

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

#### **MEMORANDUM:**

**DATE:** April 03, 2013

**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: Rhiannon Potts, Administrative Assistant

**RE:** E-Informational Mailing

#### 1. For Your Information:

a. Change Notice # 99

Replace- Policy #2216 Fireline Paramedic

Replace- Policy #2309 Destination Determination

Replace- Policy #5308 Furosemide (Lasix)

Replace- Policy #5311 Naloxone (Narcan) Protocol Replace- Policy #5312 Nitroglycerine (NTG) Protocol

Replace- Policy #5318 Adult and Pediatric Intubation Protocol

Replace- Policy #5402 EMT-P Scope of Practice

Replace- Policy #5436 Continuous Positive Airway Pressure (CPAP)

Replace- Policy #5439 Amiodarone- Cardarone

Replace- Policy #5440 Ipratropium Bromide- Atrovent

Replace- Policy #6503 Shock (Non-Traumatic) with Pulmonary Edema

Replace- Policy #6504 Cardiac Arrest- Ventricular Fibrillation/ Tachycardia- Adult

Replace- Policy #6506 Symptomatic Dysrhythmia- Reg Wide Complex

Replace- Policy #6508 Ventricular Ectopy

Replace-Policy #6509 Symptomatic Dysrhythmia- Regular Narrow Complex >150

Replace- Policy #6510 Other Cardiac Dysrhythmia Replace- Policy #6522 Allergic Reactions/ Anaphylaxis

Replace- Policy #6527 Acute Respiratory Distress

Replace- Policy #6529 Chronic Obstructive Pulmonary Disease

Replace- Policy #6530 Asthma/ Bronchospasm Replace- Policy #6531 Acute Pulmonary Edema

 $Replace-\ Policy\ \#6534\ Cardiac\ Arrest\ (Ventricular\ Fibrillation/Tachycardia)-Pediatric$ 

Replace- Policy #6546 External Cardiac Pacing

Remove-Policy #2213 Scope of Practice/Transcutaneous Cardiac Pacing

Remove-Policy #4803 Transcutaneous Cardiac Pacing

Remove-Policy #5316 Esophageal Obturator Airway (EOA/EGTA)

Remove- Policy #6523 Anaphylaxis

- b. EMSA Quarterly Newsletter April 2013
- c. Changes to EMT-I Basic and Paramedic Scope of Practice
- d. North Coast EMS Second Quarter Progress Report Oct 31, 2012 to December 31, 2012
- e. EMSC TACTICAL PDLN Meeting Minutes October 04, 2012
- f. MCI Channel Test 11/07/2012 and 2/1/13
- g. EMSAAC Conference May 2013 San Diego
- h. JEMS- CMS Innovation Grant Recipients Share Secrets
- i. EMSA Approval of North Coast EMS Agency's 2011 Emergency Medical Services Plan
- j. EMS Patient Offload Delays in ED: Background Information for Stakeholders Meeting



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CHANGE NOTICE CHANGE #99

DATE: 04/03/2013

TO: ALL PREHOSPITAL CARE POLICY MANUAL HOLDERS

| INSTRUCTIONS | POLICY # | POLICY DESCRIPTION  | # OF PAGES |
|--------------|----------|---|------------|
| REPLACE      | 2216     | Fireline Paramedic  | 2          |
| REPLACE      | 2309     | Destination Determination                                       | 2          |
| REPLACE      | 5308     | Furosemide (Lasix)  | 1          |
| REPLACE      | 5311     | Naloxone (Narcan) Protocol                                      | 1          |
| REPLACE      | 5312     | Nitroglycerine (NTG) Protocol                                   | 2          |
| REPLACE      | 5318     | Adult and Pediatric Intubation Protocol                         | 3          |
| REPLACE      | 5440     | Ipratropium Bromide- Atrovent                                   | 2          |
| REPLACE      | 5402     | EMT-P Scope Of Practice   | 3          |
| REPLACE      | 5436     | Continuous Positive Airway Pressure (CPAP)                      | 3          |
| REPLACE      | 5439     | Amiodarone- Cardarone   | 3          |
| REPLACE      | 6503     | Shock (Non-Traumatic) with Pulmonary Edema                      | 2          |
| REPLACE      | 6504     | Cardiac Arrest- Ventricular Fibrillation/<br>Tachycardia- Adult | 2          |
| REPLACE      | 6506     | Symptomatic Dysrhythmia- Reg Wide Complex                       | 2          |
| REPLACE      | 6508     | Ventricular Ectopy  | 1          |
| REPLACE      | 6509     | Symptomatic Dysrhythmia- Regular Narrow Complex>150             | 2          |

| REPLACE | 6510 | Other Cardiac Dysrhythmia   | 2 |
|---------|------|---|---|
| REPLACE | 6522 | Allergic Reactions/ Anaphylaxis                                       | 2 |
| REPLACE | 6527 | Acute Respiratory Distress  | 1 |
| REPLACE | 6529 | Chronic Obstructive Pulmonary Disease                                 | 1 |
| REPLACE | 6530 | Asthma/ Bronchospasm  | 2 |
| REPLACE | 6531 | Acute Pulmonary Edema   | 1 |
| REPLACE | 6534 | Cardiac Arrest (Ventricular Fibrillation/<br>Tachycardia) – Pediatric | 2 |
| REPLACE | 6546 | External Cardiac Pacing   | 2 |
| REMOVE  | 2213 | Scope of Practice/ Transcutaneous Cardiac Pacing                      | 2 |
| REMOVE  | 4803 | Transcutaneous Cardiac Pacing   | 2 |
| REMOVE  | 5316 | Esophageal Obturator Airway (EOA/EGTA)                                | 2 |
| REMOVE  | 6523 | Anaphylaxis   | 2 |

POLICY # 2216

POLICIES AND PROCEDURES Page 1 of 2

#### **SUBJECT: Fireline Paramedic**

- I. Authority and Reference (incorporated herein by references)
  - A. Division 2.5 of Health and Safety Code
  - B. California code of Regulations, Title 22, Div 9, Section 100165 (I)
  - C. North Coast EMS Policies and Procedures
  - D. FIRESCOPE

#### II. Purpose

A. Establish procedures for Fireline Emergency Medical Paramedic response to agencies within or outside of the (local) EMS Agency jurisdiction when requested through the statewide Fire and Rescue Mutual Aid System, to respond to and provide Advance Life Support (ALS) care on the fireline at Mutual Aid related incidents within California to include wildland and moderate to major fire conflagration fires.

#### III. Policy

- A. Under the authority of State regulations, a NCEMS EMT-Paramedic may provide ALS care during emergency operations as long as the following conditions are met:
  - 1. The paramedic is currently licensed by the State of California, is accredited by NCEMS and in good standings with NCEMS.
  - 2. The EMT-Paramedic is currently employed with an ALS provider and possesses the requisite fireline skills and equipment.
  - 3. The EMT-Paramedic is on duty for a North Coast EMS approved ALS provider agency on a mutual aid response.
  - 4. The EMT-Paramedic does not exceed the scope of practice or medical control policies from NCEMS. Paramedics operating in the capacity of a fireline EMT-Paramedic (FEMP) shall follow established NCEMS standing, radio delay or communication failure protocols.
- B. Documentation of patient care will be completed as per NCEMS and Local EMSA Policies and Procedures.
  - 1. Documentation of Patient Care will be submitted to incident host agencies. A copy of the Patient Care Record (PCR) will be forwarded to NCEMS.
  - 2. Continuous Quality Improvement activities shall be in accordance with NCEMS policy in concert with provider agency CQI procedures.

#### C. Equipment & Drug Inventory

- 1. To include at minimum inventory consistent with Firescope FEMP ICS 223-11 Appendix "A" (BLS Pack) and Appendix "B" (ALS Pack).
- 2. Reasonable variations may occur with consideration to weight, length of

assignment and access to additional supplies.

- 3. Controlled substance to be secured according to NCEMS policy.
- 4. The physician under whose license the controlled substances have been issued shall have approved the use of the controlled substances for the associated mutual aid response.

#### D. Accountability

1. Upon arrival at an incident, Fireline EMT-P will check in and receive a briefing from the Logistics Section Chief or the Medical Unit Leader if established.

Approved:

Approved as to Form:

#2309 POLICIES AND PROCEDURES

POLICY
Page 1 of 2

Subject: Patient Care

**Destination Determination** 

#### Philosophy:

It is understood that the care of emergency patients has the highest priority. Therefore, in the event a patient's care can be enhanced, a patient may bypass a facility with the intention to improve their outcome. This may be due to trauma triage, a medical condition, a multiple-casualty incident, a private physician's location, a patient's preference, or in the event of a catastrophic internal hospital disaster. An overwhelmed Emergency Department or lack of inpatient beds will not be a sufficient reason to bypass a medical facility.

Authority and Reference (incorporated herein by reference)

- A. Division 2.5 of the Health and Safety Code
- B. California Code of Regulations, Title 22
- C. North Coast Emergency Medical Services Policies and Procedures
- D. American College of Emergency Physicians established guidelines

#### II. Purpose:

To provide guidelines for temporary bypass of emergency departments and define guidelines for determining patient destination.

