NEBRASKA

EMERGENCY MEDICAL SERVICES

MODEL PROTOCOLS

SERVICE NAME

With the approval of the Physician Medical Director, the service has adopted the following protocols

______________________     _____________________
Date Approved       Date Reviewed

______________________     ______________________
Physician Medical Director     Agency Head
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Nebraska Emergency Medical Services
Protocols

First Responder, Basic, EMT Intermediate, Paramedic

Introduction

Purpose: The purpose of these protocols is to assure safe and effective intervention during the out-of-hospital phase of patient care. In consideration of the unique resources, needs, population, and geography of EMS in Nebraska, individual medical directors may choose to enhance or omit portions of these protocols in accordance with current medical practice and standards. Medical directors are responsible to ensure the EMS personnel using these protocols have the training and skills required, and perform quality assurance activities to assure these protocols are used appropriately. It is the hope of the Nebraska Health and Human Services, Board of Emergency Medical Services, that these protocols will serve as a standard throughout Nebraska’s system. Ongoing review and update of these protocols is necessary to keep pace with interventions known to be effective in out-of-hospital care.

Authority: Out-of-hospital (OOH) emergency care provider personnel may only deliver emergency medical care as a member of a licensed emergency medical service. The emergency medical service must have a physician medical director who is responsible for the practice of the OOH emergency care provider personnel. All treatments and procedures performed by each OOH emergency care provider must be authorized by their service’s physician medical director.

Protocols shall be approved, signed, and dated by the individual service’s physician medical director prior to implementation.

Directions for Use:
All emergency care providers should start at the top of the page and proceed as far down the page as your level of certification and training permits.

Always conduct a scene size-up and observe body substance isolation precautions and only then perform the patient assessment and obtain the necessary information on all patients.

You may need to use more than one treatment protocol for any single patient, (known diabetic who has been in a motor vehicle crash).

The OOH emergency care provider must assess each patient and apply the correct treatment based on that assessment. All the treatment/interventions may not be required simply because the patient presents with a particular problem. Treatment must be applied based on the patient’s condition and the provider’s assessment. The provider is encouraged to contact medical control for advice if question(s) about treatment arise.
GENERAL OPERATIONS

I. Scene Size-Up:
As you approach the scene, assure safety for yourself, your fellow responders and the patient. Establish and follow an Incident Command.

II. BSI (Body Substance Isolation):
Prior to patient assessment, it is protocol policy to practice body substance isolation when caring for ALL patients. This includes washing hands after each patient care incident. Hands shall be washed even if gloves were worn or waterless soap was used. Note: This is comparable to Universal Precautions in a hospital setting.

This policy also applies to immediate disposal of needles and sharps in disposable, impervious containers. The practice of not recapping needles is highly encouraged.

III. Trauma Patients:
Once a trauma patient has been identified, follow the trauma system decision protocol for the identification of time critical injuries, the method of transport and the trauma facility resources necessary for treatment of those injuries.

IV. Use of Restraints
A. Indications:
   A patient who needs to be transported for medical care and who appears to be an imminent danger to himself.

B. Protocol:
   1. Check restraints as soon as applied and every 10 minutes thereafter to ensure no injury to extremities.
   2. Once restrained, the patient is never to be left alone.
   3. Written and verbal reports must completely document the necessity for the use of physical restraints.
   4. Record condition of limbs before applying restraints and recheck and record condition on arrival at hospital.
   5. Prevent asphyxia
      a. Do not restrain patient prone (face down)
      b. Do not restrain patient sandwiched between backboards, scoop stretchers, or other immobilization devices
      c. Check and monitor any straps across the chest. Straps should secure the patient without restricting chest expansion.
      d. Patient will not be “Hog Tied” (hands restrained behind back, feet restrained together and the two restrained attached together)
V. **Transport Codes:**
Category Green – Minimal or no apparent disease or injury. Patient transported for examination
Category Yellow – Obvious illness or injury, not serious but needs medical attention
Category Red– Apparent serious injury or illness needing immediate medical attention
CPR in progress
Category Black – Dead patient
Trauma Center Candidate – Should be used in conjunction with Code 3, and means the patient may be diverted directly to the trauma center that is appropriate for that area or region.

VI. **Physician on Scene**
When a physician is present on the scene and desires to direct the run, the EMT should:
A. Inform the physician that if the physician directs the run, the physician must accompany the patient to the hospital. This must be documented on the patient care report.
B. Inform the physician at the onset of the run that Out-of-Hospital personnel have strict legal guidelines and established protocols and they may not exceed those guidelines or protocols.
C. Inform the physician that any procedure outside the legal guidelines for that level of care must be carried out by the physician.
D. Out-of-hospital personnel have the right and obligation at any time there is gross deviation from the accepted protocol to contact the receiving hospital for further instruction. The physician on the scene should be informed that contact with the hospital is being made. If possible, it may be advisable to have the receiving hospital physician speak directly to the physician at the scene.

VII. **“Do Not Resuscitate” (DNR) Orders or Requests and identification of “CPR Only”:**
A DNR is a written order by a physician that a patient should not be resuscitated or have CPR performed. A DNR must be signed by a physician, dated, and have the patient’s name. An out-of-hospital emergency care provider can honor a DNR. The out-of-hospital emergency care provider must be identified in the patient care report.

Requests for Do Not Resuscitate or perform CPR:
An OOH emergency care provider can honor an effective Living Will or Health Care Power of Attorney. This applies only to adults. OOH emergency care providers can presume the validity of either of these documents if signed in Nebraska. Documents from other states in compliance with that state’s laws are also valid in Nebraska.

Observation of an original or a photocopy of a living will or health care power of attorney must be documented in the patient care report. An OOH emergency care provider **shall not** honor a living will if there is no information or evidence that a physician has determined the patient is in a terminal condition or in a persistent vegetative state. If there is information or evidence that a physician has determined the patient is in a terminal condition or in a persistent vegetative state, this information should be documented in the patient care report.
The patient care report must contain information that the patient is an adult (is 19 or older or has been married).

An OOH emergency care provider can refuse to honor an effective Living Will or Health Care Power of Attorney decision if the decision is contrary to a formally adopted policy of the provider that is based on religious beliefs or sincerely held ethical or moral convictions. If a service providing out-of-hospital emergency care has such a policy approved by the Physician Medical Director, individual providers with such religious beliefs or ethical or moral convictions employed by or volunteering for that service may refuse to honor an effective Living Will or Health Care Power of Attorney. To the extent reasonably possible, the community in which this organization provides out-of-hospital emergency care shall be informed of the organization’s formal policy. The appropriate person holding the Living Will or Health Care Power of Attorney, at the scene of the emergency, shall also be informed of the policy.

Discontinuing CPR:
Once CPR has been initiated, it can be discontinued when any one of the following occurs:
1) A “no code” or DNR order is confirmed
2) The patient has been transported to a health care facility and a physician at the facility determines that CPR is futile or should be stopped
3) A physician on scene or medical control for the service, based on information from members of the service on scene, determines that CPR is futile or should be stopped,
4) An out-of-hospital emergency care provider is following termination of CPR physician medical director approved protocols.

VIII. Refusal of Care
A. Adults
An adult is an individual 19 years old or older or who is or has been married (NEB REV STAT §43-2101). A competent adult can refuse medical services and/or transportation to a health care facility.

1. A legal guardian can consent to or refuse medical services and/or transportation to a health care facility for an incompetent adult.
2. A person appointed as a health Care Power of Attorney can consent or refuse consent for medical services and/or transportation to a health care facility for the incompetent adult named in the power of attorney.

B. Minors
A minor is an individual under 19 years of age that has never been married. A parent or legal guardian can consent or refuse consent on behalf of a minor, for medical services and/or transportation to a health care facility.

C. Documentation
All consents or refusals of consents for medical treatment and/or transportation must be documented in the patient care report. When possible these should be signed and dated by the patient or other individual authorized to give or refuse consent. All refusals to sign a consent or refusal of consent must be documented in the patient care report or other appropriate record(s).
IX. **Transport/Intercepts:**
   A. Patients should be transported as soon as possible to an appropriate medical facility. Generally, on-scene times for trauma patients should not exceed ten (10) minutes. Immediate transport with treatment en route is required for patients with significant trauma, unstable airways, or a patient with signs and symptoms of a Cerebrovascular accident (CVA).

   B. First Responder use, while encouraged, should not be used to replace EMT level and above providers whose training level is required for long term treatment and transport of patients.

   C. Tiered response, with an appropriate service is encouraged if assistance or level of care needs exist and can be met in a timely manner.

X. **Communications:**
   To allow for regional or local variations, and needs, the provider may follow locally established and physician medical director approved communications polices and procedures.

   Contact medical control as soon as feasible in accordance with local guidelines for on-scene or en route orders. For seriously injured or critically ill patients, give a brief initial report from the scene when possible with more detailed information given to medical control while en route.

   1. When communicating with medical control or the receiving facility, a verbal report may include these essential elements:
      a. Identify unit (If ALS staffed identify by “[town] medic ____”. If BLS staffed, identify by “[town] ambulance ____”.)
      b. Patient’s age, gender
      c. Patient’s chief complaint
      d. Brief pertinent history of present illness or mechanism of injury (MOI)
      e. Major past illnesses
      f. Mental status
      g. Baseline vital signs
      h. Pertinent findings of the physical exam
      i. Emergency medical care given
      j. Patient response to treatment
      k. Estimated time of arrival (ETA)

   2. Advise the receiving facility of changes occurring in patient’s status en route.

   3. Complete patient care report and provide a copy before leaving the receiving facility to assure continuity of patient care.
XI. **After the Call:**
A. Notify dispatch when back in service. Clean, restock, and check over vehicle and equipment for next assignment.

B. Consider having a Critical Incident Stress Debriefing (CISD) anytime rescuers and health care providers have been involved in a major incident, or one that produces adverse reaction.

C. Remember the importance of patient confidentiality.
GENERAL PRINCIPLE

Airway and Oxygen

A. An intact airway and adequate oxygenation is essential for all patients with medical or traumatic illnesses. Throughout this treatment protocol it is assumed that the Out-of-Hospital emergency care provider will maintain a patent airway and provide appropriate supplemental oxygenation.

1. Adequate ventilations are defined as:
   a. rate of 10-30
   b. absence of shallow or labored effort
   c. clear lung sounds
   d. no or very little signs of distress

2. Inadequate ventilations are defined as:
   a. rate <10 or >30
   b. a rate between 10-30 in the presence of:
      shallow/labored respirations
      OR
      wheezes, wet sounds (crackles [rales] or bubbles)
      OR
      blue, gray or mottled skin

B. Establish and maintain a secure airway/ventilation

1. If ventilating adequately: nasal O2, 2-6 L/min. or Non-Rebreather Mask (NRB mask) at 10-15 L/min

2. Maintain patent upper airway with jaw thrust, nasopharyngeal and/or oropharyngeal airway

3. If not ventilating adequately: Assist with BVM and 100% O2.

4. If vital signs have not improved after initial oxygen, re-evaluate oxygen delivery and adjust accordingly.

5. If pulse oximetry is used, adjust oxygen delivery devices to an oxygen saturation of 90% or above (goal is 100%) if possible.

6. In case of cervical compromise, consider alternative techniques including use of lighted stylet, multi-lumen airway, or trauma ET intubation.

7. Rapid Sequence Intubation (RSI), Needle cricothyrotomy, and surgical cricothyrotomy are advanced alternative techniques for airway management that require specialized training and authorization by the service program medical director. (See Appendix 1)
   a. inadequate ventilation
   b. rate <10 or >30; <20 in a pediatric patient with altered mental status
   c. able to say only short phases/words before running out of breath
   d. unconscious person with pale, cyanotic or gray color
   e. irregular respirations
   f. grunting in the pediatric patient

9. Criteria for use of advanced airway management skills (multilumen airway, lighted stylet, LMA, oro or nasotracheal tube intubation)
   a. unconscious patient who is apneic
   b. patient who is unresponsive to painful stimuli
   c. patient with no gag reflex or does not cough
   d. inability of the patient to protect his/her own airway

10. Criteria for confirmation of endotracheal tube placement
    a. watch tube pass through the vocal cords
    b. free air return from an Esophageal Detector Device (EDD)
    c. bilateral lung sounds
    d. no epigastric sounds
    e. positive return of end tidal CO₂

Patient Assessment
A. First Responders conduct a SIMPLE assessment as appropriate for the patient’s condition. A Simple assessment includes assessing the presence or absence and quality of the ABC’s, a determination of the patient’s mental status, and a SAMPLE history. (As detailed in the DOT First Responder Curriculum)

B. EMT-Basics, EMT Options, and EMT Intermediate 85s, conduct a BASIC assessment as appropriate for the patient’s condition. A Basic assessment includes performing an initial assessment, focused assessment, detailed assessment, and on going assessment. (As detailed in the DOT EMT-Basic Curriculum) This assessment includes pulse oximetry.

C. EMT Intermediate 99s, conduct an Advanced Physical Assessment as appropriate for the patient’s condition. This assessment includes the Basic assessment as well a detailed assessment of lung sounds, abdomen, and the extremities. (As detailed in the 1999 DOT EMT- Intermediate Curriculum)

D. Paramedics conduct a Comprehensive assessment as appropriate for the patient’s condition. This assessment includes the Basic, Advanced Physical Assessments as well as a comprehensive assessment of body systems. (As detailed in the DOT EMT-Paramedic Curriculum)
IV Therapy

A. If an advanced level intervention for an unstable patient requires IV access, the IV should be started as soon as feasible. For trauma patients, IV’s should be started en route to the hospital, except when there is an unavoidable delay (long extrication, etc.).

