# Emergency Medical Technician (EMT) Protocols and Procedures

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<td>02/15/2012</td>
<td>Creation of protocols.</td>
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<tr>
<td>03/07/2013</td>
<td>Approval of protocols by Dr. Barnes.</td>
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<tr>
<td>11/14/2013</td>
<td>EMCAB approval</td>
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<td>01/01/2014</td>
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SECTION 100

101: GENERAL PROVISIONS

The Emergency Medical Technician (EMT) treatment protocols shall be used in direct compliance with the California Code of Regulations (CCR), Title 22, Division 9, Chapter 2, and as specified in Kern County EMS Division (EMS Division) EMT Policies and Procedures.

Documentation of events shall be provided on the Patient Care Report. Documentation shall follow the Patient Care Record Policies and Procedures.

102: SCOPE OF PRACTICE

A. During training, while at the scene of an emergency, during transport of the sick or injured, or during interfacility transfer, a certified EMT or supervised EMT student is authorized to do the following:

1. Evaluate the ill and injured
2. Render basic life support, rescue and emergency medical care to patients.
3. Obtain diagnostic signs to include, but not be limited to, temperature, blood pressure, pulse and respiration rates, pulse oximetry, level of consciousness, and pupil status.
4. Perform cardiopulmonary resuscitation (CPR), including the use of mechanical adjuncts to basic cardiopulmonary resuscitation.
5. Use the following adjunctive airway breathing aids:
   a. Oropharyngeal airway
   b. Nasopharyngeal airway
   c. Suction devices
6. Administer oxygen using basic oxygen delivery devices for supplemental oxygen therapy including but not limited to:
   a. Humidifiers
   b. Nasal cannula
   c. Partial rebreathers
   d. Non-rebreathers
   e. Venturi masks
   f. Bag-Valve Mask ventilation
7. Use various types of stretchers and body immobilization devices. Spinal immobilization shall be performed in accordance with these protocols and procedures, see section 108: Spinal Immobilization.
8. Provide initial prehospital emergency care of trauma, including but not limited to:
   a. Bleeding control through the application of tourniquets.
   b. Spinal immobilization.
   c. Seated spinal immobilization.
   d. Extremity splinting.
   e. Traction splinting.
9. Administer over the counter medications as approved by the Division, including:
   a. Oral glucose or sugar solutions
   b. Aspirin
10. Extricate entrapped persons
11. Perform field triage
12. Transport patients
13. Mechanical patient restraint
14. Set up for ALS procedures, under the direction of an Advanced EMT or Paramedic
15. Perform automated external defibrillation when authorized by an EMT-AED service provider.
16. Assist patients with the administration of physician prescribed devices, including but not limited to:
   a. patient operated medication pumps
   b. sublingual nitroglycerin
   c. self-administered emergency medications, including epinephrine devices

B. In addition to the activities authorized in this section a certified EMT or a supervised EMT student in the prehospital setting and/or during interfacility transport may:
   1. Monitor intravenous lines delivering isotonic balanced salt solutions for volume replacement including:
      a. Normal saline
      b. Ringer's lactate
      c. Dextrose 5% in water (D5W)
   2. Monitor, and maintain, if necessary, a preset rate of flow and turn off the flow of intravenous fluid.
   3. Transfer a patient, who is deemed appropriate for transfer by the transferring physician, and who has nasogastric (NG) tubes, gastrostomy tubes, heparin locks, foley catheters, tracheostomy tubes and/or indwelling vascular access lines, excluding arterial lines.

103: OPTIONAL SCOPE OF PRACTICE

A. In addition to the activities authorized in section 102, the EMS Division has established policies and procedures for local accreditation of an EMT student or certified EMT to perform the following optional skill as specified in this section. Accreditation for EMTs to practice the optional skill shall be limited to those whose certificate is active and is employed within Kern County by an employer who is a recognized EMT provider of the optional skill by the EMS Division.

   1. Use of supralaryngeal airway adjuncts such as King Airway.
a. Supralaryngeal airway procedures in the pre-hospital setting shall only be performed using devices approved by the Division.

b. Placement of a supralaryngeal airway may be attempted three times. Ventilations should be interrupted for no more than thirty (30) seconds per attempt. Patients should be ventilated with 100% oxygen for one (1) minute via Bag-valve-mask device between attempts. If attempts at placement of an advance airway are unsuccessful after three attempts, BLS airway measures shall be resumed.

c. The King Airway is approved for use in three sizes and cuff inflation varies by size. **DO NOT** over-inflate the cuff. It may be customary to hear gurgling around the King Airway when it is properly placed. Over-inflation of the cuff with more air than specified below has been known to decrease circulation through the carotid arteries.
   i. Size 3- Patients between 4 and 5 feet tall (55mL air)
   ii. Size 4- Patients between 5 and 6 feet tall (70mL air)
   iii. Size 5- Patients over 6 feet tall (80mL air)

d. Indications
   i. Cardiac arrest of any cause
   ii. Inability to ventilate non-arrest patient with other BLS maneuvers

e. Contraindications
   i. Presence of a gag reflex
   ii. Caustic ingestion
   iii. Known esophageal disease (e.g. cancer, varicies, stricture)
   iv. Laryngectomy with stoma
   v. Height less than 4 feet
   vi. NOTE: Airway deformity due to prior surgery or trauma may limit the ability to adequately ventilate with a supralaryngeal airway due to the potential for poor seal of the pharyngeal cuff.

f. Required equipment
   i. Suction
   ii. King Airway Kit (size 3,4, or 5)
   iii. Bag-valve-mask
   iv. Stethoscope

g. Procedure for use
   i. Assure adequate BLS airway (if possible).
   ii. Ventilate with 100% oxygen while selecting appropriate size King Airway.
   iii. Test cuff of device by injecting the recommended amount of air into the cuffs. Fully deflate prior to insertion.
   iv. Apply water-based lubricant to distal tip and posterior aspect of tube. Avoid application of lubricant into ventilator openings.
   v. Position the head into the “sniffing position.” Neutral position may be used for suspected cervical spine injury.
   vi. Hold mouth open and apply chin lift (jaw-thrust for suspected c-spine injury).
   viii. Once tube has passed under tongue, rotate tube back to midline with the blue orientation stripe midline and up towards chin.
   ix. Advance tube until base connector aligns with teeth or gums.
   x. Inflate cuff of tube to required volume.
   xi. Attach bag-valve-mask and ventilate patient, confirm placement by rise and fall of chest and lung sounds.
   xii. Secure tube and note depth marking of tube.
   xiii. Continue monitoring placement of tube throughout pre-hospital treatment and transport
2. Airway removal
   a. Once a supralaryngeal airway is placed, ideally it should not be removed. Circumstances that necessitate removal of the device may include presence of a gag reflex or inadequate ventilation with the device. Removal of the device may cause vomiting and the following steps should be followed:
      i. Position patient on side, maintain spinal precautions as needed.
      ii. Have suction available.
      iii. Deflate cuff/cuffs completely and remove smoothly and quickly.
      iv. Reassess airway and breathing to evaluate the need for other adjuncts.