#### III. Policy:

- A. Unstable medical patients will be transported to the closest appropriate facility. The prehospital emergency medical care personnel under the direction of the base hospital or alternate base hospital physician will determine this. In the event of an MCI, exceptions may be made in an effort to appropriately distribute patients and optimize care.
- B. Injured patients who meet the conditions established in the Prehospital Trauma Triage Criteria, will be transported according to the guidelines established in policy #7000, Trauma Transport Destination Guidelines Policy.
- C. Medically stable patients will most often be transported to the closest facility due to the geographic location of hospitals in the North Coast EMS region. However, a base hospital MD may determine that a patient will be better served at another facility and authorize bypass for the following reasons:
  - 1. Availability of specialty care. (i.e. neurosurgical services, orthopedics, dialysis)
  - 2. A patient's private physician is waiting at another facility.
  - 3. A patient's preference.
- D. If both the base hospital and transporting paramedic agree that a patient is medically stable and may be transported to a more distant facility, the patient may be transported in accordance with Section IIIC above. If, however, either the treating paramedic or the base hospital physician directing online medical control have reason to believe that the benefits of immediate transfer to another facility are outweighed by the risks incurred

#2309 POLICIES AND PROCEDURES

POLICY Page 2 of 2

Subject: Patient Care

**Destination Determination** 

by delaying emergency department intervention, then the patient shall be transported to the closest facility according to III A above.

- E. Patients may bypass a facility in an effort to provide wide patient distribution during an MCI or disaster.
- F. The declaration of activating a complete Emergency Department bypass will be limited to catastrophic internal disaster.

#### IV. Considerations:

- A. Temporarily overwhelmed Emergency Departments, and lack of inpatient or ICU beds at a receiving facility are not sufficient reasons to implement Emergency Department bypass.
- B. Patients who are in extremis will be accepted by the closest facility regardless of their bypass status.
- C. Ambulances should not be unduly removed from their service areas.
- D. Bypassed Hospital Responsibilities:
  - 1. Establish prior contact with receiving hospital to ensure notification and acceptance of patient, preferably base hospital physician to base hospital physician.
  - 2. If a catastrophic internal disaster has occurred:
    - a. At all times be accountable for all facility functions, such as inpatient bed capabilities/capacity, discharges, transfers, staffing, equipment, physical plant operations, vital services, etc. through activation of internal disaster policy.
    - b. Notify the Office of Emergency Services
  - 3. A record of bypassed patient's should be maintained by the hospital after each episode. This must include a record of appropriate approval, reason for bypass, and date/time. The bypass log should undergo periodic physician review.
- E. Issues of non-compliance with this policy should be reported to North Coast EMS where they will be handled on an individual basis.

#### V. Documentation:

A. Any patient requesting transport to a facility other than that recommended by the base hospital physician should be asked to sign an Against Medical Advice (AMA) release. Efforts to persuade the patient to follow the base hospital physician's recommendation should be documented in the PCR narrative by the responding prehospital personnel.

Approved:\_\_\_

Approved as to Form:

Date: 12/13/12

POLICIES AND PROCEDURES

Policy #5308 Page 1 of 1

Subject: Scope of Practice/Procedure – EMT-II/ Paramedic

Furosemide (Lasix)

Associated Policies: 6502, 6503, 6531

- I. Class
  - A. Diuretic.
- II. Indications
  - A. Severe Congestive Heart Failure (CHF) with previous history, and only AFTER the use of nitrites and CPAP mask device (if available) do not result in patient improvement and only with EMSA and North Coast EMS approval for transports exceeding 45 minutes.
- C. Therapeutic Effect
  - A. Stimulates kidneys to excrete water, salt and potassium which leads to decreased circulating blood volume.
  - B. Produces vasodilatation.
  - C. Very potent with slow onset of 30-120 minutes.
- IV. Contraindications
  - A. Absolute:
    - 1. Dehydration.
    - 2. Pregnancy.
    - 3. Suspected or know infectious, drug related or non cardiac causes of Congestive Heart Failure.
    - 4. Not currently taking furosemide for CHF.
- V. Adverse Effects
  - A. Cardiac dysrhythmias.
  - B. Transient hypotension.
  - C. Nausea and vomiting.
  - D. Dehydration.
- VI. Administration and Dosage
  - A. Adult: 20-80 mg slow IV over 1-2 minutes. Max single dose should never exceed 80 mg.
- VII. Special Information
  - A. Sulfonamide sensitive persons may develop an allergic reaction.

## VIII. ONLY TO BE USED BY PROVIDER AGENCIES WITH PRIOR NORTH COAST EMS APPROVAL.

Approved as to Form: Caufe M

POLICIES AND PROCEDURES

Policy #5311 Page 1 of 1

Subject: Scope of Practice/Procedure – EMT-II

Naloxone (Narcan) Protocol

#### **Associated Policies:**

#### 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. 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, IO or ET.
- C. Neonate: 0.1 mg/kg IV, IM, IO, or ET.

#### VII. Special Information

A. Duration of the action of Naloxone is shorter than the duration of narcotics, repeated doses may be necessary.

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POLICIES AND PROCEDURES

Policy #5312 Page 1 of 2

Subject: Scope of Practice/Procedure – EMT-II/ Paramedic

Nitroglycerine (NTG) Protocol

#### **Associated Policies:**

#### I. Class

A. Nitrate.

#### II. Indications

- A. Unstable Angina Pectoris.
- B. Chest pain of suspected cardiac origin.
- C. Hypertensive emergency.
- D. Acute CHF/Pulmonary edema.

#### III. Therapeutic Effects

- A. Peripheral vasodilatation and decreased pre-load.
- B. Decreases myocardial workload and oxygen demand.

#### IV. Contraindications

#### A. Absolute:

- 1. Hypersensitivity.
- 2. Patients less than 12 years old.
- 3. Cerebral hemorrhage.
- 4. Head injury.

#### B. Relative:

- 1. Blood pressure less than 100 systolic.
- 2. Avoid use in the presence of Acute Inferior MI -can cause hypotension. Consider Morphine for pain control.

#### V. Adverse Effects

- A. Transient hypotension and dizziness.
- B. Temporary pulsating headache.
- C. Facial flushing and burning under the tongue.
- D. Weakness and nausea.

#### VI. Administration and Dosage

#### A. Cardiac Chest pain:

- 1. Sublingual Only: 0.4 mg (1/150 gr.) tablets, or metered-dose spray; repeat every 3-5 minutes if discomfort is unrelieved and systolic blood pressure remains greater than 100.
- B. Acute Pulmonary Edema:
  - 1. Systolic blood pressure greater than 100: Sublingual 0.4mg.
  - 2. Systolic blood pressure greater than 140: Sublingual 0.8mg.
  - 3. Systolic blood pressure greater than 180: Sublingual 1.2mg.

May repeat every 3-5 minutes if blood pressure remains greater than 100.

POLICIES AND PROCEDURES

Policy #5312 Page 2 of 2

Subject: Scope of Practice/Procedure – EMT-II

Nitroglycerine (NTG) Protocol

**Associated Policies:** 

### VII. Special Information

- A. Age increases hypotensive response.
- B. Should not be administered if erectile dysfunction drugs have been used in the previous 24 hours.

Approved:

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Date <u>04/03/2013</u>

POLICIES AND PROCEDURES

Page 1 of 3

Subject: Scope of Practice/Procedure – Paramedic

**Adult and Pediatric Endotracheal Intubation Protocol** 

#### I. Indications

A. Respiratory insufficiency.

#### II. Therapeutic Effects

- A. Isolates the trachea and permits complete control of the airway.
- B. Prevents gastric distension.
- C. Provides direct route for suctioning of respiratory passages.
- D. Permits administration of medications via endotracheal tube.
  - 1. Medications that can be administered:
    - a. Epinephrine.
    - b. Atropine.
    - c. Narcan.
    - d. Lidocaine.

#### III. Contraindications

- A. Absolute:
  - 1. None.
- B. Relative:
  - 1. Severe pharyngeal or esophageal burns: thermal or caustic.
  - 2. Possible epiglottitis
  - 3. Pediatric ET with short transport times of 10 minutes or less.

#### IV. Equipment

- A. Adult and pediatric laryngoscopes.
- B. Adult and pediatric endotracheal tubes (2.5-9.0mm).
- C. Tape or other device for securing tube.
- D. Inserting stylets.
- E. 10 ml syringe.
- F. Bag-Valve-Mask.
- G. Adult and pediatric Magill forceps.
- H. Suction device.
- I. Stethoscope.
- J. Additional Equipment (optional):
  - 1. CO2 Detector Device-Adult and Pediatric

#### V. Adverse Effects

- A. Hypoxia.
- B. Esophageal or right main stem bronchus-intubation.
- C. Aspiration during the procedure.

Subject: Scope of Practice/Procedure – Paramedic

**Adult and Pediatric Endotracheal Intubation Protocol** 

- D. Vagal stimulation with severe bradychardia and hypotension.
- E. Laryngospasm.
- F. Vocal cord damage.
- G. Displacement of a cervical fracture and paralysis.
- H. Complete obstruction of airway in epiglottis.

