

3340 Glenwood Street, Eureka, CA 95501 (707) 445-2081 (800) 282-0088 FAX (707) 445-0443

**MEMORANDUM:**

**DATE:** October 10, 2018

**TO:** Joint Powers Governing Board Members  
County Health Officers  
Lake County Administrative Officer  
Prehospital Care Medical Directors  
Prehospital Care Nurse Coordinators  
Fire Chiefs' Associations/EMS Liaisons  
EMCC Chairpersons  
Interested Others

**FROM:** Emily Johnson, Administrative Assistant

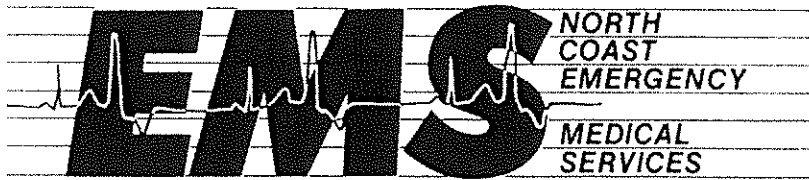
**RE:** E-Informational Mailing

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**1. For Your Information:**

- a. Change Notice # 114
- Add Policy #5407 Diphenhydramine Hydrochloride
- Add Policy #5313 Sodium Bicarbonate
- Add Policy #5327 End Tidal CO2 Detection
- Add Policy #5419 Nasogastric/Orogastric Tube Insertion
- Add Policy #5309 Lidocaine (Xylocaine)
- Add Policy #5304 Atropine Sulfate
- Add Policy #5427 Adenosine
- Final Policy #6507 Dysrhythmias- Bradycardia
- Final Policy #6505 Adult Cardiac Arrest/Pulseless Idioventricular Rhythm Asystole
- Final Policy # 6501 Septic Shock
- Final Policy #6555 Pain Management Policy
- Final Policy #5332 Benzodiazepines
- Final Policy #5311 Naloxone
- Final Policy #6534 Cardiac Arrest
- Final Policy #6519 Abdominal Pain
- Final Policy #5307 Epinephrine
- Final Policy #5403 Activated Charcoal
- Final Policy #2209 Controlled Substances
- Final Policy #5305 Calcium Chloride 10% Solution
- Final Policy #5310 Morphine Sulfate
- Final Policy #6540 Neonatal Resuscitation
- Final Policy #6010 Respiratory Distress/Dyspnea
- Final Policy #5000 Approval of BLS Expanded Scope Interventions

**Final Policy #6003 Anaphylactic Shock**  
**Final Policy #6011 Seizures**  
**Final Policy #6013 Syncope/Near Syncope**  
**Final Policy #6002 Altered Level Consciousness**  
**Final Policy #5102 EMT-I Scope of Practice**  
**Final Policy #6032 Oral Glucose Protocol**  
**Final Policy #5334 Finger Stick for Blood Glucose Protocol**  
**Final Policy #6041 Epinephrine Auto-Injector (EpiPen) Adult and Pediatric**  
**Final Policy #3104 First Responder Training Program-Course Content**



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CHANGE NOTICE

CHANGE #114

DATE: 10/10/18

TO: ALL PREHOSPITAL CARE POLICY MANUAL HOLDERS

INSTRUCTIONS	POLICY #	POLICY DESCRIPTION	# OF PAGES
ADD	5407	Diphenhydramine Hydrochloride	1
ADD	5313	Sodium Bicarbonate	1
ADD	5327	End Tidal CO2 Detection	2
ADD	5419	Nasogastric/Orogastric Tube Insertion	2
ADD	5309	Lidocaine (Xylocaine)	2
ADD	5304	Atropine Sulfate	2
ADD	5427	Adenosine	2
FINAL	6507	Dysrhythmias- Bradycardia	5
FINAL	6505	Adult Cardiac Arrest/Pulseless Idioventricular Rhythm Asystole	3
FINAL	6501	Septic Shock	1
FINAL	6555	Pain Management Policy	3
FINAL	5332	Benzodiazepines	2
FINAL	5311	Naloxone	1
FINAL	6534	Cardiac Arrest	3
FINAL	6519	Abdominal Pain	1

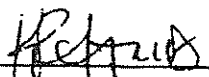
FINAL	5307	Epinephrine	3
FINAL	5403	Activated Charcoal	2
FINAL	5305	Calcium Chloride 10% Solution	2
FINAL	5310	Morphine Sulfate	2
FINAL	6540	Neonatal Resuscitation	4
FINAL	6010	Respiratory Distress/Dyspnea	1
FINAL	5000	Approval of BLS Expanded Scope Interventions	1
FINAL	6003	Anaphylactic Shock	1
FINAL	6011	Seizures	1
FINAL	6013	Syncope/Near Syncope	1
FINAL	6002	Altered Level of Consciousness	1
FINAL	5102	EMT-I Scope of Practice	2
FINAL	6032	Oral Glucose Protocol	1
FINAL	5334	Finger Stick for Blood Glucose Protocol	2
FINAL	6041	Epinephrine Auto-Injector (EpiPen) Adult and Pediatric	2
FINAL	2209	Controlled Substance	3
FINAL	3105	First Responder Training Program- Course Content	4

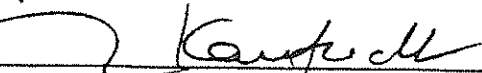
Subject: Scope of Practice/Procedure – ALS  
**Diphenhydramine Hydrochloride**

Associated Policies:

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- I. Class
  - A. Antihistamine.
- II. Indications
  - A. Severe allergic reactions.
  - B. Anaphylactic shock.
  - C. Acute dystonic reactions. Phenothiazine extrapyramidal reaction.
  - D. Motion sickness.
- III. Therapeutic Effects
  - A. Relief of symptoms associated with histamine excess.
  - B. Sedative.
  - C. Relief of dystonic reactions from medications.
  - D. Prevention of motion sickness.
- IV. Contraindications
  - A. Absolute:
    - 1. Hypersensitivity.
    - 2. Acute asthma.
  - B. Relative:
    - 1. Presence of alcohol or other depressants.
- V. Adverse Effects
  - A. Dose-related drowsiness.
  - B. Hypotension.
  - C. Palpitations.
  - D. Tachycardia or Bradycardia.
  - E. Thickens bronchial secretions.
  - F. Can cause excitation in children.
- VI. Administration and Dosage
  - A. Adult:
    - 25-50 mg IV/IO slowly or IM.
  - B. Pediatric:
    - 1-2 mg/kg IV, IM or IO slowly.
- VII. Special Information
  - A. Adverse effects can increase with geriatric patients, use lowest dose in range.
  - B. When used to prevent motion sickness, use lowest dose in range.

Approved: 

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- I. Class
  - A. Alkalizing agent, buffer.
- II. Indications
  - A. Prolonged cardiac arrest setting.
  - B. Known pre-existing hyperkalemia.
  - C. Known or suspected diabetic ketoacidosis.
  - D. Tricyclic antidepressant overdose.
  - E. Phenobarbital overdose.
  - F. Consider use in traumatic crush type chest injuries.
- III. Therapeutic Effects
  - A. Acts as a buffer but has several undesirable physiologic effects.
  - B. Can reduce hyperkalemia secondary to acid base shifts.
- IV. Contraindications
  - A. Absolute:
    - 1. Metabolic or respiratory alkalosis.
    - 2. History prolonged vomiting.
  - B. Relative:
    - 1. Congestive heart failure.
- V. Adverse Effects
  - A. Alkalosis.
- VI. Administration and Dosage
  - A. Adult: 1mEq/kg IV, may repeat 0.5mEq/kg every 10 minutes.
  - B. Pediatric: 1mEq/kg, IV or IO, may repeat 0.5mEq/kg, every 10 minutes.
  - C. Neonate: (< 5 kg) 4.2% 1mEq/kg, IV or IO (Dilute 1 to 1 with IV solution) and give over 1 to 2 minutes.
- VII. Special Information
  - A. Not recommended for routine use in cardiac arrest setting. Use only after intubation and adequate CPR with continuing arrest.
  - B. Use with caution in patients who cannot tolerate a salt load.
  - C. Can cause intracerebral hemorrhage especially in the pediatric patient.
  - D. Precipitates if mixed with other medications.

Approved as to Form: [Signature]

Subject: Scope of Practice/Procedure - ALS  
**End Tidal CO<sub>2</sub> Detection**

Associated Policies:

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- I. Indications
  - A. All patients who have been orally or nasally intubated.
- II. Therapeutic Effect
  - A. Measures presence of CO<sub>2</sub> in the airway.
- III. Contraindications
  - A. Absolute:
    - 1. None.
  - B. Relative:
    - 1. End tidal CO<sub>2</sub> detectors may report unreliable results (no CO<sub>2</sub> detected) in patients without a pulse due to low perfusion state, inadequate CPR, or on a nonviable patient.
- IV. Equipment
  - A. End tidal CO<sub>2</sub> detector.
- V. Procedure
  - A. Inspect CO<sub>2</sub> detector for:
    - 1. purple color.
    - 2. dryness.
  - B. Suction any fluid that is present in the endotracheal tube.
  - C. Remove end caps from both ends of the CO<sub>2</sub> detector (if present).
  - D. Attach CO<sub>2</sub> detector to bag-valve device.
  - E. Connect the bag-valve device with the CO<sub>2</sub> detector attached to the endotracheal tube, keeping CO<sub>2</sub> detector clean and dry.
  - F. Begin ventilations, use proper ventilation rate for infant, child or adult, observing for bilateral rise and fall of the chest.
  - G. Assess tube placement by auscultating/observing for:
    - 1. absence of bubbling, gurgling noise in epigastric area – two (2) breaths.
    - 2. lung sounds bilaterally – two (2) breaths, each side.
  - H. Observe CO<sub>2</sub> detector for color change during exhalation - after a total of six (6) breaths.
  - I. Initiate corrective measures as needed:
    - 1. Patient with a pulse.
      - a. Yellow, leave in place.
      - b. Tan, re-evaluate:
        - 1) Check possible causes of low perfusion such as inadequate ventilation, hypovolemia, etc.

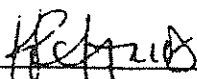
Subject: Scope of Practice/Procedure - ALS  
**End Tidal CO<sub>2</sub> Detection**


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- 2) Ventilate six (6) more times and re-assess tube placement and CO<sub>2</sub> detector for color change.
  - c. Purple, problem:
    - 1) Tube is incorrectly placed, extubate.
    - 2) Ventilate with BVM, re-intubate.
2. Patient without a pulse:
  - a. Yellow, leave in place.
  - b. Tan, re-evaluate:
    - 1) May be due to retained CO<sub>2</sub> from BVM ventilation, alcohol, carbonated drinks, or inadequate CPR.
    - 2) Ventilate six (6) more times and re-assess tube placement and CO<sub>2</sub> detector for color change.
  - c. Purple, problem:
    - 1) Visualize vocal cords.
      - a) If tube is placed below the vocal cords, leave in place, and check adequacy of CPR.
      - b) If tube is incorrectly placed, extubate, ventilate with BVM and re-intubate.

VI. Special information

- A. CO<sub>2</sub> detectors are only an adjunct to careful patient assessment.
- B. CO<sub>2</sub> detectors should not be used as the sole means of assessing correct ET tube placement.
- C. CO<sub>2</sub> detector must be kept clean and dry.
- D. If CO<sub>2</sub> detector color is not purple on removal from packet, CO<sub>2</sub> detector should be discarded.
- E. Fluid in CO<sub>2</sub> detector inactivates detector; if wet, CO<sub>2</sub> detector will appear mottled. CO<sub>2</sub> detector is then no longer usable and should be discarded.
- F. CO<sub>2</sub> detector becomes inactivated when used over a long period of time. Two (2) hours for adults.

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Subject: Scope of Practice/Procedure – ALS  
**Nasogastric/Orogastric Tube Insertion**

Associated Policies:

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- I. Indications
  - A. To decompress the stomach during positive pressure ventilation.
  - B. To administer Activated Charcoal.
- II. Therapeutic Effects
  - A. Evacuation of stomach contents.
  - B. When combined with activated charcoal, adsorption of ingested poisons and drugs.
- III. Contraindications
  - A. Absolute:
    - 1. Suspected fractures of the basilar skull.
    - 2. Facial trauma with suspected fractures.
    - 3. Known or suspected esophageal varices.
  - B. Relative:
    - 1. Ingestion of caustic poisons (tracheal intubation recommended prior).
- IV. Adverse Effects
  - A. Passage of the tube into the trachea.
  - B. Coiling of the tube in the posterior pharynx.
- V. Equipment
  - C. Tube sizes 6 French to 18 French. Water soluble lubricant.
  - D. Tape or tube holder.
  - E. 60 ml irrigation syringe with catheter tip.
  - F. Emesis basin.
  - G. Stethoscope.
- VI. Procedure
  - A. Determine the need for a NG or OG tube. Infants < 6 mos are nose breathers and an OG is preferred.
  - B. Determine correct size:
    - 1. Pediatrics: Use Resuscitation Tape.
      - a. Nasogastric tubes can be used as orogastric tubes.
      - b. 8 French feeding tube may be substituted for nasogastric tube sizes 5/6 to 8 French.
    - 2. Adults:
      - a. Nasogastric: Largest tube that can pass through nare.
      - b. Orogastric: Largest tube that is needed to decompress the stomach.