3. Patient hand-off/Transport procedures
   a. Patients with supralaryngeal airways that have been placed by EMT First Responders may be released to a paramedic or to a transporting EMT with equal training for transport to the hospital
   b. In cases where an EMT ambulance is the transporting unit and the staff is not trained in the use of the device, the first responder must accompany the patient and maintain care responsibility of the airway device until release of the patient at the emergency department. EMT transport personnel will maintain responsibility for all other patient treatment and decisions during the transport to the emergency department.
   c. If the King Airway is inserted prior to arrival of ALS, the King Airway is to be left in place if the device is adequately ventilating and protecting the airway.

### 104: EMT AUTHORIZED MEDICATIONS AND DOSAGES

<table>
<thead>
<tr>
<th>Medication</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Routes &amp; Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>325 mg PO</td>
<td>Not used</td>
<td>Have patient chew tablet(s), chewable children’s aspirin preferred.</td>
</tr>
<tr>
<td>Oral Glucose</td>
<td>Full tube given in small doses (15g)</td>
<td>Full tube given in small doses (15g)</td>
<td><strong>Route</strong>: Oral&lt;br&gt;<strong>Contraindications</strong>:&lt;br&gt;• Absent gag reflex&lt;br&gt;• Inability to protect their own airway&lt;br&gt;• Inability to swallow</td>
</tr>
<tr>
<td>Oxygen</td>
<td>2-15 liters/min</td>
<td>2-15 liters/min</td>
<td><strong>Route</strong>:&lt;br&gt;Blow-by: 15 liters/min&lt;br&gt;Nasal Cannula: 2-6 liters/min&lt;br&gt;Partial rebreather: 6-10 liters/min&lt;br&gt;Non-rebreather Mask: 15 liters/min&lt;br&gt;Bag-Valve-Mask: 15 liters/min&lt;br&gt;Venturi: By transfer order</td>
</tr>
</tbody>
</table>

### 105: ASSISTING PATIENT’s WITH SELF ADMINISTRATION OF MEDICATION

A. An EMT may assist patients with the administration of physician prescribed devices/medications. The devices/medications must be specifically prescribed for the patient.

   1. Medication pumps-If the patient has a PCA (Patient Controlled Analgesia) pump, the EMT place the button into the hand of the patient to allow them to push for medication infusion. If the patient has a nebulizer: The EMT may turn on the nebulizer; open/close the medication
chamber, and hand the mask/mouth piece with the medication to the patient for self-administration.

2. Sublingual Nitroglycerin- The EMT may place the sprayer/pill into the hand of the patient to self-administer sublingual Nitroglycerin. This may be done up to a total of 3 times. Each time, the EMT shall obtain a blood pressure and pulse prior to and after administration.

3. Self-Administered Emergency Medication- The EMT may shake, and place the inhaler into the patient’s hand. Some emergency inhalers are: Albuterol, Proventil, Pro-Air, Ventolin, or Atrvent (Ipratropium Bromide). Emergency Epinephrine Auto-Injector for severe acute asthma attacks, or anaphylactic type allergic reactions may be assisted by the EMT by locating the patient’s auto-injector, removing the safety cap from the end, and handing the auto-injector to the patient for self-administration; ensuring the end the needle ejects from is pointed in the downward direction, so the patient doesn’t stab their hand instead of the proper place for injection.

106: MONITORING IVS

A. The EMT working for an approved provider may monitor peripheral lines delivering intravenous fluids during interfacility transport under the following conditions:

1. The patient is not critical and deemed stable by the transferring physician and the physician approves transport by EMT.

2. No medication or electrolyte additives have been added to the intravenous fluids.

3. The patient does not have any other ALS procedures in progress.

4. The IV set up does not use an IVAC or other flow rate monitor.

B. The EMT may only monitor and turn off the flow of the IV fluid.

C. Any patient, who has IV therapy initiated by a paramedic in the field, must be accompanied to the hospital by the paramedic. The patient may not be turned over to an EMT.

D. Patient controlled therapy or patients with home controlled therapy refer to section IV of these policies.

107: OXYGEN THERAPY

A. Oxygen therapy is indicated for patient with the following conditions:

1. Acutely altered mental status for any acute neurological symptoms (seizure, syncope, etc.)

2. Respiratory distress, cyanosis, significantly altered respiratory rate, inhalation injuries, or exposures

3. Any chest pain of cardiac or respiratory etiology

4. Shock

5. Significant abnormal heart rate
6. Significant multiple system trauma or patient meeting trauma activation criteria

7. Any other condition specifically covered in BLS protocols

B. Oxygen delivery and dose:

1. Low concentration- Nasal Cannula (2-6 liters per min)

2. Medium concentration- Partial rebreather (6-10 liters per min)

3. High concentration- Non-rebreathing mask (15 liters/min). Be sure to keep the reservoir bag inflated. If the patient has a history of COPD: Start oxygen at 2 liters/min by nasal cannula. If cyanotic, gradually increase oxygen flow until cyanosis resolves. If still cyanotic on 6 liters/min by nasal cannula, change to 15 liters/min by non-rebreathing mask. Prepare to assist ventilations with bag-valve-mask, since oxygen may cause sleepiness and hypoventilation in COPD patients.

4. Bag-valve-mask with supplemental oxygen (15 liters/min) or oxygen powered breathing device. Patient is not breathing or patient’s breathing is too shallow to ventilate adequately. DO NOT use oxygen powered breathing device on patients five (5) years old or less.

5. Humidifier- Humidified oxygen may be used when patient transport times are greater than one (1) hour. Humidified oxygen in patients with extended transport times helps to prevent the drying of the mucus membranes associated with prolonged oxygen delivery which can damage airway tissue.

6. Venturi Mask- Venturi masks may be used during emergency transports from a medical facility and interfacility transports where the patient has the mask in place prior to arrival. Use the same concentration and liter flow rate as set by the transferring medical personnel.

**108: SPINAL IMMOBILIZATION**

A. Implement spinal immobilization in the following circumstances in the setting of significant trauma:

1. Posterior midline spinal pain or tenderness with a history of or suspicion of trauma.

2. History of blunt trauma with Step 1 or Step 2 trauma activation.

3. Injuries distracting patient from distinguishing spinal pain (e.g., pelvic fracture, multi-system trauma, crush injury to hands or feet, long bone fracture proximal to the knee/elbow, or to the humerus/femur.)

4. Severe head or facial trauma. (If airway is unstable due to penetrating trauma, the patient may be placed in the sitting position with C-spine collar or KED to facilitate airway control.)

5. Numbness or weakness in any extremity after trauma.


7. If altered mental status (including drugs, alcohol, and trauma) and:

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Kern County Emergency Medical Services Division
Emergency Medical Technician (EMT) Policies and Procedures
January 1, 2014
a. No history available
b. Found in the setting of possible trauma (e.g., lying at the bottom of stairs or in the street)
c. Near-drowning with a history of probability of a diving injury

B. Patients who need spinal immobilization are determined by the above criteria, not mechanism of injury alone.

C. All patients in spinal immobilization may need to be turned on their side to remove airway secretions or vomitus. Complete spinal immobilization includes spine board (extrication device if appropriate), rigid cervical collar, wedges (or other device approved by the Division), chest straps, pelvic straps, leg straps, and tape. Complete spinal immobilization should allow the patient to be turned on their side without movement of the spine.