#### VI. Procedure

#### A. Insertion:

- 1. Ensure that the equipment is working and that suction is available.
- 2. Select appropriate size ET tube:
  - a. Adult: Average adult sizes of 7.0, 7.5 and 8.0 uncuffed tubes.
  - b. Pediatric and infant sizes can be determined using:
    - 1) Resuscitation tape should be about the same size as the child's small fingernail. Pediatric tubes should not be cuffed, or if cuffed, it should not be inflated.
- 3. Insert stylet and bend ET tube into a "Lazy J". If a stylet is used, the distal end should be recessed from the tip of the tube.
- 4. Position patient:
  - a. Medical patient: Sniffing position. Facilitate this position for a child or infant by placing towel roll under shoulders.
  - b. Trauma patient: Neutral position with inline axial stabilization.
- 5. Hyperventilate the patient.
- 6. Grasp laryngoscope in the left hand and ET tube in the right.
- 7. Exert traction upward along the axis of the laryngoscope handle until glottic opening is exposed. Do not use top teeth as a fulcrum.
- 8. Insert ET tube into the trachea.
- 9. Inflate cuff in adult patient with 10cc air.
- 10. Remove syringe and stylet, maintaining tube position.
- 11. Ventilate patient and watch for chest rise, auscultate lung fields and epigastic area.
- 12. If  $CO_2$  Detector is used:
  - a. Determine correct size device. (Do not use Adult CO<sub>2</sub> detector on a patient less than 15kg).
  - b. Place on ET tube and hyperventilate patient.
  - c. Observe  $CO_2$  detector for appropriate color change.
- 13. Note tube position and secure tube in place with tape or ET tube hold device.

## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

Policy #5318 Page 3 of 3

Subject: Scope of Practice/Procedure – EMT-II

#### **Adult and Pediatric Endotracheal Intubation Protocol**

- 14. Reassess ventilations, watch for chest rise and auscultate lung fields.
- B. Indications for Extubation:
  - 1. No chest rise with ventilation.
  - 2. Absent breath sounds.
  - 3. Presence of epigastric ventilation sounds.
  - 4. Purple color on CO<sub>2</sub> detector with exhaustion for patient with a pulse.
  - 5. Consider extubation on the patient who has return of spontaneous respirations, who has regained consciousness, and who is coughing, gagging and struggling against the ET tube.
- C. Extubation Procedure:
  - 1. Turn patient on side and suction oropharynx.
  - 2. If cuff was used, deflate cuff completely.
  - 3. Withdraw ET tube rapidly at end-inspiratory phase while suctioning oropharynx.

Approved:

Approved as to Form:

Subject: Scope of Practice/Procedure – Paramedic

**EMT-P Scope of Practice** 

#### I. Authority and Reference

- 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 paramedic scope of practice.

#### III. Procedure

- A. While at the scene of an emergency, and during transport of the sick and injured, or as a part of their training or continuing education, a paramedic or a paramedic student may, in accordance with North Coast EMS policies and procedures and California State law, do the following:
  - 1. Perform any skill identified in the EMT-I scope of practice.
  - 2. Administer the following medications:
    - a. Activated charcoal.
    - b. Adenosine (Adenocard).
    - c. Albuterol Sulfate (Proventil, Ventolin).
    - d. Aerosolized or nebulized beta-2 specific bronchodilators
    - e. Amiodarone
    - f. Aspirin.
    - g. Atropine Sulfate.
    - h. (Atrovent ) Ipratropium bromide
    - i. Calcium Chloride.
    - j. Dextrose 25% and 50%.
    - k. Diazepam (Valium).
    - 1. Diphenhydramine Hydrochloride (Benadryl).
    - m. Dopamine Hydrochloride (Intropin).
    - n. Epinephrine.
    - o. Furosemide (Lasix)-with EMSA & North Coast EMS approval only and in transport situations of greater than 45 minutes.
    - p. Glucagon.
    - q. KCl < 40 mEq/l.
    - r. Lidocaine Hydrochloride.
    - s. Lorazepam

Scope of Practice/Procedure – Paramedic Subject:

**EMT-P Scope of Practice** 

- Magnesium sulfate. t.
- Midazolam u.
- Morphine Sulfate. v.
- Naloxone Hydrochloride (Narcan).
- Neosynephrine topical application during nasotracheal х. intubation.
- Ondansetron (Zofran) y.
- Oral Nitroglycerine preparations. z.
- Sodium Bicarbonate aa.

#### 3. Perform the following procedures:

- Adult and pediatric endotracheal (ET) intubation (pediatric ET use shall be limited to response times of greater than 10 minutes) and use of Magill forceps.
- Adult and pediatric nasotracheal (NT) intubation. b.
- Needle cricothyrotomy. c.
- Defibrillation. d.
- Synchronized cardioversion of conscious or unconscious e. patients.
- f. Valsalva maneuver.
- Insertion of intravenous (IV) catheters, saline locks, g. needles, or other cannulae in peripheral veins (including external jugular vein).
- Monitor and administer medications through a pre-existing h. central or peripheral vascular access device.
- Intraosseous infusion (IO). i.
- j. Administration of IV glucose or isotonic balanced salt solutions.
- k. Obtain venous blood samples for laboratory analysis.
- Determination of blood glucose level via glucose test strip. 1.
- Administration of medications via IV, intramuscular (IM), m. subcutaneous (SQ), posterior venous plexis, (PVP), endotracheal (ET), nasotracheal (NT), and intraosseous (IO) routes. inhalation, transcutaneous, rectal, sublingual, instransal, oral, topical
- Aerosol therapy with small volume nebulizer. n.
- Rectal administration of Diazepam. o.
- Monitoring Potassium Chloride (KCl) equal to less than 40 q. mEq/L.

Subject: Scope of Practice/Procedure – Paramedic

**EMT-P Scope of Practice** 

- p. Use of non-invasive diagnostic monitoring devices (e.g., pulse oximetry, end-tidal CO<sub>2</sub> detector).
- q. Adult and pediatric nasogastric/orogastric tube insertion and suction.
- r. Needle thoracostomy.
- s. Monitoring thoracostomy tubes.
- t. CPAP
- u. External Cardiac Pacing
- v. ETAD or King Airway

Approved:

Approved as to Form:

#### **SUBJECT:** Continuous Positive Airway Pressure (CPAP)

- 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 describe the use of Continuous Positive Airway Pressure (CPAP) devices in the prehospital setting. CPAP has been shown to rapidly improve vital signs, gas exchange, reduce the work of breathing and decrease the need of endotracheal intubation in patient s who suffer from shortness or breathe from asthma, COPD, pulmonary edema, CHF and pneumonia. In patient s with CHF, CPAP improves hemodynamics by reducing left ventricular preload and afterload.

### III. Policy

- A. All providers must ensure that all their personnel have received adequate training in the use of the provider's CPAP device(s).
- B. Providers must ensure that they can carry adequate oxygen for their selected device. Providers that provide CPAP should also have available Pulse Oximetry.

#### IV. Indications

- A. CPAP should be considered for patients in severe respiratory distress. Signs of severe distress may include:
  - 1. Accessory muscle use/retractions;
  - 2. Oxygen saturation < 92%;
  - 3. Respiratory rate > 24;
  - 4. Unable to speak in full sentences;
  - 5. Abdominal/paradoxical breathing; or
  - 6. Altered mental status

7.

#### V. Contraindications

- A. CPAP requires a patient who is breathing spontaneously and able to cooperate. The mask requires a good seal. CPAP may lower blood pressure, and should not be used with hypotensive patients. Contraindications include:
  - 1. Obvious need for assisted ventilations. Irregular, ineffective or agonal respirations provide ventilations via BVM.;
  - 2. Hypotension (systolic BP < 90 mmHg),
  - 3. Severe motion sickness with active vomiting. ();
  - 4. Patients unable to cooperate, encourage the patient to "try" the CPAP mask device. Manually holding the mask in place with one rescuer

#### **SUBJECT:** Continuous Positive Airway Pressure (CPAP)

- providing words of encouragement may encourage the frightened respiratory distress patient to maintain the device for longer periods.
- 5. Suspected pneumothorax; Evaluate lung sounds frequently when using the CPAP device.
- 6. Facial deformity/trauma/unable to obtain seal;
- 7. Recent facial, neurologic or gastric surgery;
- 8. Upper airway obstruction;
- 9. Age < 12 (or masks too large for the patient's face).

#### VI. Procedure

- A. Explain the procedure to the patient.
- B. Ensure adequate oxygen supply to ventilation device
- C. Place patient in a seated position.
- D. Place the patient on continuous pulse oximetry
- E. Prepare for backup airway management (such as bag-valve-mask ventilation).
- F. Follow the manufacturer's recommendations for mask placement and oxygen titration. Use 5 mm of PEEP pressure to start. Oxygen flow rate will be determined by the CPAP mask device that is being used to achieve the correct pressure in the mask device.
- G. Place the mask on the patient's face, covering the mouth and nose. Ensure the mask fits adequately. Do not secure if the mask extends into the patient's eyes or does not seal to the chin. A smaller mask may be needed.
- H. Check for air leaks.. If patient is anxious with the securement of the mask device, hold the mask firmly in place or allow the patient to hold the device until they can tolerate the straps to be placed.
- I. Continue to coach patient to keep mask in place and readjust as needed.
- J. Observe patient for signs of inability to tolerate therapy, such as decreasing oxygen saturation, and increasing anxiety and combativeness.
- K. Monitor and document the patient's respiratory response to treatment.
- L. Increase oxygen flow to increase PEEP pressure to max of 10 mm when severe respiratory distress does not improve. Improvement is usually evident within five minutes of placing the CPAP mask. If patient continues to deteriorates, remove the CPAP mask and assist ventilations with BVM.
- M. Check and document vital signs every 5 minutes.

  Watch the patient closely for signs of fatigue or decreasing LOC. CPAP mask devices are only effective for those patients who can maintain their own respiratory effort.