Subject: Scope of Practice/Procedure – ALS  
**Nasogastric/Orogastric Tube Insertion**

Associated Policies:

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- C. Restrain the patient, as necessary.
- D. Position patient:
  - 1. Conscious patient, high fowlers with head tilted forward (“chin on chest”).
- E. Unconscious patient, supine. Measure length of NG tube from the nose to the earlobe and then to a point midway between xyphoid process and umbilicus.
- F. Mark the length of tube with a piece of tape.
- G. Lubricate tip of tube with water soluble lubricant if inserting nasally.
- H. Nasal insertion:
  - 1. Direct tube along the floor of nostril to the posterior pharyngeal then direct the tube downward through the nasopharynx.
- I. Oral insertion:
  - 1. Direct tube to the back of the tongue and then direct tube downward through the oropharynx.
- J. If patient is conscious or old enough to follow instructions, instruct the patient to swallow to facilitate the placement of the tube in the stomach.
- K. Continue advancing tube until tape mark is at the nostril or the lip.
- L. If tube meets resistance or the patient has respiratory distress, remove the tube. Fogging of the tube accompanied by cough or respiratory distress indicates tracheal intubation.
- M. If patient begins to vomit, suction around tube and leave in place.
- N. Confirm placement of tube by:
  - 1. Aspirating gastric contents with a syringe.
  - 2. Injecting 5 to 20cc of air while auscultating over the stomach for a “swoosh” or a “burp” indicating gastric placement.
  - 3. Auscultate lung sounds.
- O. If tube is not placed properly:
  - 1. Remove immediately.
  - 2. Reinsert following the same procedure. Do not attempt insertion more than three (3) times.
- P. If tube is properly placed:
  - 1. Tape in place or apply a tube holder.
- Q. For stomach decompression:
  - 1. Attach tube to continuous low suction.

Approved: \_\_\_\_\_

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Subject: Scope of Practice/Procedure - ALS  
**Lidocaine (Xylocaine)**

Associated Policies: 5402, 5421, 5431, 5439, 6504, 6506, 6534, 6550

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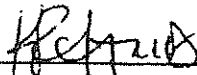
- I. Class
  - A. Ventricular antidysrhythmic.
- II. Indications
  - A. Stable monomorphic or polymorphic Ventricular Tachycardia.
  - B. Unstable monomorphic or polymorphic when cardioversion/defibrillation is delayed.
  - C. Recurrent Ventricular Fibrillation or pulseless Ventricular Tachycardia refractory to Amiodarone.
  - D. For pain management following Intraosseous (IO) placement in the conscious or semi-conscious patient.
- III. Therapeutic Effects
  - A. Suppresses ventricular ectopic activity by decreasing the excitability of the heart muscle and its conduction system.
- IV. Contraindications
  - A. Absolute:
    - 1. Bradycardia.
    - 2. Asystole.
    - 3. Idioventricular rhythms/Pulseless Electrical Activity (PEA).
    - 4. Hypersensitivity.
    - 5. 2nd or 3rd degree heart block.
  - B. Relative:
    - 1. Renal dysfunction.
    - 2. CHF.
    - 3. Patients over 70 years old. (Consider lower doses and/or very slow IV for these patients.)
- V. Adverse Effects
  - A. Slurred speech.
  - B. Altered level of consciousness.
  - C. Toxic levels can cause seizures.
  - D. Muscle twitching.
- VI. Administration and Dosage
  - A. Adult:
    - 1. Ventricular Tachycardia with a pulse: 0.5-1.0mg/kg IVP/IO, repeat if needed 0.5-0.75mg/kg boluses every 5-10 minutes to a total of 3mg/kg. If lidocaine is

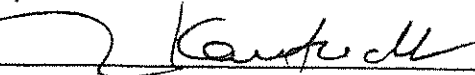
Subject: Scope of Practice/Procedure - ALS  
**Lidocaine (Xylocaine)**

Associated Policies:

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- successful, initiate IV infusion at 1mg/minute may increase to 4mg/minute.
2. Ventricular fibrillation or Pulseless ventricular tachycardia refractory to Amiodarone: 1.0-1.5 mg/kg IV/IO. Repeat every 3-5 minutes as needed. Total maximum dose 3 mg/kg.
- B. Pediatric:
1. 1 mg/kg IV/IO
  2. Infusion rate: Dose of 20-50 mcg/kg/min.
    - a. To mix: add 300 mg (15 ml of 2% Lidocaine 20 ml/cc) to 250 ml NS or D<sub>5</sub>W. (1 micro drop/kg/minute of this solution = 20 mcg/kg/minute), or
    - b. Use the Pediatric Resuscitation tape, refer to each weight for specific doses, ml's to remove and add to make desired solution, and delivery rate. Each weight will provide a different concentration of the delivery solution and rate of delivery.
- C. Following IO placement in the conscious patient.
1. Adult - 10mg lidocaine 2% slowly through the IO site. Wait approximately 30-60 seconds before flushing with normal saline. Repeat to maximum 40mg to achieve desired effect.
  2. Pediatric - 0.5mg/kg slowly through the IO. Not to exceed 20mg.

Approved: 

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Subject: Scope of Practice/Procedure - ALS  
**Atropine Sulfate**

Associated Policies:

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- I. Class
  - A. Parasympathetic blocker (anticholinergic). Blocks vagal effects.
- II. Indications
  - A. Symptomatic bradycardia
  - B. Second or third degree atrioventricular (AV) block when Transcutaneous Pacing is not available or delayed.
  - C. Symptomatic organophosphate poisoning.
- III. Therapeutic Effects
  - A. Blocks parasympathetic action on the heart.
  - B. Enhances conduction through the AV junction.
  - C. Accelerates heart rate thereby improving cardiac output.
  - D. Suppresses hypercholinergic effects of organophosphate poisoning.
- IV. Contraindications
  - A. Absolute:
    - 1. Tachycardia.
    - 2. Hypersensitivity.
  - B. Relative:
    - 1. Narrow-angle glaucoma.
    - 2. Wide complex Third-Degree AV block.
- V. Adverse Effects
  - A. Blurred vision.
  - B. Dryness of the mouth.
  - C. Flushing of the skin.
  - D. Urinary retention.
  - E. Headache.
  - F. Tachycardia.
  - G. Palpitations.
- VI. Administration and Dosage
  - A. Bradycardia with pulses:
    - 1. Adult: 0.5 mg IV (minimum single dose 0.5 mg) every 5 minutes to a maximum of 0.04 mg/kg.
    - 2. Pediatric: 0.02 mg/kg (minimum single dose 0.1 mg and a maximum single dose 0.5 mg), which may be repeated every 5 minutes as needed to a maximum total dose of 1 mg in a child and 2.0 mg in an adolescent.


Subject: Scope of Practice/Procedure - ALS  
**Atropine Sulfate**

Associated Policies:

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- D. Organophosphate:
  - 1. Adult: 2 mg IV or IM every 5 to 15 minutes as needed.
  - 2. Pediatric: 0.05 mg/kg, IV, IO or IM every 15 minutes as needed.
- VII. Special Information
  - A. Doses smaller than 0.5 mg in an adult can cause paradoxical bradycardia.
  - B. Doses smaller than 0.1 mg in a child or infant can cause paradoxical bradycardia.
  - C. Need for atropine should be weighed against exacerbation of possible ischemic heart disease or AMI. Use with caution in the presence of chest pain.
  - D. Can cause ventricular fibrillation in the presence of hypoxia or acidosis.

Approved: 

Approved as to Form: 

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Subject: Scope of Practice/Procedure – ALS  
**Adenosine**

Associated Policies:

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- I. Class
  - A. Endogenous nucleotide.
- II. Indications
  - A. Supraventricular Tachycardias.
- III. Therapeutic Effect
  - A. Adenosine slows conduction time through the A-V node, can interrupt the re-entry pathways through the A-V node and can restore normal sinus rhythm in patients with paroxysmal supraventricular tachycardia (PSVT), including PSVT associated with Wolfe-Parkinson-White (WPW) Syndrome.
- IV. Contraindications
  - A. Absolute:
    - 1. Second or third-degree heart block.
    - 2. Sick sinus syndrome (except in patients with a functioning artificial pacemaker).
    - 3. Hypersensitivity.
- V. Adverse Effects
  - A. Transient dysrhythmias.
  - B. Facial flushing.
  - C. Shortness of breath/dyspnea.
  - D. Chest pressure.
  - E. Hypotension.
  - F. Lightheadedness.
  - G. Nausea/vomiting.
  - H. May produce bronchoconstriction in patients with history of asthma or pulmonary disease.
- VI. Administration and Dosage
  - Adult: Initial dose of 6 mg bolus, administered as a rapid (1-2 seconds) IVP/IO, followed by a saline flush. If no response or conversion not sustained, repeat with 12 mg rapid IVP/IO.
  - Pediatric: Initial dose of 0.1mg/kg IVP/IO followed by saline flush. If no response or conversion not sustained, may repeat 0.2 mg/kg (maximum 12 mg single dose).

Subject: Scope of Practice/Procedure – ALS  
**Adenosine**

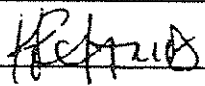
Associated Policies:


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VII. Special Instructions

- A. Adenosine is not effective in converting atrial flutter or atrial fibrillation.
- B. May be effective in converting regular monomorphic wide complex tachycardic rhythms.
- C. Dipyridamole (Persantine) and Carbamazepine (Tegratal) potentiate the effects of Adenosine. Smaller doses may be effective.
- D. Methylxanthines (theophylline, caffeine, etc.) antagonize the effect of Adenosine. Larger doses may be required.
- E. Severely symptomatic/unstable PSVT patients should be electrically cardioverted.
- F. Adenosine must be given as a rapid (1-2 seconds) IVP/IO followed by a rapid saline flush.

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Approved: 

Approved as to Form: 



Subject: Treatment Guidelines – ALS  
**Dysrhythmias - Bradycardia with a Pulse**

Associated Policies: 5304, 5307, 5408, 6030, 6546

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**I. Priorities**

- A. ABC's. Maintain airway and assist breathing when indicated.
- B. Assess for appropriateness for clinical condition. Is the rhythm causing problem?
- C. Identify dysrhythmia and degree of distress. Heart rate typically < 50 beats a minute if a brady dysrhythmia. Note: Pediatric bradycardia can be a pre-terminal rhythm in infants and children secondary to hypoxia. Aggressive airway management and oxygen delivery can possibly avert cardiac arrest. Assessment for contributing causes (H's and T's) should be carried out.
- D. Oxygen per Oxygen Administration Policy # 6030.
- E. Re-assess rhythm and vital signs frequently.

**Sinus Bradycardia, First Degree Heart Block and Second Degree Heart Block - Type 1/Wenckebach**

:

Pediatric note: Refer to a pediatric length based tape to verify appropriate drug concentrations and dosages, and equipment sizes. A.. Determine if rhythm is stable or unstable.

Note: Type I/Wenckebach heart block is almost always a benign condition for which no specific treatment is needed. However, in the rare symptomatic condition, Atropine may transiently improve the rate.

1. Stable Criteria: No signs or symptoms of hypotension, acute altered mental status, signs of shock, or heart failure. Bradycardia in the presence of chest pain with a stable blood pressure refer to Chest Pain Policy # 6511.
  2. Unstable Criteria: Hypotension, Acutely altered mental status, signs of shock, Ischemic chest discomfort, or Acute heart failure. .
- B. Stable Rhythm:**
1. Pulse Oximetry and Oxygen per policy.
  2. Cardiac Monitor. 12 Lead when available.
  3. IV access
  4. Observe closely and reassess vitals.
- C. Unstable Rhythm:**
1. Pulse Oximetry and Oxygen per policy.
  2. IV/IO access, fluid bolus for hypotensive states but monitor closely for signs of fluid overload. (Blood draw for labs when time allows)
  3. Atropine IV/IO - 0.5mg bolus. Repeat every 3-5 minutes. Maximum cumulative dose of 3mg.
  4. If Atropine is ineffective;
    - a. Transcutaneous Pacing per Policy # 6546.