D. Spinal immobilization in a football injury shall be maintained with the football helmet in place using the backboard, lateral wedges and tape. Helmet removal in the prehospital setting is rarely needed. Careless removal of the helmet may worsen a preexisting cervical injury. Removal of the football helmet with shoulder pads in place may make it difficult to maintain proper cervical spine alignment.

E. Helmet removal is indicated when airway control or control of hemorrhage cannot be maintained with the helmet in place. The face guard of the football helmet should be removed for airway management. The face guard shall be removed to monitor and manage the airway before removal of the football helmet is used as an airway technique.

F. Patients with isolated non-traumatic mid-to-low back pain do not need immobilization of the cervical spine with a cervical collar. Immobilization of the mid and lower spine is sufficient in these cases.
Kern County Emergency Medical Services Division - EMT Treatment Protocols

AIRWAY OBSTRUCTION

Policy Number: 201
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY

IS THE PATIENT ABLE TO TALK?

YES

CALM PATIENT/ DO NOT EXAMINE THROAT OR ATTEMPT TO DISLodge

SUCTION SECRETIONS AS NEEDED

NO

IS THE PATIENT CONSCIOUS?

YES

ASK PATIENT TO SPEAK OR COUGH

IF UNABLE/ PERFORM HEIMLICH MANEUVER APPROPRIATE FOR PATIENT AGE/SIZE

RECHECK AIRWAY/ ASK PATIENT TO SPEAK OR COUGH

RE-ENTER SEQUENCE

PREPARE FOR RAPID TRANSPORT OR ALS RENDEZVOUS

NO

OPEN AIRWAY/ POSITION HEAD/ ATTEMPT TO VENTILATE

REMOVE OBSTRUCTION IF VISIBLE WITH FINGER SWEEP

ATTEMPT TO VENTILATE/ REPOSITION AIRWAY/ ATTEMPT TO VENTILATE

IF UNABLE TO VENTILATE, BEGIN CPR/ REFER TO CARDIAC ARREST PROTOCOL
SPECIAL CONSIDERATIONS

A. Appropriate Heimlich Maneuver

1. Infant Less than 1 year old- 5 back blows with patient in a dependent position followed by 5 chest thrusts.
   
   i. Dependent position is with the patient torso on the length of the forearm with the patient head in the palm. The patient head should be lower than the body.

2. Obese or late stages of pregnancy- chest thrusts.

3. Adults and children 1 year old and over- subdiaphragmatic abdominal thrusts.

B. Severity of Airway Obstruction

1. Partial Airway Obstruction- Patient usually in distress but is moving some air, conscious and can talk.

2. Complete Airway Obstruction- Patient may be awake, cyanotic, moving little to no air, unable to speak.

C. Consider causes:

1. Foreign body

2. Croup/Epiglottitis

3. Trauma

4. Anaphylaxis
ALLERGIC REACTION/ ANAPHYLAXIS

PRIMARY ASSESSMENT/ AIRWAY/ BREATHING/ OXYGEN/ PULSE OXIMETRY/ CIRCULATION

DETERMINE SEVERITY OF SYMPTOMS

MILD ALLERGIC REACTION

MONITOR CLOSELY FOR SIGNS OF DETERIORATION

REMAINS STABLE

TRANSPORT IN POSITION OF COMFORT

SEVERE/ ANAPHYLACTIC REACTION

ASSIST PATIENT WITH SELF-ADMINISTERED EPINEPHRINE AUTO-INJECTOR IF AVAILABLE

BECOMES UNSTABLE

TREAT HYPOTENSION ACCORDING TO SHOCK/HYPOPERFUSION PROTOCOL

PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

POLICY NUMBER: 202
EFFECTIVE DATE: January 1, 2014
REVISION DATE: January 1, 2014
SPECIAL CONSIDERATIONS

A. Signs and symptoms of anaphylaxis:

1. Itching and hives
2. Respiratory distress
3. Airway occlusion
4. Swelling to face and/or tongue
5. Tightness in throat and/or chest
6. Loss of voice
7. Hypotension/shock

B. If treatment is not effective, rapid transport and thorough reassessment of patient and history leading up to event are indicated.

C. Allergic reactions and anaphylaxis commonly present with extreme variation of signs and symptoms between patients.
ALTERED LEVEL OF CONSCIOUSNESS

COMPLETE PRIMARY SURVEY/ AIRWAY/BREATHING/ CIRCULATION/OXYGEN/PULSE OXIMETRY

IS THE AIRWAY PATENT?

YES

IS THE PATIENT ABLE TO SWALLOW?

YES

SUSPECTED HYPOGLYCEMIA?

YES

ADMINISTER ORAL GLUCOSE

NO

NO

NO

CONSIDER UNDERLYING CAUSES/TREAT ACCORDING TO APPROPRIATE PROTOCOL

NO

PREPARE FOR RAPID TRANSPORT OR ALS RENDEZVOUS

NO

MONITOR AIRWAY/SUCTION AS NEEDED/POSITION PATIENT

YES

ADMINISTER ORAL GLUCOSE
SPECIAL CONSIDERATIONS

A. TESTING FOR GAG REFLEX
   1. First have patient swallow. If patient is able to swallow then administer oral glucose.

B. POSITION PATIENT
   1. No trauma and decreased gag reflex- Transport on side.
   2. No trauma and good gag reflex- Position patient for comfort.

C. UNDERLYING CAUSES
   A- Alcohol
   E- Epilepsy
   I- Insulin
   O- Overdose
   U- Uremia
   T- Trauma/Tumor
   I- Infection
   P- Psychiatric/Poisoning
   S- Stroke/Shock/Seizures
Kern County Emergency Medical Services Division - EMT Treatment Protocols

BITES/STINGS

Policy Number: 204  Effective Date: January 1, 2014  Revision Date: January 1, 2014

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/PULSE OXIMETRY

DETERMINE TYPE OF INJURY

SNAKEBITE

REMOVE JEWELRY AND CLOTHING FROM BITE AREA

APPLY ELASTIC BANDAGE 2-5 INCHES PROXIMAL TO THE BITE/ DO NOT APPLY TO HAND OR FOOT

IMMOBILIZE AFFECTED EXTREMITY AT OR SLIGHTLY BELOW LEVEL OF THE HEART

MARK AREA OF SWELLING WITH PENLINE AND RECORD TIME

TREAT SHOCK ACCORDING TO SHOCK PROTOCOL

PREPARE FOR TRANSPORT/IF PATIENT IS UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

INSECT BITE/STING

KEEP EXTREMITIES AT THE LEVEL OF THE HEART

SPLINT

APPLY ICE / BEE STINGS, REMOVE THE STINGER

TREAT SHOCK OR ANAPHYLAXIS ACCORDING TO THE APPROPRIATE PROTOCOL
SPECIAL CONSIDERATIONS

A. Elastic bandage should be applied to a tightness which allows one finger to slip underneath.
   1. No other tourniquet should be used.

