient care report (PCR), charting as much information as is available, including refusal of any portion of the evaluation;
3. Determine the appropriate plan of action for the patient, including field treatment and hospital destination.
4. Clearly describe the plan of action to the patient, in easily understandable terms, along with the need for further hospital evaluation.
5. If the patient continues to refuse medical evaluation, treatment, or transport:
   Make every reasonable attempt to convince the patient of the need for further medical evaluation and treatment, including a clear description of the potential risks and consequences of refusing care.
6. Document the following information on the PCR:
   - All medical care given including a general assessment of the patient, level of consciousness, any complaint and associated injury or signs / symptoms the patient may have.
   - Full set of patient vital signs.
   - The apparent competency of the patient to refuse treatment
   - Any explanations to the patient, including potential risks and consequences of refusal of care.
   - The patient's own words verbalizing an understanding of the event, refusal of care, and an understanding of the potential consequences of refusal of treatment or transport;
   - The signature of any witnesses present.
   - The patient, parent, or legal representative should sign the authorized refusal form. If the patient, parent, or legal representative refuses to sign, that should be clearly documented.
Refusal of Transportation

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- If the patient is a minor and the parent or legal guardian is not present at the scene, verbal consent may be obtained from the parent. Caution should be used by the Medics when leaving the minor patient without observation due to the absence of an adult or guardian. When possible patient should be left in the observation of an adult or guardian.

At no time should pre-hospital personnel put themselves in danger by attempting to treat or transport patients who refuse care. Pre-hospital personnel should use good judgment and the appropriate support agencies for assistance under these circumstances.
Once an ambulance crew has completed the patient care aspect of their call for service it is imperative that they return the ambulance to a condition where it can be made available for another EMS call for service. The following duties shall be completed as applicable and soon as possible after the call to ensure ambulance readiness.

Attending medic:
- Shall be responsible for the completion of the Patient Care Report (PCR) and entering same into firehouse.
- The PCR includes the patient’s insurance information, the billing sheet, the HIPPA form with patient signature and any cardiac rhythm strips or sampling of same obtained during patient care.

Supporting medic:
- Will be responsible for cleaning and disinfecting any and all equipment used for patient care, as well as, the patient care compartment.
- Replacing all disposable items used during the call.
- Removing all trash or waste products from the receptacles in the ambulance. Any bio-hazard waste shall be placed and secured in a RED bio-hazard waste bag. This will then be disposed of in a properly marked receptacle for such waste.
- The patient transport cot shall be cleaned and disinfected as needed.
- All towels, sheets, blankets, pillows and their cases that came in contact with the patient shall be replaced.
- If the call ends at a hospital, the supporting medic shall check the hospital’s EMS locker denoted for UFD use, to locate any equipment left behind from prior calls.
- Any items left at the hospital will need to be noted upon return to the station.
- Any disposable equipment found to be out of stock should be noted.
- Oxygen cylinders shall be inspected for damage and level of remaining oxygen. Portable (D) cylinders need to replaced when they reach 500 PSI. The on board (M) cylinders need to replaced when they reach 250 PSI.
- Special attention should be given to any laryngoscope handle or non-disposable blade used during patient care. These items need to be thoroughly disinfected before being returned to service.
- Supporting medics shall ensure that the ambulance has a fuel level greater than or equal to 1/2 of a full tank.

It is the responsibility of the returning crew to notify Westcom of their return to service or availability at the end of the call.
Basic Treatment Guidelines

- Follow Initial Treatment Protocols for all patients.
- Protect patient from injury, by clearing area of all possible hazards.
- Avoid physical restraints unless absolutely necessary to protect patient or yourself.
- Obtain blood sugar level.

Advanced Treatment Guidelines

- Obtain blood sugar level.

- Consider VALIUM 2mg slow IV push. Maximum dose of 10 mg.

- Consider VERSED 0.1-0.2mg/kg IN. Maximum dose of 10mg.

- Administer 50 % DEXTROSE 25 grams IV push if blood glucose < 60 mg/dl or if a history of hypoglycemia induced seizures.

Special Considerations

- Status epilepticus is a true life-threatening emergency and requires immediate transport.
- Approximately 5% of children have seizures as a result of fever. Febrile seizures are most common between ages of 6 months and 4 years.
1. Follow Initial Treatment Protocol for all patients.

2. This protocol is intended for patients who present with a traumatic mechanism of injury. Immobilization is contraindicated for patients who have penetrating trauma who do not have a neurological deficit.