Subject: Treatment Guidelines – ALS  
**Bradycardia - Bradycardia with a Pulse**

Associated Policies:

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- b. Dopamine Infusion per Policy # 5408.
- b. Epinephrine Infusion per Policy # 5307.

VI.

A

V. Second Degree Heart Block - Mobitz Type II and 3rd Degree Block (Complete Heart Beat):

New onset Mobitz Type II and Complete Heart Block are commonly associated with myocardial infarction, it would be ideal to keep the HR slow (50-60) to increase diastolic filling time. Do not treat severe unstable bradycardic heart rates with Atropine in the presence of signs of Acute MI unless pacing is unavailable or delayed.

Pediatric note: Refer to a pediatric length based tape to verify appropriate drug concentrations and dosages, and equipment sizes

B. Stable Rhythm:

1. Pulse Oximetry and Oxygen per policy.
2. Cardiac Monitor. 12 Lead when available.
3. IV access
4. Observe closely and reassess vitals.

C. Unstable Rhythm:

1. Transcutaneous Cardiac Pacing per Policy # 6546.
2. Pulse Oximetry and Oxygen per policy.
- 3.. IV access, fluid bolus for hypotensive states but monitor closely for signs of fluid overload. (Blood draw for labs when time allows)
4. Mild sedation of the unstable patient should be delayed until after Transcutaneous pacing has been achieved. Medicate per Benzodiazepine Policy # 5332. .
5. Dopamine Infusion per Policy # 5408.
6. Epinephrine Infusion per Policy # 5307.

IV. Special Information:

Approved: \_\_\_\_\_

*[Signature]*

Date: \_\_\_\_\_

*8/23/18*

Approved as to Form: \_\_\_\_\_

*22 Karsten dr*

Date: \_\_\_\_\_

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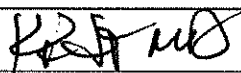
Subject: Treatment Guidelines – ALS  
**Bradycardia - Bradycardia with a Pulse**

Associated Policies:

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- A. The decision point for ACLS intervention in the bradycardia algorithm is determination of adequate perfusion (Stable or Unstable).
- B. When indicated, preparation for transcutaneous pacing should be taking place as atropine is given should atropine fail to resolve the unstable state.
- C. For the patient with symptomatic bradycardia with serious signs of poor perfusion or when atropine is not indicated, transcutaneous pacing is the treatment of choice and should be started immediately, prior to any medication administration or IV access.
- D. Transcutaneous pacing is contra-indicated in the hypothermic patient since the heart is unable to respond to the electrical impulses.

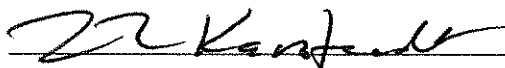
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8-22-18

Subject: Treatment Guidelines – ALS  
**Adult Cardiac Arrest –/Pulseless Idioventricular  
Rhythm(PEA)/Asystole**

Associated Policies:

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- I. Priorities
  - A. Follow current AHA guidelines for chest compression.
  - B. Minimize interruptions, resume compressions immediately after rhythm checks. Check pulses only when there is an organized rhythm.
  - C. Push hard and fast and allow complete chest recoil.
  - D. Assess quality of CPR with continuous waveform capnography when available. .
  - E. If using automated CPR devices, use manufacturer's specifications. .
- II. Cardiac Arrest –/PEA/Asystole
  - A. Non-Traumatic Cardiopulmonary Arrest - Basic Therapy:
    - 1. Primary survey with basic life support
    - 2. Start compressions immediately. Do not delay for airway management.
    - 3. Determine cardiac rhythm: PEA/AsystoleSecure airway with OPA/NPA and ventilate with Bag Value Mask and oxygen with 30:2 compressions to ventilate. DO NOT OVER VENTILATE.
    - 4. Advanced airways are not a priority unless patient cannot be ventilated with BLS airway devices. Do not interrupt compressions longer than 10 seconds to place an advanced airway.
    - 5. After advanced airway is in place, ventate at rate of 10 breaths per minute.
    - 6. Obtain IV access or IO access. .
    - 5. Administer Epinephrine 1:10,000 1mg every 3- 5 minutes.
    - 6. Consider and treat the causes, including but not limited to:
      - a. Hypovolemia - Initiate fluid resuscitation.
      - b. Hypoxia Ensure airway is open and patient is being adequately ventilated. DO NOT OVER VENTILATE.
      - c. Hydrogen ion (Acidosis) Consider Sodium Bicarb to for prolonged arrests.
      - d. Hyper/hypokalemia –Consider Sodium Bicarb to reduce serum potassium.
      - e. Hypoglycemia – Obtain blood sugar and treat low blood sugar levels with Dextrose. DO NOT ADMINISTER Dextrose to all diabetics in cardiac arrest.
      - f. Hypothermia provide warming measures.
      - g. Toxins – Identify possible toxins, consider Narcan for narcotic overdoses.
      - h. Tamponade (Cardiac) – need for rapid transport.



Subject: Treatment Guidelines – ALS  
Septic Shock

Associated Policies:

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I. Priorities:

- A. Sepsis is a rapidly progressing, life threatening condition due to systemic infection.
- B. Sepsis must be recognized early and treated aggressively to prevent progression to death.
- C. Early recognition of sepsis allows for attentive care and early administration of antibiotics.
- D. Aggressive IV fluid therapy is most important prehospital treatment for sepsis.
- E. Septic patients are susceptible for traumatic lung injury and Adult Respiratory Distress Syndrome. If assisted ventilations are needed, avoid excessive tidal volumes.

II. Septic Shock:

- A. Be alert to patients who meet the following criteria: Quick Sequential Organ Failure Assessment (qSOFA)
  - 1. Altered Mental Status
  - 2. Respiratory rates greater than 22.
  - 3. Systolic blood pressure <100AND
  - 4. The potential for or suspected infection
- B. Administer oxygen per Policy # 6030. If CPAP is used, limit PEEP pressure to 5mm until blood pressure is above 90
- C. Establish IV/IO and administer 500cc boluses until blood pressure is greater than 90. Boluses should be given in rapid succession if blood pressure remains <90. Total maximum fluid volume 30ml/kg. Additional fluid boluses should be discussed with Base Hospital.
- D. Notify receiving hospital early when Sepsis protocol is used.
- E. If unable to maintain a minimum SBP of 90 consider
  - 1. Epinephrine drip – Policy # 5307Or
  - 2. Dopamine.- Policy # 5408

III. Special Information

- A. A prehospital screening tool utilizing end-tidal carbon dioxide can assist with predicting sepsis and severe sepsis when available.
- B. ETCO<sub>2</sub> <25 mmHg correlate to serum lactate levels greater than 4.
- C. Obtain temperature when time allows. Temperatures >100.4 and below <96 are extremely useful when identifying sepsis.

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Approved: \_\_\_\_\_

*[Signature]*

8/30/18

Approved as to Form: \_\_\_\_\_  
4/2018

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8-30-18

Subject: Treatment Guidelines - ALS  
**Pain Management Policy (Adult and Pediatric)**

Associated Policies:

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**I. Authority and Reference**

- A. Division 2.5 of Health and Safety Code
- B. California code of Regulation, Title 22
- C. North Coast EMS Policies and Procedures

**II. Purpose**

To provide guidelines for the management of pain, both traumatic and medical in nature, to adult and pediatric prehospital patients.

**III. Indications:**

- A. Moderate to severe pain in the presence of adequate vital signs (blood pressure >90). Consider IV Acetaminophen for patients with blood pressures <90.
- B. When extrication, movement or transportation is required which will cause considerable pain to the patient AND there are no known contraindications to administering any analgesia.

**IV. Contraindications:**

- A. Absolute:
  - 1. Any known or suspected drug allergies to narcotics.
- B. Relative:
  - 2. Active Labor - Requires BASE CONTACT

**V. Procedure:**

- A. Determine origin of the pain (examples: isolated extremity trauma, chronic medical condition, burns, abdominal pain, multi-system trauma).
  - B. Identify those patients with the complaint of pain or have obvious signs of discomfort.
  - C. Determine initial pain score on a scale of 1 to 10 and document this finding in the Prehospital care report.
  - D. May use Morphine Sulfate, Fentanyl, Benzodiazepines and/or IV Acetaminophen per agency and NCEMS policies and in the absence of contraindications., Determine baseline blood pressure, pulse rate and Pulse Oximetry.
  - E. Monitor vital signs closely (i.e. respiratory rate/effort, LOC, O<sub>2</sub> saturation).
  - F. Leave Pulse Oximetry in place for serial saturations.
  - G. Determine need for oxygen per Oxygen Administration Policy # 6030.
  - H. Establish IV or IO access per policy.
-

Subject: Treatment Guidelines - ALS  
**Pain Management Policy (Adult and Pediatric)**

Associated Policies:

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- a. Determine need for IV fluids. Do not administer fluid boluses without indications.
- b. Administer Morphine Sulfate (Policy # 5310) IV/IO. Consider one IM injection if IV is delayed or unavailable.
- c. Administer Fentanyl (Policy # 5439) IV/IO. Consider one IN administration if IV is delayed or unavailable.
- I. Administer Benzodiazepines (Policy # 5332) IV/IO/IM.
  - a. Administer Acetaminophen (Policy# draft). IV ONLY.
- J. If significant pain persists after Morphine Sulfate in doses greater than 10mg IV/IO consider Midazolam 1 mg IV/IO. Subsequent dosing of Morphine Sulfate should be reduced to 2mg increments. Midazolam may be repeated every 5-10 minutes up to max dose of 5mg.
- K. If significant pain persists after Fentanyl 150mcg IV/IO, consider Midazolam 1 mg IV/IO. Subsequent dosing of Fentanyl . Should be reduced to half doses to maximum total dose of 300mcg.
- L. Zofran may be co-administered to alleviate nausea and/or vomiting with narcotics. Strongly consider Zofran use for patients who are immobilized.
- M. Repeat pain scale and all vital signs following administration of all medications.
- N. Contact Base Hospital physician for additional Fentanyl administration requests when needed.
- O. Monitor patient and vital signs carefully and ensure a patent airway.

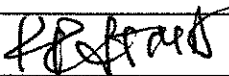
**VI. Special Considerations:**

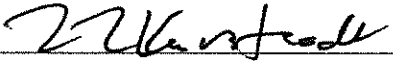
- A. Always have Narcan readily available to reverse any respiratory depression that may occur or chest rigidity caused from Fentanyl.
- B. Consider half ( $\frac{1}{2}$ ) the dose of Fentanyl in patients  $\geq 65$  years with all routes.
- C. Use caution in the suspected drug or alcohol intoxication.

**VIII. Documentation and Patient Care Reporting**

- A. Document initial and post treatment pain score, expressed in a measurable form.
- B. All interventions used for pain management including all BLS and ALS procedures.
- C. Initial and post vital signs.
- D. When physician consult was required.