B. Keep patient at rest.

C. Snakebite
   1. If snake was exotic pet or zoo animal, neurologic or respiratory depression may precede local reaction. Observe for changes to mental status, respiratory status, convulsions, or paralysis.
   2. **DO NOT** apply ice or cooling. **DO NOT** allow incision of the wound.
   3. The EMT should try to ascertain the type of snake if possible, however do not transport or bring the snake to the hospital.

D. Bites/Stings
   1. Bring animal or insect to the hospital only if dead.
   2. **DO NOT** touch a bee stinger that is still in place. Use an object to scrape the stinger off of the skin (i.e. hard piece of plastic, credit card, etc.).
   3. **DO NOT** submerge extremities in ice. Apply an ice pack, or cooling compress localized to the area of the bites/stings.
REMOVE BURNED CLOTHING/JEWELRY, EXCEPT CLOTHING THAT HAS BEEN MELTED TO THE SKIN/PRIMARY ASSESSMENT/AIRWAY/BREATHING/CIRCULATION/OXYGEN/PULSE OXIMETRY

DETERMINE TYPE OF BURN

THERMAL BURN

LESS THAN 10% TBSA

STOP THE BURNING PROCESS/COVER WITH MOIST STERILE DRESSING

GREATER THAN 10% TBSA

STOP THE BURNING PROCESS/COVER WITH DRY STERILE DRESSING

CHECK FOR ASSOCIATED INJURIES/TREAT SHOCK AS NEEDED/DO NOT APPLY ICE OR CREAMS TO BURNED AREAS

PREPARE FOR TRANSPORT OR ALS RENDEZVOUS

CHEMICAL BURN

DETERMINE CHEMICAL/REFER TO LABEL OR MSDS FOR DECONTAMINATION

IF UNAVAILABLE/BRUSH OFF DRY CHEMICAL/BLOT EXCESS LIQUID CHEMICAL

WASH WITH COPIOUS AMOUNTS OF WATER

APPLY STERILE DRESSINGS
SPECIAL CONSIDERATIONS

A. Carefully assess the patient for airway burns, singed nose or facial hair, lung sounds, nature and extent of the burn, mental status, smoke inhalation, duration of exposure.

1. Prepare for rapid deterioration if patient has signs or symptoms of airway burns. Have suction readily available.

2. Precautions must be taken to prevent hypothermia in the severely burned patient.
CARDIAC ARREST

COMPLETE PRIMARY SURVEY/AIRWAY/VENTILATION/OXYGEN/CIRCULATION

OBVIOUS SIGNS OF DEATH?

YES

DO NOT RESUSCITATE

NO

WITNESSED BY FIRST RESPONDERS OR DOWN TIME LESS THAN 5 MINUTES

YES

APPLY AED (AUTHORIZED PROVIDERS ONLY)/ ANALYZE RHYTHM

NO

INITIATE CPR FOR 5 CYCLES

NO

FOLLOW AED PROMPTS/ DELIVER SHOCKS

YES

SHOCK ADVISED?

NO

INITIATE CPR FOR 5 CYCLES

CONTINUE CPR FOR 2 MINUTES/PULSE CHECK/RHYTHM ANALYSIS/SHOCK SEQUENCE AS ADVISED BY AED, TO A MAX OF 9 SHOCKS/ EVALUATE FOR POSSIBLE CAUSES

TRANSPORT CODE 3 IF ETA OF ALS LONGER THAN TRANSPORT TIME TO HOSPITAL
AED PLACEMENT

A. AED is used only in the following circumstances:

1. Unconscious, pulseless, with agonal or absent respirations.

2. Patients less than eight (8) years old should be defibrillated with pediatric pads. If pediatric pads not available use adult pads.

SPECIAL CONSIDERATIONS:

A. If the patient remains in an ECG rhythm that does warrant a shock, follow the AED prompts to a maximum of three shocks delivered with two minutes of CPR interposed between each shock. No more than three total shocks are delivered in normal circumstances. However, if transport is delayed, more may be given up to an absolute maximum of (9).

B. If the patient has emesis while the AED is analyzing or charged and ready to shock, clear the airway and do not deliver a shock and immediately resume 2 minutes of CPR. The AED will automatically re-analyze the rhythm and will voice prompt the proper action afterward.

C. Once applied to a patient, the AED shall remain applied until care is assumed by advanced life support personnel with necessary ECG monitoring and manual defibrillation equipment. ALS personnel may leave the AED in place if appropriate.

D. If the AED indicates a shock is needed during transport, the ambulance shall temporarily stop transport for one shock to be delivered then resume transport. Ambulance transport may only be interrupted once for this purpose.

E. Chest compressions in the newborn should be performed with the 2 thumb-encircling hands technique. Compressions should be centered over the lower third of the sternum and should compress the chest one third of the diameter of the chest. The compression to ventilation ratio should be 3:1.

F. Infants and children require a compression to ventilation ratio of 15:2 with two rescuer CPR, or 30:2 for single rescuer CPR.
POSSIBLE CAUSES OF NON-SHOCKABLE RHYTHM:

<table>
<thead>
<tr>
<th>H’s</th>
<th>T’s</th>
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<tbody>
<tr>
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<td>Toxins</td>
</tr>
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<td>Hypoxia</td>
<td>Tamponade (cardiac)</td>
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<td>Hydrogen ion (acidosis)</td>
<td>Tension Pneumothorax</td>
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<td>Hyper/hypokalemia</td>
<td>Thrombosis (coronary and pulmonary)</td>
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<tr>
<td>Hypoglycemia</td>
<td>Trauma</td>
</tr>
<tr>
<td>Hypothermia</td>
<td></td>
</tr>
</tbody>
</table>
**CEREBRAL VASCULAR ACCIDENT (CVA)**

**Policy Number:** 207  
**Effective Date:** January 1, 2014  
**Revision Date:** January 1, 2014

**PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY**

**SIGNS OR SYMPTOMS OF NARCOSIS / HYPOGLYCEMIA?**

**YES**

REFER TO APPROPRIATE PROTOCOL

**NO**

PERFORM CINCINNATI PREHOSPITAL STROKE SCALE ASSESSMENT/ ACTIVATE “STROKE ALERT” IF INDICATED

POSITION PATIENT/ SUCTION SECRETIONS AS NECESSARY TO MAINTAIN AIRWAY

TRANSPORT TO APPROPRIATE FACILITY OR ALS RENDEVOUS
SPECIAL CONSIDERATIONS:

A. Cincinnati Pre-hospital Stroke Scale

<table>
<thead>
<tr>
<th>Test</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial Droop:</td>
<td>Normal – both sides of face move equally</td>
</tr>
<tr>
<td></td>
<td>Abnormal – one side of face does not move as</td>
</tr>
<tr>
<td></td>
<td>well as the other side</td>
</tr>
<tr>
<td>Arm Drift:</td>
<td>Normal – both arms move the same or both arms</td>
</tr>
<tr>
<td></td>
<td>do not move at all</td>
</tr>
<tr>
<td></td>
<td>Abnormal – one arm does not move or one arm</td>
</tr>
<tr>
<td></td>
<td>drifts down compared with the other</td>
</tr>
<tr>
<td>Abnormal Speech:</td>
<td>Normal – patient uses correct words with no</td>
</tr>
<tr>
<td></td>
<td>slurring of words</td>
</tr>
<tr>
<td></td>
<td>Abnormal – patient slurs words, uses the wrong</td>
</tr>
<tr>
<td></td>
<td>words, or in unable to speak</td>
</tr>
</tbody>
</table>

B. Positioning of patient

1. Position of comfort if patient is conscious and not hypotensive.

2. Shock position if patient is hypotensive.

3. Position on affected side if patient is unconscious.

C. Special notes

1. Document the duration of the deficit by identifying the last time the patient showed normal neurological function.

2. Those with transient neurological deficits or TIsAs also need to be transported to the hospital for further evaluation, in order to avoid a complete stroke.