B. IV Insertions
1. All IVs are to be peripheral sites for all levels except as noted below
2. Paramedics for unstable critical patients may insert an IV in an external jugular vein
3. IO insertion is allowed for unstable adult and pediatric patients

C. Venous access can be achieved using either:
   1. Saline lock – used on patients who have stable vital signs and do not require volume replacement
   2. IV of Normal Saline (0.9% Sodium Chloride) or Lactated Ringers for IV fluid administration

D. IV fluid administration is at the following rates:
   1. TKO – slow drip for patients that may need IV medication or fluid bolus
   2. Fluid Challenge – rapid 250-500 ml fluid bolus (Pediatric: 20 ml/kg)
   3. Maintain IV flow rate as ordered by physician/standing order

E. Pre-existing Venous Access Devices (VAD) may be used in emergency situations

F. IV Drip Sets
   1. Minidrip (Microdrip) means IV administration set that delivers 60 gtts/ml
   2. Maxidrip (Macrodrip) means IV administration set that delivers 10, 15, or 20 gtts/ml

Administration of Blood and Blood Products

A. Blood and Blood Products may be administered by Paramedics under locally governed procedures and with the service’s Physician Medical Directors approval.
Mucosal Atomization Device (MAD)

A. Delivery of certain medications via MAD is allowable within the scope of practice for the EMT-I 99 and Paramedic

B. Protocols that indicate the use of the listed medications may by given either by IV, IO or MAD

C. Medications Allowed by MAD
   1. Naloxone- Narcan (EMT-I 99 and Paramedic)
   2. Morphine (EMT-I 99 and Paramedic)
   3. Midazolam - Versed (Paramedic Only)
   4. Fentanyl (Paramedic Only)
   5. Glucagon (EMT-I 99 and Paramedic)

D. Administer no more than 1cc total volume per nostril at a time, allow for absorption prior to 2nd administration.

Patient Condition

A. Unstable Patient – The patient as a whole must be assessed and no single parameter defines if the patient is unstable. Listed are guidelines for determining an unstable patient.
   1. Adult
      a. Level of Consciousness – decreased or decreasing
      b. Blood Pressure <90 in the adult patient
      c. Chest pain
      d. Dyspnea
      e. Signs and symptoms of uncompensated shock
      f. Patient does not respond to treatment(s) and continues to worsen
   2. Pediatric
      a. Level of Consciousness – Decreased for the age of the patient, a lethargic, limp young child or infant should be considered unstable
      b. Cool, clammy, pale skin
      c. Signs of dehydration
         1. decreased urine output
         2. increased pulse rate for age group
         3. dry mucus membranes
         4. sunken eyes/fontanelle
      d. Signs and symptoms of shock progressing rapidly
      e. Signs and symptoms of uncompensated shock
      f. Patient does not respond to treatment(s) and continues to worsen

B. Stable Patient – As with the unstable patient the patient as a whole must be assessed. Listed are guidelines for determining a stable patient
   1. Adult and Pediatric
      a. Awake alert
      b. Blood pressure – normal range
      c. Skin – normal
      d. Patient responds to treatments and improves
Transport

A. Non Emergent – patient transport without the use of emergency lights and siren.
Most patients can be transported non-emergent to the hospital
a. Patient is stable
b. Weather/road/traffic conditions prevent safe emergent driving
c. Use of lights/siren would agitate a patient or exacerbate the patient condition. Examples:
   i. Chest Pain may be made worse
   ii. Seizures may be induced
   iii. Airway occlusion may be cause in the epiglottitis patient
B. Emergent Transport – patient transported with the use of lights and siren as needed
   a. The Patient is unstable
ADULT CARDIOVASCULAR EMERGENCIES

Cardiopulmonary Arrest

First Responder
Scene Safety – SAFETY FIRST
Level of Consciousness
Confirm Unresponsiveness
Airway
Establish an Airway
Breathing
Ventilate with Bag Valve Mask Attached to O2 OR Pocket Mask
Circulation
Confirm Patient Pulseless
Witnessed Cardiac Arrest
Un-witnessed Cardiac Arrest
Do not delay AED for CPR
AED/CPR
Attach AED – Push Analyze
** SEE AED Protocol***
***See AED Protocol***
Perform 2 minutes of CPR
Attach AED – Push Analyze
Prepare
Package for Transport

EMT
Airway
Insert an Oral Airway
Transport
Emergent
Consider
ALS Intercept

EMT Options/ EMT Intermediate 85
Airway
Insert Medical Director Approved Advanced Airway Device
(Multi-lumen Airway, LMA, ET)
IV
Establish Peripheral IV Access

EMT Intermediate 99
Cardiac Monitor/
Defib
Attach Monitor/Defib Unit Interpret Rhythm
ACLS
Follow Appropriate Adult Cardiac Arrest Algorithm

Paramedic
ACLS
Follow Appropriate Adult Cardiac Arrest Algorithm

Note: If the patient regains a pulse see the Adult Post Cardiac Arrest – Return of Pulse protocol C – 10
Adult Cardiac Arrest Algorithm
V-Fib/Pulseless V-Tach

EMT-Intermediate 99

CPR
- Un-witnessed Arrest: Perform 5 cycles (2 Minutes) CPR
- Witnessed Arrest: go directly to Confirm Cardiac Rhythm

Confirm
- Cardiac Rhythm

Shock
- Biphasic
  - 120J to 200J
- Monophasic
  - 360J

CPR
- Perform 5 cycles (2 Minutes) CPR immediately after shock

Rhythm
- Stop CPR Check Rhythm

Shock
- Biphasic
  - Maintain or Increase Jules
- Monophasic
  - 360J

CPR
- Perform 5 cycles (2 Minutes) CPR immediately after shock

Repeat
- Repeat successive shocks with minimal interruption to CPR

** Airway
- Establish an Airway with an Advanced Airway Device at any time with minimal interruption to CPR

**Breathing
- Ventilation with Bag Valve Device: Give 2 breaths to 30 compressions until advanced airway is placed then give 8 to 10 breaths per minute

**Circulation
- Administer chest compressions at 100 per minute
- Establish IV at any time with no interruption to CPR

**Medication
- Epinephrine 1mg Every 3 – 5 Minutes
  - OR
  - Vasopressin 40U One dose only to replace 1st or 2nd dose of Epinephrine
  - Lidocaine 1 to 1.5mg/kg 1st dose
  - Lidocaine 0.5 to 0.75mg/kg 2nd dose
  - MAX 3 doses or 3mg/kg

- Amiodarone 300mg 1st dose
- Amiodarone 150mg 2nd dose

Paramedic

**Medication
- Magnesium 1 to 2g for torsades de pointes

Consideration
**Nebraska Model Protocols**

**01/22/2007**

**Revised 2/26/2010**

### Adult Cardiac Arrest Algorithm

**Asystole/PEA**

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<td>OR</td>
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<td>Vasopressin 40U</td>
<td>One dose only to replace 1st or 2nd dose of Epinephrine</td>
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<th>Atropine 1mg (If Rate Slow)</th>
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<td>Considerations</td>
<td>Repeat Atropine Every 3-5 Minutes to Max Dose 3mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Consider</strong></th>
<th>Consider Causes of PEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypovolemia</td>
<td>Consider Fluid Boluses</td>
</tr>
<tr>
<td>Tension Pneumothorax</td>
<td>Consider Needle Decompression</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Consider Warming Patient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Paramedic</strong></th>
<th>Consider Causes of PEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acidosis</td>
<td>Consider Sodium Bicarbonate</td>
</tr>
<tr>
<td>Tricyclic Overdose</td>
<td>Consider Sodium Bicarbonate</td>
</tr>
<tr>
<td>Calcium Channel Blocker Overdose</td>
<td>Consider Calcium Chloride</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Medication</strong></th>
<th>Sodium Bicarbonate 1mEq/Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doses</td>
<td>Calcium Chloride 500 to 1000mg Slow IVP</td>
</tr>
</tbody>
</table>

---

If IV access is delayed or cannot be obtained Epi and Atropine may be given via the ET tube.

If the patient’s cardiac rhythm changes see appropriate protocol for that rhythm.

If patient develops a pulse see the Post Cardiac Arrest protocol.
Adult AED Protocol

ALL LEVELS

Confirm

Patient is Pulseless

AED/CPR

Witnessed Cardiac Arrest

Un-witnessed Cardiac Arrest

Do not delay AED for CPR

Perform 2 minutes of CPR

Attach AED Pads and Turn ON

Analyze

Push Analyze Button

Follow Voice Prompt

Push to Shock OR No Shock Advised

CPR

Perform 2 minutes of CPR

Perform 2 minutes of CPR

Analyze

Push Analyze Button

Follow Voice Prompt

Push to Shock OR No Shock Advised

CPR

Perform 2 minutes of CPR

Perform 2 minutes of CPR

Analyze

Push Analyze Button

Follow Voice Prompt

Push to Shock OR No Shock Advised

CPR

Perform 2 minutes of CPR

Continue CPR

Check Pulse every 2 minutes

Package for Transport

Transport if EMT or Higher Level

Analyze

Push Analyze Button every 4 minutes

CPR

Perform 2 minutes of CPR

Check Pulse every 2 minutes

Follow Voice Prompt

Push to Shock OR Push Analyze Button every 4 minutes

Repeat

CPR, Analyze, and Shock 3 More Times

Pulse Check

Check Pulse if None Package for Transport

Transport if EMT or Higher Level

Analyze/Shock

Each 4 Minutes Push Analyze if Shock Advised

Shock Up to Three Times and then Continue Transport

Considerations:

If the “No Shock Advised” prompt is heard after three consecutive analyze steps continue CPR and package for transport and for EMT and higher level begin transport.

If No shock advised and patient has return of pulse see Post Cardiac Arrest – Return of Pulse protocol
Post Cardiac Arrest – Return of Pulse

With public access to AEDs the OOH care provider may respond to a person who has been successfully defibrillated OR the OOH provider may successfully defibrillate a cardiac arrest victim.

**First Responder**

**Scene Safety –** SAFETY FIRST

- **Level of Conscious** Confirm Unresponsiveness
- **Airway** Establish an Airway
- **Breathing** Assist Ventilations with Bag Valve Mask
- **Circulation** Confirm Pulse Present, Recheck Often
- **Assess** Conduct Simple Patient Assessment

**EMT**

- **Airway** Insert Oral Airway
- **Assess** Perform Basic Patient Assessment
- **Consider** ALS Intercept

**EMT Options / EMT Intermediate 85**

- **Airway** Insert Medical Director Approved Advanced Airway Device if Indicated (Multi-lumen Airway, LMA, ET)
- **IV** Establish Peripheral IV Access
- **Consider** 250cc Fluid Bolus

**EMT Intermediate 99**

- **Assess** Perform Advanced Assessment
- **Cardiac Monitor** Determine Cardiac Rhythm
- **Consider** Lidocaine 1mg/kg bolus if rate >60 and presence of ventricular ectopy
- **Lidocaine infusion** 1 – 4 mg/min
- **Dysrhythmia** Treat with Appropriate Advanced Cardiac Dysrhythmia Protocol

**Paramedic**

- **Assess** Perform Comprehensive Assessment
- **Consider** 12 Lead EKG
- **Dysrhythmia** Treat with Appropriate Advanced Cardiac Dysrhythmia Protocol
- **Consider** Dopamine Infusion 5 to 20 mcg/kg/min for Hypotension
Discontinue CPR

Situations may occur where CPR has been initiated on an obviously deceased patient prior to the arrival of out-of-hospital emergency care providers.

All certification levels

If the following criteria have been met, the out-of-hospital emergency care providers may discontinue CPR or may choose not to initiate CPR:

No pulse; AND
No spontaneous respirations; AND
Pupils fixed and dilated; AND
One or more of the following:
   A. Rigor mortis;
   B. Decapitation;
   C. Decomposition;
   D. Dependent lividity;
   E. Traumatic cardiopulmonary arrest with injuries incompatible with life (i.e. massive blood loss, displacement of brain tissue);
   F. Valid DNR form; or
   G. Physician authorization;
5. Determination of the patient’s cardiac rhythm is not required

NOTE:

Patients in whom hypothermia may be a significant component of their arrested state should receive resuscitative efforts until body core temperature is >35 degrees centigrade.
General Cardiac Dysrhythmia

Dysrhythmia-An abnormal heart rate and/or rhythm

The First Responder, EMT, EMT with Option, and EMT-I 85 will only detect by evaluation of the pulse weather the pulse is fast, slow, or normal rate and if it is regular or irregular. EMT-I 99 and Paramedic will interpret the Cardiac Monitor strip to determine the type of cardiac rhythm.

First Responder

Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Painful, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Assess Pulse Rate, Rhythm, and Quality Vital Signs
Assess Conduct Simple Patient Assessment

Prepare Prepare Patient for Transport

EMT

Assess Perform a Basic Assessment
Determine Patient Stable or Unstable
Transport Non-emergent Transport Unless Patient Unstable
Consider ALS Intercept

EMT Options / EMT Intermediate 85

IV Establish Peripheral IV Access

EMT Intermediate 99

Assess Perform Advanced Assessment
Cardiac Monitor Determine Cardiac Rhythm
ACLS Follow Appropriate Advanced Cardiac Dysrhythmia Protocol

Paramedic

Consider 12 Lead ECG
Assess Perform Comprehensive Assessment
ACLS Follow Appropriate Advanced Cardiac Dysrhythmia Protocol
Advanced Cardiac Dysrhythmia

This Protocol applies to EMT-I 99 and Paramedics and assumes the General Cardiac Dysrhythmia protocol has been followed.

The EMT-I 99 and Paramedic must determine if the patient is stable or unstable.

For the stable patient tolerating the cardiac rhythm; May require monitoring and supportive care without a medication or electrical intervention.

For the unstable patient the EMT-I 99 or Paramedic; May have to consider a more aggressive treatment plan based on the patient condition and how rapidly a medication may be delivered verses an electric therapy can be performed.

The Paramedic may choose a medication intervention from either the EMT-I 99 or the Paramedic sections.