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Approved:  Date: 8/23/18

Approved as to Form:  Date: 8-23-18



Subject: Scope of Practice/Procedure - ALS  
**Benzodiazepines**

Associated Policies: 5402, 5430, 6506, 6507, 6509, 6516, 6546, 6551, 6552, 6555

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- I. Indications
  - A. Sustained and/or recurrent grand mal seizures.
  - B. Before cardioversion or transcutaneous pacing in conscious patients.
  - C. Moderate to severe pain secondary to muscle spasms unrelieved with splinting or positioning.
  - D. As an adjunct for severe pain control - Midazolam ONLY
  - E. Management of the combative patient - Midazolam ONLY
- II. Therapeutic Effects
  - A. Decreased cerebral irritability
  - B. Relaxes skeletal muscles
  - C. Sedation
- III. Contraindications
  - A. Absolute:
    - 1. Suspected or know allergy to Benzodiazepines.
  - B. Relative:
    - 1. Shock
    - 2. Pregnancy
    - 3. Trauma to rectum (for rectal administration).
    - 4. Congenital or surgical anomaly of the rectum (for rectal administration)
- IV. Adverse Effects
  - A. Respiratory depression or arrest may be caused or worsened by Benzodiazepines.
  - B. Drowsiness, vertigo, ataxia, transient hypotension
  - C. Rectal injury may occur due to forceful entry of the syringe
  - D. Inadequate absorption, following rectal administration
- V. Administration of Diazepam
  - A. Adult:
    - 1. 2.5-20 mg IV push in 2.5 mg increments titrated to effect. May give up to 40mg in status epilepticus. 5-10 mg IM.
  - B. Pediatric:
    - 0.1-0.3 mg/kg slow IV push or 0.5 mg/kg (maximum dose 20mg) rectally.
- VI. Administration of Midazolam
  - A. Adult:
    - 1. IV: 1-2.5 mg slow IV (over 2-3 min);  
may be repeated if necessary in small increments (total maximum dose to 0.1 mg/kg not to exceed 10 mg)
    - 2. IM: 5 mg (0.07 mg/kg) IM

Subject: Scope of Practice/Procedure - ALS  
**Benzodiazepines**

Associated Policies:

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3. IN: 5 mg – 10 mg maximum 1 cc volume each nostril if agency approved.
- B. Pediatric:
  1. IV .05 mg/kg not to exceed 5 mg per dose or 10 mg total.
  2. IM 0.1 mg/kg. Further doses up to .4 mg/kg. No single dose to exceed 5 mg or 10 mg total.
  3. IN: 0.1mg/kg with maximum volume of 1cc each nostril with agency approved.
- VII. Administration of Lorazepam (Ativan)
  - A. Adult:
    1. 2 mg IV slow (over 1-2 minutes) every 5 minutes until seizures stop to a maximum of 8mg.
  - B. Pediatric:
    1. Seizures: 0.1mg/kg slow IV. May repeat dose once. Additional doses requires Base Contact. Maximum single dose of 2mg.
    2. Cardioversion: 0.05mg/kg slow IV.
- VII. Special Information
  - A. Never give without resuscitation equipment available
  - B. Push as close to the hub as possible as Benzodiazepines may precipitate if mixed with other drugs or IV solutions.
  - C. Effects of Benzodiazepines potentiated with alcohol and other sedatives.
  - D. Painful upon IM administration, unpredictable absorption.
  - E. Do not inject a single IM dose of more than 2 cc. Any dose greater than 2 cc should be administered in multiple injections.

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Approved: \_\_\_\_\_

*K. P. Harris*

8/23/18

Approved as to Form: \_\_\_\_\_  
4/2018

*J. K. Anderson*

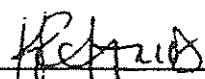
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Subject: Scope of Practice/Procedure - ALS  
**Naloxone (Narcan)**

Associated Policies:

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- I. Class
  - A. Narcotic antagonist.
- II. Indications
  - A. Narcotic overdose.
  - B. Altered level of consciousness or unconsciousness of unknown etiology.
- III. Therapeutic Effect
  - A. Reverses action of narcotic drugs.
- IV. Contraindications
  - A. Absolute:
    - 1. None.
  - B. Relative:
    - 1. Use caution in depressed neonate with suspected narcotic exposure. May precipitate seizures.
- V. Adverse Effects
  - A. May cause acute withdrawal symptoms.
  - B. Tachycardia.
  - C. Hypertension.
  - D. Dysrhythmias.
  - E. Nausea and vomiting.
- VI. Administration and Dosage
  - A. Adult: 0.4-2.0 mg IV, IM, ET, IO or IN, may repeat as needed. ET doses 2-2.5 times normal dose and should only be used if other routes of administration are unavailable. IN dose is 2mg / 2cc administered 1mg/cc to each nostril per NCEMS Policy # 6551.
  - B. Pediatric: 0.2 mg/kg to a maximum dose of 2.0 mg, IV, IM, or IO
  - C. Neonate: 0.1 mg/kg IV, IM, or IO.
- VII. Special Information
  - A. Duration of the action of Naloxone is shorter than the duration of narcotics, repeated doses may be necessary.
  - B. Narcan can reverse adverse effects of Morphine and Fentanyl.

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Subject: Treatment Guidelines – ALS  
**Cardiac Arrest - Pediatric**

Associated Policies: 5304, 5307, 5309, 5311, 5313, 5315, 5318, 5321, 5324, 5405, 5408, 5421, 5431, 5439

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I. Priorities

Follow current AHA guidelines for chest compressions.  
Minimize interruptions; resume compressions immediately after shocks, and rhythm checks.  
Check pulses only when there is an organized rhythm.  
Open and maintain Airway. Provide positive pressure ventilation (90% of pediatric arrests are respiratory in origin). Do not over ventilate.  
Identify the dysrhythmia.  
Assess quality of CPR with continuous waveform capnography when available.  
Use patient's actual body weight if known or use body length tape with precalculated doses.

II. Cardiac Arrest – Ventricular Fibrillation(VF)/ Ventricular Tachycardia(VT)

A. Pediatric Cardiopulmonary Arrest - Basic Therapy:

No spontaneous pulses or respiration, non-traumatic.

1. Primary survey with basic life support and airway adjuncts.
  - a. Determine cardiac rhythm Defibrillate at 2 WS/kg
  - b. Defibrillate at 4 WS/kg for second and subsequent defibrillations.
2. Ventilate with 100% oxygen alternate ventilations and compressions in 15:2 ratio. Do not over ventilate.
3. IV/IO access. .
4. Epinephrine 1:10,000 – 0.01mg/kg IV/IO every 3-5 minutes.
5. Amiodarone 5m/kg may repeat twice for refractory VF.
6. Lidocaine 1mg/kg may repeat once.
7. Consider Naloxone 0.1mg/kg IVP if indicated by history.
8. Obtain blood glucose, Administer Glucose 10% or 25%,. If blood glucose is less than 60.
7. Identify possible causes and consider:
  - a. Sodium Bicarbonate 1mEq/Kg IVP
  - b. Calcium Chloride 20-25mg/kg of 10% solution.
  - c. Magnesium Sulfate 10% 25-50mg/kg IV/IO for Torsades de Pointes or hypomagnesemia.

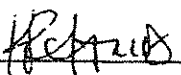
C. Asystole/ Pulseless Electrical Activity (PEA):

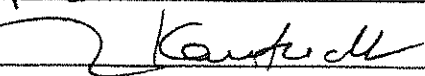
1. Basic therapy for cardiopulmonary arrest.

Subject: Treatment Guidelines – ALS  
**Cardiac Arrest Pediatric**

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2. Provide quality, uninterrupted CPR.
3. Check rhythm in more than one lead.
4. Ventilate with 100% oxygen, alternate ventilations and compressions in 15-2 ratio. Do not over ventilate.
5. Obtain IV/IO access.
6. Epinephrine 1:10,000 - 0.1mg/kg IV/IO, every 3-5 minutes.
7. Treat reversible causes. Consider
  - a. Sodium Bicarbonate 1mEq/kg IVP/IO
  - b. Naloxone 0.01-0.1mg/kg IVP/IO/
  - c. Fluid bolus 20cc/kg
8. Obtain blood glucose. Give Dextrose 10% or 25% only if indicated by blood sugar.
- 9.

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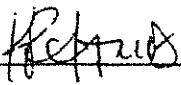
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Subject: Treatment Guidelines – ALS  
**Abdominal Pain (Non-Traumatic)**

Associated Policies: 5310, 5408, 5438, 6502, 6503, 6555

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- I. Priorities
  - A. ABC's.
  - B. Identify signs of shock. If signs of extremis, do not delay transport.
  - C. Determine differential diagnosis and anticipate treatment needs.
  - D. Evaluate all epigastric abdominal pain for cardiac involvement.
  
- II. Abdominal Pain without Shock or Extremis
  - A. Ensure a patent airway.
  - B. Oxygen administration per Policy #6030.
  - C. Pulse Oximetry when available.
  - D. Position of comfort.
  - E. IV access if needed for medication administration.
  - F. Consider Ondansetron (Zofran) per Policy #5438.
  - G. Cardiac monitor.
  - H. Consider pain control per Policy # 6555
  - I. Transport.
  - J. Contact base hospital.
  
- III. Abdominal Pain with Shock or Extremis
  - A. Ensure a patent airway.
  - B. Oxygen administration per Policy # 6030.
  - C. Pulse Oximetry when available.
  - D. Position of comfort.
  - E. Establish IV with large bore cannula. Do not administer IV fluid unless indicated by blood pressure less than 90mmHg. Establish second line for patient in extremis and vital signs are not improving with fluid.
  - F. Cardiac monitor
  - G. Consider Ondansetron (Zofran) per Policy # 5438.
  - H. Transport.
  - I. Contact base hospital.
  - J. Prevent hypothermia.
  - K. Consider Dopamine per Policy # 5408 for persistent hypotension not responding to fluid administration.

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Subject: Scope of Practice/Procedure - ALS  
**Epinephrine (Adrenalin)**

Associated Policies: 5330, 5402, 5421, 6502, 6503, 6505, 6505, 6507, 6522, 6526, 6527, 6534, 6535

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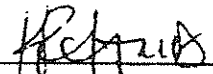
- I. Class
  - A. Naturally occurring catecholamine with alpha and beta adrenergic effects.
- II. Indications
  - A. Anaphylactic shock.
  - B. Acute asthma.
  - C. Cardiac arrest.
  - D. Bradycardia refractory to atropine.
  - E. Treatment of shock with profound hypotension from any cause unresponsive to fluid resuscitation.
  - F. Severe croup.
  - G. Life threatening epiglottitis.
- III. Therapeutic Effects
  - A. Bronchodilator.
  - B. Maintains blood pressure.
  - C. Stimulates spontaneous contractions of myocardium.
  - D. Increases myocardial tone.
- IV. Contraindications
  - A. Absolute:
    - 1. None.
  - B. Relative:
    - 1. Use with cautions in persons over 40 years of age or known ischemic heart disease.
- V. Adverse Effects
  - A. Tachycardia.
  - B. Palpitations.
  - C. Tremors.
- VI. Administration and Dosage
  - A. Anaphylactic shock:
    - 1. Adult:
      - a. Epinephrine 1:1,000 0.3 mg-0.5 mg IM to lateral thigh, may repeat every 15 minutes as necessary.
      - b. Epinephrine 1:10,000 slow IV (15-60 seconds) in 0.1 mg increments to maximum of 0.5 mg titrated to relieve signs of shock.

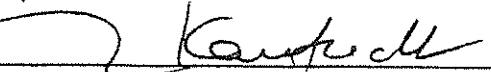
Subject: Scope of Practice/Procedure - ALS  
**Epinephrine (Adrenalin)**

Associated Policies:

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2. Pediatric:
  - a. Epinephrine 1:1,000 0.01 mg/kg (maximum dose 0.5 mg) IM to lateral thigh.
  - b. Epinephrine 1:10,000 slow IV (15-60 seconds) in 0.05 mg (0.5cc) increments to maximum of 0.01 mg/kg.
- B. Asthma:
  1. Adult:
    - a. Epinephrine 1:1,000 0.01 mg/kg IM to lateral thigh (maximum single dose 0.5 mg). May repeat in 20 minutes.
  2. Pediatric:
    - a. Epinephrine 1:1,000 0.01 mg/kg IM to lateral thigh (maximum single dose 0.5 mg). May repeat in 20 minutes.
- C. Cardiac Arrest:
  1. Adults:
    - a. Epinephrine 1:10,000 1 mg IV IO or 2-2.5 mg ET every 3 to 5 minutes. If no response consider:
  2. Pediatric:
    - a. Epinephrine 1:10,000 0.01 mg/kg, IV or IO.
- D. Severe Bradycardia and/or Hypotensive Shock State refractory to fluid resuscitation:
  1. Adult:
    - a. Dilute 1 mg epinephrine in 1000 ml of NS to mix a concentration of 1mcg/ml.
    - b. Initial infusion rate = 2 mcg/minute, titrated to the desired effect (average infusion dose range = 2-10 mcg/min).
  2. Pediatric:
    - a. Epinephrine 1:10,000 - 0.01mg/kg IV/IO every 3-5 minutes. Note: If using length based Pediatric Emergency Reference tape, use dosing for cardiac arrest.
    - b. Hypotension refractory to fluid therapy and intermittent Epinephrine doses with extended transport time, administer epinephrine drip.
    - c. Dose – Mix Epinephrine infusion and initiate at 0.03mcg/kg/minute.
    - d. Titrate to desire effect (relief of hypotension). Typical dose range is 0.03-1mcg/kg/minute.

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Subject: Scope of Practice/Procedure - ALS  
**Epinephrine (Adrenalin)**

Associated Policies:

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- E. Severe Croup or Epiglottitis:
  - 1. Adult and pediatric:
    - a. Nebulize 5cc Epinephrine 1:1,000 via SVN without dilution. Do not repeat within 60 minutes
- VII. Special Information
  - A. Incompatible with bicarbonate and furosemide solutions. Flush IV lines between injections.
  - B. Endotracheal administration is no longer the preferred route of administration and should be avoided.