#### VII. Considerations

- A. Complications may include inducement of a pneumothorax.
- B. Closed system CPAP mask devices can only be used on conscious COPD patients as these patients may have significant gas trapping and will be unable to maintain a sufficient inspiratory/expiratory ratio. Continued use of CPAP in

#### **SUBJECT:** Continuous Positive Airway Pressure (CPAP)

- these patients will result in pneumothorax. Consult the base hospital as needed.
- C. An improvement with the use of the CPAP mask should be apparent within five minutes in most patients. If after the maximum PEEP level has been reached, 10mm H20, , consider alternative interventions (i.e. bag-valve-mask ventilation,).
- D. If suctioning is necessary, maintain the CPAP mask and use oropharyngeal suctioning.
- E. If the CPAP mask is too large for the patient, consider using the mask from the BVM for a better seal.

#### VIII. Documentation and Patient Care Reporting:

- A. Provide the transporting crew/ hospital with the following information:
  - a. When the CPAP device was place.
  - b. What PEEP flow is currently being used.
  - c. All vital signs including serial Pulse Oximetry readings.

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POLICES AND PROCEDURES

*Policy # 5439*Page 1 of 3

Subject: Scope of Practice/Procedure - Paramedic Amiodarone - Cardarone

#### **Associated Policies:**

#### I. Class

A. Antiarrhythmic agent

#### II. Indications

- A. Life threatening arrhythmias
- B. Ventricular Fibrillation/ Pulseless Ventricular Tachycardia unresponsive to shock delivery CPR and vasopressor.
- C. Hemodynamically unstable Ventricular Tachycardia.
- D. Acute control of Supraventricular Tachyarrhythmia (SVT/PSVT) unresponsive to Adenosine.
- E. Recent-onset Atrial fibrillation

#### III. Therapeutic Effect

Amiodarone is a complex drug with effects on sodium, potassium, and calcium channels as well as  $\alpha$ - and  $\beta$ - adrenergic blocking properties.

- A. Increases the action potential duration (repolarization inhibition).
- B. Noncompetitively blocks beta-adrenergic receptors.
- C. No real inotropic effects.
- D. Prolonged therapy increases the refractory period in the atria, ventricles and AV node

#### IV. Contraindications

- A. Absolute: None for the Cardiac Arrest patient
- B. Absolute: For those NOT in Cardiac Arrest
  - 1. Sinus Bradycardia
  - 2. Atrioventricular Blocks
  - 3. Second and Third degree heart blocks.
  - 4. Neonates
  - 5. Not to be used in conjunction with Lidocaine.
  - 6. Digitalis Toxicity

#### C. Relative

- 1. Use caution in pregnancy
- 2. Patients with depressed lung function.
- 3. Patients already receiving beta and calcium channel blockers and anti-arrhythmic medication

POLICES AND PROCEDURES

*Policy # 5439* Page 2 of 3

Subject: Scope of Practice/Procedure - Paramedic

Amiodarone - Cardarone

#### Associated Policies:

#### V. Adverse Effects:

- A. Multiple complex drug interactions use caution in the conscious patient
- B. Hypotension
- C. Respiratory failure
- D. Bradycardia heart block
- E. Pain at administration site.

#### IV. Administration and Dosage

#### A. Adult:

- 1. Ventricular Fibrillation/Pulseless Ventricular Tachycardia Cardiac Arrest Unresponsive to CPR, Shock and Vasopressor:
  - a. First dose:

300mg IV/IO push.

b.Second dose of 150mg IV/IO in 3 to 5 minutes, if needed.

- 2. Life-Threatening Arrhythmias. Adjunct to cardioversion of stable VT or SVT/PSVT or new onset of rapid Atrial Fibrillation:
  - a. Loading dose of 150 mg IV bolus over 10 minutes (15 mg/minute).
  - b. Maintenance dose: 1mg/minute slow IV over 6 hours.

#### B. Pediatric:

- 1. Ventricular Fibrillation/ Pulseless Ventricular Tachycardia
  - a. 5mg/kg IV/IO bolus,
  - b. can repeat the 5mg/ kg IV/IO in 3-5 minutes.

Not to exceed 300mg for a single dose.

2. For perfusing Supraventricular and Ventricular Arrhythmias:

# Only for use after other therapeutic interventions have failed. (IE Adenosine and cardioversion.)

a. Loading dose of 5 mg/kg IV/IO over 20 to 60 minutes (Maximum single dose 300 mg)

#### IIV. Warnings

A. Hypotension is the most common adverse effect usually do to the rate of infusion. Hypotension should be treated initially with slowing the infusion, additional standard care may include vasopressors, positive inotropic agents and volume expanders.

## **NORTH COAST EMERGENCY MEDICAL SERVICES**POLICES AND PROCEDURES

*Policy # 5439* Page 3 of 3

Subject: Scope of Practice/Procedure - Paramedic

Amiodarone - Cardarone

#### **Associated Policies:**

B. Bradycardia and AV blocks can occur and it is not dose related but do to rate of infusion. Bradycardia should be treated by slowing the infusion rate or discontinuing amiodarone. Be prepared to externally pace if bradycardia persists.

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POLICES AND PROCEDURES

*Policy # 5440* Page 1 of 2

Subject: Scope of Practice/Procedure - Paramedic Ipratropium Bromide - Atrovent

#### **Associated Policies:**

#### I. Class

#### A. Parasympathetic blocker

#### II. Indications:

Indicated as an adjunct bronchodilator for asthma, COPD, allergic reaction. or bronchospasm which are not being adequately controlled by beta adrenergic agents such as albuterol.

#### III. Therapeutic Effect

Inhibits parasympathetic stimulation by blocking acetylcholine receptors.

Dilates bronchioles and decreases respiratory tract secretions.

#### IV. Contraindications

#### A. Absolute:

1. Patients with history of hypersensitivity to peanuts, soy products or atropine.

#### B. Relative

- 1. Use caution in glaucoma patients.
- 2. Pediatrics less than 12 years of age.

#### V. Adverse Effects:

- A. Tachycardia
- B. Blurred vision
- C. Headache
- D. Dizziness
- E. Nausea / vomiting

IV. Administration and Dosage - Not to be used as primary therapy for bronchospasm. Must be used with Albuterol in a nebulizer.

#### A. Adult:

1. Administer by nebulizer - 0.5mg (2ml) with 1 unit dose (2.5mg/3ml) of Albuterol. Maybe repeat once for longer transport times. Do not repeat if significant tachycardia or chest pain.

#### B. Pediatric:

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POLICES AND PROCEDURES

*Policy # 5440* Page 2 of 2

Subject: Scope of Practice/Procedure - Paramedic Ipratropium Bromide - Atrovent

#### **Associated Policies:**

1. Administer by nebulizer - 0.5mg (2ml) with 1 unit dose (2.5mg/3ml) of Albuterol. **Single dose only**.

IIV. Warnings

Concomitant use of THC and ipratropium may increase the heart rate beyond that expected with either drug alone. Avoid the use of ipratropium in patients who are under the influence of THC, especially if unable to tolerate tachycardia.

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POLICIES AND PROCEDURES

Policy #6503 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Shock (Non-Traumatic) with Pulmonary Edema

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Identify signs of shock.
- C. Determine if patient has shock with or without pulmonary edema.
- D. If pulse <50 or >150, consider possible causes and first establish if dysrhythmia is cause of signs and symptoms and then treat dysrhythmias.
- E. Early transport, Code 3 when critical signs of hypoperfusion exist.

#### II. Shock (Non-Traumatic) with Pulmonary Edema

Most patients with cardiogenic shock have an AMI and, therefore, present with the constellation of symptoms of acute cardiac ischemia (eg, chest pain, shortness of breath, diaphoresis, nausea, vomiting). Patients experiencing cardiogenic shock also may present with pulmonary edema, acute circulatory collapse, and presyncopal or syncopal symptoms

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) are paramedic level only.

#### A. Shock with Pulmonary Edema:

Patient displays signs and symptoms of shock with wet lung sounds-

- 1. Ensure a patent airway.
- 2. Oxygen high flow. Be prepared to support ventilations using appropriate airway adjuncts and positive pressure ventilations.
- 3. Consider CPAP device early with adequate blood pressure.
- 4. Early and rapid transport.
- 5. Cardiac monitor –Obtain 12 lead (if available) and treat dysrhythmias per specific treatment guidelines when dysrhythmia is determined to cause of signs and symptoms. Watch closely and reassess frequently for any rhythm changes
- 6. IV access. NS. Consider small fluid boluses for blood pressures less than 80 systolic DO NOT USE large boluses of fluid. Monitor blood pressure closely and use fluid only to maintain an adequate blood pressure. (80 to 90 systolic)
- 7. Obtain Blood Glucose.
  - a. Dextrose 50% 25 grams for blood sugars less than 60 for adult patients.
  - b. Dextrose 25% 1to 2 grams per kilogram for pediatrics less than 2 years of age

## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

Policy # 6503 Page 2 of 2

Subject: Medical Direction

**Advanced Life Support Treatment Guidelines** 

**Cardiac Emergencies:** 

**Shock (Non-Traumatic) With Pulmonary Edema** 

#### **Associated Policies:**

- c. Dextrose 10% 1 to 2 grams per kilogram for neonates (<less than 30 days).
- d. Consider Naloxone 0.8 to 2.0 mg IVP if narcotic overdose
- 7. Keep the patient warm.
- 8. Zofran 4mg IV for nausea or vomiting. Medicate early for nausea to prevent any vomiting.
- 9. Nitroglycerin 0.4 mg, if BP over 100 systolic and use caution for patients with acute Inferior MI as medication will decrease preload and increase shock states.
- 10. Use Morphine in small increments for chest pain to avoid a drop in blood pressure.
- 11. \*\* Dopamine infusion beginning at 2-5µg/kg/minute, if hypotension persists or continued fluid management is unacceptable
- 12. Be prepared for terminal dysrhymias and have all resuscitative equipment ready for use.