### Ventricular Ectopy
PVC’s, Couplets, Bi and Trigeminy
Heart Rate Above 60

#### EMT Intermediate 99 - Paramedic

<table>
<thead>
<tr>
<th>Consider</th>
<th>Lidocaine 1mg/kg Bolus</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Dysrhythm resolves</td>
<td>Lidocaine Infusion 1-4mg/min</td>
</tr>
<tr>
<td>Consider</td>
<td>Amiodarone 150mg Over 10 Minutes</td>
</tr>
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</table>

#### Ventricular Tachycardia

<table>
<thead>
<tr>
<th>Stable</th>
<th>Unstable</th>
</tr>
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<tbody>
<tr>
<td>EMT Intermediate 99</td>
<td></td>
</tr>
<tr>
<td>Consider</td>
<td>12lead ECG</td>
</tr>
<tr>
<td>Consider</td>
<td>Lidocaine 1mg/kg</td>
</tr>
<tr>
<td>If Dysrhythm Resolves</td>
<td>Synchronized Cardioversion</td>
</tr>
<tr>
<td>Premedicate if Possible</td>
<td>Premedicate if Possible</td>
</tr>
<tr>
<td>Diazepam 2 to 5mg</td>
<td>Diazepam 2 to 5mg</td>
</tr>
<tr>
<td>If Dysrhythm Resolves</td>
<td>Lidocaine Infusion 1-4mg/min</td>
</tr>
<tr>
<td>Consider</td>
<td>Lidocaine 1mg/kg Bolus Followed by</td>
</tr>
<tr>
<td></td>
<td>Lidocaine Infusion 1-4mg/min</td>
</tr>
<tr>
<td></td>
<td>Magnesium Sulfate 1-2g</td>
</tr>
<tr>
<td>(If Polymorphic)</td>
<td>lorazepam 2 to 4 mg</td>
</tr>
<tr>
<td>Consider</td>
<td>Infusion of Anti-Arhythmic Agent that Controlled the Dysrhythmia</td>
</tr>
</tbody>
</table>

### Paramedic

<table>
<thead>
<tr>
<th>Consider</th>
<th>Procainamide 20mg/min until resolved</th>
</tr>
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<tbody>
<tr>
<td>Or</td>
<td>Alternate Pre-medications</td>
</tr>
<tr>
<td>Magnesium Sulfate 1-2g (If Polymorphic)</td>
<td>Midazolam 2 to 4mg or</td>
</tr>
<tr>
<td></td>
<td>Lorazepam 2 to 4 mg</td>
</tr>
<tr>
<td>Consider</td>
<td>Infusion of Anti-Arhythmic Agent that Controlled the Dysrhythmia</td>
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</table>
# Advanced Cardiac Dysrhythmia Continued

**Atrial Tachycardias**

**PSVT, Atrial Fib, Atrial Flutter**

<table>
<thead>
<tr>
<th>EMT Intermediate 99</th>
<th>Stable</th>
<th>Unstable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A-Fib A Flutter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm Rhythm</td>
<td></td>
<td>Synchronized Cardioversion</td>
</tr>
<tr>
<td>Diazepam 2 to 5mg</td>
<td></td>
<td>Pre-medicate if Possible</td>
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</table>

<table>
<thead>
<tr>
<th>PSVT</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Consider</td>
<td>Adenosine Rapid IVP 6mg then 12mg</td>
<td>Synchronized Cardioversion</td>
</tr>
<tr>
<td></td>
<td>Pre-medicate if Possible</td>
<td>Diazepam 2 to 4 mg</td>
</tr>
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</table>

**Paramedic**

<table>
<thead>
<tr>
<th>A-Fib A Flutter</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider</td>
<td>12 Lead</td>
<td>Alternate Pre-medications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midazolam 2 to 4mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or Lorazepam 2 to 4mg</td>
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</table>

<table>
<thead>
<tr>
<th>PSVT</th>
<th></th>
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<td>Consider</td>
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<td>Alternate Pre-medications</td>
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<tr>
<td></td>
<td></td>
<td>Midazolam 2 to 4mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or Lorazepam 2 to 4mg</td>
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</table>

## Bradycardia

<table>
<thead>
<tr>
<th>EMT-Intermediate 99</th>
<th>Stable</th>
<th>Unstable</th>
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</thead>
<tbody>
<tr>
<td>Consider</td>
<td></td>
<td>Atropine .5-1mg (^1)</td>
</tr>
<tr>
<td>Consider</td>
<td></td>
<td>Transcutaneous Pacing (^2)</td>
</tr>
<tr>
<td>Have Pacer</td>
<td></td>
<td>Premedicate if Possible</td>
</tr>
<tr>
<td>Standing By</td>
<td></td>
<td>Diazepam 2 to 4 mg</td>
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</table>

<table>
<thead>
<tr>
<th>Paramedic</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider</td>
<td>12 Lead</td>
<td>Alternate Pre-medications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midazolam 2 to 4mg or Lorazepam 2 to 4mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consider</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If Second or Third Degree Block</td>
<td>Dopamine 5 -20mcg/kg/min or Epinephrine 2-10mcg/min or Isoproterenol 2-10mcg/min</td>
<td></td>
</tr>
<tr>
<td>Attach Pacer Pads</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. Atropine is not effective in Second Degree Type II and new Third Degree Heart Blocks.  
   Atropine is not effective for denervated transplanted hearts

2. Do not delay pacing for IV or pre-medication if patient is deteriorating.
Chest Pain

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color.Temp
Assess Conduct Simple Patient Assessment
Consider Aspirin – Two to Four – 81mg (Baby Aspirin) Chewed and Swallowed

EMT
Assess Conduct Basic Patient Assessment
Consider May Assist Patient with Taking his/her Own Nitroglycerin .4mg Tablet or Spray Sublingually
May Repeat up to Three Times if BP Remains >100 Systolic
Transport Non-emergent Transport unless patient becomes unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Consider Nitroglycerin – One 0.4mg Tablet or Spray Sublingually
Repeat Every 5 Minutes if Chest Pain Continues AND BP Remains >100 Systolic
Consider Morphine 2 to 5 mg IV
May Repeat PRN until Pain Relieved AND Blood Pressure Remains >100 systolic
Dysrhythmia *SEE Cardiac Dysrhythmia Protocol

Paramedic
Assess Perform Comprehensive Assessment
Consider 12 Lead
Dysrhythmia *See Cardiac Dysrhythmia Protocol
Alternate If allergic to Morphine may use Fentanyl 25 mcg to 100 mcg IV
**Cardiogenic Shock**
Dyspnea in the presence of diminished lung sounds, wheezes, rales, or frothy sputum with a BP that is hypotensive

**First Responder**
Scene Safety –
BSI SAFETY FIRST

- Level of Conscious Alert, Verbal, Pain, or Unresponsive
- Airway Monitor Airway
- Breathing Administer Oxygen
- Consider Assisting Ventilations
- Circulation Vital Signs, Skin Color/Temp
- Assess Conduct a Simple Patient Assessment

**EMT**
Assess Conduct Basic Patient Assessment
Transport Emergent Transport
Consider ALS Intercept

**EMT Options/ EMT Intermediate 85**
IV Establish Peripheral IV Access

**EMT-Intermediate 99**
Assess Perform Advanced Physical Assessment
- Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
- Consider Bronchodilator Medication by Nebulizer
  *See Bronchodilator Protocol
- Dysrhythmia *See Cardiac Dysrhythmia Protocol

**Paramedic**
Assess Perform Comprehensive Assessment
- Dysrhythmia *See Cardiac Dysrhythmia Protocol
- Consider Dopamine 5 to 20mcg/kg/min infusion
- Consider Rapid Sequence Intubation (RSI)
  *See RSI Protocol
ADULT RESPIRATORY EMERGENCIES

Acute Allergic Reaction / Anaphylaxis
Difficulty Breathing in the presence of urticaria, wheezing and/or contact with a known allergen

First Responder
Scene Safety – BSI SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen, Consider Assisting Ventilations with BVM
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

First Responder AND EMT
Consider Epinephrine Auto Injector (EPI PEN)
Only if the OOH Provider has been Trained and Approved by the Service’s Medical Director Guidelines; Patient able to speak one-two word phrases
Low/falling oxygen saturations even with O2 administration
Diminished to absent lung sounds
Decreasing LOC
Retractions
Pale or cyanotic skin

EMT
Assess Conduct Basic Patient Assessment
Consider Assist Patient with His/Her Metered Dose Inhaler (MDI)
Consider Albuterol 2.5mg in 3cc given by Nebulizer Device
Transport Emergent Transport Unless Patient is Stable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access titrate to blood pressure

Continued next page
### Acute Allergic Reaction / Anaphylaxis

**Continued**

#### EMT-Intermediate 99

<table>
<thead>
<tr>
<th>Assess</th>
<th>Perform Advanced Physical Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider</td>
<td>Bronchodilator Medication by Nebulizer</td>
</tr>
<tr>
<td></td>
<td>***See Bronchodilator Protocol</td>
</tr>
<tr>
<td>Consider</td>
<td>Diphenhydramine (Benadryl), 25 – 50 mg Slow IVP over 1-3 Minutes</td>
</tr>
<tr>
<td>Consider</td>
<td>Epinephrine 1:1000 0.3-0.5mg SubQ</td>
</tr>
<tr>
<td></td>
<td>May Repeat Every 5 Minutes if Severe Respiratory Symptoms are Not Resolved or</td>
</tr>
<tr>
<td></td>
<td>Epinephrine 1:10,000 0.1-0.2mg IV For BP &lt; 70 Systolic</td>
</tr>
<tr>
<td></td>
<td>May Repeat Every 5 Minutes if Severe Respiratory Symptoms are Not Resolved</td>
</tr>
<tr>
<td>Cardiac Monitor</td>
<td>Attach Cardiac Monitor, Interpret ECG</td>
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</tbody>
</table>

#### Paramedic

<table>
<thead>
<tr>
<th>Assess</th>
<th>Perform Comprehensive Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider</td>
<td>Solu-Medrol 125mg IVP</td>
</tr>
<tr>
<td>Consider</td>
<td>Dopamine for BP &lt; 70 Systolic</td>
</tr>
<tr>
<td></td>
<td>5 to 20mcg/kg/min Infusion</td>
</tr>
<tr>
<td>Consider</td>
<td>Rapid Sequence Intubation (RSI)</td>
</tr>
<tr>
<td></td>
<td>*See RSI Protocol</td>
</tr>
</tbody>
</table>
Asthma
Difficulty Breathing in the presence of wheezing with a history of asthma or irritant exposure

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of Conscious
Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen - Consider Assisting Ventilations with BVM
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

First Responder AND EMT
Consider Epinephrine Auto Injector (EPI PEN) if Impending Respiratory Collapse
Only if the OOH Provider has been Trained and Approved by the Service’s Medical Director Guidelines; Patient able to speak one-two word phrases
Low/falling oxygen saturations even with O2 administration
Diminished to absent lung sounds
Retractions
Pale or cyanotic skin

EMT
Assess Conduct Basic Patient Assessment
Consider Assist Patient with His/Her Metered Dose Inhaler (MDI)
Consider Albuterol 2.5mg in 3cc given by Nebulizer Device
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Bronchodilator Medication by nebulizer
*See Bronchodilator Protocol
Consider Epinephrine 1:1,000 0.3-0.5mg SubQ
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG

Paramedic
Assess Perform Comprehensive Assessment
Consider Magnesium Sulfate 2 grams IV infusion over 20 min
Consider Rapid Sequence Intubation (RSI) *See RSI Protocol
COPD
Emphysema or Chronic Bronchitis
Difficulty Breathing in the presence of wheezing and/or rhonchi and history of COPD

**First Responder**
Scene Safety –
BSI

**Level of Conscious** Alert, Verbal, Pain, or Unresponsive
**Airway** Monitor Airway
**Breathing** Administer Oxygen - Consider Assisting Ventilations with BVM
**Circulation** Vital Signs, Skin Color/Temp

**Assess** Conduct a Simple Patient Assessment

---

**EMT**

**Assess** Conduct Basic Patient Assessment
**Consider** Assist Patient with His/Her Metered Dose Inhaler (MDI)

**Consider** Albuterol 2.5mg in 3cc via Nebulizer Device

**Transport** Non –Emergent Transport Unless Patient is Unstable

**Consider** ALS Intercept

---

**EMT Options/ EMT Intermediate 85**

**IV** Establish Peripheral IV Access

---

**EMT-Intermediate 99**

**Assess** Perform Advanced Physical Assessment

**Consider** Bronchodilator Medication by nebulizer
*See Bronchodilator Protocol

**Consider** Epinephrine 1:1,000 0.3-0.5mg SubQ

**Cardiac Monitor** Attach Cardiac Monitor, Interpret ECG

---

**Paramedic**

**Assess** Perform Comprehensive Assessment

**Consider** CPAP

**Consider** Rapid Sequence Intubation (RSI)
*See RSI Protocol
Pulmonary Edema
Dyspnea in the presence of diminished lung sounds, wheezes, rales, or frothy sputum with a BP that is hypertensive or within normal limits.

First Responder
Scene Safety – BSI  SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway   Monitor Airway
Breathing   Administer Oxygen
Consider   Assisting Ventilations
Circulation Vital Signs, Skin Color/Temp
Assess   Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Consider Albuterol 2.5mg in 3cc via Nebulizer Device
Transport Non-emergent Transport Unless Patient Becomes Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Consider Nitroglycerin – One 0.4mg Tablet or Spray Sublingually if BP >100 Systolic
Consider Furosemide 40-80mg IV
Consider Administer Morphine 2 – 4 mg IV
Consider Bronchodilator Medication by Nebulizer *See Bronchodilator Protocol
Dysrhythmia *See Cardiac Dysrhythmia Protocol

Continued on next page
### Paramedic

<table>
<thead>
<tr>
<th>Assess</th>
<th>Perform Comprehensive Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider</td>
<td>12 Lead</td>
</tr>
<tr>
<td>Consider</td>
<td>CPAP</td>
</tr>
<tr>
<td>Dysrhythm</td>
<td>*See Cardiac Dysrhythm Protocol</td>
</tr>
<tr>
<td>Consider</td>
<td>Rapid Sequence Intubation (RSI)</td>
</tr>
<tr>
<td></td>
<td>*See RSI Protocol</td>
</tr>
</tbody>
</table>

R - 41
Respiratory Infection
Difficulty Breathing in the presence of or suspected presence of Respiratory Infection

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Consider Assist patient with His/Her Metered Dose Inhaler (MDI)
Consider Albuterol 2.5mg in 3cc given by Nebulizer Device
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Bronchodilator Medication by nebulizer
*See Bronchodilator Protocol

Paramedic
Assess Perform Comprehensive Assessment

***Note: Clean unit and equipment with an appropriate disinfectant after call
Adult Epiglottitis
Difficulty breathing in the presence of stridor.