3. Patient Management:
   
   A. Assessment:

   1) Assess for mental status, neurological deficits, spinal pain, tenderness, any evidence of intoxication, or other severe injuries.

   2) While maintaining spinal alignment, examine the spine for tenderness on palpation or deformities.

   B. Treatment and interventions:

   1) Apply cervical restriction if there is any of the following:

      a. Patient complains of neck pain, any neck tenderness on palpation, any abnormal mental status (including extreme agitation or neurological deficit), any evidence of alcohol or drug ingestion, other severe injuries are present, or a communication barrier prevents an accurate assessment.

   2) Immobilize patient with cervical collar and long spine board, full body vacuum splint, scoop stretcher or similar device if:

      a. Patient complains of midline back pain or any midline back tenderness.

Note 1: Distracting injuries or altered mental status does not necessitate long spine board use.

Note 2: Patients should not routinely be transported on long spine boards unless the clinical presentation warrants long spine board use. An example of this may be the facilitation of multiple extremity injuries or an unstable patient where removal of a board will delay transport and/or treatment priorities. In these rare situations, long spine boards should be padded or apply a vacuum mattress to minimize secondary injury to the patient.
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Identify yourself to the patient, assure patient that they are safe, and are in no further danger.
- Do NOT burden patient with questions about the details of the crime; you are there to provide emergency medical care.
- Be alert to immediate scene and document what you see. Touch only what you need to touch at the scene.
- Do not disturb any evidence unless necessary for treatment of patient. If it is necessary to disturb evidence you must document why and how it was disturbed.
- Treat for shock if indicated.
- Treat other injuries as indicated.
- Preserve evidence, such as clothing you may have had to remove for treatment, and make sure that it is never left unattended at any time, in order to preserve the “chain of custody” for evidence. As well, document if any clothing was removed from the patient and why it was removed.
- Contact law enforcement if not present.

Advanced Treatment Guidelines
Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol

Special considerations:
Crewmembers of the same sex may relate better to the patient in time of such emotional crisis. Accurately record your observations and conversations with the patient.

Do not allow the patient to bathe, douche, change clothes, or go to the bathroom.
Classification: Alkalizing agent.

Mechanism of Action
Sodium bicarbonate buffers acid build-up in the body caused by severe hypoxia. Severe hypoxia results in anaerobic metabolism, which produces lactic acid and metabolic acidosis.

Indications for Use
1. Late in management of cardiac arrest, if at all.
2. Tricyclic antidepressant overdose.
3. Severe acidosis refractory to hyperventilation.
4. Known preexisting hyperkalemia.

Contraindications
Alkalotic states.

Precautions
1. Correct dosage is essential to avoid overcompensation of pH.
2. Can deactivate catecholamines.
3. Can precipitate with calcium.
4. Delivers large sodium load.

Dosage
Adult: 1mEq/kg for initial dose IV/IO, repeat dosages is 0.5 mEq/kg IV/IO
Peds: 1mEq/kg IV/IO

Route
IV/IO

Side Effects / Complications
Alkalosis
Classification: Corticosteroid

Mechanism of Action
Not clearly defined. Decreases inflammation, mainly by stabilizing leukocyte lysosomal membranes.

Indications for Use
1. Status Asthmaticus.
2. Acute COPD.
3. Allergic reaction/anaphylaxis

Contraindications
1. Patients with systemic fungal infections.
2. Known hypersensitivity to drug.
3. Premature infants.

Precautions
1. Use caution in patients with recent MI.
2. Determine if patient is sensitive to other corticosteroid medications.

Dosage
Adult: 125mg IV given over 1 minute or IM.
Peds: 2mg/kg to max of 125 mg.

Route
Slow IV/IM

Side Effects / Complications
1. Euphoria
2. Psychotic behavior
3. Vertigo
4. Parasthesia
5. Seizures
6. Arrhythmias Heart failure
7. Thromboembolism
8. Fatal arrest
9. Circulatory collapse
10. GI irritation
Guidelines for EMS Providers responding to a patient with special needs

(This Protocol is not intended for interfacility transfers)

These guidelines should be used when an EMS provider, responding to a call, is confronted with a patient using specialized medical equipment that the EMS provider has not been trained to use, and the operation of that equipment is outside of the EMS providers scope of practice. The EMS provider may treat and transport the patient, as long as the EMS provider doesn’t monitor or operate the equipment in any way while providing care.