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POLICIES AND PROCEDURES

Policy #6504 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Cardiac Arrest - Ventricular Fibrillation/Tachycardia - Adult

Assoicated Policies: 5305, 5306, 5307, 5309, 5311,5313,5315,5318, 5428,

5439,6550,6534

#### I. Priorities

- A. Establish and maintain effective chest compressions (CPR) and rapidly defibrillate.
- B. In unwitnessed arrest, defibrillation should follow 2 minutes of effective chest compressions.
- C. Advanced airway and IV access should not compromise effective chest compressions.
- D. Re-assess rhythm and pulse immediately prior to drug delivery.
- E. Transport Code 3.
- II. Cardiac Arrest Ventricular Fibrillation/ Pulseless Ventricular Tachycardia Pediatric note: Refer to Policy # 6534

Skills and procedures denoted by double asterisks (\*\*) are paramedic level only.

- A. Non-Traumatic Cardiopulmonary Arrest Basic Therapy:
  - 1. Primary survey with basic life support and basic airway adjuncts.
  - 2. Determine cardiac rhythm: ventricular fibrillation, or pulseless ventricular tachycardia.
    - a. Precordial thump is possibly helpful in a monitored witnessed arrest, without rapid access to a defibrillator.
    - b. If arrest unwitnessed, perform CPR for 2 minutes prior to defibrillation.
    - c. Defibrillation at 120 biphasic or 360 monophasic joules. Subsequent shocks should be administered after each 5 cycles (approximately 2 minutes) of CPR at 360 joules.
  - 3. Endotracheal Intubation (or Combitube) and ventilate with 100% Oxygen. After advanced airway placement administer a compression rate of 100/minute without pauses for ventilation. Asynchronous should then be administered at a rate of 8-10 per minute.
  - 4. IV access or IO access if IV site not readily available.
    a. \*\*
  - 5. Epinephrine 1mg IVP every 3-5 minutes.
  - 6. May consider endotracheal drug administration at 2-2.5 times the usual IV dosage and a volume of 10mls when IV/IO are unsuccessful. ET drug dose administration should not be considered for first line drug administration.
  - 7. Consider Naloxone 2 mg IVP and 50% Dextrose 25 Gm IVP as in indicated by history and blood glucose.

POLICIES AND PROCEDURES

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Subject: Treatment Guidelines – ALS Personnel

Cardiac Arrest – Ventricular Fibrillation/Tachycardia - Adult

Assoicated Policies: 5305, 5306, 5307, 5309, 5311,5313,5315,5318, 5428, 5439,6550,6534

- 8. Lidocaine 1.5mg/kg IVP/IO every 3-5 minutes to loading dose of 3 mg/kg OR
- 9. Amiodarone 300mg IVP/IO may repeat once at 150mg IVP/IO in 3 to 5 minutes.
- 10. Sodium Bicarbonate 1 mEq/kg IVP, if known hyperkalemia, as evidenced by:
  - a. Acute renal failure.
  - b. Dialysis related arrest.
  - c. Diabetic ketoacidosis.
- 11. \*\* Magnesium Sulfate 1-2 Gm of 10% solution over one (1) minute.
- 12. Sodium Bicarbonate 1 mEq/kg IVP may be helpful after prolonged arrest interval.

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POLICIES AND PROCEDURES

Policy #6506 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Symptomatic Dysrhythmia - Reg Wide Complex

Associated Policies: 5309, 5310, 5315, 5332, 5427, 5428, 5439

#### I. Priorities

- A. ABC's.
- B. Identify dysrhythmia and degree of distress. Anticipate the faster the rhythm the more unstable the patient will become..
- C. Obtain 12 Lead ECG for diagnostics when available.
- D. Stabilize pulseless dysrhythmias before transport.
- E. Re-assess rhythm and vital signs frequently.
- F. Transport Code 3.

## II. Symptomatic Dysrhythmia - Reg Wide Complex: assume Ventricular Tachycardia.

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) are paramedic level only.

- A. Ventricular Tachycardias with a Pulse:
  - 1. Oxygen high flow, if clinically critical. High flow oxygen preferred for infants and children.
  - 2. IV access TKO. (Blood draw for labs if time allows)-
  - 3. Contact base hospital.
- B. Unstable Criteria:

Chest pain.

SOB.

Diminished LOC.

Hypotension.

CHF.

AMI.

- 1. Lidocaine 1.5 mg/kg IVP is acceptable while preparing for immediate cardioversion.
- 2. Premedicate, if conscious, with Benzodiazepines or Morphine.
- 3. Synchronized cardioversion at 100 WS (substitute biphasic equivalent per manufacture's recommendations). Pediatric cardioversion starts at 1 Joule/kg and is then doubled, 2 Joules/kg, if needed.
- 4. If unchanged, Synchronized cardioversion 200 WS.
- 5. Synchronized cardioversion 300 WS.
- 6. Synchronized cardioversion 360 WS.
- 7. Lidocaine 1-1.5 mg/kg IVP. OR
- 8. Amiodarone 150mg IV over 10 minutes.

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POLICIES AND PROCEDURES

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Subject: Treatment Guidelines – ALS Personnel

Symptomatic Dysrhythmia - Reg Wide Complex

- 9. Repeat Lidocaine 0.5-0.75 mg/kg IVP, every 5-10 minutes to a maximum total of 3 mg/kg.
- 10. Synchronized cardioversion 100 WS.
- 11. Synchronized cardioversion 200 WS.
- 12. Synchronized cardioversion 300 WS.
- 13. Synchronized cardioversion 360 WS.
- C. If patient is stable:
  - 1. Lidocaine 1mg/kg IVP
  - Repeat Lidocaine 0.5-0.75 mg/kg IVP, every 5-10 minutes to a maximum total of 3 mg/kg.
     OR
  - 3. Amiodarone 150mg over 10 minutes.
  - 4. If converted with Amiodarone start infusion of 1mg/minute.
  - 5. If no response, consider Adenosine 6mg IVP. Repeat once at Adenosine 12mg IVP if rhythm is a regular monomorphic wide complex tachycardia.
  - 6. Premedicate if conscious with Benzodiazepines or Morphine.
  - 7. Synchronized cardioversion 100WS.
  - 8. Synchronized cardioversion 200 WS.
  - 9. Synchronized cardioversion 300 WS.
  - 10. Synchronized cardioversion 360 WS.
- D. For Torsades des pointes, Magnesium Sulfate 10% 1-2 Grams, slow IV push. .
- C. Consider sinus tachycardia with history of bundle branch block.
- D. Repeat 12 Lead ECG when dysrhythmia resolves or changes.

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POLICIES AND PROCEDURES

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Subject: Treatment Guidelines – ALS Personnel

**Ventricular Ectopy** 

Associated Policies:5309, 5439

#### I. Priorities

- A. ABC's.
- B. Identify dysrhythmia and degree of distress.
- C. Initiate treatment before transport.
- D. Reassess rhythm and vital signs frequently.
- E. Do not treatment ventricular ectopy in the presence of bradycardia.
- F. Do not treat Ventricular Ectopy in the stable patient.
- G. Transport Code 2. If unstable, Code 3.

#### II. Ventricular Ectopy

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) are paramedic level only.

- A. Oxygen 4 l/minute by nasal cannula or high flow by mask, if clinically critical. Ensure patient is well oxygenated prior to medicating for ventricular ectopy.
- B. Consider 12 Lead for diagnostics if available. Treat dysrhythmias per specific treatment guidelines.
- C. IV access TKO. (Blood draw for labs) Contact base hospital.
- D. Lidocaine 1.0-1.5 mg/kg IVP initial dose.
- E. Repeat Lidocaine 0.5-0.75 mg/kg IVP every 5-10 minutes to a maximum of 3 mg/kg. OR
- F. Amiodarone 150mg IV over 10 minutes.
- G. Consider:
  - 1. Amiodarone infusion 1mg/minute over 60 minutes.
  - 2. Lidocaine drip 2-4 mg/minute (2 Gm in 500 ml IV solution).
  - 3. Shock protocols for clinical signs of hypoperfusion, acute pulmonary edema or congestive heart failure.

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POLICIES AND PROCEDURES

Policy #6510 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Other Cardiac Dysrhythmia

Associated Policies:5315,5321,5335,5421, 5439

#### I. Priorities

- A. ABC's.
- B. Determine type of dysrhythmia and degree of physiological distress. Obtain 12 Lead if available to assist in diagnostics.
- C. Initiate treatment in the field.
- D. Re-assess the rhythm and vital signs.
- E. Transport Code 2 most patients. Code 3 if signs of shock, perfusion failure, severe unremitting chest pain.

#### II. Other Cardiac Dysrhythmia

A. Sinus Tachycardia:

Heart rate 100-160, regular.

- 1. Oxygen therapy.
- 2. Cardiac monitor.
- 3. Contact base hospital.
- 4. Consider:
  - a. IV access TKO, if indicated by clinical presentation. .
  - b. Fluid boluses 250cc-500cc as indicated by clinical presentation.
- 5. Search for and treat the underlying cause.
- B. Multi-Focal Atrial Tachycardia:

Heart rate 100-160 or more, irregular variable P wave morphology and PR interval. Most commonly seen in COPD patients.