First Responder
Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Airway DO NOT INSERT ORAL OR NASAL AIRWAY
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access
EXTREME CAUTION MUST BE EXERCISED

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG

Paramedic
Assess Perform Comprehensive Assessment
Consider Cricothyrotomy Needle or Surgical For Occluded Airway

Epiglottitis may cause the patient airway to become occluded completely if the patient is agitated.
**First Responder**

Scene Safety – SAFETY FIRST

Level of Consciousness: Alert, Verbal, Pain, or Unresponsive

Airway: Attempt to Relieve Obstruction using AHA Guidelines for Obstructed Airway

**Obstruction not Cleared**

Continue Attempts to relieve Obstruction

Breathing

Circulation

Assess

**EMT**

Transport: Emergent

Assess

Consider ALS Intercept

**EMT Options/ EMT Intermediate 85**

Airway: Attempt to Visualize Obstruction with Laryngoscope and Remove with McGill Forceps, IF TRAINED

IV: Establish Peripheral IV Access

**EMT-Intermediate 99**

Assess

Cardiac Monitor

**Paramedic**

Assess

Consider Cricothyrotomy needle or surgical

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**Obstruction Cleared**

Administer Oxygen

Consider Assisting Ventilations with BVM

Vital Signs, Skin Color/Temp

Conduct a Simple Patient Assessment

Non-emergency Transport if Patient Stable

Conduct Basic Patient Assessment

Consider Advance Airway if Patient LOC Remains Decreased and No Gag Reflex

Establish Peripheral IV Access

Establish Peripheral IV Access

Perform Advanced Physical Assessment

Attach Cardiac Monitor, Interpret ECG

Perform Comprehensive Assessment

Rapid Sequence Intubation (RSI)

*See RSI Protocol
Non-Traumatic Altered or Decreased Level of Consciousness
Diabetes Mellitus – Hypoglycemia
Altered Mental Status with History of Diabetes Mellitus (Hypoglycemia)

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Consider Oral glucose ONLY if Patient can maintain their Airway
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Glucometer Obtain Glucose Reading (Reading >200 *See Hyperglycemia Protocol)
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Dextrose 50% 25g IVP
Consider If Unable to Obtain IV Glucagon, 0.5-1.0 mg IM or Subcutaneously

Paramedic
Assess Perform Comprehensive Assessment
Consider Thiamine 100mg IV Prior to Dextrose 50%
Hyperglycemia
Hyperglycemia with or without known history of Diabetes Mellitus

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of
Conscious Alert, Verbal, Pain, or Unresponsive

Airway Monitor Airway

Breathing Administer Oxygen

Circulation Vital Signs, Skin Color/Temp

Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment

Transport Non –Emergent Transport Unless Patient is Unstable

Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Glucometer Obtain Glucose Reading

Consider Medical Director Approved Advanced Airway Device if Indicated
(Multi-lumen Airway, LMA, ET)

IV Establish Peripheral IV Access Run Wide Open, Monitor for Fluid Overload
Consider 2nd IV in Presence of Profound Dehydration

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment

Cardiac
Monitor Attach Cardiac Monitor, Interpret ECG

Consider Naloxone 0.4mg to 2mg if Suspected Drug Overdose

Paramedic
Assess Perform Comprehensive Assessment

Consider Rapid Sequence Intubation (RSI)
*See RSI Protocol
Altered Mental Status
Altered Mental Status in the Absence of Exposure and No History of Diabetes Mellitus

First Responder
Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Transport Emergent Unless Patient LOC Improves with Glucose
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Glucometer Obtain Glucose Reading (Reading >200 *See Hyperglycemia Protocol)
Consider Oral Glucose if Indicated by Glucometer reading of <80
AND if Patient can maintain their Airway
Consider Inserting Medical Director Approved Advanced Airway Device (Multi-lumen Airway, LMA, ET)
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Dextrose 50% 25g IVP if Indicated by Glucometer Reading <80
Consider Glucagon, 0.5-1.0 mg IM or Subcutaneously
If Unable to Obtain IV AND Indicated by Glucometer Reading
Consider Naloxone 0.4mg to 2mg IV if Drug Overdose is Suspected

Paramedic
Assess Perform Comprehensive Assessment
Consider Thiamine 100mg IV Prior to Dextrose 50%
Consider Rapid Sequence Intubation (RSI) *See RSI Protocol
Cerebrovascular Accident (CVA)

First Responder
Scene Safety – BSI SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Transport Non emergent Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Consider Inserting Medical Director Approved Advanced Airway Device if Indicated (Multi-lumen Airway, LMA, ET)
Glucometer IF LOC Decreased, Obtain Glucose Reading and Use other Appropriate Protocol if Abnormal
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Dysrhythmia *See Cardiac Dysrhythmia Protocol

Paramedic
Assess Perform Comprehensive Assessment
Dysrhythmia *See Cardiac Dysrhythmia Protocol
Consider Rapid Sequence Intubation (RSI) *See RSI Protocol
Seizure Disorder

First Responder
Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment
Prepare Package Patient for Transport

EMT
Assess Conduct Basic Patient Assessment
Transport Non –Emergent Transport Unless Seizures Continue
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Glucometer Obtain Glucose Reading and Use Other Appropriate Protocol if Abnormal
IV Establish Peripheral IV Access

EMT-Intermediate99
Assess Perform Advanced Physical Assessment
Consider Possible Causes of Seizure
Consider Diazepam 5-10mg IV for Recurrent or Prolonged Seizures
Consider Cardiac Monitoring

Paramedic
Assess Perform Comprehensive Assessment
Alternate Medication May Consider Lorazepam 2-4mg
or Midazolam 2-4mg as an alternate to Diazepam
Hypothermia
Lowered skin Temperature with Altered Mental Status

First Responder
Scene Safety –
BSI SAFETY FIRST

Level of Conscious Confirm Unresponsiveness
Airway Establish an Airway
Breathing Administer Warmed Oxygen if Possible
If Not Breathing or Respiratory Compromised Ventilate
with Bag Valve Mask Attached to O2 or Pocket Mask
Circulation Confirm Pulse
Begin CPR if pulseless
*See AED Protocol
Avoid Rough Handling/Movement
Warm Remove Wet Clothing
Remove Patient from Cold
Warm Body Core – Heat packs to Groin and Axillary Areas
Prepare Package for Transport

EMT
Airway Insert an Oral Airway if Indicated
Temp Obtain Body Temperature
Consider ALS Intercept

EMT Options / EMT Intermediate 85
Glucometer Obtain Glucose Reading use Other Appropriate Protocol if Abnormal
Airway Insert Medical Director Approved Advanced Airway Device If Indicated
(Multi-lumen Airway, LMA, ET)
IV Establish Peripheral IV Access
**WARM IV FLUID**

EMT Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
ACLS Follow Appropriate Cardiac Arrest Algorithm
*NOTE ACLS Medications Should be avoided until Patient Warmed above 86 F

Paramedic
Assess Perform Comprehensive Assessment
ACLS Follow Appropriate Cardiac Arrest Algorithm
*NOTE ACLS Medications Should be avoided until Patient Warmed above 86 F
Hyperthermia
Elevated skin Temperature with altered Mental Status

First Responder
Scene Safety – 
BSI SAFETY FIRST

Level of 
Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment
Cool Remove Layers of Clothes, Place Patient in Cool Environment, Wrap Patient in Moist Sheets
Prepare Package Patient for Transport

EMT
Assess Conduct Basic Patient Assessment
Airway Insert an Oral Airway if Indicated
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Glucometer Obtain glucose reading use other appropriate protocol if abnormal

Airway Insert Medical Director Approved Advanced Airway Device if Indicated (Multi-lumen Airway, LMA, ET)
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Consider Diazepam 5-10mg IV For Seizures
Dysrhythmia *See Cardiac Dysrhythmia Protocol

Paramedic
Assess Perform Comprehensive Assessment
Consider Lorazepam 2-4mg or Midazolam 2-4mg As An Alternate to Diazepam For Seizures
Dysrhythmia *See Cardiac Dysrhythmia Protocol
Non-Traumatic Abdominal Pain

First Responder
Scene Safety -
BSI  SAFETY FIRST

Level of
Conscious  Alert, Verbal, Pain, or Unresponsive
Airway  Monitor Airway
Breathing  Administer Oxygen
Circulation  Vital Signs, Skin Color/Temp
Assess  Conduct a Simple Patient Assessment

EMT
Assess  Conduct Basic Patient Assessment
Consider  Cause of abdominal pain
Transport  Non –Emergent Transport Unless Patient is Unstable
Consider  ALS Intercept

EMT Options/ EMT Intermediate 85
IV  Establish Peripheral IV Access

EMT-Intermediate 99
Assess  Perform Advanced Physical Assessment
Consider  Pain Management *See Pain Management Protocol
Consider  Cardiac Monitoring

Paramedic
Assess  Perform Comprehensive Assessment
Consider  Pain Management **See Pain Management Protocol
Upper and Lower Gastrointestinal Bleeding
Coffee ground emesis, Tarry black stools, with or without abdominal pain

First Responder
Scene Safety –
BSI SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IVs Titrate to BP
Consider 2nd IV for Additional Fluid Challenge

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Pain Management **See Pain Management Protocol
Consider Cardiac monitoring

Paramedic
Assess Perform Comprehensive Assessment
Consider Pain Management **See Pain Management Protocol
Hypotension in the Absence of Trauma

Hypovolemic Shock
Shock present when pulse greater than 120 and systolic BP less than 100 mmHg in a previously normotensive patient; OR systolic drops 40-50 mmHg in a previously hypertensive patient, especially if accompanied by pale, clammy skin, decreased level of consciousness, and poor capillary refill.

First Responder
Scene Safety – BSI SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access, Titrate to BP
Consider 2nd IV for Additional Fluid Challenge

EMT–Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Cardiac Monitoring

Paramedic
Assess Perform Comprehensive Assessment
OBSTETRICS and GYNECOLOGIC EMERGENCIES

Imminent Delivery with History of Pregnancy, a Palpable Uterus and Contractions

First Responder

Scene Safety –
BSI     SAFETY FIRST

Level of
Conscious    Alert, Verbal, Pain, or Unresponsive
Airway      Monitor Airway
Breathing    Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess        Conduct a Simple Patient Assessment
Prepare      Mother for Delivery if Crowning
Delivery Use OB Kit and Deliver Infant
*See Newborn Care Protocol

Post
Partum Care Bring all tissue passed to the hospital. DO NOT forcibly extract any tissue.
Place OB Pad
*See Newborn Care Protocol

Monitor      Mother for severe postpartum bleeding
            Control Post Partum Bleeding by Massaging the Top of Uterus,
            and Put Baby to Breast
            Do Not Pack Anything in the Vagina

EMT

Assess    Conduct Basic Patient Assessment
Transport Non –Emergent Transport
Consider  ALS Intercept

EMT Options/ EMT Intermediate 85

IV     Establish Peripheral IV Access

EMT-Intermediate 99

Assess Perform Advanced Physical Assessment

Paramedic

Assess Perform Comprehensive Assessment
**Newborn Care**

**First Responder**

- **Scene Safety**
  
  BSI  SAFETY FIRST

- **Deliver**
  Support Head as it Passes from Birth Canal

- **Airway**
  Once the Head is Delivered, Suction Mouth Then Nose with Bulb Syringe
  EXAM Face/Head for Meconium Stained Fluid
  Suction Mouth, Pharynx, Nose until Clear

- **Cord**
  After the Delivery Keeping Baby at Level of Perineum, and Once Cord Stops Pulsating
  Double Clamp Cord, 6-12 inches from Baby and Cut between Clamps

- **Dry/Warm**
  Once Fully Delivered, Dry and Wrap the Newborn

- **Breathing**
  Administer Blow by Oxygen
  Spontaneous Respirations Absent or <30,
  Slap or Flick the Soles of the Infant’s Feet or Rub the Newborn’s Back
  No Change in 5 Seconds
  Begin BVM Respirations
  Continue to Warm and Stimulate

- **Circulation**
  Pulse Rate < 100
  BVM Respiations
  Pulse 60 to 80 and Not Rapidly Increasing
  Begin Chest Compressions
  Pulse < 60
  Begin Chest Compressions

- **Assess**
  Assess Patient Each 5 Seconds for Changes
  Discontinue Chest Compression if Pulse Increases to 100 or Greater AND Maintains
  Discontinue BVM ventilations. Once Spontaneous Breathing is >30 and Maintains

**EMT**

- **Assess**
  Conduct Basic Patient Assessment

- **Transport**
  Non –Emergent Transport if Stable

- **Consider**
  ALS Intercept

**EMT Options/ EMT Intermediate 85**

- **Consider**
  Endotracheal Intubation Only
  If Meconium is present and newborn is not vigorous
  Intubate Suction through ET, Repeat until Clear, Intubate with Clean Tube

**EMT-Intermediate 99**

- **Assess**
  Perform Advanced Physical Assessment

- **Consider**
  IV Access

**Paramedic**

- **Assess**
  Perform Comprehensive Assessment

Newborns benefit from rapid assessment and treatment of the ABC’s and warming/stimulation.
Rarely, advanced providers will need medication therapy. **EMT 199s and Paramedic** see the Pediatric Cardiac Arrest and Dysrhythmia protocols for further guidance.
Birth Complications

Arm or Leg Presentation, Prolapsed Cord, Significant Hemorrhage

First Responder
Scene Safety – BSI SAFETY FIRST

Level of Conscious Alert, Verbal, Pain, or Unresponsive

Airway Monitor Airway

Breathing Administer Oxygen

Circulation Vital Signs, Skin Color/Temp

Assess Conduct a Simple Patient Assessment

Complications
Prolapsed Cord:
Place Patient on Back and Elevate the Hips OR Consider Elbow/Knee Position
Place Sterile-Gloved Index and Middle Fingers into the Vagina,
Push Infant Up to Relieve Pressure on Cord
Check Cord for Pulse.
Coach Mother to Breath Through Contractions and NOT to Push/Bear Down

Breech Delivery and Unable to Deliver Head:
Place Gloved Hand in the Vagina with Palm Towards Baby’s Face
Form a V on Either Side of the Baby’s Nose/ Mouth to Form Air Passage to Nose/ Mouth
Coach Mother to Breath Through Contractions and NOT to Push/Bear Down

Arm or Leg Presentation:
Place Patient on Back and Elevate the Hips OR Consider Elbow/Knee Position
Coach Mother to Breath Through Contractions and NOT to Push/Bear Down