When providing care to patients with special needs, EMS personnel should provide the level of care necessary, within their level of training and certification. When possible, the EMS provider should consider utilizing a family member or caregiver who has been using this equipment to help with monitoring and operating the special medical equipment if necessary during transport.

Some examples of special medical devices:
- PCA (patient controlled analgesic)
- Chest Tube
The following are guidelines for initial tactical triage using the START method. START is most useful in initially clearing the disaster zone where there are numerous casualties. It focuses on respiration rate, perfusion, and mental status and takes under one minute to complete. Once the patient moves toward a higher level of care (evacuation), a more detailed approach to triage may be needed.
Medication Information

Succinylcholine (Anectine)

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**Classification:** Paralytic

**Mechanism of Action**
Depolarizing skeletal muscle relaxant

**Indications for Use**
Medication assisted airway management

**Contraindications**
- Recent stroke, burn, or crush injury greater than 72 hours old
- Neuromuscular Disease
- Hyperkalemia
- Malignant hyperthermia
- Unable to ventilate using bag-valve-mask

**Precautions**
Ensure equipment is prepared for immediate endotracheal intubation

**Dosage**
1.5 mg/kg IV/IO with a maximum dose of 200mg

**Route**
IV/IO

**Possible Side Effects or Complications**
- Increased intraocular pressure
- Muscle Fasciculation
- Hyperkalemia
- Malignant Hyperthermia
- Anaphylaxis
Assess appropriateness for clinical condition. Heart rate typically ≥150/min if tachyarrhythmia.

**Identify and treat underlying cause**
- Maintain patent airway; assist breathing as necessary
- Oxygen (if hypoxemic)
- Cardiac monitor to identify rhythm; monitor blood pressure and oximetry

**Persistent tachyarrhythmia causing:**
- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?

**Wide QRS? ≥0.12 second**
- Yes
  - Synchronized cardioversion
    - Consider sedation
    - If regular narrow complex, consider adenosine

  - IV access and 12-lead ECG if available
  - Consider expert consultation

- No

**Doses/Details**

**Synchronized cardioversion:**
- Initial recommended doses:
  - Narrow regular: 50-100 J
  - Narrow irregular: 120-200 J
  - Wide regular: 100 J
  - Wide irregular: defibrillation dose (not synchronized)

**Adenosine IV dose:**
- First dose: 6 mg rapid IV push; follow with NS flush.
- Second dose: 12 mg if required.

**Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia**
- Procainamide IV dose: 20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given. Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF.
- Amiodarone IV dose:
  - First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs.
  - Follow by maintenance infusion of 1 mg/min for first 6 hours.
- Sotalol IV dose:
  - 100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.

**NOTE:** IO access may be established in lieu of IV if needed.
Basic Treatment Guidelines
Follow initial protocols for all patients.

- Assure your safety and that of your crew. Encourage police to secure the subject with handcuffs behind his/her back, but the patient should not be maintained in a prone position or with hand cuffs attached to ankle cuffs behind the subjects back (i.e. hog tie or hobble position)
- Barbs may be removed unless they are in the eye, genitalia, neck or female chest. Keep in mind that barbs embedded in overlying vascular structures may involve underlying vessels. (i.e. volar, wrist, groin, armpit) If barbs are removed from these areas monitor for bleeding or hematoma formation. If bleeding or hematoma occurs use direct compression to the area.
- Removed barbs shall be returned to the Police Department as evidence.
- Check for other injuries and treat appropriately. Consider occult trauma or potential for toxic ingestion.
- Continued physical restraint is likely necessary to ensure your safety, your crews and that of the patient.

Advanced Treatment Guidelines

- Consider chemical sedation with VERSED 0.1-0.2mg/kg IVP or IN. Maximum dose of 10mg.
- Consider SODIUM BICARBINATE 1-3 amps (50-150mEq) IVP if the patient is showing signs of hemodynamic instability or cardiac dysrhythmia (i.e. bradycardia, QRS widening or frequent ectopy)

Special Considerations

- Patients that continue to aggressively fight against physical restraint are at risk for acidosis or death. Keep in mind that benzodiazepines are the first line treatment for sympathomimetic (cocaine, methamphetamine, and crack) toxicity which commonly precipitates excited delirium.
- In a case series of patients that suffered extreme acidosis from resisting arrest IV administration of SODIUM BICARBONATE may help preserve cellular function.
- Signs suggestive of extreme acidosis after extreme physical exertion include altered mental status, and increased respiratory rate or volume. In the late stages, respiratory
depression and hemodynamic instability occurs and often results in death.