3. Best effort shall be made to provide the receiving facility early notification of a “Stroke Alert” in accordance with Division stroke policies.
Kern County Emergency Medical Services Division - EMT Treatment Protocols

CHEST PAIN/ACUTE CORONARY SYNDROME

Policy Number: 208  Effective Date: January 1, 2014  Revision Date: January 1, 2014

COMPLETE PRIMARY SURVEY/ AIRWAY/BREATHING/CIRCULATION /OXYGEN/ PULSE OXIMETRY

CHEST PAIN/DISCOMFORT SUGGESTIVE OF ISCHEMIA?

YES

PATIENT WITH KNOWN ALLERGY TO ASPRIN OR EVIDENCE OF RECENT GI BLEED?

NO

ADMINISTER ASPRIN 325 MG TO CHEW

NO

YES

ASSIST PATIENT WITH SELF-ADMINISTRATION OF PRESCRIBED MEDICATION AS FOLLOWS:

NITROGLYCERIN 0.4MG SL, MAY REPEAT EVERY 3-5 MIN AS LONG AS SYSTOLIC BP REMAIN ABOVE 90. MAX DOSE OF 3.

MINIMIZE ON SCENE TIME/ RAPID TRANSPORT OR ALS RENDEZVOUS/ NOTIFY RECEIVING FACILITIMMEDIATELY IF ACUTE MI IS SUSPECTED

NO

MONITOR/ TRANSPORT
SPECIAL CONSIDERATIONS

A. Patients in the metropolitan Bakersfield area with chest pain/discomfort of suspected cardiac origin shall be transported to a cardiac or STEMI receiving facility.

B. Best effort shall be made to notify receiving facility early of suspected acute MI.

C. If the patient has not taken aspirin and has no history of aspirin allergy or evidence of recent GI bleeding, administer **ASPIRIN** (325mg) to chew.

D. Contraindications for nitroglycerin:

1. Suspected or known that the patient has taken sildenafil (Viagra) or vardenafil (Levitra) within the previous twenty four (24) hours or tadalafil (Cialis) within the previous forty eight (48) hours.

2. Systolic blood pressure less than 90mmHg or heart rate less than 50 beats per minute.

**IF THE PATIENT BECOMES HYPOTENSIVE AFTER SELF-ADMINISTRATION OF NITROGLYCERIN, PLACE PATIENT IN SHOCK POSITION**

E. Use Mnemonic- “OPQRST”

O- Onset

P- Provoked

Q- Quality

R- Radiation

S- Severity

T- Time

F. Obtain “SAMPLE” history

S- Signs/Symptoms

A- Allergies

M- Medications

P- Past medical history

L- Last oral intake

E- Events leading to present emergency
CHILDBIRTH

Policy Number: 209
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY

BABY BORN PRIOR TO ARRIVAL?

YES

IF RESUSCITATION NEEDED REFER TO CARDIAC ARREST PROTOCOL

SUCTION MOUTH AND NOSE WITH BULB SYRINGE IF NEEDED

DRY AND WRAP WARMLY

ONCE CORD NO LONGER PULSING/ CLAMP AND CUT CORD

ASSESS APGAR

PLACE PLACENTA IN PLASTIC BAG AND TRANSPORT WITH MOTHER

PREPARE FOR TRANSPORT/ IF INFANT OR MOTHER UNSTABLE PROVIDE RAPID TRANSFER OR ALS RENDEZVOUS

NO

IN PROGRESS

CONTROL THE DESCENT OF THE HEAD WITH HAND CUPPED OVER CRANIUM

CHECK FOR CORD AROUND NECK

GENTLY SLIP CORD OVER HEAD OR ACROSS SHOULDER/ CLAMP AND CUT ONLY IF CORD IS TIGHT AND OBSTRUCTING DELIVERY

GENTLY LOWER HEAD TO DELIVER UPPER SHOULDER/ RAISE HEAD TO DELIVER LOWER SHOULDER

SUCTION MOUTH AND NOSE WITH BULB SYRINGE IF NEEDED

DRY AND WRAP WARMLY

ONCE CORD NO LONGER PULSING/ CLAMP AND CUT CORD

ASSESS APGAR

PLACE PLACENTA IN PLASTIC BAG AND TRANSPORT WITH MOTHER

ASSESS INFANT HEART RATE

>100 BEGIN TRANSPORT

60-100 PROVIDE VENTILATION 40-60 BREATHS PER MINUTE

<60 PROVIDE VENTILATIONS AND CHEST COMPRESSIONS AT 3:1 RATIO

REASSESS IN 30 SECONDS/CONTINUE SPECIFIED TREATMENT UNTIL HEART RATE >100
SPECIAL CONSIDERATIONS:

A. Clamp and cut the cord
   1. Use sterile scissors or scalpel.
   2. Leave minimum of 6 inches of cord from the umbilicus.

B. Always consider the possibility of twins.

C. Prolapsed cord
   1. If cord visible at perineum, immediately place mother in Trendelenberg position.
   2. Place mother on high flow oxygen.
   3. Cover cord with wet sterile dressing.
   4. Provide constant manual pressure on presenting part to avoid cord compression.
   5. Rapid transport or ALS rendezvous.
   6. If crowning with prolapsed cord, immediate delivery is the most rapid means of restoring oxygen to infant.

D. Breech presentation
   1. Provide rapid transport or ALS rendezvous.
   2. If extended transport time and frank or double footling presentation, contact base hospital physician for possible directed delivery.
   3. Any hand or shoulder presentation should be rapidly transported regardless of distance from hospital.

E. Assessment
   1. Examine infant first- vital signs, lung sounds, color, muscle tone, response to suctioning or flicking foot.
   2. Assess APGAR on all newborns. Evaluate at 1 minute and 5 minutes. If obvious distress, begin resuscitation immediately.