If Significant Hemorrhage:
Place External Dressings, Monitor Bleeding and Elevate Hips
Coach Mother to Breath Through Contraction and NOT to Push/Bear Down

EMT
Assess Conduct Basic Patient Assessment

Transport Consider Emergent Transport

Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish peripheral IV access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment

Paramedic
Assess Perform Comprehensive Assessment
Hypertensive Disorders of Pregnancy
Toxemia of Pregnancy/Pre-Eclampsia/Eclampsia

First Responder
Scene Safety-BSI  SAFETY FIRST

Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway  Monitor Airway
Breathing  Administer Oxygen
Circulation  Vital Signs
Assess  Conduct a Simple Patient Assessment
Position  Move Patient onto LEFT Side

EMT
Assess  Conduct Basic Patient Assessment
Transport  Non-Emergent Unless Patient Becomes Unstable
Consider  ALS Intercept

EMT Options/ EMT Intermediate 85
IV  Establish Peripheral IV Access

EMT- Intermediates 99
Assess  Perform Advanced Physical Assessment
Consider  Diazepam 5-10mg IV for Seizures

Paramedic
Assess  Perform Comprehensive Assessment
Consider  Administer Magnesium Sulfate 2 - 6gm, Diluted to 25%, Slow IVP Over 3-5 Minutes, May Repeat Once After 5 Minutes.
Consider  Lorazepam 2-4mg
or  Midazolam 2-4mg
As An Alternate to Diazepam for Seizures
Vaginal Bleeding with or without Gynecological Pain

**First Responder**
- Scene Safety - BSI: SAFETY FIRST
- Level of Conscious: Alert, Verbal, Pain, or Unresponsive
- Airway: Monitor Airway
- Breathing: Administer Oxygen
- Circulation: Vital Signs
- Assess: Conduct a Simple Patient Assessment

**EMT**
- Assess: Conduct Basic Patient Assessment
- Transport: Non-emergent Unless Patient Becomes Unstable
- Consider: ALS Intercept

**EMT Options/ EMT Intermediate 85**
- IV: Establish Peripheral IV Access

**EMT- Intermediates 99**
- Assess: Perform Advanced Physical Assessment
- Consider: Pain Management **See Pain Management Protocol**

**Paramedic**
- Assess: Perform Comprehensive Assessment
- Consider: Pain Management **See pain Management Protocol**
ACUTE TRAUMATIC EMERGENCIES
General Trauma Management—Priorities for Treatment

1. Body Substance Isolation and Scene Safety

2. Airway Management, Oxygen Administration, Vital Signs

3. Control the cervical spine. Assume cervical spine injury is present in any patient who has sustained trauma with:
   a. Neurological deficit
   b. Neck pain or tenderness with palpation
   c. Altered mental status
   d. Presence of a distracting injury
   e. Any condition which may mask c-spine discomfort (i.e. recreational drug use, ETOH)
   f. Any significant mechanism of injury

4. Remove all motor vehicle helmets to avoid airway management problems according to American College of Surgeons guidelines.

5. Football helmets should not be removed when shoulder pads are in place. Remove either both helmet and pads or allow both to remain in place, consider removing face guard from helmet to allow for airway access.

6. Control hemorrhage through
   a. Direct pressure
   b. Elevate effected extremity
   c. Pressure dressing
   d. Pressure points
   e. Tourniquet (as a last resort), record time placed

7. Treat hypovolemic shock: Assume shock present when pulse greater than 120 and/or systolic BP less than 100 in a previously normotensive patient, especially if accompanied by pale clammy skin, decreased level of consciousness, and capillary refill > 2 sec.

8. Fractures/Dislocations—General Principles
   a. Check and record peripheral pulses and neurological status before and after manipulating or splinting fractures.
   b. Apply gentle in-line traction to fractures with the exception of dislocations or fractures involving joints (especially the elbow).
   c. May straighten severely injured angulated fractures of extremities with exception of those involving knee or elbow (except if neurovascular bundle already compromised).
   d. May use traction splint with open or closed femur fractures.
   e. Immobilize fractures, including joint above and below site of fracture. DO NOT use inflatable splints for fractures of the humerus or the femur.
      The PASG may be used to stabilize any fractures of the pelvis or lower extremities

9. DO NOT remove any impaled object unless obstructing airway

10. Pain Management should be consider once any life threatening injuries are treated AND vital sign indicate the patient is stable enough to tolerate the medication.

11. Consider 2 large bore IVs for all significant trauma. All IVs are to be titrated to vital signs
Amendment

The *General Trauma Management – Priorities for Treatment* is amended to reflect current best practices in hemorrhage control.

For All Levels of Out of Hospital Care Providers

1. Hemorrhage Control - Open Wounds to Neck
   a. Apply Direct pressure without compromising airway
   b. Seal wound with occlusive dressing

2. Hemorrhage Control - Open Wounds to Chest
   a. Seal suspected or actual sucking chest wound(s) with occlusive dressing
   b. Apply Direct pressure without compromising breathing

3. Hemorrhage Control - Open Wounds to the extremities
   a. Apply direct pressure and/or pressure dressing
   b. If bleeding continues
      i. Apply tourniquet
      ii. Tighten tourniquet enough to stop arterial blood flow
   c. Consider application of tourniquet immediately in extremity amputations and/or near amputations

Tourniquet Application Site
Expose the entire extremity
Apply the tourniquet proximal (above the wound)
Tighten the tourniquet device to stop hemorrhage

Acceptable Tourniquets
Cravat using the “Spanish Windlass” technique
Commercially available non-elastic tourniquets with a band width of greater than 1 inch
Commercially available pneumatic devices designed for pre-hospital use
Blood Pressure cuff

Tourniquet Reevaluation
Do not cover the tourniquet
Reassess hemorrhage control and tighten tourniquet as needed

Documentation and Report to Destination Facility
The transporting care provider will
   verbally report the tourniquet application
time applied
Patient Care report will have tourniquet application noted including application time

Unacceptable Tourniquets
Cord, rope, string
Bands 1 inch or less in width
Elastic bands regardless of width
Trauma System

1. Evaluate dispatch information, the scene, mechanism of injury, patient presentation, distance to trauma center
   a. Consider Helicopter Air Ambulance Standby (helicopter stays at base on alert)
      i. Reports of Penetrating and/or Significant Blunt Trauma to head, neck or torso
      ii. Reports of entrapment
      iii. Reports of burns and/or toxic inhalation injury
      iv. Reports of decreased or loss of consciousness
      v. Distance/time from the scene to a designated trauma center exceeds 30 minutes
      vi. Reports of a multiple patient incident
   b. Consider Helicopter Air Ambulance response if
      i. Patient condition indicates shock
      ii. Confirmation of Penetrating and/or Significant Blunt Trauma to head, neck or torso
      iii. Confirmation of amputated extremities above fingers/toes, and/or multiple long bone fractures
      iv. Confirmation of burns >20% BSA or face/airway burns
      v. Confirmation of a toxic inhalation injury with dyspnea
      vi. Confirmation of entrapment with extrication/rescue needed
      vii. Confirmation of decreased or loss of consciousness
      viii. Confirmation of a multiple patient incident
      ix. Location of the incident may allow the helicopter to make it first on a scene or at the same time as ground ambulance.
   c. Additional Considerations in the request for Helicopter Air Ambulance
      i. Your geographical distance from the Helicopter Air Ambulance, the local hospital (local trauma center), and regional trauma center.
      ii. Time will be saved in delivering patient to a Trauma Center
      iii. ALS level of care being delivered to the patient more timely
      iv. Do not delay transport, consider an intercept with the helicopter if that can be done safely
      v. Helicopter Air Ambulance may divert to prearranged landing zone or a local hospital
   d. Consider ALS ground intercept be dispatched
      i. Patient condition indicates shock
      ii. Reports or confirmation of Penetrating and/or Significant Blunt Trauma to head, neck or torso
      iii. Reports or confirmation of amputated extremities above fingers/toes, and/or multiple long bone fractures
      iv. Reports or confirmation of burns
      v. Reports or confirmation of toxic inhalation injury
      vi. Reports or confirmation of entrapment with extrication/rescue needed
      vii. Reports or confirmation of decreased or loss of consciousness
      viii. Reports or confirmation of a multiple patient incident
      ix. Injuries that may require pain management
      x. ALS may arrive sooner by ground than by Air Ambulance
      xi. Helicopter Air Ambulance unavailable or for other reason is not an option for this call

2. Notify Medical Control of Trauma Patient and possibility of trauma center candidate as early as possible
3. Consider Trauma System Activation and consult with medical control;
   a. Vitals and LOC
      i. Heart Rate  >130
      ii. Systolic BP  <85
      iii. Respiratory rate  <10 or >29
      iv. GCS  <13
   b. Anatomy of Injury
      i. Penetrating Trauma to head, neck, torso, groin
      ii. Combinations of burns >20% or face/airway burns
      iii. Amputation above wrist/ankle
      iv. Spinal Cord Injury
      v. Flail Chest
      vi. Two or more proximal long bone injuries
   c. Biomechanics of injury
      i. Ejected from Vehicle
      ii. Auto vs Pedestrian/Bicycle >5 mph
      iii. Motorcycle/ ATV crash
      iv. Pedestrian thrown or run over
   d. Other Risk Factors
      i. Provider impression
      ii. Extreme(s)
         1. age (<2 >60)
         2. environment (heat/cold)
         3. Health/Illness (Pregnancy, COPD, CHF, Diabetes)
         4. Haz/Mat
      iii. High Energy Transfer
         1. Rollover
         2. Fall >10 feet
         3. Extrications > 20 minutes
      iv. Burn Injury
         1. 2nd and 3rd degree burns of face, hands, feet, perineum
         2. significant electrical burns
         3. inhalation injury

4. Procedure
   a. Consult with medical control
   b. Advise patient condition and injuries
   c. Request Trauma System Activation
   d. Medical Direction approves trauma system activation
      i. Transport patient to closest designated trauma center OR Local hospital for immediate stabilization.
   e. If not already done consider ALS ground intercept or Helicopter Air Ambulance transport

5. Follow your Trauma Regions guidelines for transport of patient to the most appropriate facility and for more guidance on trauma system in your area.

The goal of the TRAUMA SYSTEM is to get the injured patient to the most appropriate facility by the most appropriate means in a timely manner. EMS needs to consult with Medical Control if any patient meets trauma system guidelines so the patient is transported to the most appropriate facility. In some cases the patient may bypass a local hospital or stop only to be stabilized by the local hospital then transferred on to a regional trauma center.
**Head / Facial Injuries**

**First Responder**

- Scene Safety - BSI
  - SAFETY FIRST
- Level of Consciousness: Alert, Verbal, Pain, or Unresponsive
- Airway: Monitor Airway
- Breathing: Administer Oxygen, consider assisting ventilations with BVM
- Circulation: Vital Signs, Control External bleeding
- Eye Trauma: Chemical exposure – Continuously Flush Eye, Penetrating Object – Leave in Place, Stabilize with Dressings, Patch Both Eyes, Loss of Tissue - Keep Moist and Transport with Patient
- Assess: Conduct a Simple Patient Assessment

**EMT**

- Assess: Conduct Basic Patient Assessment
- Airway: If No Gag Reflex, Insert Oral Airway, DO NOT USE NASAL AIRWAY
- Transport: Non-emergent Unless Patient Becomes Unstable
- Consider: ALS Intercept

**EMT Options/ EMT Intermediate 85**

- Airway: If No Gag reflex, Insert Medical Director Approved Advanced Airway Device, Multi-lumen Airway use with Caution if Facial Fractures Suspected
- IV: Establish Peripheral IV Access

**EMT- Intermediates 99**

- Assess: Perform Advanced Physical Assessment
- Cardiac Monitor: Determine Cardiac Rhythm
- Airway: Oral Intubation Only, DO NOT NASAL INTUBATE

**Paramedic**

- Assess: Perform Comprehensive Assessment
- Monitor: O2 Saturation and End Tidal CO2
- Consider: Emergency Cricothyrotomy if Oral Intubation Cannot be Performed
- Consider: Rapid Sequence Intubation (RSI)
  - *See RSI Protocol*

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**Brain Trauma Guidelines**

- Maintain
  - a. O2 Sat > 90%
  - b. Systolic BP > 90
  - c. EtCO2 30 to 35mmHg
Soft Tissue Neck Injuries

First Responder
- Scene Safety - BSI: SAFETY FIRST
- Level of Conscious: Alert, Verbal, Pain, or Unresponsive
- Airway: Monitor Airway
- Breathing: Administer Oxygen
- Circulation: Vital Signs, Control External Bleeding with Occlusive Dressing
- Assess: Conduct a Simple Patient Assessment

EMT
- Assess: Conduct Basic Patient Assessment
- Airway: If No Gag Reflex, Insert Oral Airway
  - If Gag Reflex May Use Nasal Airway if No Head Injury Suspected
  - AND Patient has Decreased LOC
- Transport: Non-emergent Unless Patient Becomes Unstable
- Consider: ALS Intercept

EMT Options/ EMT Intermediate 85
- Airway: If No Gag reflex, Insert Medical Director Approved Advanced Airway Device
  - (Multi-lumen Airway, LMA, ET)
- IV: Establish Peripheral IV Access

EMT- Intermediates 99
- Assess: Perform Advanced Physical Assessment

Paramedic
- Assess: Perform Comprehensive Assessment
- Consider: Emergency Cricothyrotomy if Oral Intubation Cannot be Performed
- Consider: Rapid Sequence Intubation (RSI)
  - *See RSI Protocol
Chest Injuries

First Responder
Scene Safety - BSI SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Seal Sucking Chest Wounds with Occlusive Dressing
Remove Occlusive Dressing if Patient’s Breathing Deteriorates
Circulation Vital Signs,
Assess Conduct a Simple Patient Assessment

EMT
Assess Conduct Basic Patient Assessment
Airway If No Gag reflex, Insert Oral Airway
If Gag Reflex may use Nasal Airway if No Head Injury Suspected
AND Patient has Decreased LOC
Transport Non-emergent Unless Patient Becomes Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Airway If No Gag reflex, Insert Medical Director Approved Advanced Airway Device
(Multi-lumen Airway, LMA, ET)
IV Establish Peripheral IV Access