- An ominous finding in the excited delirium patient is a period of tranquility after the struggle. The patient suddenly becomes quiet with deep respirations. This period was noted just prior to death in many cases.

Release or Transport to Hospital Considerations
It is generally acceptable that releasing patients to jail after Taser deployment is safe if the subject is:
- No longer combative
- Alert and conversant
- Has no evidence of significant bodily injury.
- Does not appear to be in physiologic danger from alcohol or drug intoxication.
- Taser darts have been removed from sites without bleeding or hematoma formation.
- Follow patient refusal guidelines for releasing patient.

Sometimes it will be necessary for patients to be further evaluated at the hospital.
- Patients that have obtained benzodiazepines for agitation shall be transported to the hospital.
- Patients with continued agitation despite physical restraints should be transported to the hospital.
- Patients with alteration in mental status, significantly abnormal vital signs or abnormal EKG should be transported to the hospital.
- Patients that have swallowed drugs in an attempt to evade recognition by police should be transported to the hospital.
- Patients that admit to or are suspected of drug “packing” should be transported to the hospital.
- All patients under the age of 18 should be transported to the hospital.
- Pregnant women should be transported to the hospital.
Special Considerations:
Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion, pallor, dyspnea, tachycardia, hypotension or altered mental status).

It is necessary that all EMTs use the Glasgow Coma Score and the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol

Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients.

Hemorrhage Control

- **Life-threatening extremity bleeding or amputations** - immediate application of a tourniquet should be performed before attempting direct pressure. If bleeding can’t be controlled with one tourniquet, apply a second tourniquet or consider alternative hemorrhage control measures (wound packing).

- **Junctional bleeding** (neck, armpits, groin, buttocks) where a tourniquet can’t be applied, the wound may be packed with hemostatic impregnated gauze or rolled gauze, followed by 3-5 minutes of direct pressure and the application of a pressure dressing.

- Consider application of an occlusive dressing for penetrating wounds to the chest and abdomen.

- In blunt trauma, be alert for the possibility of intrathoracic and intraabdominal hemorrhage.

- **Use active and/or passive warming to prevent hypothermia.**

Abdominal trauma

- Control external bleeding. Dress open wounds with occlusive dressings.

- Evisceration should be covered with a sterile saline soaked occlusive dressing

- Impaled objects should be stabilized with bulky dressings for transport

Chest trauma

- Seal open chest and back wounds immediately. Use chest seals or an occlusive dressing taped down. If the breathing becomes worse, perform needle decompression. If the initial decompression attempt fails, consider inserting a second needle lateral to the first attempt.
• Impaled objects must be left in place and should be stabilized by building up around the object with multiple trauma dressings or other cushioning material
• Take care that the penetrating object is not allowed to do further damage

**Extremity trauma**

• Assess extent of injury including presence or absence of pulse and neurologic deficit
• Establish and maintain manual stabilization of injured extremity by supporting above and below the injury
• Remove or cut away clothing and jewelry
• Cover open wounds with a sterile dressing
• Do not intentionally replace any protruding bones
• Apply cold pack to area of pain or swelling
• If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting, and transport immediately

**Head and neck trauma**

• Establish and maintain manual spinal immobilization according to the selective spinal immobilization protocol.
• Place the head in a neutral in-line position unless the patient complains of pain or the head does not easily move into this position
• Apply cervical collar and maintain manual stabilization
• Closely monitor the airway. Provide suctioning of secretions or vomit as needed. Be prepared to log roll the patient if they vomit. Be prepared to intubate in cases of a compromised airway. Maintain manual spinal stabilization if patient is log rolled
• Impaled objects in the cheek may be removed if causing airway problems, or you are having trouble controlling bleeding. Use direct pressure on injury after removal to control any bleeding
• Reassess vitals and Glasgow Coma Score (GCS) frequently
• Identify signs of severe closed head injury (unequal pupils, Battle’s sign, periorbital bruising, CSF leakage, and Cushing’s Triad.
• Apply oxygen to maintain a SpO2 of 92-94%.
Advanced Treatment Guidelines

- Monitor EKG and treat dysrhythmias if indicated and following the appropriate protocol
- Establish IV and infuse fluids to maintain a systolic pressure of 90 – 100 mmHg for shock. If unable to establish an IV line, consider placing an IO catheter
- Consider a second IV if severe trauma
- Consider intubation if GCS is less than 8, or the airway cannot be maintained, or due to the anticipated clinical course of patient care.
- If patient is intubated or has an airway, such as Combitube or King LT, $P_{ET}CO_2$ levels should be continually monitored and maintained at 33 – 43 mmHg if available
- Manage pain as necessary using:

  - **FENTANYL 50-100mcg** slow IV/IO/IN. Titrate to effect in 50mcg increments every 5 minutes.