Approved: 

Approved as to Form: 

Subject: Scope of Practice/Procedure –ALS  
**Activated Charcoal**

Associated Policies: 5402, 5419, 5421, 6524

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- I. Class
  - A. Absorbent.
- II. Indications
  - A. Acute management of many oral poisonings.
- III. Therapeutic Effects
  - A. Binds with drugs and chemicals within GI tract and decreases intestinal absorption in the overdose situation thereby preventing toxicity.
  - B. The poison and charcoal compound is then excreted from the body.
- IV. Contraindications
  - A. Absolute:
    - 1. Do not use Activated Charcoal with Sorbitol.
  - B. Relative:
    - 1. Decreasing level of consciousness unless intubated prior to administration.
    - 2. Ingestion or poisonings due to:
      - a. Cyanide.
      - b. Corrosives.
      - c. Petroleum distillates.
- V. Adverse Effects
  - A. Vomiting.
  - B. Constipation.
  - C. Black stools.
- VI. Administration and Dosage
  - A. Adult:
    - 1. 50 Gm of Activated Charcoal and water to form a slurry to facilitate delivery. Administer via PO, OG, or NG routes.
  - B. Pediatric:
    - 1. > 35 kg: 1 Gm/kg of Activated Charcoal and water to form a slurry to facilitate delivery. Administer via PO, OG, or NG routes.
    - 2. < 35 kg: 1 Gm/kg of Activated Charcoal premixed with water to form a slurry to facilitate delivery. Administer via PO, OG, or NG routes.

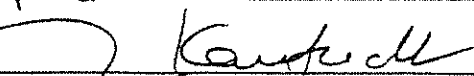
Subject: Scope of Practice/Procedure – ALS  
**Activated Charcoal**

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VII. Special Information

- A. Other medications will be absorbed by charcoal.
- B. Shake container vigorously for a minimum of thirty (30) seconds.
- C. Charcoal binds with the “volume” of toxic ingested. Even small amounts of charcoal successfully administered may be helpful to prevent a lethal ingestion. If quantity of ingestion is known, may consider formula of ten (10) times the ingested dose of toxin by weight for pediatric patients.
- D. Will not bind with alcohol, heavy metal (e.g. iron, lead) or lithium.

Approved: 

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Subject: Scope of Practice/Procedure - ALS  
**Calcium Chloride 10% Solution**

Associated Policies: 5402, 5421, 5428, 6504, 6505, 6507, 6516, 6539

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- I. Class
  - A. Electrolyte.
- II. Indications
  - A. Hyperkalemia in renal dialysis patients.
  - B. Cardiac Arrest in the renal dialysis patients.
  - C. Hypocalcemia.
  - D. Calcium channel blocker toxicity.
  - E. Magnesium sulfate overdose or signs of toxicity..
- III. Therapeutic Effect
  - A. Increases serum calcium levels.
- IV. Contraindications
  - A. Absolute:
    - 1. Hypercalcemia.
  - B. Relative:
    - 1. Digitalis therapy (Use with caution, may cause ventricular fibrillation or bradycardia).
- V. Adverse Effects
  - A. Bradycardia.
  - B. Asystole.
  - C. Hypotension.
  - D. Nausea and vomiting.
  - E. Peripheral vasodilatation.
- VI. Administration and Dosage
  - A. Adult:
    - 1. Bradycardia due to Calcium channel blocker toxicity -500 mg of 10% solution, IV slowly over 60 seconds, may repeat once in 10 minutes, if necessary..
    - 2. Cardiac Arrest- 1 Gram IV push.
    - 3. Hypermagnesemia – 500mg over 2-3 minutes. Repeat as needed if CNS depressions persist.
  - B. Pediatric: 20-25 mg/kg (0.2-0.25 ml/kg) of 10% solution, IV slowly over 60 seconds.

Subject: Scope of Practice/Procedure - ALS  
**Calcium Chloride 10% Solution**

Associated Policies:

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VII. Special Information

- A. Precipitates if mixed with Sodium Bicarbonate (into Calcium Bicarbonate).
- B. Potent local irritant at injection site.

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Rev: 3/18

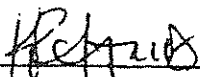
Subject: Scope of Practice/Procedure - ALS  
**Morphine Sulfate**


Associated Policies: 5402, 5311, 5438, 6555

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- I. Class
  - A. Opiate (narcotic). Natural opium alkaloid.
- II. Indications
  - A. Ischemic chest pain without improvement from nitrites.
  - B. Burns.
  - C. Trauma patients with adequate vital signs.
  - D. Abdominal pain in the absence of hypotension.
- III. Therapeutic Effects
  - A. Promotes analgesia, decreases pain perception and anxiety.
  - B. Increase venous capacitance and reduces systemic vascular resistance.
  - C. Decreases myocardial oxygen demand.
- IV. Contraindications
  - A. Absolute:
    - 1. Hypersensitivity.
    - 2. Hypotension by evidence of systolic blood pressure of less than 90. Stabilize blood pressure prior to administration. .
  - B. Relative:
    - 1. Compromised respirations.
    - 2. Women in labor - REQUIRES BASE CONTACT
    - 3. Use caution in the presence of Acute Pulmonary Edema from all causes.
- V. Adverse Effects
  - A. Respiratory depression.
  - B. Decreased level of consciousness.
  - C. Transient hypotension.
  - D. Bradycardia or tachycardia.
  - E. Nausea and vomiting.

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Subject: Scope of Practice/Procedure - ALS  
**Morphine Sulfate**

Associated Policies: 5402, 5311, 5438, 6555

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VI. Administration and Dosage

A. Adult:

2 to 5 mg (max single dose should not exceed 0.1mg/kg) slow IV/IO repeat every 3 to 5 minutes. Additional dosing should be considered based on vital signs and pain levels. Monitor respiratory effort and blood pressure closely.  
Intramuscular (IM) 5 to 15 mg single dose, if IV access is not available or delayed. **MAY NOT BE REPEATED.**

**For Adult Patients ONLY.** - If significant pain persists after 10mg of Morphine Sulfate administration IV/IO, consider midazolam 1mg IV/IO. Following midazolam administration, additional dosing of Morphine should be reduced to 2 mg increments IV/IO.. May repeat midazolam 1mg IV/IO, once in 10 minutes if needed. **ANY ADDITIONAL DOSING OF MIDAZOLAM REQUIRES BASE CONTACT.**

B. Pediatric:

0.05 to 0.1 mg/kg slow IV (Maximum 2 mg single dose) over 3 to 5 minutes. May repeat every 5-10 minutes at 1/2 dose until desired effect is achieved.  
IM - 0.1 mg/kg single dose. **MAY NOT BE REPEATED.** .

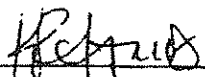
C. Infant – Less than 6 months (est. 8 kg):


0.05 mg/kg slow IV over 3 to 5 minutes.  
May repeat every 5 to 10 minutes at 1/2 dose once prior to base contact.  
Contact base hospital for IM dosing of Infants less than 6 months of age.

VII. Special Information

- A. Place all patients receiving MS on cardiac monitor and pulse oximetry.
- B. Patients receiving Morphine Sulfate may require supplemental oxygen.
- C. Administer Oxygen per Oxygen Administration Policy #6030.
- D. Excessive narcosis can be reversed with naloxone.
- E. Use caution and consider smaller increments of dosing in the Acute Inferior MI patient. Monitor closely for hypotension and be prepared for fluid resuscitation.
- F. Consider medicating patients with Zofran prior to administration of Morphine Sulfate to prevent nausea or vomiting, if no contraindications exist.

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Subject: Treatment Guidelines – ALS  
**Neonatal Resuscitation**

Associated Policies:

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- I. Priorities
  - A. Determine “possible” gestational age.
  - B. Assess breathing (crying) and tone. Warm, clear airway if necessary, dry and stimulate.
  - C. Determine heart rate and assess respiratory effort. Gasping or apnea, provide positive pressure ventilations.
  - D. Apply Cardiac Monitor. Begin chest compressions if heart rate < 60/min.
- II. Neonatal Resuscitation
  - A. Attempt to identify the gestational age of the infant from the mother as this may help anticipate expected complications especially if the infant is preterm.
  - B. Always provide warmth, clear airway only when necessary, dry effectively and reassess frequently even with term infants. Do not routinely suction a clear airway as this can cause bradycardia. Wipe secretions from the face.
  - C. When an infant requires resuscitation, the most important and effective action in neonatal resuscitation is ventilation of the baby’s lungs.
  - D. Steps of Neonatal Resuscitation:
    1. Airway:
      - a. Place infant’s head in “sniffing” position
      - b. Clear secretions with suctioning only if copious or obstructing the airway. Do so gently as to not cause further bradycardia.
      - c. Wipe face of any fluid.
    2. Breathing
      - a. Positive Pressure Ventilation with Bag Value Mask device for apnea, gasping or pulse less than 100 bpm. PPV should not be delayed to attach oxygen. Administering oxygen is not the priority, expanding the lungs is.
      - b. Ventilate at rate of 40 to 60 breathes per minute.
      - c. Listen for rising heart rate, audible breath sounds.
      - d. Look for slight chest movement with each breath.
      - e. Attach a pulse oximeter to right hand. Supplemental oxygen should only be given when adequate ventilations are verified and oxygen saturations remain below 90% after 5 minutes.
      - f. If there is no chest rise with ventilations repeat corrective steps.

M – Mask Adjustment  
R – Reposition airway  
S –Suction mouth and nose  
O –Open mouth



Subject: Treatment Guidelines – ALS  
**Neonatal Resuscitation**

Associated Policies:

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P – Pressure increase

A- Airway alternative.

- g. Use CO2 monitoring when available.
- 3. Circulation
  - a. Apply Cardiac Monitor.
  - b. Start compressions if heart rate is less than 60 after 30 seconds of effective PPV.
  - c. Give 3 compressions to 1 breath every 2 seconds.
  - d. Compress one-third of the anterior-posterior diameter of the chest.
  - e. IV access should be attempted prior to any IO access attempt. IO access can be difficult in the newly born. Consider IV access to hands, feet or scalp.
  - f. Always obtain blood glucose on a depressed newborn. Should be obtained from a heel stick.
- 4. Medications
  - a. Give epinephrine if heart rate is less than 60 after 45 to 60 seconds of compressions and ventilations.
  - b. Administer Dextrose 10% if blood glucose reading is below 60.
  - c. If heart remains below 60 after epinephrine consider other causes:
    - 1. Hypovolemia
    - 2. Assess for pneumothorax.

III. Caring for the Premature Infant

- A. Any infant less than 37 weeks gestation is considered premature. With the advancement of medical care the survival of the extremely premature is increasing. Managing a preterm infant in the pre-hospital setting will be challenging.
- B. Determining the gestation age of a pregnancy may help determine viability in the hospital setting but is of little help when caring for a premature infant in the pre-hospital setting where the weight and age is not actually known.
- C. Never delay transport to await the delivery of a possible premature infant.
- D. When presented with a premature infant, the paramedic needs to provide as much care as possible with the limitations that are sure to exist.
- E. Prevent hypothermia. Limit exposure by placing the premature infant in a clean plastic wrap with the head exposed. **DO NOT ATTEMPT TO DRY A PREMATURE INFANT.** Use the wrapping from the OB kit or other clean bag. Cover the head and wrap infant in dry towels or blankets. Provide external heat source when available. (i.e.: Infant heating blanket. Use caution with hot packs and never place against the neonate's skin.)
- F. Manage the airway with gentle suction only if there are copious secretions

Subject: Treatment Guidelines – ALS  
**Neonatal Resuscitation**

Associated Policies:

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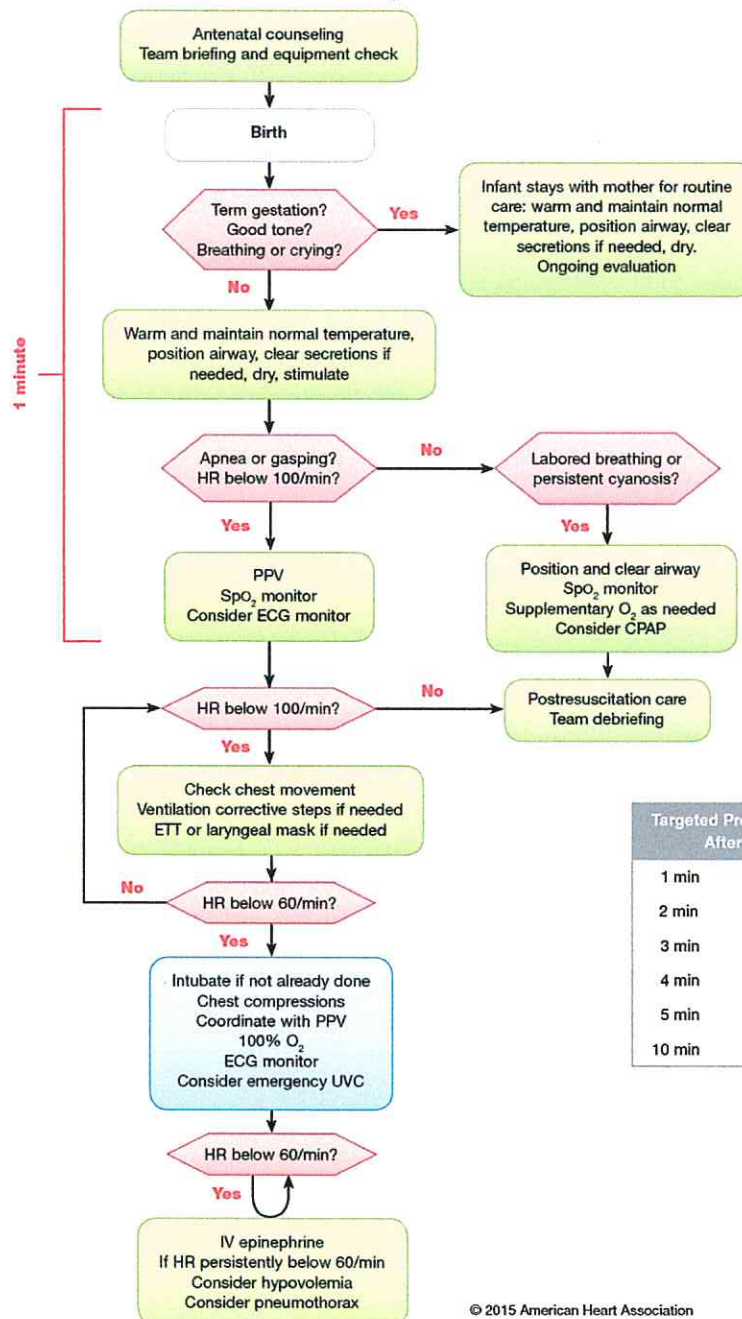
- or obstructions. Provide PPV with gentle breathes at rate of 40 to 60.  
Look for slight chest movement with each breath.
- G. Use pulse Ox if available. Place on right hand. Provide oxygen if pulse Ox remains below 90% or heart rate remains below 100. Focus on ventilating the lungs and not the oxygen administration.
- H. Apply cardiac monitor and provide chest compressions if heart rate is less than 60. If heart rate is less than 100 take ventilation corrective steps and monitor closely for improvement.
- I. Handle premature infants gently as their skin can tear.
- J. Manage premature infants with minimal interventions and rapid transport.
- K. Do not delay transport to attempt aggressive interventions.
- L. IO access should not be attempted on the severely premature infant as most IOs are too large.
- M. Notify the hospital early.

Subject: Treatment Guidelines – ALS  
**Neonatal Resuscitation**

Associated Policies:

RESUSCITATION Reference Chart

**Neonatal Resuscitation Algorithm—2015 Update**



Targeted Preductal SpO <sub>2</sub> After Birth	
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-95%

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3/2018

Approved: *[Signature]*

8/23/18

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8-23-18

Subject: Treatment Guidelines – ALS  
**Adult Cardiac Arrest – Ventricular Fibrillation/Pulseless Tachycardia**

Associated Policies: 5305, 5307, 5309, 5311, 5313, 5315, 5318, 5327, 5439, 6550, 6534

- I. Priorities
  - A. Follow current AHA guidelines for chest compressions.
  - B. Minimize interruptions, resume compressions immediately after shocks, rhythm checks. Check pulses only when there is an organized rhythm. .
  - C. Push hard and fast and allow complete chest recoil. .
  - D. Assess quality of CPR with continuous waveform capnography when available.
  - E. If using automated CPR devices, use manufacturer's specifications.
- II. Cardiac Arrest – Ventricular Fibrillation (VF)/ Pulseless Ventricular Tachycardia (VT) Pediatric note: Refer to Policy # 6534
  - A. Non-Traumatic Cardiopulmonary Arrest - Basic Therapy:
    1. Primary survey with basic life support
    2. Start compressions immediately. Do not delay for airway management.
      - a. Determine cardiac rhythm: VF/VT Defibrillation at 200 biphasic or 360 monophasic joules. Secure airway with OPA/NPA and ventilate with Bag Value Mask and oxygen with 30:2 compressions to ventilations. DO NOT OVER VENTILATE.
      - b. Obtain IV or IO; administer Epinephrine 1:10,000 1mg every 3-5 minutes.
      - c. Recheck rhythm every two minutes.
      - d. Defibrillate at 200 biphasic or 360 monophasic. Resume compressions immediately after shock.
      - e. Administer Amiodarone 300mg IVP/IO. May repeat at 150mg IVP or IO.
      - f. Consider Lidocaine 1.0mg/kg/1.5mg for VF/VT that is refractory to Amiodarone.
      - g. Advanced airways are not a priority unless patient cannot be ventilated with BLS airway devices. Do not interrupt compressions longer than 10 seconds to place an advanced airway.
      - h. After advanced airway is placed, ventilate at rate of 10 breaths per minute. Do not over ventilate.
      - i. Consider naloxone 2 mg IVP/IO if history of cardiac arrest is consistent with narcotic overdose.

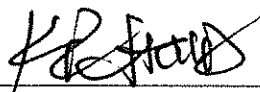
Subject: Treatment Guidelines – ALS  
**Adult Cardiac Arrest – Ventricular Fibrillation/Pulseless Tachycardia**

- 
- j. Obtain blood glucose. Administer Dextrose 50% if patient is confirmed to be hypoglycemic. Do not administer Dextrose unless the blood sugar is known.
  - k. If VF/VT fails to convert with CPR and defibrillation, consider other treatable causes.
  - l. Administer Sodium Bicarbonate 1 mEq/kg IVP/IO or Calcium Chloride 10% 1 GM, if known hyperkalemia, as evidenced by:
    - a. Acute renal failure.
    - b. Dialysis related arrest.
    - c. Diabetic ketoacidosis.
  - m. Magnesium Sulfate 1-2 Gm of 10% solution over one (1) minute for refractory VF/VT or polymorphic VT.
  - n. Sodium Bicarbonate 1 mEq/kg IVP/IO may be helpful after prolonged arrest interval.
  - o. Make base contact early.

III. Return of Spontaneous Circulation (ROSC)

- 1. Following ROSC, obtain vital signs.
- 2. Assess for shock and volume status.
- 3. Ensure adequate peripheral access – IO/IV
- 4. Secure advanced airway, if indicated.
- 5. Avoid hyperventilation and Hyper/hypocapnia.
- 6. Elevate head of the bed to 30 degrees.
- 7. Obtain 12 lead. If STEMI is indicated consider direct transport to STEMI center per policy.
- 8. Continuous rhythm monitoring and pulse checks.
- 9. Notify receiving hospital early of ROSC.

Approved: \_\_\_\_\_



Date: \_\_\_\_\_

8/23/18

Approved as to Form:  
03/2018



Date: \_\_\_\_\_

8-23-18

Subject: Treatment Guidelines – ALS  
**Abdominal Pain (Non-Traumatic)**

Associated Policies: 5310, 5408, 5438, 6502, 6503, 6555

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- I. Priorities
  - A. ABC's.
  - B. Identify signs of shock. If signs of extremis, do not delay transport.
  - C. Determine differential diagnosis and anticipate treatment needs.
  - D. Evaluate all epigastric abdominal pain for cardiac involvement.
- II. Abdominal Pain without Shock or Extremis
  - A. Ensure a patent airway.
  - B. Oxygen administration per Policy #6030.
  - C. Pulse Oximetry when available.
  - D. Position of comfort.
  - E. IV access if needed for medication administration.
  - F. Consider Ondansetron (Zofran) per Policy #5438.
  - G. Cardiac monitor.
  - H. Consider pain control per Policy # 6555
  - I. Transport.
  - J. Contact base hospital.
- III. Abdominal Pain with Shock or Extremis
  - A. Ensure a patent airway.
  - B. Oxygen administration per Policy # 6030.
  - C. Pulse Oximetry when available.
  - D. Position of comfort.
  - E. Establish. IV with large bore cannula. Do not administer IV fluid unless indicated by blood pressure less than 90mmHg. Establish second line for patient in extremis and vital signs are not improving with fluid.
  - F. Cardiac monitor
  - G. Consider Ondansetron (Zofran) per Policy # 5438.
  - H. Transport.
  - I. Contact base hospital.
  - J. Prevent hypothermia.
  - K. Consider Dopamine per Policy # 5408 for persistent hypotension not responding to fluid administration.

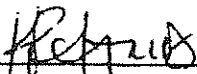
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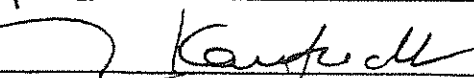
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Subject: Scope of Practice/Procedure – Paramedic  
**Nasogastric/Orogastric Tube Insertion**

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- I. Indications
  - A. To decompress the stomach during positive pressure ventilation.
  - B. To administer Activated Charcoal.
- II. Therapeutic Effects
  - A. Evacuation of stomach contents.
  - B. When combined with activated charcoal, adsorption of ingested poisons and drugs.
- III. Contraindications
  - A. Absolute:
    - 1. Suspected fractures of the basilar skull.
    - 2. Facial trauma with suspected fractures.
    - 3. Known or suspected esophageal varices.
  - B. Relative:
    - 1. Ingestion of caustic poisons (tracheal intubation recommended prior).
- IV. Adverse Effects
  - A. Passage of the tube into the trachea.
  - B. Coiling of the tube in the posterior pharynx.
- V. Equipment
  - C. Tube sizes 6 French to 18 French. Water soluble lubricant.
  - D. Tape or tube holder.
  - E. 60 ml irrigation syringe with catheter tip.
  - F. Emesis basin.
  - G. Stethoscope.
- VI. Procedure
  - A. Determine the need for a NG or OG tube. Infants < 6 mos are nose breathers and an OG is preferred.
  - B. Determine correct size:
    - 1. Pediatrics: Use Resuscitation Tape.
      - a. Nasogastric tubes can be used as orogastric tubes.
      - b. 8 French feeding tube may be substituted for nasogastric tube sizes 5/6 to 8 French.
    - 2. Adults:

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Subject: Treatment Guidelines – BLS  
**Respiratory Distress/Dyspnea**

Associated Policies:

I. Priorities

ABC's

- A. Determine degree of physiologic distress.
- B. Maintain airway, provide oxygen and ventilary support per Oxygen Administration Policy # 6030
- C. Consider CPAP for severe respiratory distress.
- D. Position of comfort.
- E. Communicate with transporting ambulance or base hospital.

II. Respiratory Distress/Dyspnea

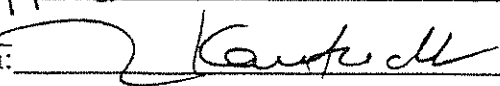
A. Conscious Patient:

- 1. Primary survey.
- 2. Administer oxygen according to policy. Infants and children often tolerate "blow-by" oxygen better than an oxygen mask.
- 3. Allow patient to seek position of comfort. Anxious infants and children will benefit from being held by caregiver.
- 4. Use Pulse Oximetry when available.
- 5. Provide CPAP per policy.
- 6. Obtain vital signs and bilateral lung sounds.
- 7. If history of asthma and working for approved agency, consider Epinephrine via auto injector pen for patients with history of asthma and not improving with other treatments.
- 8. Communicate with transporting ambulance or base hospital.

B. Unconscious Patient

- 1. The unconscious or lethargic patient will benefit from aggressive airway management. Do not delay in assisting respirations when effort is inadequate or agonal.
- 2. Protect airway, suction if needed.
- 3. Administer oxygen via Bag Value Mask.

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Subject: Approval of BLS Expanded Scope Interventions

- 
- I. Authority and Reference (incorporated herein by references)
    - A. Division 2.5 of Health and Safety Code
    - B. California code of Regulations, Title 22
    - C. North Coast EMS Policies and Procedures
  
  - II. Purpose:
    - A. To establish a procedural framework for the approval of BLS Expanded Scope medications, procedures or devices.
  