EMT- Intermediates 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Consider Needle Decompression for Tension Pneumothorax

Paramedic
Assess Perform Comprehensive Assessment
Consider Rapid Sequence Intubation (RSI)
*See RSI Protocol
Abdominal / Pelvic Injuries

First Responder

Scene Safety - BSI  SAFETY FIRST
Level of Conscious  Alert, Verbal, Pain, or Unresponsive
Airway  Monitor Airway
Breathing  Administer Oxygen
Circulation  Vital Signs
  Control External Bleeding
  Seal Abdominal Eviscerations with Occlusive Dressing
  DO NOT REPLACE/REINSERT ABDOMINAL CONTENTS
Assess  Conduct a Simple Patient Assessment

EMT

Assess  Conduct Basic Patient Assessment
Consider  Splint Unstable Pelvis
Transport  Non-emergent Unless Patient Becomes Unstable
Consider  ALS Intercept

EMT Options/ EMT Intermediate 85

IV  Establish Peripheral IV Access

EMT- Intermediates 99

Assess  Perform Advanced Physical Assessment
Consider  Cardiac Monitoring

Paramedic

Assess  Perform Comprehensive Assessment
Extremity Injuries

First Responder
Scene Safety-
BSI
SAFETY FIRST
Level of
Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs
Control External Bleeding
Assess Conduct a Simple Patient Assessment
Splint Splint Extremity Deformities
Assess Pulse Distal to Injury Prior To and After Splint is Applied
Ice/elevate Apply Ice Pack and If Possible Elevate the Extremity

EMT
Assess Conduct Basic Patient Assessment
Monitor Pulse distal to injury,
Suspected Fractures:
If Pulse Absent Follow Listed Steps, Stopping at the Step which Pulse Returns;
1st Loosen Splint Recheck Pulse
2nd Gently Reposition Limb/Straighten
3rd Apply Gentle Traction to Limb
4th Contact Medical Control
Suspected Dislocations:
If Pulse Absent Contact Medical Control
Transport Non-emergent Unless Patient Becomes Unstable OR Patient has No Pulse Distal to Injury
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access

EMT- Intermediates 99
Assess Perform Advanced Physical Assessment
Consider Pain Management *See Pain Management Protocol

Paramedic
Assess Perform Comprehensive Assessment
Consider Pain Management *See Pain Management Protocol
Ingested Poisons

First Responder
Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment – Gain Information About the Ingested Poison Product/Medication Name, Amount Ingested, Time of Ingestion
Contact Poison Control Center According to Local Procedure

EMT
Assess Conduct Basic Patient Assessment
Consider Oral Activated Charcoal if Patient Can Maintain His/Her Own Airway
Transport Non Emergent Unless Patient Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Consider Inserting Medical Director Approved Advanced Airway Device (Multi-lumen Airway, LMA, ET)
Consider Obtain Glucose Reading, And if Indicated Oral Glucose AND if Patient’s Airway can be Maintained
IV Establish Peripheral IV Access

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Suspected If Poison is Identified or a High Suspicion *See Specific Agent/Toxin Protocols
Consider Dextrose 50% 25g IVP If Indicated by Glucometer Reading
Consider Naloxone 0.4-2mg IV If Narcotic Drug Overdose is Suspected
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Dysrhythmia *See Cardiac Dysrhythmia Protocol

Paramedic
Assess Perform Comprehensive Assessment
Dysrhythmia *See Cardiac Dysrhythmia Protocol
Specific Agents/Toxins

Known or High Suspicion of Narcotic Overdose
This protocol is for the EMT-I 99 and Paramedic

Basic Life Support
BLS Measures as Outlined in the Ingested Poisons Protocol

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Airway If Airway can be Managed with Manual Maneuvers and Suction delay
Advanced Airway until Naloxone is Given.
Cardiac Monitor Attach Cardiac Monitor, Interpret ECG
Consider Naloxone 0.4mg to 2mg IV
Dysrhythmia *See Cardiac Dysrhythmia Protocol
Assess If Patient Condition does not Improve Consider Other Possible Causes
Prepare The Patient May Have to be Restrained Once the Effects of the Narcotic is Reversed

Paramedic
Assess Perform Comprehensive Assessment
Dysrhythmia *See Cardiac Dysrhythmia Protocol

***Narcotic overdoses may require additional doses of Naloxone to maintain the patient’s vital signs and LOC.
The patient must be closely monitored.
### Specific Agents/Toxins

**Known Tricyclic Anti-Depressant Overdose**

This protocol is for the EMT-I 99 and Paramedic

#### Basic Life Support

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<th>BLS Measures as Outlined in the <a href="#">Ingested Poisons Protocol</a></th>
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#### EMT-Intermediate 99

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<thead>
<tr>
<th>Assess</th>
<th>Perform Advanced Physical Assessment</th>
</tr>
</thead>
</table>

| Consider | Inserting Medical Director Approved Advanced Airway Device (Multi-lumen Airway, LMA, ET) |

| Cardiac Monitor | Attach Cardiac Monitor, Interpret ECG |

| Dysrhythmia | *See Cardiac Dysrhythmia Protocol |

| Consider | 500 cc Fluid Challenge For Hypotension |

#### Paramedic

| Assess | Perform Comprehensive Assessment |

| Dysrhythmia | *See Cardiac Dysrhythmia Protocol |

| Consider | Sodium Bicarbonate 1mEq/kg, slow IVP |
Specific Agents/Toxins
Known or High Suspicion of Organophosphate OR Nerves Agent Exposure

This protocol is for the EMT-I 99 and Paramedic

Basic Life Support
The patient must be removed from the hazard area and decontaminated by trained rescuers
BLS measures as outlined in the Ingested Poisons Protocol

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment

Consider Inserting Medical Director Approved Advanced Airway Device
(Multi-lumen Airway, LMA, ET)

Cardiac
Monitor Attach Cardiac Monitor, Interpret ECG

Dysrhythmia *See Cardiac Dysrhythmia Protocol

Consider Atropine 2mg IV
Every 5 Minutes Until Symptoms Relieved

Consider Diazepam 5-10mg for
Seizures

Paramedic
Assess Perform Comprehensive Assessment

Dysrhythmia *See Cardiac Dysrhythmia Protocol

Alternate Medication May Consider Lorazepam 2-4mg
or
Midazolam 2-4mg as an alternate to Diazepam
Specific Agents/Toxins
Known Calcium Channel Blocker Overdose

This protocol is for the EMT-I 99 and Paramedic

**Basic Life Support**

BLS measures as outlined in the Ingested Poisons Protocol

**EMT-Intermediate 99**

Assess Perform Advanced Physical Assessment

Consider Inserting Medical Director Approved Advanced Airway Device (Multi-lumen Airway, LMA, ET)

Cardiac Monitor Attach Cardiac Monitor, Interpret ECG

Dysrhythmia *See Cardiac Dysrhythmia Protocol

**Paramedic**

Assess Perform Comprehensive Assessment

Consider Calcium Chloride 500 – 1000mg Slow IV

Dysrhythmia *See Cardiac Dysrhythmia Protocol
Toxic Inhalation

First Responder

Scene Safety – SAFETY FIRST
   PATIENT SHOULD BE REMOVED FROM HAZARD AREA BY TRAINED RESCUERS AND IF REQUIRED DECONTAMINATED

Level of Conscious Alert, Verbal, Pain, or Unresponsive

Airway Monitor Airway

Breathing Administer Oxygen

Consider Assisting Ventilations with BVM

Circulation Vital Signs, Skin Color/Temp

Assess Conduct a Simple Patient Assessment

EMT

Assess Conduct Basic Patient Assessment

Consider Assisting Patient with His/Her Metered Dose Inhaler

Consider Albuterol 2.5mg in 3cc given by Nebulizer Device

Transport Non –Emergent Transport Unless Patient is Unstable

Consider ALS Intercept

EMT Options/ EMT Intermediate 85

IV Establish Peripheral IV Access

EMT-Intermediate 99

Assess Perform Advanced Physical Assessment

Consider Bronchodilator Medication by Nebulizer *See Bronchodilator Protocol

Cardiac Monitor Attach Cardiac Monitor, Interpret ECG

Paramedic

Assess Perform Comprehensive Assessment

Consider Rapid Sequence Intubation (RSI) ***See RSI Protocol***
Burns

**First Responder**

Scene Safety - SAFETY FIRST

Stop
- Burning Process,
  - Remove Heat Source if Possible
  - Cool Burning Material Adhering to the Patient

Level of Conscious
- Alert, Verbal, Pain, or Unresponsive

Airway
- Monitor Airway

Breathing
- Administer Oxygen

Circulation
- Vital Signs

Assess
- Conduct a Simple Patient Assessment

Prevent
- Hypothermia

Remove
- Jewelry or Other Restrictive Items From or Near Burn Area
- Burned Clothing, Cut Around Clothing Adhering to the Skin

Estimate
- Body Surface Area (BSA) Burned

Dress
- Cover Burn Area with Dry Bandages or Sheets
  - If BSA <10% May Cool Burn Area
  - PREVENT HYPOTHERMIA

**EMT**

Assess
- Conduct Basic Patient Assessment

Transport
- Emergent for Burns to Face/Airway
  - Emergent for >30 Minutes Transport Time with No ALS and Burns >10%BSA

Consider
- ALS Intercept or ALS Helicopter transport for any burns to face/airway

**EMT Options/ EMT Intermediate 85**

IV
- Establish Peripheral IV Access

**EMT- Intermediates 99**

Assess
- Perform Advanced Physical Assessment

Consider
- Pain Management *See Pain Management Protocol

**Paramedic**

Assess
- Perform Comprehensive Assessment

Consider
- Pain Management *See Pain Management Protocol

Consider
- Rapid Sequence Intubation (RSI) for Facial/Airway burns
  ***See RSI Protocol***
Snake Bite

First Responder

Scene Safety-
BSI SAFETY FIRST

Level of
Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen
Circulation Vital Signs
Calm Calm Patient, Keep Patient still
Keep Extremity BELOW the Level of the Heart
Rinse The Bite Site DO NOT RUB or SCRUB
DO NOT APPLY ICE, DO NOT CUT/INCISE BITE
Apply Restrictive Band 1 Inch above the Bite.
The Pulse Should be Palpable Distal to the Band
Assess Conduct a Simple Patient Assessment
Identify Investigate the Scene to Determine the Type of Snake
Consider Contacting a Veterinarian or Other Expert to Identify the Type of Snake
Do Not Delay Transport Coordinate with Other Responders/Law Enforcement to Assist

EMT

Assess Conduct Basic Patient Assessment
Transport Non-emergent Unless Patient Becomes Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85

IV Establish Peripheral IV Access

EMT- Intermediates 99

Assess Perform Advanced Physical Assessment
Consider Pain Management *See Pain Management Protocol

Paramedic

Assess Perform Comprehensive Assessment
Consider Pain Management *See Pain Management Protocol
First Responder

Scene Safety – BSI SAFETY FIRST

Level of Conscious Confirm unresponsiveness

AED Attach AED For Patient Greater Then Age 1
** SEE Pediatric AED Protocol***
For Patients Older then Age 8 AND 60 Pounds
**SEE Adult AED Protocol***

Airway Establish an Airway
Breathing Ventilate with Bag Valve Mask Attached to O2 OR Pocket Mask
Circulation Begin Chest Compressions if Pulseless
OR
Bradycardia (< 80 beats/min in newborn or < 60 beats/min in infants)
AND Do Not Respond to Ventilation and Oxygenation

Prepare Package for transport

EMT

Airway Insert an Oral Airway
Assess Patient’s Weight
Transport Emergent
Consider ALS Intercept

EMT Options / EMT Intermediate 85

Airway Insert Medical Director Approved Advanced Airway Device
(Multi-lumen Airway, LMA, ET)
Multi-lumen Airways Only for Patients 5’2” or Taller

IV Establish Peripheral IV Access

EMT Intermediate 99

Consider IO Access In Lieu of IV Access
PALS Follow Appropriate Pediatric Cardiac Arrest Algorithm

Paramedic

PALS Follow Appropriate Pediatric Cardiac Arrest Algorithm

Note: If the patient regains a pulse see the Pediatric Post Cardiac Arrest – Return of Pulse protocol
Pediatric AED Protocol

ALL LEVELS

Confirm Patient is Pulseless

Begin CPR Do Two minutes of CPR

AED Turn On AED Attach Pediatric AED Pads or Activate Pediatric Mode

MUST USE A PEDATRIC APPROVED AED UNLESS PHYSICIAN MEDICAL DIRECTOR APPROVES THE USE OF ADULT AED FOR PEDIATRIC PATIENTS

Analyze Push Analyze Button

Follow Voice
Prompt Push to Shock OR No Shock Advised
Check Pulse for no more than 10 seconds

CPR Perform 2 minutes of CPR Do 2 minutes of CPR

Analyze Push Analyze Button Push Analyze Button

Follow Voice
Prompt Push to Shock OR No Shock Advised
Check Pulse for no more than 10 seconds
Do 2 minutes of CPR

CPR Perform 2 minutes of CPR

Analyze Push Analyze Button Push Analyze Button

Follow Voice
Prompt Push to Shock OR No Shock Advised
Check Pulse every 2 minutes
Package for Transport
Transport if EMT or Higher Level

Analyze Push Analyze Button Push Analyze Button every 4 minutes

CPR Perform 2 minutes of CPR Check Pulse every 2 minutes

Follow Voice
Prompt Push to Shock OR Push Analyze Button every 4 minutes

Repeat Analyze and Shock 3 More Times

Pulse Check Check Pulse if None Package for Transport
Transport if EMT or Higher Level

Analyze/Shock Each 4 Minutes Push Analyze if Shock Advised
Shock Up to Three Times and then Continue Transport

Considerations:

If the “No Shock Advised” prompt is heard after three consecutive analyze steps continue CPR and package for transport and for EMT and higher level begin transport.