    **OR**

  - **MORPHINE SULFATE 2-5 mg** IV/IO push initial dose. May administer 5 mg IM if unable to obtain IV/IO access. Titrate to effect with 2-5 mg increments every 5 minutes until one of the following occurs.
    - Relief of pain
    - Hypotension develops
    - Respiratory depression occurs
    - CNS depression occurs
    - 20mg total has been administered

- If fentanyl or morphine is ineffective for controlling pain, or patient is hypotensive, consider **KETAMINE 0.2 mg/kg IV/IO or 0.5 mg/kg IN** may be administered. IN dose may be repeated after 5 minutes if necessary.
- Consider **VALIUM 5 mg** for muscle spasms that may be present with fractures, dislocations or strains.

*The patient must have vital signs taken prior to each dose and be monitored closely, if at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg systolic or less, administration of morphine must stop*
An EMS agency has an obligation to treat and transport patients who may be suffering from an illness or injury that impairs their ability to make an informed decision. These patients will often refuse treatment or transport to a medical facility. In circumstances where an acute illness or injury impairs a patient’s ability to make an informed decision AND the patient is in need of medical treatment or evaluation to prevent further significant illness or injury, the patient shall be transported to an emergency department for further evaluation. There are certain circumstances where a patient’s condition or behavior pose an immediate threat to the health and safety of themselves or others around them. In these circumstances, the patient should be safely and humanely restrained and continuously monitored during restraint. Patient restraint and transport “against will” should never be taken lightly. Every individual has a legal and moral right to refuse medical treatment, even if that refusal results in potential harm. It is our responsibility to make sure the patient is making an informed decision and that the patient causes no harm to his/herself or others as a result of their behavior.

**Indications**
- Patients deemed unable to make an informed decision and are considered a harm to his/herself and others.
- Severe agitation / combativeness where provider safety is in question.

**Contraindications**
- Patients who are able to make informed decisions and are not a threat to themselves or others.

**Procedure**
1. Determine scene safety. Attempts to physically restrain a patient should be made (when possible) with law enforcement assistance.
2. Determine that a potentially harmful condition exists. If the condition is immediately life-threatening, the patient should be treated and transported as soon as safely possible.
3. **Determine patient’s competency to make informed decision using the following:**
   - Is the patient alert? Oriented times three (person, place, time)?
   - Does the patient understand his/her illness or injury and the potential for adverse outcome?
   - Can the patient describe his/her condition to you?
   - Does the patient understand consequences (including death) of not treating his/her illness or injury?
   - Does the patient understand the alternatives to immediate care by EMS?
   - Does the patient have any physical findings suggestive of impaired physiology that could affect decision making (hypotension, hypoxia, head injury, alcohol / drug intoxication, evidence of CVA, symptoms of...
### Transporting a patient against their will

<table>
<thead>
<tr>
<th>Date of Policy Change</th>
<th>New Policy</th>
<th>Revised Policy</th>
<th>Medical Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/2011</td>
<td>1/1/14</td>
<td></td>
<td>Dr. Travis Kain</td>
</tr>
</tbody>
</table>

4. If, based on provider assessment, the patient is not capable of making an informed decision (because of abnormalities defined above) AND the patient has a potentially harmful illness or injury, the patient should be extensively counseled regarding the need for medical care. If the patient STILL refuses further care / evaluation, or is a harm to him/herself or others, the patient should be physically restrained by EMS personnel (with law enforcement assistance, if available).

5. Physical restraints should be safe and humane. At no time should a patient be struck or managed in such a way as to purposefully impose pain. Restrain in a position that considers both comfort and safety.

6. Without exception, care providers will thoroughly document on patient’s care record the reason for restraint, the mental status exam, options attempted, and method of restraint.

7. If **ELECTIVE SEDATION** protocol use is deemed necessary the patient should be monitored constantly for compromise. *Never leave a patient alone after any form of restraint.*
This protocol should be followed until superseded or overridden by a community disaster plan.