- 1. Treat as sinus tachycardia and COPD.
- C. Premature Atrial Contractions:

Variable underlying regular sinus rhythm with super-imposed premature, usually narrow-complex beats, not followed by a compensatory pause. Usually due to ingestion of stimulants (caffeine, tobacco, alcohol, amphetamines, theophylline, etc.).

- 1. Oxygen therapy.
- 2. Cardiac monitor.
- 3. Consider:
- 4. IV access TKO, if indicated by clinical presentation. Search for and treat the underlying cause.
- D. Atrial Flutter:

Variable rate depending on block (2:1, 3:1, etc.). Atrial rate between 250-350, in a "saw-tooth" pattern.

- 1. Oxygen therapy.
- 2. Cardiac monitor. Obtain 12 lead.
- 3. Contact base hospital.

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## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

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Subject: Treatment Guidelines – ALS Personnel

Other Cardiac Dysrhythmia

- 4. IV access TKO. If well tolerated, transport with cardiac monitoring.
- 5. If poorly tolerated, (BP < 80, unconsciousness or obtundent, severe chest pain or dyspnea etc.), ventricular rate > 140-150, consider synchronized cardioversion at 50 W/S monophasic, or appropriate WS for biphasic. Some may prefer to start at lower energy levels, especially if the patient is taking Digoxin. Pediatric cardioversion should be delivered at 1 Joule/kg monophasic, or appropriate WS for biphasic (refer to length based dosing tape for appropriate defibrillator settings).
- 6. May consider Amiodarone 150mg over 10 minutes if rhythm is determined to be new onset. If conversion is successful, Amiodarone infusion of 1mg/minute over 1 hour.

#### E. Atrial Fibrillation:

Variable rate usually 200, irregularly irregular.

- 1. Oxygen therapy.
- 2. Cardiac monitor.
- 3. Contact base hospital.
- 4. IV access TKO.
- 5. If well-tolerated, transport with cardiac monitoring.

If poorly tolerated, (BP <80, unconsciousness or obtundent, severe chest pain or dyspnea, etc.), ventricular rate > 140-150, consider synchronized cardioversion 50 W/S monophasic, or appropriate WS for biphasic, with increase in 50 W/S increments until cardioversion is successful or 200 W/S monophasic, or appropriate WS for biphasic is reached. Some may prefer to start at a lower energy level, if the patient is taking Digoxin. Pediatric cardioversion should be initially delivered at 1 Joule/kg monophasic, or appropriate WS for biphasic (refer to length based dosing tape for appropriate defibrillator settings).

6. May Consider Amiodarone 150mg over 10 minutes if rhythm is determined to be new onset. If conversion is successful, Amiodarone infusion of 1mg/minute over 1 hour.

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POLICIES AND PROCEDURES

Policy #6522 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Allergic Reactions/Anaphylaxis

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Respiratory assessment (the more rapid the onset, the more severe the reaction).
- C. Identify anaphylactic shock (anxiety, difficulty swallowing, dyspnea, urticaria, angioneurotic edema, wheezing, and hypotension).
- D. Transport Code 2, after initiating therapy. Code 3, if signs and symptoms persist.

#### II. Allergic Reactions

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

A. Urticaria

Itchy, raised welts, may have swelling of mucous membranes of the mouth and eyes. No signs of shock.

- 1. Ensure patent airway.
- 2. Oxygen therapy.
- 3. Cardiac monitor.
- 4. Contact base hospital.
- 5. IV access TKO if necessary.
- 6. Consider:
  - a. \*\* Diphenhydramine: 25-50 mg IM or IVP.
  - b. Epinephrine 1:1000, 0.01mg/kg IM to a maximum dose 0.5mg (use caution > 35 years).

#### III. Anaphylactic Shock

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

- A. The presence of urticaria/angioedema or history of exposure to allergen with dyspnea, stridor, wheezing, tachycardia, hypotension, anxiety, and tightness in the chest.
  - 1. Ensure a patent airway.
  - 2. Oxygen high flow. Be prepared to assist ventilations with appropriate airway adjuncts.
  - 3. Position of comfort.

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Subject: Treatment Guidelines – ALS Personnel

Allergic Reactions/Anaphylaxis

Associated Policies: 3/27/13

- 4. Albuterol 2.5mg nebulized. May consider first dose mixed with Atropent 0.5mg. Repeat Albuterol as needed.
- 5. Cardiac monitor treat dysrhythmias per specific treatment guidelines.
- 6. Contact base hospital.
- 7. Consider early transport, Code 3.
- 8. Establish two (2) IV's with large bore cannula. Re-check vitals after every 250cc or five (5) minutes.
- 9. Epinephrine for adults in significant shock:
  - a. Epinephrine 1:10,000 slow IVP (15-60 seconds) in 0.1mg increments until BP systolic > 100 or total of 0.5mg given. May give up to 0.5mg of Epinephrine 1:1,000 IM, if IV unavailable or delayed.
- 10. Epinephrine for infants and children in significant shock:
  - a. Epinephrine 1:10,000 slow IVP in 0.05mg (0.5cc) increments titrated to relieve signs of shock or until a total of 0.01mg/kg is reached. May give 0.01mg/kg (up to 0.5mg of 1:1,000) IM, if IV unavailable or delayed.
- 11. Fluid Challenges:
  - a. Adults 250cc at a time.
  - b. Pediatric 20cc/kg at a time.
- 12. Benadryl: Adults 25mg to 50mg slow IV/IO or IM. Pediatric: 1-2mg/kg slow IV, IO or IM.
- 13. Epinephrine Infusion: 1mcg/min titrated to blood pressure.
- 14. Dopamine infusion beginning at 2-5μg/kg/min, if hypotension persists

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POLICIES AND PROCEDURES

Policy #6527 Page 1 of 1

Subject: Treatment Guidelines – ALS Personnel

**Acute Respiratory Distress** 

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Determine degree of physiologic distress: respiratory rate > 20, use of accessory muscles, cyanosis, inadequate ventilation, depressed level of consciousness.
- C. Maintain airway, provide oxygen and ventilatory support.
- D. Determine which causes best fit patient signs and symptoms, initiate treatment.
- E. Transport Code 3 for patients in severe respiratory distress. Code 2 for other patients.

#### II. Acute Respiratory Distress

Increased respiratory rate, sensation of difficulty breathing not clearly due to the clinical entities specified below. May be due to pneumonia, inhalation of toxic substances or pulmonary embolus.

- A. Ensure a patent airway.
- B. Position of comfort.
- C. Oxygen therapy be prepared to support ventilations with appropriate airway adjuncts.
- D. Consider early transport.
- E. Cardiac monitor.
- F. Obtain 12 Lead ECG, If abnormal findings, treat with appropriate treatment guidelines.
- G. Consider Albuterol 2.5mg/3cc or unit dose for low oxygen saturations.
- H. Contact base hospital.
- I. IV access TKO.

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POLICIES AND PROCEDURES

Policy #6529 Page 1 of 1

Subject: Treatment Guidelines – ALS Personnel

**Chronic Obstructive Pulmonary Disease** 

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Determine degree of physiologic distress: respiratory rate > 20, use of accessory muscles, cyanosis, inadequate ventilation, depressed level of consciousness.
- C. Maintain airway, provide oxygen and ventilatory support.
- D. Determine which causes best fit patient signs and symptoms, initiate treatment.
- E. Transport (after initial therapy) Code 3 for patients in severe respiratory distress. Code 2 for other patients.

#### II. Chronic Obstructive Pulmonary Disease

Chronic symptoms of pulmonary disease, wheezing, cough, decreased breath sounds, may have barrel chest.

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

- A. Ensure a patent airway.
- B. Pulse oxymetry.
- C. Use high flow O2.
- D. Cardiac monitor.
- E. Contact base hospital.
- F. IV access TKO.
- G. Continuous Albuterol Sulfate via nebulizer using 0.5ml of a 0.5% solution in 3.0cc saline or unit dose vial.
- H. Atrovent 0.5mg (2ml) added to first dose of Albuterol. May repeat once with longer transport times.
- I. Consider CPAP if available. Refer to CPAP policy 5436 for relevant considerations.

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POLICIES AND PROCEDURES

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Subject: Treatment Guidelines – ALS Personnel

Asthma/Bronchospasm

Associated Policies: 5307, 5329, 5411, 5413, 5440

#### I. Priorities

- A. ABC's.
- B. Determine degree of physiologic distress: respiratory rate > 20, use of accessory muscles, cyanosis, inadequate ventilation, depressed level of consciousness.
- C. Maintain airway, provide oxygen and ventilatory support.
- D. Determine which causes best fit patient signs and symptoms, initiate treatment.
- E. Transport (after initial therapy) Code 3 for patients in severe respiratory distress. Code 2 for other patients.

#### II. Asthma/Bronchospasm

Acute onset of respiratory difficulty usually with a history of prior attacks, wheezes, and coughing.