If No shock advised and patient has return of pulse see Pediatric Post Cardiac Arrest – Return of Pulse protocol
Pediatric Cardiac Arrest Algorithm
V-Fib/Pulseless VT

EMT-Intermediate 99

CPR  Un-witnessed Arrest Perform 5 cycles (2 Minutes) CPR
     Witnessed Arrest go directly to Confirm Cardiac Rhythm

Confirm  Cardiac Rhythm

Shock  Biphasic and Monophasic
       2J/Kg

CPR  Perform CPR immediately after shock

Rhythm  Stop CPR Check Rhythm

CPR  Resume CPR while Defibrillator Charges

Shock  Biphasic and Monophasic
       4J/Kg

CPR  Perform CPR immediately after shock

Repeat  Repeat successive shocks at 4J/kg with minimal interruption to CPR

** Airway  Establish an Airway with an Advanced Airway Device at any time with minimal interruption to CPR

**Breathing  Ventilation with Bag Valve Device Give 1 breaths to 15 compressions until advanced airway is placed then give 8 to 10 breaths per minute

**Circulation  Administer chest compressions at 100 per minute
     Establish IV or IO at any time with no interruption to CPR

**Medication  Consideration
     Epinephrine 0.01mg/Kg Every 3 – 5 Minutes
     Lidocaine 1mg/kg 1st dose
     Amiodarone 5mg/Kg 1st dose

Paramedic

**Medication  Consideration
     Magnesium 25 – 50 mg/kg to max of 2 grams for torsades de pointes
Pediatric Cardiac Arrest Algorithm
Asystole/PEA

EMT-Intermediate 99

Confirm Cardiac Rhythm
Airway Establish Airway Endotracheal Intubation Preferred
Breathing Ventilation with Bag Valve Mask attached to O2
Circulation Chest Compressions and Establish Peripheral IV Access or IO Access
Medication Epinephrine 0.01mg/Kg (1:10,000) IV/IO Every 3-5 Minutes
Or Epinephrine 0.1mg/Kg (1:1,000) ET Every 3-5 Minutes
Intervention Drug
Sequence Evaluate for change
Repeat
Consider Consider Causes
Hypovolemia Consider Fluid Boluses 20cc/Kg
Tension Pneumothorax Consider Needle Decompression
Hypothermia Consider Warming Patient

Paramedic

Consider Consider causes
Acidosis Consider Sodium Bicarbonate
Tricyclic Overdose Consider Sodium Bicarbonate
Calcium Channel Blocker
Overdose Consider Calcium Chloride

Medication Doses Sodium Bicarbonate 8.4% 1mEq/Kg (4.2% in Neonates)
Calcium Chloride 20 to 25 mg/Kg
Pediatric Post Cardiac Arrest – Return of Pulse

With access to AEDs the OOH care provider may respond to a person who has been successfully defibrillated OR the OOH provider may successfully defibrillate/resuscitate a cardiac arrest victim.

First Responder

Scene Safety – SAFETY FIRST

Level of Conscious Confirm Unresponsiveness

Airway Establish an Airway

Breathing Assist Ventilations with Bag Valve Mask

Circulation Confirm Pulse Present, Recheck Often

Assess Conduct Simple Patient Assessment

EMT

Airway Insert Oral Airway

Assess Perform Basic Patient Assessment

Transport Emergent

Consider ALS Intercept

EMT Options / EMT Intermediate 85

Airway Insert Medical Director Approved Advanced Airway Device Appropriate for Age and Size (Multi-lumen Airway, LMA, ET)

IV Establish Peripheral IV Access

Consider 20cc/kg Fluid Bolus if Hypotensive for Age

EMT Intermediate 99

Consider IO access In Lieu of IV Access

Assess Perform Advanced Assessment

Cardiac Monitor Determine Cardiac Rhythm

Dysrhythmia Treat with Appropriate Pediatric Advance Cardiac Dysrhythmia Protocol

Paramedic

Assess Perform Comprehensive Assessment

Dysrhythmia Treat with Appropriate Pediatric Advanced Cardiac Dysrhythmia Protocol
Pediatric General Cardiac Dysrhythmia

The First Responder, EMT, EMT with Option, and EMT-I 85 will only detect by evaluation of the pulse whether the pulse is fast, slow, or normal rate and if it is regular or irregular. EMT-I 99 and Paramedic will interpret the cardiac rhythm. Generally pediatric patients do not have cardiac dysrhythmia due to cardiac disease, most often the cause is and airway/ventilation problem or volume problem. The OOH provider should secure and airway and ventilate with a BVM for the pediatric patient who shows the sign and symptoms of poor perfusion.

**First Responder**

- Scene Safety – SAFETY FIRST
- Level of Consciousness: Alert, Verbal, Painful, or Unresponsive
- Airway: Monitor Airway
- Breathing: Administer Oxygen
- Consider: Assisting Ventilations with BVM
- Circulation: Assess Pulse Rate, Rhythm, and Quality
  - Vital Signs: Begin chest compressions if heart rate < 60/min in infants
  - Assess: Conduct Simple Patient Assessment
  - Prepare: Prepare patient for transport

**EMT**

- Assess: Perform a Basic Assessment
- Transport: Non-emergent Transport Unless Patient Unstable
- Consider: ALS Intercept

**EMT Options / EMT Intermediate 85**

- Airway: Insert Medical Director Approved Advanced Airway Device (Multi-lumen Airway, LMA, ET)
- IV: Establish Peripheral IV Access

**EMT Intermediate 99**

- Consider: IO access in lieu of IV access
- Assess: Perform Advanced Assessment
- Cardiac Monitor: Determine Cardiac Rhythm
- PALS: Follow Appropriate Pediatric Advanced Cardiac Dysrhythmia Protocol

**Paramedic**

- Assess: Perform Comprehensive Assessment
- PALS: Follow Appropriate Pediatric Advanced Cardiac Dysrhythmia Protocol
Pediatric Advanced Cardiac Dysrhythmia

This Protocol applies to EMT-I 99 and Paramedics and assumes the General Cardiac Dysrhythmia protocol has been followed.

For the stable patient tolerating the cardiac rhythm may only require monitoring and supportive care without a medication or electrical intervention.

For the unstable patient the EMT-I 99 or Paramedic may have to consider a more aggressive treatment plan based on the patient condition and how rapidly a medication may be delivered verses an electric therapy can be performed.

Bradycardia with signs and symptoms of poor perfusion

**EMT-Intermediate 99**

- **Assess/** Reassess Airway and Ventilations
- **Reassess** Secure Airway and Assist Ventilations
- **Consider** Epinephrine 0.01mg/Kg IV (1:10,000) or 0.1mg/kg ET (1:1000)
- **Consider** Atropine 0.02mg/Kg
  - Minimum Dose 0.1mg
  - Max Dose 1mg
- **Consider** Transcutaneous Pacing
- **Consider** Pre-medicate if Possible with
  - Diazepam 0.25mg/Kg

**Paramedic**

- **Alternate**
  - **Pre-medications** Midazolam 0.1mg/kg IV to max of 2.5mg
  - Lorazepam 0.05 to 0.2/mg/Kg
- **Consider** Epinephrine Infusion 0.1-1 mcg/Kg/Min
  - OR
  - Dopamine 2 – 20 mcg/Kg/Min
Pediatric Advanced Cardiac Dysrhythmia

Continued

Ventricular Tachycardia with Pulse

EMT Intermediate 99

Assess/
Reassess Airway and Ventilations
Secure airway and assist ventilations

Consider
Synchronized Cardioversion .5-1J/Kg
Premedicate if Possible
Diazepam .25mg/Kg

Consider
Second Synchronized Cardioversion at 2J/Kg

Consider
Lidocaine 1mg/Kg bolus may repeat each subsequent dose half first dose to 3mg/Kg

Consider
If Dysrythmia Resolves with Lidocaine begin a
Lidocaine infusion at 20 to 50 micrograms/Kg

Paramedic

Consider
Amiodrone and Procamimide may be given with extreme caution
The paramedic must consult with on line medical control prior to administering
these medications to pediatric VT with a pulse

Alternate
Pre-medications
Midazolam 0.1mg/kg iv to max of 2.5mg
Lorazepam 0.05 to 0.2/mg/Kg

PSVT with sign and symptoms of poor perfusion

EMT Intermediate 99

Rule Out
Sinus Tachycardia

Consider
Synchronized Cardioversion
Premedicate if Possible
Diazepam 0.25mg/Kg

OR

Consider
Adenosine 0.1-0.2 mg/Kg
Rapid IV push

Paramedic

Alternate
Pre-medications
Midazolam 0.1mg/Kg IV to Max of 2.5mg
Lorazepam 0.05 to 0.2/mg/Kg
Pediatric Difficulty Breathing
Asthma/Bronchiolitis
Difficulty Breathing in the presence of wheezing

First Responder
Scene Safety – SAFTY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Monitor Airway
Breathing Administer Oxygen Consider Assisting Ventilations with BVM
Circulation Vital Signs, Skin Color/Temp
Assess Conduct a Simple Patient Assessment

First Responder and EMT
Consider Epinephrine Auto Injector Pediatric (EPI PEN Jr) for Impending Respiratory Collapse Guidelines; Patient Able to speak in only one-two word phrases
Low/falling oxygen saturations even with O2 administration
Diminished to absent lung sounds Decreasing LOC
Retractions Pale or cyanotic skin

EMT
Assess Conduct Basic Patient Assessment
Consider Assist Patient with His/Her Metered Dose Inhaler (MDI)
Consider Albuterol 2.5mg in 3cc via Nebulizer Device
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
IV Establish Peripheral IV Access
EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Consider Bronchodilator Medication by nebulizer *See Bronchodilator Protocol
Consider IO Access In Lieu of IV Access
Do Not Delay Epi to Obtain IV/IO Access
Consider Epinephrine (1:1,000) 0.01 mg/kg SQ, Max Dose 0.3 mg.
May Repeat Every 5 to 10 Minutes
Cardiac Attach Cardiac Monitor, Interpret ECG
Paramedic
Assess Perform Comprehensive Assessment
Consider 25 to 50mg/kg (max 2g) Magnesium Sulfate infusion over 20 min
Consider Rapid Sequence Intubation (RSI) ***See RSI Protocol***

P - 90
Laryngotracheobronchitis (Croup), Epiglottitis

First Responder

Scene Safety – SAFETY FIRST

Level of Consciousness

Alert, Verbal, Pain, or Unresponsive

Approach

In Calm Manner DO NOT Excite/Scare the Child

Airway

Monitor Airway

Breathing

Administer Oxygen
EXTREME CAUTION MUST BE EXERCISED
Epiglottitis may cause the patient airway to become occluded completely if the patient is agitated

Circulation

Vital Signs, Skin Color/Temp

Assess

Conduct a Simple Patient Assessment

EMT

Assess

Conduct Basic Patient Assessment

Transport

Non –Emergent Transport Unless Patient is Unstable

Consider

ALS Intercept

EMT Options/ EMT Intermediate 85

IV

Establish Peripheral IV Access
EXTREME CAUTION MUST BE EXERCISED
Epiglottitis may cause the patient airway to become occluded completely if the patient is agitated in the process of IV insertion

EMT-Intermediate 99

Assess

Perform Advanced Physical Assessment

Consider

Bronchodilator Medication by Nebulizer if Laryngotracheobronchitis (Croup) is Suspected
*See Bronchodilator Protocol

Consider

IO Access In Lieu of IV Access

Cardiac Monitor

Attach Cardiac Monitor, Interpret ECG

Paramedic

Assess

Perform Comprehensive Assessment

Consider

Cricothyrotomy Needle or Surgical for Occluded Airway
Acute Allergic Reaction / Anaphylaxis
Difficulty Breathing in the presence of urticaria, wheezing and/or contact with a known allergen

First Responder

Scene Safety –
BSI SAFETY FIRST

Level of
Conscious Alert, Verbal, Pain, or Unresponsive

Airway Monitor Airway

Breathing Administer Oxygen,

Consider Assisting Ventilations with BVM

Circulation Vital Signs, Skin Color/Temperature

Assess Conduct a Simple Patient Assessment

Consider Epinephrine Auto Injector Pediatric (EPI PEN Jr) if Impending Respiratory Collapse
Guidelines; Patient able to speak only one-two word phrases without taking a breath
Low/falling oxygen saturations even with O2 administration
Diminished to absent lung sounds Decreasing LOC
Retractions Pale or cyanotic skin

EMT

Assess Conduct Basic Patient Assessment

Consider Assist Patient with His/Her Metered Dose Inhaler

Consider Albuterol 2.5mg in 3cc via Nebulizer Device

Transport Emergent Transport Unless Patient is stable

Consider ALS Intercept

EMT Options/ EMT Intermediate 85

IV Establish Peripheral IV Access Titrate to Blood Pressure

EMT-Intermediate 99

Consider Bronchodilator Medication by Nebulizer *See Bronchodilator Protocol

Consider IO Access In Lieu of IV Access
Do Not Delay Epi for IV/IO Access

Consider Consider Diphenhydramine (Benadryl), 1 mg/kg, IM or slow IVP over 1-3 min.
Maximum Individual Dose 50mg.