I. Follow Initial Protocols For All Patients:

A. Any situation that overwhelms the local EMS resources should be a Multiple/Mass Casualty Incident. The first responding EMS unit should declare a possible major incident while en route to the scene if the dispatch information suggests the likelihood that one exists. As soon as possible upon arrival to the scene, the unit should verify that a major incident does or does not exist.

II. EMT or Medical Coordinator: takes charge of overall medical coordination at scene until relieved by a higher trained EMS person. (The unified Incident Command System coordinates all emergency response personnel, i.e., law, fire, rescue, ambulance, etc.).

   A. Consider use of S.T.A.R.T. to assist with initial triage of multiple patient.
   B. As patients are moved to Triage areas according to priorities, continue to assess and treat as necessary.

III. Responsibilities of "on-scene" medical coordinator:

   A. Will call for additional assistance, as needed.
   B. Upon further assessment assigns personnel to Priority I (Red) patients (in field) first and sees they are moved to Triage area for treatment.
   C. Does not waste time/resources by treating in field.
   D. When all Priority I (Red) patients have been moved into the triage area, Priority II's (Yellow) and III's (Green) can be evacuated. (Exception: if a Priority I (Red) is trapped, II's (Yellow) could be moved until rescue has been accomplished.

IV. Triage Director (second EMT at scene):

   A. Is in charge of ALL equipment and will decide priorities of care and assignment of EMS personnel in Triage area.
   B. Will notify receiving hospital(s) as soon as possible, of number of patients, and estimated severity, so hospital(s) can activate disaster plans.
   C. Will make transport assignments and patient care assignments consistent with priority of patient. (Priority I, (Red) should have highest level of out-of-hospital care at scene and en route).
   D. Arranges with Medical Coordinator for the transport of Priority I's (Red) first, then II's (Yellow), III's. (Green) and last IV’s (Black).
   E. Will coordinate with Medical Coordinator throughout rescue effort.
V. "On-scene" medical coordinator will remain at scene to coordinate activities until all patients are moved into and out of triage area and incident scene.

<table>
<thead>
<tr>
<th>Triage Color Code</th>
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</thead>
<tbody>
<tr>
<td><strong>Red</strong>: Immediate (Priority 1)</td>
</tr>
<tr>
<td><strong>Yellow</strong>: Delayed (Priority 2)</td>
</tr>
<tr>
<td><strong>Green</strong>: Minor (Priority 3)</td>
</tr>
<tr>
<td><strong>Black</strong>: Deceased (Priority 4)</td>
</tr>
</tbody>
</table>

*This is the only acceptable color coding system (Each service must have an identifying system in place such as color coded triage tags or color coded tape)*

**Immediate (PRIORITY I PATIENTS)**

**RED**
This highest priority is for patients who need immediate care and transport. Treat these patients first and transport as soon as possible.

**Typical Injuries:**
- Airway and breathing difficulties
- Uncontrolled or severe bleeding
- Decreased level of consciousness
- Severe medical problems
- Shock (hypoperfusion)
- Severe burns

**Delayed (PRIORITY II PATIENTS)**

**YELLOW**
These patients treatment and transportation can be delayed temporarily.

**Typical Injuries:**
- Burns without airway problems
- Major or multiple bone or joint injuries
- Back injuries with or without spinal cord damage.
Adult Standard Operating Protocol

Triage- MCI

Date of Policy Change  
7/1/2011

New Policy

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1/1/14

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**Minor (PRIORITY III PATIENTS)**

**GREEN**

This low priority of patients should have treatment and transportation delayed until last.

**Typical Injuries:**
Minor fractures  
Minor soft tissue injuries

**Deceased (PRIORITY IV PATIENTS)**

**BLACK**

These patients are already dead or have little chance for survival. If resources are limited, treat “salvageable” patients before these patients.

**Typical Injuries:**
Obvious death  
Obviously mortal wounds, or full cardiac arrest.

**Basic Treatment Guidelines**
Follow initial protocols for all patients.

**Advanced Treatment Guidelines**
Follow Trauma and/ or other appropriate protocol
I. UNCONSCIOUS MEDICAL PATIENT:

A. Follow Initial Treatment Protocol for all patients:

B. Emergency Medical Care
   1. If problem is identified, follow appropriate protocol.
   2. Advise responding ambulance of any information gathered during assessment.