  - III. Policy:
    - A. This policy is intended to provide a standardized procedure for speeding the process by which North Coast EMS provider agencies desiring to employ a newly North Coast EMS approved BLS Expanded Scope interventions may do so.
    - B. This policy may only be employed for approval in the use of BLS Expanded Scope for which North Coast EMS policy is in force.
    - C. The policy shall be employed by reference as specified in the North Coast EMS policy corresponding to the new medication, procedure or device in question. Providers may only be approved to employ new medications, procedures or devices that have been previously approved by North Coast EMS Medical Director.
    - D. Only North Coast EMS approved provider agencies may carry and/or employ the medication, procedure or device in question.
    - E. Prior to receiving North Coast EMS approval, for the medication, procedure or device, the provider must document that all the provider agency's personnel have received adequate training in the use of the medication, procedure or device. Provider documentation should include information regarding the medication, procedure or device to be employed.
    - F. Provider agencies must agree to ensure that the approved interventions will not be employed by members of their agency that has not received the appropriate training and orientation to the medication, procedure or device per this policy.
    - G. Provider agencies will agree to complete a **minimum time** of training on the use of the medication, procedure or device as noted in the North Coast EMS policy corresponding to that medication, procedure or device.

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10/2017

Subject: Scope of Practice/Procedure- BLS  
**Anaphylactic Shock**

Associated Policies: 5102

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I. Priorities

- A. ABC's.
- B. Oxygen Administration per Policy # 6030.
- C. Attempt to identify/remove allergen.
- D. If an approved Provider, use EpiPen when indicated.
- E. Communicate with transporting ambulance or base hospital.
- F. Transport.

II. Allergic Reaction ;

A local response to an antigen involving the skin (rash, hives, edema, etc) with normal vital signs. Any involvement of the respiratory system (wheezing, stridor), or oral/facial edema, will be treated as anaphylaxis. Remember that allergic reactions may deteriorate into anaphylaxis - reassess often and be prepared to treat for anaphylaxis.

- A. Oxygen per policy.
- B. Use Pulse oximetry when available.
- C. Remove stinger using the most expedient non-invasive method.
- D. Initiate transport and treatment as soon as possible.
- E. Reassess frequently and look for signs of Anaphylactic Shock.

III. Anaphylactic Shock

- A. Assessment:
  - 1. Known allergies.
  - 2. Exposure to food, drugs, bites or other allergens.
  - 3. Medic-Alert emblem.
  - 4. Signs of allergic reaction, e.g., itching, hives, rash, facial swelling.
  - 5. Allergy prophylaxis/treatment medication in patient's possession.
- B. Assist patient in the use of patient prescribed auto-injector (EpiPen) when available.
- C. Administer oxygen per policy. Consider CPAP mask device when available for severe distress. Use BVM and assist ventilations, if necessary.
- D. Use Pulse Oximetry when available.
- E. If working for an approved Provider, administer Epinephrine via Auto-injector.
- F. If allergy is caused by stinger injection:
  - 1. Remove stinger using the most expedient non-invasive method available, regardless of what that method may be.
  - 2. Apply cold pack.
- E. Position of comfort.
- F. Communicate with transporting ambulance or base hospital.
- G. Transport Code 3, if reaction is moderate to severe.

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Date: \_\_\_\_\_

6/21/18

Approved as to Form: \_\_\_\_\_



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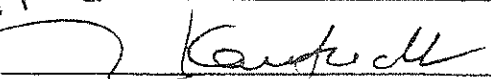
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Subject: Treatment Guidelines – BLS  
**Seizures**

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- I. Priorities
  - A. ABC's.
  - B. Protect patient from injury during seizure activity.
  - C. Oxygen according to Oxygen Administration Policy #6030.
  - D. Ventilate and suction as needed.
  - E. Determine blood glucose if approved agency.
  - F. Communicate with transporting ambulance or base hospital.
- II. Seizures
  - A. Maintain an open airway. Ventilate with Bag Value Mask with oxygen if seizure is prolonged.
  - B. Administer oxygen to all patients when they are seizing and during the postictal period. (the phase of the seizure following convulsions).
  - C. Consider hypoglycemic origin in adults, or febrile origin in children.
    - 1. Hypoglycemia: Determine blood glucose if approved agency.  
If blood glucose is less than 70 mg/dL-
      - a. Conscious patient:
        - 1) Give oral glucose per policy.
        - 2) Monitor airway.
      - b. Unconscious patient:
        - 1) Establish and monitor airway.
        - 2) DO NOT give oral glucose to an unresponsive patient.
        - 3) .
    - 2. Febrile:
      - a. Caused by high fever in infants and children.
      - b. Have parent stay with child.
      - c. Maintain airway.
      - d. Cool by undressing down to underwear or diaper. Do not allow the child to shiver. Do not wrap child in cold wet clothes.
  - D. Left lateral recumbent position, if no trauma.
  - E. Evaluate for need for Spinal Motion Restriction with facial injuries or signs of hard fall.
  - F. Communicate with transporting ambulance or base hospital.

Approved: 

Approved as to Form: 

Subject: Treatment Guidelines – BLS  
**Syncope/ Near Syncope**

Associated Policies:

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- I. Priorities
  - A. ABC's.
  - B. Oxygen therapy per Oxygen Administration Policy # 6030.
  - C. Positioning.
  - D. Gather patient's history determines possible causes.
  - E. Determine blood glucose if approved agency.
  - F. Communicate with transporting ambulance or base hospital.
- II. Syncope
  - A. Ensure an open airway.
  - B. Ensure adequate ventilations and assist ventilations if needed.
  - C. Evaluate patient for traumatic injuries and assess for need for Spinal Motion Restriction evaluation.
  - D. Position patient properly for comfort and protect.
  - E. Administer oxygen per policy.
  - F. Administer oral glucose per Oral Glucose Protocol #6032 if blood sugar is less than 70 mg/dL and patient is able to swallow on command
  - G. Communicate with transporting ambulance or base hospital.

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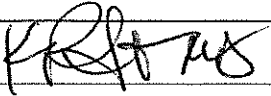
Subject: Treatment Guidelines – BLS Personnel  
**Altered Level of Consciousness**

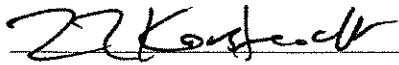
Associated Policies: 6030, 6032, 6037

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- I. Priorities
  - A. ABC's.
  - B. Oxygen Administration per Policy # 6030 .
  - C. Gather patient history.
  - D. Determine blood glucose if approved agency.
  - E. Communicate with transporting ambulance or base hospital.
  
- II. Altered Level of Consciousness
  - A. Open and maintain airway.
  - B. When traumatic injury is ruled out and ventilatory support is not required, place patient in recovery position.
  - C. Suction airway as needed.
  - D. Administer oxygen per policy.
  - E. Use Pulse Oximetry when available.
  - F. Perform secondary survey. Gather patient history.
  - G. Obtain blood glucose per Blood Glucose Policy # 5334.
  - H. Administer oral glucose according to Oral Glucose Policy # 6032 if blood sugar is less than 70 mg/dL if patient is able to swallow on command.
  - I. Communicate with transporting ambulance or base hospital.

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Approved:  Date: 6/21/18

Approved as to Form:  Date: 6/21/18

Subject: Scope of Practice/Procedure – BLS Personnel  
**EMT-I Scope of Practice**

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- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. California Code of Regulations, Title 22
  - C. North Coast EMS Policies and Procedures
- II. Purpose

To define the regional Emergency Medical Technician-I (EMT-I) scope of practice.
- III. Procedure
  - A. During training, while at the scene of an emergency, during transport of the sick or injured, or during interfacility transfer, a supervised EMT-I student or certified EMT-I is authorized to do any of 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 the assessment of temperature, blood pressure, pulse and respiration rates, pulse oximetry, level of consciousness, and pupil status.
    - 4. Perform cardiopulmonary resuscitation, including the use of mechanical adjuncts to basic cardiopulmonary resuscitation.
    - 5. Administer oxygen.
    - 6. Use the following adjunctive airway and breathing aids:
      - a. oropharyngeal airway;
      - b. nasopharyngeal airway;
      - c. suction devices;
      - d. basic oxygen delivery devices for supplemental oxygen therapy including but not limited to, humidifiers, partial rebreathers, and venturi masks, and
      - e. Manual and mechanical ventilating devices designed for prehospital use including Continuous Positive Airway Pressure (CPAP) mask devices.
    - 7. Use various types of stretchers and body immobilization devices.
    - 8. Provide initial prehospital emergency care of trauma including but not limited to
      - a. Bleeding control through the application of tourniquets
      - b. Use of hemostatic dressings from a list approved by the State Authority.
      - c. Spinal motion restriction or immobilization
      - d. Seated spinal motion or immobilization.

Subject: Scope of Practice/Procedure – BLS Personnel  
EMT-I Scope of Practice

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- e. Extremity splinting.
    - f. Traction splinting..
  - 9. Administer:
    - a. Oral glucose or sugar solutions.
    - b. Aspirin
  - 10. Extricate entrapped persons.
  - 11. Perform field triage.
  - 12. Transport patients.
  - 13. Apply 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, patient operated medication pumps, sublingual nitroglycerin, and self-administered emergency medications, including epinephrine devices.
  - 17. Monitor intravenous lines delivering glucose solutions or isotonic balanced salt solutions including Ringer's lactate for volume replacement.
  - 18. Monitor, maintain, and adjust if necessary in order to maintain, a pre-set rate of flow and turn off the flow of intravenous fluid.
  - 19. 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.
- B. If working for an approved agency the EMT may
- 1. Administered naloxone via intranasal route for suspected narcotic overdose.
  - 2. Administer epinephrine by auto-injector for suspected anaphylaxis and/or severe asthma.
  - 3. Perform finger stick blood glucose testing.
- B. The scope of practice of an EMT-I shall not exceed those activities authorized in this policy.

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Approved: \_\_\_\_\_

Date: \_\_\_\_\_

Approved as to Form: \_\_\_\_\_  
10/2017

Date: \_\_\_\_\_

Subject: Treatment Guidelines – BLS  
**Oral Glucose Protocol**

Associated Policies:

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I. Indications

- A. Altered patient with intact gag reflex.
- B. Known or suspected history of diabetes.
- C. Signs and symptoms of hypoglycemia (insulin shock):
  - 1. Sudden onset.
  - 2. Pale/sweaty skin.
  - 3. May complain of hunger.
  - 4. Determine Blood Glucose if approved agency.
- D. -

II. Contraindications

- A. Patient is unconscious.
- B. Patient unable to swallow on command.
- C. ETA of ALS personnel or arrival at Emergency Department is less than 10 minutes.

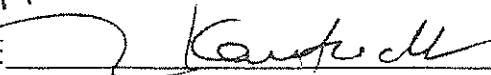
III. Procedure

- A. Administer oxygen per Oxygen Policy.
- B. If blood sugar is less than 70 and patient is able to swallow on command, administer one (1) tube of commercially prepared glucose paste.
- C. If some improvement but patient remains altered, consider repeating oral glucose.

IV. Precaution

- A. If patient's level of consciousness becomes compromised during or after procedure, place in left lateral decubitus position.
- B. Suction, as needed, and be prepared for vomiting.

Approved: 

Approved as to Form: 



Subject: Scope of Practice/Procedure - Paramedic  
**Finger Stick for Blood Glucose Protocol**

Associated Policies: 5323, 6514, 6515, 6516, 6517, 6518

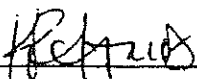
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- I. Indications
  - A. Suspected diabetic emergencies.
  - B. Any coma of unknown etiology.
  - C. Status epilepticus of uncertain etiology.
  - D. Syncope, stroke, or seizures with focal deficit.
  - E. Altered mental status.
- II. Therapeutic Effects
  - A. Gives estimate blood glucose level.
- III. Contraindications
  - A. None
- IV. Adverse Effects
  - A. None
- V. Equipment
  - A. Lancet, lancing device (optional).
  - B. Gloves and face protection, as necessary.
  - C. Antiseptic solution. (Note: alcohol may reduce the accuracy of the glucose test strip, be sure to let it dry before lancing finger).
  - D. Bandaid.
  - E. Glucose test strip for glucose determination of capillary or venous blood.
  - F. Cotton balls.
- VI. Procedure
  - A. Put on gloves and use face protection, as necessary.
  - B. Assemble all necessary supplies and equipment.
  - C. Select a suitable site (generally the dependent side of the second or third digit of either hand).
  - D. Prepare the site. Cleanse the site thoroughly with antiseptic solution. Wipe the site with a dry cotton ball.
  - E. Use your thumb proximal to the puncture site to function as a mild tourniquet and to stabilize the skin over the puncture site.
  - F. Gently puncture the site with the lancet.
  - G. Dispose of the lancet in a provided "puncture resistant" biohazard container.
  - H. "Milk" the finger by applying gentle pressure to the site, then let go, allowing blood to fill finger, then squeeze again.