F. APGAR Chart

1. APGAR score will be equal to 10 or less

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Blue or Pale</td>
<td>Body Pink, Limbs Blue</td>
<td>Complete Pink</td>
</tr>
<tr>
<td>Pulse</td>
<td>0</td>
<td>Less than 100</td>
<td>100 or greater</td>
</tr>
<tr>
<td>Grimace</td>
<td>No Response</td>
<td>Grimace</td>
<td>Cough, Sneeze, Cry</td>
</tr>
<tr>
<td>Activity</td>
<td>Flaccid</td>
<td>Some Flexion</td>
<td>Active Movement</td>
</tr>
<tr>
<td>Respiratory Effort</td>
<td>Absent</td>
<td>Slow, Irregular, Weak Cry</td>
<td>Strong Cry</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL EMERGENCY

ENVIRONMENTAL EMERGENCY

Policy Number: 210
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRINCIPAL SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY

ASSESS TYPE OF EMERGENCY

HYPERTHERMIA

- REMOVE FROM HEAT SOURCE
- START COOLING MEASURES
- TREAT FOR SHOCK ACCORDING TO SHOCK PROTOCOL

HYPOTHERMIA

- REMOVE FROM COLD SOURCE
- START WARMING MEASURES
- TREAT FOR SHOCK ACCORDING TO SHOCK PROTOCOL

FROST BITE

- DO NOT ALLOW RE-FREEZING
- GRADUALLY WARM EXTREMITIES
- IMMOBILIZE EXTREMITIES AND PAD BETWEEN FINGERS AND TOES IF APPLICABLE

IF CARDIAC ARREST, PERFORM CPR UNTIL PATIENT CAN BE RE-WARMED IN HOSPITAL

PREPARE FOR TRANSPORT/ IF UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS
SPECIAL CONSIDERATIONS

A. Passive/active cooling measures:
   1. Remove clothing.
   2. Fan.
   3. Water.
   4. Ice, if available. **DO NOT** submerge any portion of the body in ice. Apply ice packs or cooling compresses as available.

B. Consider drug ingestion for hyperthermia

C. Re-warming measures:
   1. Remove wet clothes.
   2. Provide warm blanket or sheet.
   3. Warm interior of ambulance.
   4. **DO NOT** rub or massage areas of injury. Handle as gently as possible.
   5. **DO NOT** allow patient to smoke.
Kern County Emergency Medical Services Division - EMT Treatment Protocols

POISONING/INGESTION

Policy Number: 211
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY

DETERMINE TYPE OF EMERGENCY

INGESTION
IF IN SHOCK, TREAT ACCORDING TO SHOCK PROTOCOL
CONTACT POISON CONTROL
IF CAUSTIC OR HYDROCARBON INGESTION, POSITION PATIENT WITH HEAD ELEVATED
PREPARE FOR TRANSPORT/IF UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

POISONING/HAZ MAT
PREVENT RESCUER CONTAMINATION
IF POWDER SUBSTANCE, BRUSH OFF FIRST, THEN WASH OFF/REMOVE CLOTHING/ DECONTAMINATE
### SPECIAL CONSIDERATIONS:

**A. Ingestions**

1. Obtain accurate history:
   
   a. Name of product or substance
   
   b. Quantity ingested
   
   c. Time of ingestion
   
   d. Pertinent medical history
   
   e. Pill bottles/ description of pills

**B. Haz-Mat**

1. Cholinergic crisis:
   
   a. Initially patients may experience tachycardia.
   
   b. Bradycardia, salivation, tearing, urination, defecation, sweating, twitching, abdominal cramps, vomiting, pinpoint pupils, smell of pesticides, hypoxia, seizure, coma.

2. Obtain name of product or substance.

3. Determine time of exposure.

4. Obtain route of exposure (i.e. inhalation, absorption, etc).
Kern County Emergency Medical Services Division - EMT Treatment Protocols

**PSYCHIATRIC/BEHAVIORAL EMERGENCY**

Policy Number: 212  
Effective Date: January 1, 2014  
Revision Date: January 1, 2014

**PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY**

**PATIENT WITH MEDICAL OR TRAUMATIC EMERGENCY?**

- **YES**
  - REFER TO APPROPRIATE PROTOCOL

- **NO**
  - **YES**
    - PATIENT REQUIRES PHYSICAL RESTRAINTS?
      - **NO**
        - REFER TO RESTRAINT PROTOCOL
      - **YES**
        - REQUEST LAW ENFORCEMENT FOR TRANSPORT OF PATIENT
SPECIAL CONSIDERATIONS

A. Patients with a medical or trauma complaint in addition to the psychiatric complaint shall be treated according to the protocol that best fits the complaint.

B. Transportation of patients shall be in accordance with the Destination Policies and Procedures.

C. Patients requiring restraints create a medical condition and shall be closely monitored.

D. Ambulances shall not be used to transport 5150 patients that do not have a medical condition.
RESPIRATORY DISTRESS

PRIMARY ASSESSMENT/ AIRWAY/ BREATHING/ VENTILATION/ OXYGEN/ CIRCULATION/PULSE OXIMETRY

HISTORY OF ASTHMA?

YES

PATIENT WHEEZING?

NO

YES

PATIENT HAS PRESCRIBED RESCUE INHALER?

NO

YES

ASSIST PATIENT WITH PRESCRIBED DOSE OF RESCUE INHALER

POSITION OF COMFORT/ PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS
SPECIAL CONSIDERATIONS:

A. Patient position

1. Thoroughly document the position you find your patient in. Many patients in severe respiratory distress will often assume a tri-pod position.

2. Patients should be transported sitting fully upright, and in the most comfortable possible position.

B. Assist ventilations with bag-valve-mask for patients with altered mental status, unable to speak, or severe cyanosis.

C. If hyperventilation is suspected and patient is experiencing tingling around the mouth or in extremities, reassure the patient, and DO NOT use paper bag breathing.

D. If smoke or gas inhalation ALWAYS ensure personal safety, and remove the patient from the harmful environment.

E. If child has evidence of epiglottitis, recent infection, high fever, stridor, quiet crying, drooling, or use of accessory muscles:

1. Allow the parent or guardian to hold the child.

2. Have the parent or guardian administer high flow oxygen to child either by direct mask to face, or blow by technique.

3. Immediate transport, but not with code 3 unless child deteriorates. Avoid increasing stress of the child.

4. If child over five (5) years of age, and has a complete obstruction, use positive pressure ventilation.

5. If child under five (5) years of age, and has a complete obstruction, assist ventilations with bag-valve-mask.

F. Causes of respiratory distress are: asthma, croup, epiglottitis, hyperventilation, pulmonary edema, smoke/gas inhalation, COPD, allergic reaction.
RESTRAINT

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN

PATIENT DANGEROUS TO SELF OR OTHERS

DOES PATIENT HAVE ALOC?

YES

RULE OUT TREATABLE CAUSES/ REFER TO ALTERED MENTAL STATUS PROTOCOL

RESTRAIN PATIENT

PREPARE FOR TRANSPORT/IF PATIENT IS UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

NO

ATTEMPT TO CALM AND REASSURE PATIENT
SPECIAL CONSIDERATIONS

A. Patients should be reassured and their cooperation enlisted whenever possible. Restraint should only be used when the patient poses a danger to self or others and all measures to control patient behavior are inadequate.

B. Patients should be restrained using least restrictive means possible to provide for the safety of the patient and persons providing care during treatment and transport. Two-point restraints may be used to secure the patient’s arms at the wrists or four-point restraints may be used to secure the patient’s arms at the wrists and legs at the ankles.