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

- A. Ensure a patent airway.
- B. Oxygen high flow. Alert and frightened children will benefit most from blow-by oxygen being delivered by parent.
- C. Cardiac monitor.
- D. Pulse oxymetry.
- E. Contact base hospital.
- F. IV access consider fluid bolus. .
- G. Contact base hospital.
- H. Consider:
  - 1. Albuterol Sulfate 1 via nebulizer using 2.5mg in 3cc unit dose vial. with Atrovent 0.5mg in 2cc for the first dose.
  - 2. Repeat Albuterol Sulfate 2.5mg as needed. Repeat Atrovent only for Adult patients when transport times are excessive.
  - 3. Epinephrine 0.01mg/kg of 1:1000 subcutaneously (maximum 0.5mg). May repeat in twenty (20) minutes. Use caution in patients over 50 years of age and in patients with coronary artery disease.
  - 4. CPAP may be initiated at any time during treatment unless contraindicated. Continue inline Albuterol during CPAP therapy.
  - 5. May consider Magnesium Sulfate 10% 2 Grams over 20 minutes for severe asthma episodes.

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POLICIES AND PROCEDURES

Policy #6531 Page 1 of 1

Subject: Treatment Guidelines – ALS Personnel

**Acute Pulmonary Edema** 

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Determine degree of physiologic distress: respiratory rate > 20, use of accessory muscles, cyanosis, inadequate ventilation, depressed level of consciousness.
- C. Maintain airway, provide oxygen and ventilatory support.
- D. Determine which causes best fit patient signs and symptoms, initiate treatment.
- E. Transport (after initial therapy) Code 3 for patients in severe respiratory distress. Code 2 for other patients.

#### II. Acute Pulmonary Edema

Acute onset of respiratory difficulty may have history of cardiac disease, rales, and occasional wheezes.

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

- A. Ensure a patent airway.
- B. Position of comfort.
- C. Oxygen high flow. Be prepared to support ventilations with appropriate airway adjuncts. Consider CPAP early for severe distress, when available.
- D. Cardiac monitor.
- E. Pulse oxymetry.
- F. IV access TKO.
- G. Contact base hospital.
- H. Consider:

#### Nitroglycerin sublingually

- a. Systolic blood pressure greater than 100: Sublingual 0.4mg.
- b. Systolic blood pressure greater than 140: Sublingual 0.8mg.
- C. Systolic blood pressure greater than 180: Sublingual 1.2mg. May repeat every 3-5 minutes if blood pressure remains greater than 100.
- 2. With EMSA & North Coast EMS approval only and for transports exceeding 45 minutes. Furosemide 20-80mg slow IVP consider for patient with previous history of Congestive Heart Failure and who already take Furosemide. Do not exceed 80mg for any single dose.
- 3. Albuterol 2.5mg via SVN for wheezes. May repeat as needed.

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POLICIES AND PROCEDURES

Policy #6534 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

Cardiac Arrest (Ventricular Fibrillation/Tachycardia) - Pediatric

Associated Policies:5304,5307,5309,5311,5313,5315,5318,5321,5324,5405,54085421, 5431, 5439

#### I. Priorities

- A. ABC's.
- B. Airway/ventilation (90% of pediatric arrests are respiratory in origin).
- C. Warmth (hypothermia increases complications).
- D. Identify the dysrhythmia.
- E. Provide high quality uninterrupted CPR.
- F. Rapid fluid/medication routes; IV may be difficult, if initial attempt fails or no sites readily available, establish an IO,
- G. Do not use ET as first line medication route.
- H. Transport early Code 3.

#### II. Cardiac Arrest

Pediatric not: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

- A. Pediatric Cardiopulmonary Arrest Basic Therapy:
  - No spontaneous pulses or respiration, non-traumatic.
  - 1. Primary survey with basic life support and airway adjuncts.
  - 2. Determine cardiac rhythm in more than one lead, if in ventricular fibrillation or pulseless ventricular tachycardia:
    - a. Defibrillate at 2 WS/kg (25 WS minimum)
    - b. Defibrillate at 4 WS/kg for second and subsequent defibrillations.
  - 3. Endotracheal intubation and ventilate with 100% oxygen.
  - 4. IV access TKO. \*\* Consider Intraosseous Infusion (IO) in pediatrics, if unable to establish vascular access .
  - 5. Contact base hospital.
  - 6. See specific dysrhythmia treatment guidelines.
  - 7. Consider Naloxone 0.1mg/kg IVP and Glucose 10% or 25%, if indicated by history).
- B. Ventricular Fibrillation/Pulseless Ventricular Tachycardia:
  - 1. Basic therapy for cardiopulmonary arrest:
    - a. Defibrillate at 2 WS/kg first shock. .
    - b. Defibrillate at 4 WS/kg for second and subsequent defibrillations..
  - 2. Provide quality uninterupted compressions.
  - 3. Epinephrine 1:10,000 0.01mg/kg IVP/IO. Repeat every 5 minutes.
  - 4. May consider Epinephrine 1:1,000 0.1mg.kg via ET. Repeat

POLICIES AND PROCEDURES

Subject: Treatment Guidelines – ALS Personnel

#### Cardiac Arrest (Ventricular Fibrillation/Tachycardia)Pediatric

every 5 minutes. Do not use ET as first line medication route.

5. Lidocaine IV/\*\*IO/ET 1mg/kg every 3-5 minutes to maximum dose of 3mg/kg..

OR

- 6. Amiodarone 5mg/kg slow IV/IO push over 1-2 minutes. May repeat in 5 minutes.
- 7. If indicated by history,
  - 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:

- 1. Basic therapy for cardiopulmonary arrest.
- 2. Provide quality, uninterrupted CPR.
- 3. If rhythm interpretation unclear and fine ventricular fibrillation is a possibility, use V-fib/Pulseless Tachycardia treatment guidelines.
- 4. Epinephrine 1:10,000 0.1mg/kg IV/IO, every 5 minutes.
- 5. May consider Epinephrine 1:1,000 0.1mg/kg via ET. Do not use ET as first line medication route.
- 6. Rapid transport.
- 7. Consider
  - a. Sodium Bicarbonate1mEq/kg IVP
  - b. Naloxone 0.01-0.1mg/kg IVP/IO/ET
- D. Pulseless Electrical Activity/Electromechanical Dissociation:
  - 1. Basic therapy for cardiopulmonary arrest.
  - 2. Identify and treat the causes:
    - a. Severe hypoxemia hyperventilate/hyperoxygenate.
    - b. Severe acidosis hyperventilate.
    - c. Severe hypovolemia fluid challenge 20ml/kg.
    - d. Tension pneumothorax.- needle thoracostomy.
    - e. Profound hypothermia radiant warmer.
  - 3. Provide high quality, uninterrupted CPR.
  - 4. Epinephrine 1:10,000 : 0.1mg/kg via IO/IV every 5 minutes.
  - 5. May consider Epinephrine 1:1,000 0.1mg/kg via ET. Do not use ET as first line medication route.
  - 6. Fluid challenge 20cc/kg.
  - 7. Atropine 0.02mg/kg (minimum of 0.1mg.), if rate is bradycardic.
  - 8. Consider and treat reversible causes.

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POLICIES AND PROCEDURES

Policy #6546 Page 1 of 2

Subject: Scope of Practice/Procedure - Paramedic

**External Cardiac Pacing** 

#### Associated Policies:

#### I. Actions

A. Substitute for the heart's auto-depolarizing function

#### II. Indications

- A. Symptomatic bradycardia unresponsive to Atropine.
- B. Symptomatic bradycardia where Atropine is not indicated (including Beta-Blocker overdose).
- C. Third degree heart block (may be used prior to Atropine).
- D. Patients in asystole or PEA on base hospital orders.

#### III. Contraindications

A. Should not be use on patients less than 12 years of age or less than 100 pounds.

#### IV. Adverse effects

A. Discomfort.

#### V. Procedure

- A. External Cardiac Pacing may only be initiated or monitored by EMT-Ps who have been trained to competency and oriented to North Coast EMS related policies and procedures. This includes all North Coast EMS Paramedics currently accredited to use External Cardiac Pacing. Providers must document, retain documentation of training competency for at least 4 years. For providers not already accredited for Cardiac Pacing by North Coast EMS, providers. Providers need only furnish North Coast EMS copies of this training documentation upon request. All Paramedics utilizing Cardiac Pacing shall have been fully oriented to the Providers External Cardiac Pacing device(s).
- B. Alert and oriented patients should have the procedure explained to them prior to initiation of External Cardiac Pacing in the field. Patients should be told that they may experience some discomfort and/or muscle twitching during pacing.
- C. Sedation should be considered for conscious patients prior to field initiation of External Cardiac Pacing provided there are no contraindications. Sedative administration should not exceed minimal requirement to decrease patient discomfort and should never exceed corresponding North Coast EMS protocol maximum dosages unless on direct order of the base hospital physician.

## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

Policy #6546 Page 2 of 2

Subject: Scope of Practice/Procedure - Paramedic

**External Cardiac Pacing** 

**Associated Policies:** 

- D. External Cardiac Pacing electrode placement should be "anterior-posterior" according to manufacturer recommendations. Select for mode according to manufacture's recommendations, adjust rate from between 60 and 90 PPM, and adjust current beginning at zero milliamperes (mA) and increasing until proper sensing and electrical and mechanical capture has been identified. Capture indicators include ECG changes (usually widening of the QRS and a tall, broad T-wave), corresponding pulse (should be palpated at the right carotid) and signs of improved perfusion.
- E. Document patient vitals and any signs or symptoms of Symptomatic Bradycardia when initiating External Cardiac Pacing in the field. Record a rhythm strip prior to initiating External Cardiac Pacing in the field.
- F. Document response to external pacing, including minimum energy level required for capture, rate applied (between 60 and 90 PPM), blood pressure, and other vital signs every ten (10) minutes.