Subject: Scope of Practice/Procedure - Paramedic  
**Finger Stick for Blood Glucose Protocol**

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- I. Turn the finger over and allow the accumulated drop of blood to drip freely onto the strip. Do not "wipe" the blood off of the finger with the strip.
  - J. Follow manufacturer's directions on reading the glucose test strip.
  - K. Cleanse the site again with antiseptic solution. Apply a dry, sterile dressing (bandaid is fine).
- VII. Special Information
- A. If the patient is very dehydrated or has poor circulation to extremities, then the results may be inaccurate.

Approved: 

Approved as to Form: 

Subject: Scope of Practice/Procedure – BLS  
Epinephrine Auto-Injector (EpiPen®) Adult and Pediatric

Associated Policies:


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- I. Class:
  - A. Naturally occurring catecholamine with alpha and beta adrenergic effects.
  - B. It relaxes smooth muscles of the bronchi and is an antagonist of histamine.
- II. Indications:
  - A. Emergency treatment of life-threatening allergic reactions (anaphylaxis).
  - B. Severe life threatening Asthma unrelieved by patients' usual medications.
  - C. Epinephrine auto-injectors are intended for immediate EMT administration as emergency supportive therapy only.
- III. Contraindications:
  - A. Absolute- None when using the EpiPen in a life-threatening situation.
  - B. Relative – Use caution in the patient over 40 or known ischemic heart disease.
- IV. Adverse Effects:
  - A. Tachycardia
  - B. Palpitations
  - C. Tremors
- V. Procedure – Adult or Pediatric
  - A. Injection site for administration is the outer (lateral) thigh muscle midway between the waist and knee. **THIS IS THE ONLY SITE THAT WILL BE USED. NEVER INJECT INTO THE BUTTOCKS OR THROUGH CLOTHING.**
  - B. There are two (2) different sizes of auto-injectors, Adult and Pediatric.
    - a. Adult (> 30 kg): Adult auto-injector – Epinephrine 0.3mg (0.3ml) IM (intramuscular)
    - b. Pediatric (15 - 30kg): Pediatric auto-injector – Epinephrine 0.15mg (0.3 ml) IM (intramuscular).
  - C. Hold the selected auto-injector with your thumb and two fingers (pencil writing position). Be careful not to inject yourself.
  - D. Follow selected device manufactures recommendations concerning administration.
    - a. Hold the auto-injector with tip near the outer thigh.
    - b. Swing and firmly push the tip against the outer thigh until it “clicks”. Keep the auto-injector firmly pushed against the thigh at a 90 degree angle to the thigh.
    - c. Hold firmly against the thigh for approximately ten seconds to deliver the drug.
    - d. Remove the auto-injector from the thigh. The tip will extend to cover the needle.
    - e. Massage the injection site for at least ten seconds.

Subject: Scope of Practice/Procedure – BLS  
Epinephrine Auto-Injector (EpiPen®) Adult and Pediatric

Associated Policies:

- f. Always administer the entire contents of the auto-injector. Never attempt to use an “Adult” auto-injector on a “pediatric” patient (15 -30kg).
- g. Record time of injection.
- h. Reassess every two minutes.
- i. Continue to monitor airway and be prepared to assist with ventilations if needed.
- j. Notify transporting ambulance.
- k. Dispose of device appropriately in sharps container.

Approved:  Date: 6/21/18

Approved as to form:  Date: 6/27/18

Subject: Administration - Provider  
**Controlled Substances**

Associated Policies: 2205, 5310, 5332,

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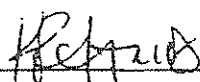
- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of California Health and Safety Code, Sections 1797.220 and 1798
  - B. California Code of Regulations, Title 22, Division 9, Chapter 4, Sections 100146, 100167, and 100168
  - C. North Coast EMS Policies and Procedures
- II. Purpose
  - A. To ensure security and accountability for all controlled substances issued to and maintained upon authorized Advanced Life Support (ALS) provider agency.
  - B. To establish the standards by which controlled substances are obtained, stored, used and tracked.
  - C. To define the responsibilities of the ALS provider agency and Paramedics with regard to controlled substances.
- III. Policy:
  - A. Each designated Base or Modified Base Hospital will ensure that a mechanism exists for prehospital providers to contract for the provision of medications, medical supplies and equipment used by paramedics.
  - B. A licensed physician designated by their Base (or Modified Base) Hospital as the Prehospital Care Medical Director shall authorize the procurement of controlled substances for each ALS provider in one of two ways:
    1. ALS agencies may enter into an agreement with their primary Base Hospital to supply each ALS vehicle with controlled substances.
    2. ALS agencies may retain a medical director who may separately authorize procurement for that provider. An ALS provider medical director shall assume all liability related to compliance with NCEMS policies, and applicable federal, state and local laws and regulations.
  - C. Each ALS provider agency shall have a policy and procedure for obtaining, storing, disposal and tracking of controlled substances regardless of which method controlled substances are obtained.
- IV. Inventory:
  - A. Inventory of controlled substances on ALS provider agency vehicles shall be in accordance with Policy # 2205.


Subject: Administration - Provider  
**Controlled Substances**

Associated Policies:

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- B. Controlled Substances approved for use, and by prior agreement with NCEMS with each ALS provider, include
  - 1. Morphine
  - 2. Fentanyl
  - 3. Midazolam
  - 4. Ativan
  - 5. Diazepam
  
- V. Security of Controlled Substances :
  - A. Paramedic who is in possession of controlled substances is directly and individually responsible to ensure the security of those substances.
  - B. All controlled substances will be stocked in tamper-evident containers.
  - C. All controlled substances will be properly secured in the ALS unit and accessible to the ALS provider
  - D. Each ALS provider shall maintain standardized written records of the controlled substance inventory.
  
- VI. Patient Administration, Waste and Re-supplying of Controlled Substances
  - A. Controlled substances are to be administrated in accordance with NCEMS policy.
  - B. Each administration of controlled substance will be documented on the Patient Care Report.
  - C. Controlled substance re-supply will be in accordance with either the Base Hospital policy or the ALS agency's policies and procedures.
  - D. Re-supply documentation will be in accordance with the ALS provider's Base Hospital and/or the ALS Provider's controlled substance policy.
  
- VII. Expired Controlled Substances:
  - A. Drugs that have reached the expiration date will be returned to the issuing Base Hospital and replaced by that facility.  
OR
  - B. ALS Providers agencies with their own Medical Director will follow their own Controlled Substance policies for disposal and replacement of expired medications.
  
- VII. Discrepany Reporting:
  - A. Each agency or service will follow its internal policy for reporting discrepancies including tampering, theft, loss or diversion of controlled substances.

Approved: 

Approved as to Form: 

**NORTH COAST EMERGENCY MEDICAL SERVICES**  
**POLICIES AND PROCEDURES**

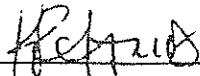
Policy #2209  
Page 3 of 3


Subject: Administration - Provider  
**Controlled Substances**

Associated Policies:

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- B. This policy will be established by the the DEA Registrant and must include immediate verbal reporting to North Coast EMS followed by written reports and investigation.
- C. The DEA Registrant must notify the DEA of the discrepancy within one business day of discovery using DEA Form 106, "Report of Theft or Loss of Controlled Substances".

Approved: 

Approved as to Form: 

Subject: Training

**First Responder Training Program – Course Content**

Associated Policies:

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- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. U.S. Department of Transportation, National Highway Traffic Safety Administration “Instructor Lesson Plans” of the Emergency Medical Services: Emergency Medical Responder Training Course
  - C. North Coast EMS Policies and Procedures
- II. Purpose  
To establish a minimum standard for time and content requirements of North Coast EMS approved First Responder and Refresher Courses.
- III. Minimum Course Content for a Basic First Responder Course – Sixty (60) Hours:
  - A. Introduction to EMS Systems
    - 1. The EMS System
    - 2. The Emergency Medical Responder
    - 3. Local EMS system structure.
    - 4. Helicopter use and local procedure.
  - B. Legal and Ethical Issues
    - 1. Legal Duties
    - 2. Consent
    - 3. Legal Terms
    - 4. Do Not Resuscitate Orders
    - 5. Organ Donors
    - 6. Documentation
    - 7. Communication
  - C. Well-Being of the First Responder
    - 1. Emotional Aspects of Emergency Care
    - 2. Body Substance Isolation Precautions.
    - 3. Scene Safety
  - D. The Human Body
    - 1. Overview of the Human Body
    - 2. Body Systems
  - E. Lifting, Moving and Positioning Patients
    - 1. Principles of Moving Patients
    - 2. Equipment Use
  - F. Patient Assessment
    - 1. Overview of Patient Assessment
    - 2. Scene Size-Up
    - 3. Initial Assessment
    - 4. Focused History and Physical Exam
    - 5. Detailed Physical Exam



Subject: Training  
**First Responder Training Program – Course Content**

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- 6. Ongoing Assessment
- 7. Hand off report and interface with ambulance.

- G. Airway Management
  - 1. Airway Management
  - 2. Pulmonary Resuscitation
  - 3. Airway Obstruction
  - 4. Aids to Resuscitation
  - 5. Suction Systems
  - 6. Oxygen Use –Delivery Devices
  - 7. Airway Adjuncts- OPA/NPA
- H. Resuscitation and Use of the AED
  - 1. Cardiopulmonary Resuscitation
  - 2. Adult and Child CPR
  - 3. Infant CPR
  - 4. Special CPR Situations
  - 5. CPR and AED Use
- I. Medical Emergencies
  - 1. Specific Medical Emergencies
    - a. Chest Pain
    - b. Stroke/Syncope/Near Syncope
    - c. Diabetes and Oral Glucose use
    - d. Seizures and Altered Level of Consciousness
    - e. Poisoning, Bites and Stings
    - f. Heat and Cold Emergencies
    - g. Behavioral Emergencies
    - h. Alcohol and other Drugs.
    - i. Burns
- J. Trauma Emergencies
  - 1. Bleeding, Shock and Soft Tissue Injuries
    - a. Heart, Blood and Blood Vessels
    - b. Bleeding, Shock
    - c. Soft Tissue Injuries
  - 2. Bleeding Control
    - a. Tourniquet Use
    - b. Hemostatic Dressings
  - 3. Muscle and Bone Injuries
    - a. Musculoskeletal System
    - b. Management of Extremity Injuries
    - c. Splinting,
    - d. Spinal Motion Restriction Use
    - e. Traction Splinting

Subject: Training

**First Responder Training Program – Course Content**

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- K. Geriatric Patients
  - 1. Characteristics of Geriatric Patients
  - 2. Age-Related Physical Changes
  - 3. Assessment of the Geriatric Patient
  - 4. Common Medical Problems of Geriatric Patients.
- L. Childbirth
  - 1. Understanding Childbirth Delivery
  - 2. Complications and Emergencies
- M. Pediatric Patients
  - 1. Caring for the Pediatric Patient
  - 2. Characteristics of Children
  - 3. Assessment of Infants and Children
  - 4. Managing Specific Medical Emergencies
  - 5. Managing Trauma Emergencies
- N. EMS Operations
  - 1. Safety
  - 2. Preparing for the Call
  - 3. Motor-Vehicle Collisions and Extrication Principles
  - 4. Hazards and Rescue/Hazardous Materials
- O. Multiple Casualty Incidents
  - 1. Triage and North Coast EMS approved triage tags
  - 2. Incident Command System
- P. Response to Terrorism and Weapons of Mass Destructions
  - 1. Types of Weapons.
  - 2. Hazardous Material
- Q. Tactical First Aid minimum four (4) hours
  - 1. History and Background
  - 2. Terminology and Definitions
  - 3. Coordination, Command and Control
  - 4. Tactical and Rescue Operations
  - 5. Basic Tactical Casualty Care and Evacuation
  - 6. Threat Assessment.
- R. Practical Assessment

- IV. Optional Scope for First Responders (additional hours required)
  - A. Narcan® (Naloxone) Nasal Spray minimum one (1) hour training
  - B. Epinephrine Auto-Injector (EpiPen®) minimum one (1) hour training

**NORTH COAST EMERGENCY MEDICAL SERVICES**  
**POLICIES AND PROCEDURES**

Policy #3104


Page 4 of 4

Subject: Training

**First Responder Training Program – Course Content**

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- V. Minimum Course Content for a First Responder Refresher Course – Sixteen (16) Hours – Same course content as Basic Course above:
- A. General First Aid Principles
  - B. Cardiopulmonary Resuscitation
  - C. EMS System Orientation
  - D. Basic Triage
  - E. Airway and Ventilation Adjuncts
  - F. Obstetrical Emergencies and Emergency Childbirth
  - G. Special Populations Extrication/Rescue/Hazardous Material
  - H. Tactical First Aid

Approved:  Date: 6/21/18

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