C. Only commercially manufactured devices intended for restraint may be used to restrain a patient.

D. Restrained patients must be transported in a position that allows for monitoring and protection of the patient’s airway.

E. Restraints should be secured to a non-moving part of a gurney and tied in a fashion that will allow for quick release.

F. When a patient is restrained, gurney safety belts may be used to secure the legs above the knees and across the chest without impeding expansion of respiration. The patient’s arms should be on the outside of the chest straps.

G. Handcuffs may only be used as restraint devices when a law enforcement officer accompanies the patient in the ambulance.

H. Transfer of patients that have been restrained required careful and frequent monitoring of airway, breathing, and circulation. Capillary refill, warmth, and movement distal to the restraint must be assessed every fifteen (15) minutes after restraint application and documented on the ePCR.

I. Transferring physicians that order the application or maintenance of restraints must provide a written order.

J. Additional documentation requirements specific to this protocol include:

1. Reasons restraints were applied.
2. Agencies and individuals involved in the application of the restraints.
3. Capillary refill, warmth, and movement distal to the restraint.
SEIZURES

Policy Number: 215
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRIMARY ASSESSMENT/ AIRWAY/ BREATHING/ VENTILATION/ OXYGEN/ CIRCULATION/ PULSE OXIMETRY

PATIENT ACTIVELY SEIZING?

YES

SEIZURE ACTIVITY

FULL BODY/ TONIC/CLONIC

SECURE AIRWAY / SUPPORT RESPIRATIONS IF NECESSARY/ COOLING MEASURES IF PATIENT IS FEBRILE

PROTECT PATIENT FROM INJURY/ MOVE OBJECTS AWAY FROM PATIENT

CONSIDER SPINAL IMMOBILIZATION IF SUSPECTED TRAUMA

RAPID TRANSPORT FOR PROLONGED OR REPEATIVE SEIZURE/ CONSIDER ALS RENDEZVOUS

FOCAL

POSITION OF COMFORT/ TRANSPORT/ ALS RENDEZVOUS

NO

POSITION PATIENT ON SIDE IF NO TRAUMA/ CONSIDER SPINAL IMMOBILIZATION IF SUSPECTED TRAUMA
SPECIAL CONSIDERATIONS

A. Status epilepticus - More than one seizure without regaining consciousness in between or one seizure lasting greater than 20 minutes.

B. Assessment - Airway, vital signs, mental status, pupils, needle tracks, head or spine trauma, pill bottles, ETOH, neuro deficits, focal seizure, postictal paralysis, medications, known seizure disorder.

C. History from witnesses: Seizure activity? Length of unconsciousness, mental status on arousal, focal neurological deficits on arousal? Trauma? Length of seizure? Patient change color?

D. DO NOT delay therapy or transport to obtain detailed history.

E. Patients with known seizure disorder may have another cause for the present seizure. Always consider trauma in patients prone to sudden loss of consciousness (Did this patient fall to the ground?)

F. “FACTS” mnemonic for seizures:

F- Focus
A- Activity
C- Color
T- Time (Onset and duration)
S- Supplemental history (medication compliance, trauma, last seizure)
ABDOMINAL INJURY

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/

CONSIDER SPINAL IMMOBILIZATION

TYPE OF INJURY

EVISCERATION

COVER WITH LARGE MOIST GAUZE/ MAINTAIN MOISTURE WITH NORMAL SALINE

DO NOT REPLACE ORGANS

CONTROL BLEEDING

PENETRATING

STABILIZE IMPALED OBJECTS WITH BULKY DRESSING

CONTROL BLEEDING/ DRESS AND APPLY BANDAGES

BLUNT

CONTROL BLEEDING

TREAT FOR SHOCK ACCORDING TO SHOCK PROTOCOL

PREPARE FOR TRANSPORT, IF PATIENT BECOMES UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS
Kern County Emergency Medical Services Division - EMT Treatment Protocols

CHEST INJURY

Policy Number: 302  Effective Date: January 1, 2014  Revision Date: January 1, 2014

**PRIME SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY**

**CONSIDER SPINAL IMMOBILIZATION**

**TYPE OF INJURY**

- **OPEN CHEST WOUND**
  - COVER WITH VASELINE GAUZE/SECURE ON THREE SIDES
  - IF SIGNS OF TENSION PNEUMOTHORAX DEVELOP, REMOVE TO ALLOW AIR TO ESCAPE AND REAPPLY

- **PENETRATING**
  - STABILIZE IMPALED OBJECTS WITH BULKY DRESSING
  - CONTROL BLEEDING/ DRESS AND APPLY BANDAGES

- **FLAIL CHEST**
  - USE HAND OR PILLOW TO STABILIZE THE AREA
  - REMOVE PRESSURE IF BREATHING WORSENS OR DOES NOT HELP WITH PAIN

- **BLUNT**
  - CONTROL EXTERNAL BLEEDING
  - TREAT FOR SHOCK ACCORDING TO SHOCK PROTOCOL

**PREPARE FOR TRANSPORT, IF PATIENT UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS**
SPECIAL CONSIDERATIONS

A. Signs and symptoms of tension pneumothorax

1. Distended neck veins
2. Cyanosis
3. Tracheal shift
4. Absent breath sounds on one side
5. Falling blood pressure
6. Dyspnea
HEAD/EYE/EAR INJURY

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/ PULSE OXIMETRY FOR HEAD INJURY

CONSIDER SPINAL IMMOBILIZATION/ SEE APPROPRIATE POLICY

LOCATION OF INJURY

HEAD

- PERFORM NEURO ASSESSMENT
  - MONITOR AIRWAY
  - CONTROL HEMORRHAGE

EYE

- TYPE OF INJURY
  - TRAUMA
    - COVER BOTH EYES LOOSELY/ STABILIZE IMPALED OBJECTS
  - CHEMICAL
    - DETERMINE CHEMICAL/ FOLLOW MSDS OR LABEL DIRECTIONS FOR EYE INJURIES
    - IF UNAVAILABLE, IRRIGATE WITH WATER OR NORMAL SALINE FOR 20 MIN/ COVER BOTH EYES

EAR

- CONTROL HEMORRHAGE FROM EXTERNAL SOURCES WITH PRESSURE
  - APPLY DRESSING TO WOUNDS/ DO NOT PACK EAR CANAL

PREPARE FOR TRANSPORT, IF PATIENT BECOMES INSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS
## HEAD/EYE/EAR INJURY

### SPECIAL CONSIDERATIONS

A. Signs and Symptoms of Cushing’s Triad associated with increased intracranial pressure:

1. Decreased heart rate.
2. Increased blood pressure.
3. Increased respiratory rate.
4. Decompensation can be rapid once blood pressure and respiratory rate begin to drop.

B. Signs of impending herniation:

1. Rapidly deteriorating mental status.
2. Contralateral paralysis/weakness.
3. Unilateral pupil dilation.
4. Decerebrate or decorticate posturing.
NEAR-DROWNING

Policy Number: 304
Effective Date: January 1, 2014
Revision Date: January 1, 2014

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN/PULSE OXIMETRY

CONSIDER SPINAL IMMOBILIZATION IF SUSPECTED DIVING OR HEAD INJURY

PATIENT WITH PULSES?