II. UNCONSCIOUS TRAUMA PATIENT:

A. Follow Initial Treatment Protocol for all patients

Special Considerations If unconsciousness is due to trauma or unknown cause, assume patient has a spinal cord injury. Be prepared to handle a combative, disoriented or seizure patient.

Basic Treatment Guidelines
Follow Initial Treatment Protocol for All Patients. Perform glucometer check.

Advanced Treatment Guidelines

- Monitor EKG and treat dysrhythmias following the appropriate protocol.
- Administer **GLUCOSE 25 GRAMS** D50W IV/IO if blood sugar <60mg/dL.
- If no response, give **NARCAN 2mg** IV/IO/IN and observe for response. May repeat every 3 minutes. If opioid OD suspected, respiratory drive should resume prior to administration of 4th dose.
- Consider intubation.
Indications
It may be necessary to restrain a patient to ensure the safety of the patient and the EMS personnel in the setting of a violent or potentially violent patient. In some instances, the patient may need to be restrained in order to conduct a therapeutic procedure, such as intubation or IV insertion.

Contraindications
None if used in appropriate setting

Possible complications
1. Physical injury to care providers
2. Physical injury to patient
3. Compromise of distal extremity circulation

Procedure
1. The type of restraints used should restrict the movement of the patient without causing injury. Types of acceptable methods include kerlex, soft restraints, leather straps, hand-cuffs, “flex-cuffs” or restraint to a scoop / long back board.
2. Have enough resources available. Consider use of law enforcement for assistance. Have law enforcement check patient for weapons when appropriate.
3. Do not use excessive force in restraining a patient. However, sometimes injuries occur when a patient is excessively violent. Your personal safety is of most importance.
4. Once restraints have been applied, distal extremity circulation must be checked every 15 minutes. Pulses should be strong and capillary refill brisk.
5. Patients should be monitored closely for airway compromise due to positioning, vomiting, etc.
6. Document the reason for restraining a patient and the type of restraints used.

Special Considerations
Many patients with abnormal behavior have an organic etiology. Do not overlook the possibility of head injuries, hypoxia, drug ingestion, hypoglycemia or neurological disorders by assuming the patient’s only problem is psychiatric in nature.
Medication Information

Versed (Midazolam)

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Medical Director
Dr. Travis Kain

Classifications: Sedative - Hypnotic / Amnestic

Mechanism of Action
1. Short acting CNS depressant 3-4 times as potent as diazepam.
2. Produces sleepiness and relief of apprehension.
3. Diminishes patient recall very effectively.

Indications for Use
1. To produce sedation in conscious patients and high anxiety patients.
2. To impair memory of therapeutic procedures.
3. Seizures IM if unable to attain IV access.

Contraindications
1. Acute narrow-angle glaucoma.
2. Hypersensitivity to versed.
4. Lactation.
5. Acute alcohol intoxication

Precautions
1. Use caution in the elderly and patients with chronic disease states.
2. Increased risk of apnea.
3. Does not protect against increased ICP.
4. Be alert for developing hypotension.

Dosage
Adult: 1-5mg IV over 1-2 minutes to max of 10 mg in 30 minutes from the initial dose.
Peds: 0.03mg/kg IV over 2 minutes to max of 10 mg in 30 minutes from the initial dose.
Adult seizure: IM 0.1 mg/kg or 0.1-0.2mg/kg IN maximum dose of 10mg
Peds seizure: IM 0.2 mg/kg or 0.1mg/kg IN

Route
Intravenous
Intramuscular

Possible Side Effects or Complications
Apnea
Airway obstructions
Blurred vision
Bradycardia

Dysrhythmias
Hypotension
Coma
Nausea / vomiting
Medication Information

Zofran (Ondansetron)

Date of Policy Change  
7/1/2011

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12/11/16

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Dr. Travis Kain

Classifications  
Antiemetic

Mechanism of Action  
Blocks the action of serotonin, a natural substance that may cause nausea / vomiting

Indications for Use  
Nausea and vomiting

Contraindications  
- Pregnancy
- Known hypersensitivity

Precautions  
None in the emergency setting

Dosage  
- Adult: 4mg IV/IO
- Peds: <40kg patient 0.1mg/kg IV/IO
  >40kg patient 4mg IV/IO

Route  
IV/IO

Possible Side Effects or Complications  
- Diarrhea
- Constipation
- Headache
- Blurred vision
- Weakness
- Dizziness