Consider Epinephrine (1:1,000) 0.01 mg/kg SQ for bronchospasm, maximum dose 0.3 mg.
May Repeat Every 5 Minutes if Severe Respiratory Symptoms are Not Resolved

Cardiac Attach Cardiac Monitor, Interpret ECG

Paramedic

Assess Perform Comprehensive Assessment

Consider Rapid Sequence Intubation (RSI) ***See RSI Protocol***
Pediatric Upper Airway Obstruction

First Responder
Scene Safety – SAFETY FIRST
Level of Conscious Alert, Verbal, Pain, or Unresponsive
Airway Attempt to Relieve Obstruction Using AHA Guideline for Obstructed Airway for Pediatric Patients

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<th>Obstruction Cleared</th>
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<td>Administer Oxygen</td>
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<tr>
<td>Breathing Consider Assisting Ventilations with BVM</td>
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</tr>
<tr>
<td>Circulation Vital Signs, Skin Color/Temp</td>
<td></td>
</tr>
<tr>
<td>Assess Conduct a Simple Patient Assessment</td>
<td></td>
</tr>
</tbody>
</table>

EMT
Transport Emergent
Continue Attempts to Relieve Obstruction
Assess
Consider ALS Intercept

EMT Options/ EMT Intermediate 85
Airway Attempt to Visualize Obstruction with Laryngoscope and Remove with McGill Forceps. IF TRAINED
Consider Advance Airway if Patient LOC Remains Decreased and No Gag Reflex
IV Establish Peripheral IV Access
Do Not Delay Transport

EMT-Intermediate 99
Consider IO Access In Lieu of IV Access
Assess
Cardiac Monitor Perform Advanced Physical Assessment

Paramedic
Assess
Consider Cricothyrotomy needle or surgical

P - 120
Pediatric Seizures

First Responder

Scene Safety – Safety First

Level of Conscious Alert, Verbal, Pain, or Unresponsive

Airway Monitor Airway

Breathing Administer Oxygen

Circulation Vital Signs, Skin Color/Temp

Assess Conduct a Simple Patient Assessment

Prepare Package Patient for Transport

EMT

Assess Conduct Basic Patient Assessment

Transport Non –Emergent Transport Unless Seizures Continue

Consider ALS Intercept

EMT Options/ EMT Intermediate 85

Glucometer Obtain Glucose Reading

IV Establish Peripheral IV Access

EMT-Intermediate 99

Assess Perform Advanced Physical Assessment

Consider Possible Causes of Seizure

Consider Diazepam 0.25mg/Kg IV to Max of 5mg for Recurrent or Prolonged Seizures

Consider For Age 1 and Less Dextrose 25% 0.5 to 1gm/Kg if Glucometer Reading Indicated

For Age over 1 Dextrose 50% 0.5 to 1 gm/Kg if Glucometer Reading Indicated

Cardiac Monitor Attach Cardiac Monitor, Interpret ECG

Paramedic

Assess Perform Comprehensive Assessment

Alternate Medication Midazolam 0.1mg/Kg IV to Max of 2.5mg

Lorazepam 0.05 -0.2 mg/Kg IV, IO
**Appendices**

**Bronchodilator Protocol**

**EMT, EMT Options, and EMT Intermediate 85**

Assist May Assist Patient with His/Her Metered Dose Inhaler (MDI)

*Should be administered as prescribed*

*Note:* Not All MDI’s are for emergent situations for patients suffering acute shortness of breath

Listed below are common emergent medications

Consider Albuterol 2.5mg in 3cc by nebulizer

These levels MUST complete education and have the approval of the PMD for this medication

**EMT-Intermediate 99 and Paramedic**

Consider Bronchodilator medication by nebulizer

**Medication Options:**

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Nebulizer dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albuterol</td>
<td>Proventil, Ventolin</td>
<td>2.5mg in 3cc NS</td>
</tr>
<tr>
<td>Ipratropium</td>
<td>Atrovent</td>
<td>0.5mg (500mcg) in 2 to 3 cc NS</td>
</tr>
<tr>
<td>Albuterol/Ipratropium</td>
<td>Combivent, DuoNeb</td>
<td>3mg Albuterol 0.5mg Ipratropium in 3cc NS</td>
</tr>
<tr>
<td>Metaproterenol</td>
<td>Alupent</td>
<td>0.2-0.3 cc of 5% solution</td>
</tr>
</tbody>
</table>
Pain Management

1st Responder, EMT

Position: Unless Otherwise Contraindicated Because of Trauma Place Patient in Position of Comfort

Splint: Apply Splint to Extremity Deformities
Apply Ice and Elevate to Reduce Pain

EMT Options/ EMT Intermediate 85

IV: Establish IV Access

EMT-Intermediate 99

Consider: Morphine 2-5 mg IV or IM [Pediatric Dose 0.1-0.2 mg/kg]
May Repeat in 2mg Doses Until Pain Control or 10mg Total and BP Remains >100 Systolic
May consider Morphine via Mucosal Atomization Device (MAD) same dose as for IV
Administer no more than 1cc of total volume per nostril.

Paramedic

Consider: The Listed Medications for Pain Control/Management

<table>
<thead>
<tr>
<th>Medication Option</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>2-5mg</td>
<td>0.1 -0.2mg/Kg</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>25 – 100 mcg</td>
<td>1 –4 mcg/Kg</td>
</tr>
<tr>
<td>Meperidine *</td>
<td>50 – 100 mg</td>
<td>1mg/Kg</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>30mg IV 60mg IM</td>
<td>0.5 –1 mg/Kg to 30mg max IV</td>
</tr>
</tbody>
</table>

*Note: All the above medication EXCEPT Ketorlac may be given via the Mucosal Atomization Device (MAD) the dose for the MAD is the same as for IV. Administer no more than 1cc to volume per nostril.

* Note: When considering Meperidine also consider the use of an anti-emetic such as Phenergan

* Note: For advanced providers the listed medications with the exception of Ketorlac are control substances and all medication administrations and wastes of unused medications must be documented per local policy.
Hospital to Hospital Transfer Protocol

EMT
Scene Safety –
BSI SAFETY FIRST
Assess Conduct Basic Patient Assessment
Oxygen Continue oxygen therapy with Nasal Cannula or Non-Rebreather Mask
Report Contact Patient’s Nurse for a Patient Report
Transport Non –Emergent Transport Unless Patient is Unstable
Consider ALS Intercept if Patient Becomes Unstable

EMT Options/ EMT Intermediate 85
Airway If Advanced Airway Placed Confirm Correct Placement
IV Monitor Established IV of an Isotonic Solution at the Transporting Facility’s Ordered Rate

EMT-Intermediate 99
Assess Perform Advanced Physical Assessment
Cardiac Monitor Cardiac Monitoring for All Cardiac Patients and All Unstable Patients
Medications The EMT-I 99 May Only Administer the Medications As listed In the Rules and Regulations Practices and Procedures for the EMT Intermediate. (Title 172 NAC 11)
Infusions The EMT-I 99 May Only Establish/Maintain an Infusion of Lidocaine No Other Infusions of Medications are Allowed by this Protocol.

Paramedic
Assess Perform Comprehensive Assessment
Medications The Paramedic may with a Physician Order From Either the Transferring or Receiving Facility Administer Medication(s) by Any Ordered Route.
Infusions The Paramedic may with a Physician Order from Either the Transferring or Receiving Facility Maintain, Adjust, or Initiate an Ordered Infusion.
Blood The Paramedic may with a Physician Order from Either the Transferring or Receiving Facility and prior approval from the services medical director Maintain, Adjust, or Initiate Blood and Blood Products following local blood administration procedures.

***Follow appropriate protocol for a specific problem if the patient condition changes or new sign/symptoms are recognized by the provider. On line medical control should be consulted and advised if patient becomes unstable.
Ante Emetic Protocol
For Paramedic level providers only

Guidelines for Anti Emetic treatment:
- Nausea/Vomiting from Trauma/Pain
- Nausea/ Vomiting due to Medication Side Effect
- Nausea/Vomiting from an Acute Cardiac or Medical Event
- Nausea/Vomiting due to Ambulance Transport

Assess and Treat the Cause of Nausea if Possible

Follow Appropriate Protocol for the Patient’s Condition

Administer One of the Medications Listed as Approved by the PMD

Medication choices

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anzemet</td>
<td>12.5mg IV</td>
</tr>
<tr>
<td>Compazine (prochlorperazine)</td>
<td>5-10mg IV</td>
</tr>
<tr>
<td>Phenergan (promethazine)</td>
<td>12.5-25 IV</td>
</tr>
<tr>
<td>Zofran (ondansetron)</td>
<td>4-8mg IV</td>
</tr>
</tbody>
</table>
**Rapid Sequence Intubation**
For Paramedic level providers only

<table>
<thead>
<tr>
<th>Criteria for Rapid Sequence Intubation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS of ≤ 8</td>
<td>Patient unable to protect his/her own airway</td>
</tr>
<tr>
<td>Respiratory failure/impending failure</td>
<td>Head injuries with decreased LOC/ combativeness s/s of increased ICP</td>
</tr>
<tr>
<td>Consideration before attempting RSI:</td>
<td>Difficulty of intubation</td>
</tr>
<tr>
<td>Benefit vs Risk of procedure</td>
<td></td>
</tr>
<tr>
<td>Backup Airway Plan if Intubation Fails</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steps</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoxygenate</td>
<td>1. Preoxygenate with 100% oxygen by mask. If ventilatory assistance is necessary, ventilate gently, applying cricoid pressure.</td>
</tr>
<tr>
<td>Premedicate</td>
<td>2. Premedicate as appropriate; then WAIT 3 MINUTES after drug administration.</td>
</tr>
<tr>
<td></td>
<td>• Sedation with Diazepam: 5 to 10 mg (pediatric dose 0.25mg/kg not to exceed 5mg) or Versed 0.02 to 0.04 mg/kg</td>
</tr>
<tr>
<td></td>
<td>• Atropine: 0.01 mg/kg IV push for children or adolescents (minimum dose of 0.1 mg recommend)</td>
</tr>
<tr>
<td></td>
<td>• Lidocaine: 1.0 to 1.5 mg/kg IV over 30 to 60 seconds</td>
</tr>
<tr>
<td></td>
<td>• Defasciculating agent (optional, see Table 2)</td>
</tr>
<tr>
<td>Sedate then Paralyze</td>
<td>3. Induce sedation with one of these agents: diazepam, thiopental, fentanyl, ketamine, etomidate, versed, or methohexital. (See Table 1)</td>
</tr>
<tr>
<td></td>
<td>4. Give succinylcholine 1.5 mg/kg IV push (use 2.0 mg/kg for infants and small children).</td>
</tr>
<tr>
<td></td>
<td>5. Assess for apnea, jaw relaxation, decreased resistance to bag-mask ventilations (patient sufficient relaxed to proceed with intubation).</td>
</tr>
<tr>
<td></td>
<td>6. Apply cricoid pressure.</td>
</tr>
<tr>
<td>Placement: performance</td>
<td>7. Perform tracheal intubation. If unable to intubate within 20 seconds, stop. Ventilate with bag-mask for 30 to 60 seconds. Use pulse oximetry as a guide. Inflate balloon cuff when TT is in place.</td>
</tr>
<tr>
<td>Placement: primary confirmation</td>
<td>9. Perform primary confirmation of TT placement:</td>
</tr>
<tr>
<td></td>
<td>• By direct visualization of TT passing through vocal cords</td>
</tr>
<tr>
<td></td>
<td>• By chest rise/fall with each ventilation (bilateral)</td>
</tr>
<tr>
<td></td>
<td>• By 5-point auscultation: anterior chest L and R, midaxillary line L and R, and over the epigastrium</td>
</tr>
<tr>
<td></td>
<td>(Listen for air entering the stomach when BM is squeezed and by tube condensation.)</td>
</tr>
<tr>
<td>Placement: secondary confirmation</td>
<td>10. Perform secondary confirmation of TT placement:</td>
</tr>
<tr>
<td></td>
<td>• Use a bulb aspiration device (esophageal detector device [EDD])</td>
</tr>
<tr>
<td></td>
<td>• If the EDD indicates that the TT is in the trachea, leave in place monitor 02 sat</td>
</tr>
<tr>
<td></td>
<td>• Monitor end-tidal CO2</td>
</tr>
<tr>
<td>Placement: prevent dislodgement</td>
<td>11. Secure TT with commercial holder (preferred)</td>
</tr>
<tr>
<td></td>
<td>• Alternatively, secure with an adhesive tape/cloth cord technique.</td>
</tr>
<tr>
<td></td>
<td>• In out-of-hospital setting with the prospect of patient ventilation during movement, immobilize cervical spine with cervical collar or backboard or both.</td>
</tr>
<tr>
<td>Maintain Sedation/Paralytic</td>
<td>12. Administer maintenance dose of paralytic agent</td>
</tr>
<tr>
<td></td>
<td>13. Administer sedative if transport time longer then duration of sedative agent</td>
</tr>
<tr>
<td></td>
<td>14. Consider pain management agent (Morphine, or Fentanyl)</td>
</tr>
</tbody>
</table>
Rapid Sequence Intubation

Table 1
Sedative and Induction Agents

<table>
<thead>
<tr>
<th>Sedative</th>
<th>Dosage IV Push</th>
<th>Onset</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomidate</td>
<td>0.2 to 0.6 mg/kg</td>
<td>60 seconds</td>
<td>3 to 5 minutes</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>Induction: 2 to 10 mcg/kg Sedation (titrate): 2 to 4 mcg/kg</td>
<td>60 seconds</td>
<td>30 to 60 minutes</td>
</tr>
<tr>
<td>Ketamine</td>
<td>2.0 mg/kg</td>
<td>30 to 60 seconds</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>Induction: 0.02 to 0.04 mg/kg Sedation (titrate): 0.02 to 0.04 mg/kg</td>
<td>2 minutes</td>
<td>1 to 2 hours</td>
</tr>
<tr>
<td>Thiopental</td>
<td>3 to 5 mg/kg</td>
<td>20 to 40 seconds</td>
<td>5 to 10 minutes</td>
</tr>
<tr>
<td>Diazepam</td>
<td>5-10 mg</td>
<td>60-90 seconds</td>
<td>60 to 180 minutes</td>
</tr>
<tr>
<td>Methohexital (Brevital)</td>
<td>1-1.5 mg/kg</td>
<td>60 sec</td>
<td>5 to 7 minutes</td>
</tr>
</tbody>
</table>

RSI = Rapid Sequence Intubation
M = Maintenance dose

Table 2
Neuromuscular Blocking Agents

<table>
<thead>
<tr>
<th>Agent</th>
<th>Dosage (Paralytic)</th>
<th>Dosage (defasciculating)</th>
<th>Onset</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Succinylcholine</td>
<td>RSI: 1 to 2 mg/kg</td>
<td></td>
<td>30 to 60 seconds</td>
<td>4 to 6 minutes</td>
</tr>
<tr>
<td>Vecuronium</td>
<td>RSI: .1 mg/kg M: 0.01-0.05 mg/kg</td>
<td>0.01 mg/kg</td>
<td>2.5 to 5 minutes</td>
<td>25 to 40 minutes</td>
</tr>
<tr>
<td>Pancuronium</td>
<td>RSI: 0.04 - 0.1 mg/kg M: 0.01 mg/kg</td>
<td>3 minutes</td>
<td>30 – 45 minutes</td>
<td></td>
</tr>
<tr>
<td>Rocuronium</td>
<td>RSI: 0.6 – 1.2 mg/kg M: 0.1 – 0.2 mg/kg</td>
<td>1 – 3 minutes</td>
<td>30 minutes</td>
<td></td>
</tr>
</tbody>
</table>

RSI = Rapid Sequence Intubation
M = Maintenance dose