YES

REMOVE WET CLOTHING/ APPLY DRY BLANKETS

TREAT SHOCK/HYPOTHERMIA ACCORDING TO APPROPRIATE PROTOCOL

NO

DETERMINE LENGTH OF SUBMERSION/ WATER TEMPERATURE

WATER LESS THAN 70°F/ SUBMERGED LESS THAN 1 HOUR

WATER MORE THAN 70°F/ SUBMERGED LESS THAN 30 MINUTES

UNKNOWN

PERFORM CPR/ TREAT ACCORDING TO CARDIAC ARREST PROTOCOL

PREPARE FOR TRANSPORT, IF PATIENT UNSTABLE PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS
SPECIAL CONSIDERATIONS

A. History

1. Time of submersion, water temperature, and water quality.

2. Consider trauma for diving, skiing, or boating.

B. Determining water temperature

1. All unheated bodies of water should be considered as cold water.

2. Resuscitate all patients with unknown time of submersion regardless of water temperature.

C. Do not use oxygen powered breathing device on patient’s 12 years old or less.
ORTHOPEDIC INJURY

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN

CONSIDER SPINAL IMMOBILIZATION

DETERMINE AREA OF INJURY/ASSESS DISTAL CIRCULATION AND NEURO

HAND/FOOT
- SPLINT

UPPER ARM/ SHOULDER/ CLAVICAL/ SCAPULA
- SLING AND SWATHE

FEMUR
- SPLINT/ TRACTION SPLINT

PELVIS/ HIP
- PLACE ON SPINE BOARD/ DO NOT ROLL PATIENT
- PELVIS- SPLINT LEGS TOGETHER WITH Padding UNDER KNEES/ HIP. USE PILLOWS TO STABILIZE FOR COMFORT

LOWER ARM/ LOWER LEG
- SPLINT ADJACENT JOINTS

ELBOW/ KNEE DISLOCATION
- SPLINT IN POSITION

JAW/ MAXILLIOFACIAL
- MAINTAIN AIRWAY/ SUCTION AS NEEDED
- COLLECT AVULSED TEETH/ PLACE IN MOIST STERILE GAUZE AND PLASTIC BAG

AMPUTATION
- KEEP PARTS DRY IN STERILE GAUZE/ PLACE IN PLASTIC BAG/ PLACE BAG ON ICE

RE-ASSESS DISTAL CIRCULATION AND NEURO/ TREAT FOR SHOCK ACCORDING TO SHOCK PROTOCOL
ORTHOPEDIC INJURY

SPECIAL CONSIDERATIONS

A. Assess distal circulation and neuro before and after any treatment.

B. Treat other life threatening injuries as indicated (i.e. shock, chest trauma).

C. Splinting

1. In angulated and unstable with no pulses, straighten gently then splint and rapid transport. Assess for pulse before and after positioning. Consider rendezvous with ALS if long transport time.

2. If angulated, stable and GOOD pulse, splint in position unless transport would be compromised.

D. Open fractures should be treated with moist, sterile dressings and not reduced.

E. Traction splint should be applied to closed mid-shaft femur fractures only.
SHOCK/HYPOPERFUSION

COMPLETE PRIMARY SURVEY/AIRWAY/BREATHING/CIRCULATION/OXYGEN/PULSE OXIMETRY

SYSTOLIC BP<90 WITH SIGNS OF HYPOPERFUSION

PLACE PATIENT IN SHOCK POSITION/ PREPARE FOR RAPID TRANSPORT OR ALS RENDEZVOUS

SUSPECTED UNDERLYING CAUSE?

TRAUMA

CONTROL MASSIVE BLEEDING

SPINAL IMMOBILIZATION ACCORDING TO PROTOCOL

IMMOBILIZE SUSPECTED FRACTURES ENROUTE

COVER WITH BLANKET TO PREVENT HYPOTHERMIA

PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

MEDICAL

ANAPHYLAXIS SECONDARY TO STINGS APPLY COLD PACK TO SITE

CORRECT HYPOGLYCEMIA IF SUSPECTED
SPECIAL CONSIDERATIONS:

A. SIGNS AND SYMPTOMS:

1. Altered Mental Status
2. Tachycardia
3. Tachypnea
4. Skin pale, cool, diaphoretic, mottled
5. Delayed capillary refill
6. Weak peripheral pulses
7. Narrowed pulse pressure
8. Hypotension

B. SPECIAL TREATMENT SITUATIONS:

1. Open chest wounds- Cover with Vaseline gauze and tape three (3) sides loosely. If signs of tension pneumothorax develop (distended neck veins, cyanosis, tracheal shift, absent breath sounds on one side, falling BP, dyspnea), remove dressing, allow air to escape, and reapply dressing.

2. External hemorrhage control should include:
   a. Direct pressure
   b. Compression dressings
      i. Gauze pad and elastic bandage
      ii. Blood pressure cuff
      iii. Air splint
   c. Tourniquet for extremity injuries
      i. Apply just proximal to the wound. Width of tourniquet should be about 4 inches wide.
      ii. Tighten enough to occlude distal pulse
      iii. Once applied do not remove until arrival at the hospital. Due to possible surgical needs attempt to transport to a trauma center.
SOFT TISSUE INJURY

PRIMARY SURVEY/ AIRWAY/ BREATHING/ CIRCULATION/ OXYGEN

ASSESS DISTAL CIRCULATION AND NEURO

IS THERE VISIBLE BLEEDING?

NO

COVER OPEN INJURIES WITH STERILE DRESSING

SPLINT EXTREMITIES THAT ARE PAINFUL, SWOLLEN, OR DEFORMED ACCORDING TO APPROPRIATE PROTOCOL

RE-ASSESS DISTAL CIRCULATION AND NEURO

TREAT SHOCK ACCORDING TO SHOCK PROTOCOL/ PREPARE FOR TRANSPORT/ IF UNSTABLE OR SHOCK PROVIDE RAPID TRANSPORT OR ALS RENDEZVOUS

YES

APPLY DIRECT PRESSURE WITH STERILE DRESSING/ BANDAGE DRESSING/ APPLY COMPRESSION BANDAGE IF NEEDED

IF BLEEDING NOT CONTROLLED, APPLY TOURNIQUET

RE-ASSESS DISTAL CIRCULATION AND NEURO

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SPECIAL CONSIDERATIONS

A. Types of closed wounds

1. Contusion - Bruise
2. Hematoma
3. Crush injury

B. Types of open wounds

1. Abrasions
2. Lacerations
3. Puncture - Penetrating or Perforating
4. Avulsion
5. Degloving
6. Amputation (Treat according to Ortho Protocol)
7. Open crush injury

C. External hemorrhage control should include:

1. Direct pressure

2. Compression dressings
   i. Gauze pad and elastic bandage
   ii. Blood pressure cuff
   iii. Air splint

3. Tourniquet for extremity injuries
   i. Apply just proximal to the wound. Width of tourniquet should be about 4 inches wide.
   ii. Tighten enough to occlude distal pulse.
   iii. Once applied do not remove until arrival at the hospital. Due to possible surgical needs attempt to transport to a trauma center.