#### VI. Precautions

- A. Carefully monitor patient to ensure that mechanical capture is maintained.
- B. Terminate External Cardiac Pacing only after consultation with the base hospital.

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Subject: Administration- ALS Provider

**Scope of Practice/Transcutaneous Cardiac Pacing** 

**Associated Policies:** 

- I. Authority and reference (incorporated herein by reference)
  - A. Division 2.5 of the Health and Safety Code
  - B. California Code of Regulations, Title 22
  - C. North Coast Emergency Medical Services (NCEMS) Policies and Procedures

#### II. Purpose

To establish the procedure and requirements to authorize any North Coast EMS ALS service as a Paramedic Transfer Provider offering transcutaneous cardiac pacing. An authorization by NCEMS is required for any provider permitting this expanded scope of practice during Specialty Care Transfers or ALS responses in the field.

#### III. Procedures

- A. Any currently authorized NCEMS ALS Provider licensed and permitted to transport patients from within the NCEMS region may request transcutaneous cardiac pacing authorization.
- B. Authorizations to provide such service within the NCEMS region is contingent upon executing and maintaining a participation agreement with NCEMS, which includes:
  - 1. Abiding by all state laws, regulations and North Coast EMS policies, procedures and protocols.
  - 2. Ensuring that only authorized paramedics affiliated with the provider are allowed to initiate and monitor transcutaneous cardiac pacing.
  - 3. Ensuring that each authorized paramedic is oriented to and at all times proficient in the use of the transcutaneous cardiac pacemaker.
  - 4. Ensuring that each authorized paramedic utilizing this procedure completes the required documentation on the North Coast EMS computerized PCR system.
  - 5. Providing written verification submitted to North Coast EMS with the agreement of the participation of the assigned base hospital. Base hospital participation includes written assurance by the hospital Prehospital Care Medical Director that all emergency department physicians and MICNs are oriented to this program and prepared to provide medical direction and quality improvement review relative to the operation of a transcutaneous cardiac pacemaker.

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## NORTH COAST EMERGENCY MDICAL SERVICES POLICIES AND PROCEDURES

POLICY #2213 Page 1 of 2

Subject: Administration- ALS Provider

Scope of Practice/Transcutaneous Cardiac Pacing

#### **Associated Policies:**

- C. Only NCEMS authorized providers are allowed to utilize paramedics for this purpose.
- D. The service provider must maintain a record, including a computer written patient care report (PCR), of each utilization of the transcutaneous cardiac pacemaker.
- E. Both the base Hospital and ALS provider shall review each such utilization via its own Continuous Quality Improvement (CQI) process. North Coast EMS reserves the right to audit the service provider's records involving utilization of transcutaneous cardiac pacing for CQI purposes.

PLEASE NOTE- A PUBLIC SAFETY AGENCY OR PRIVATE SECTOR AMBULANCE SERVICE IS NOT ALLOWED TO FUNCTION AS A SERVICE PROVIDER OF TRANSCUTANEOUS CARDIAC PACING IN THE NORTH COAST EMS REGION UNLESS THAT AGENCY HAS BEEN APPROVED. FUNCTIONING WITHOU A CURRENT AND VALID PARTICIPATION AGREEMENT WITH NORTH COAST EMS IS A VIOLATION OF CLAIFORNIA LAWS.

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POLICIES AND PROCEDURES

POLICY #4803 Page 1 of 2

Subject: Certification - Paramedic Expanded Scope of Practice

Transcutaneous Cardiac Pacing

#### **Associated Policies:**

- I. Authority and Reference (incorporated herein by reference)
  - A. Division 2.5 of the Health and Safety Code
  - B. California Code of Regulations, Title 22
  - C. North Coast Emergency Medical Services Policies and Procedures

#### II. Purpose

To allow North Coast EMS "Expanded Scope of Practice" Paramedics to utilize transcutaneous cardiac pacing within the North Coast EMS region, consistent with California State laws, regulations and North Coast EMS policy and protocol. Transcutaneous cardiac pacing may be initiated in the field or monitored during an Interfacility Specialty Care Transfer originating within the North Coast EMS region.

#### III. Accreditation Procedure

- A. General eligibility criteria:
  - 1. Applicant must document current North Coast EMS issued EMT-P accreditation.
  - 2. Applicant must document current affiliation with a North Coast EMS approved ALS provider.
  - 3. Applicant must document successful completion of a North Coast EMS approved training program in transcutaneous cardiac pacing, including a score of 80% or above on the written examination and successful demonstration of skills proficiency, or document successful completion of an equivalent approved training program conducted elsewhere in California or another state, within two (2) years prior to applying for accreditation.
  - 4. Applicant must submit to North Coast EMS above documentation including the signature of all North Coast EMS approved ALS providers were applicant will use such accreditation.
- B. The effective date of accreditation for transcutaneous cardiac pacing shall be the date the applicant satisfactorily completes all of the accreditation requirements and has applied for accreditation. The accreditation expiration date will be the same expiration date as the current EMT-P accreditation card.
- C. Accreditation shall be valid as long as the following criteria are met:
  - 1. Current North Coast EMS EMT-P accreditation is maintained; AND
  - 2. Current affiliation with a North Coast EMS Approved ALS Provider is maintained.

## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

POLICY #4803 Page 2 of 2

Subject: Certification - Paramedic Expanded Scope of Practice

Transcutaneous Cardiac Pacing

**Associated Policies:** 

#### IV. Reinstatement Procedure

Accreditation for transcutaneous cardiac pacing may be reactivated by fulfilling the following requirements:

- A. Inactive status due to failure to maintain current EMT-P licensure or North Coast EMS accreditation shall be resolved by submitting proof of current EMT-P licensure or accreditation to North Coast EMS.
- B. Inactive status due to failure to maintain employment or active volunteer status with a North Coast EMS approved ALS provider shall be resolved by submitting documentation to NCEMS the signatures of all North Coast EMS approved service providers of such skill where applicant will use such accreditation.

PLEASE NOTE- AN INDIVIDUAL IS NOT ALLOWED TO FUNCTION AS AN ACCREDITED PROVIDER OF TRANSCUTANEOUS CARDIAC PACING WITHIN THE NORTH COAST EMS REGION UNLESS (S)HE HOLDS A CURRENT AND VALID NORTH COAST EMS-ISSUED ACCREDITATION IN SUCH PROCEDURE. AN EXPIRED ACCREDITATION IS NEITHER CURRENT NOR VALID. FUNCTIONING WITHOUT A CURRENT AND VALID ACCREDITATION IS GROUNDS FOR DISCIPLINARY ACTION AND IS A VIOLATION OF 1797,177 OF THE CALIFORNIA HEALTH AND SAFETY CODE.

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POLICIES AND PROCEDURES

Policy #5316 Page 1 of 2

Subject: Scope of Practice/Procedure – EMT-II

Esophageal Obturator Airway (EOA/EGTA)

Associated Policies:5321,5421,6504,6505

#### I. Indications: EMT-II, EMT-P Standing Orders

- A. Immediate endotracheal or nasal tracheal intubation cannot be performed.
- B. Attempts at endotracheal intubation have proved unsuccessful.
- C. Direct visualization of the larynx is inhibited because of bleeding or emesis.

#### II. Therapeutic Effects

- A. Rapid insertion and larynx does not have to be visualized.
- B. Prevents gastric distention and regurgitation.
- C. Delivers ventilations at the level of the hypopharynx.

#### III. Contraindications

#### A. Absolute:

- 1. Conscious or semiconscious patients with a gag reflex.
- 2. Persons under 5 feet tall.
- 3. Extremely tall adults (over 6'6').
- 4. Patients with known history of esophageal diseases.
- 5. Cases of caustic ingestion.

#### IV. Equipment

- A. EOA or EGTA tube and mask.
- B. 20cc or 30cc syringe.
- C. Stethoscope.
- D. Bag Valve Mask Device with oxgyen enrichment device.

#### V. Procedure

#### A. Insertion:

- 1. Place patient supine with head in neutral position.
- 2. Check equipment.
- 3. Hyperventilate at rate of 20 to 24 times a minute.
- 4. A tongue-jaw-lift should be used with one hand while device is inserted with other hand.
- Introduce EOA/ETGA with face mask attached into posterior pharynx.
- 6. Advance EOA/EGTA until face mask rests on face. If resistance is met, withdraw device slightly, improve the jaw-lift, and readvance.

## NORTH COAST EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES

Policy #5316 Page 2 of 2

Subject: Scope of Practice/Procedure – EMT-II

Esophageal Obturator Airway (EOA/EGTA)

- 7. Deliver ventilation and observe for chest rise/ascultate breath sounds. If no chest rise or breath sounds are detected, immediately remove the EOA/EGTA and ventilate by other means.
- 8. Inflate cuff, amount of air used should be considered patient-dependent, 30-35cc maximum.
- 9. Observe for chest rise/ascultate breath sounds.
- 10. Hyperventilate patient with 100% oxygen via BVM at rate of 20 to 24 times a minute.
- 11. Gastric decompression with an EGTA can be performed with placement of NG tube into gastric tube. Maintain low suction levels.

#### B. Removal:

- 1. If patient is unconscious, an ET tube should be placed prior to EOA/EGTA removal. Deflate EOA/EGTA cuff. Remove EOA/EGTA. Have suction available.
- 2. If patient's condition has improved (gag reflex and spontaneous respiration present) EOA/EGTA should be removed. The patient should be rolled onto his side and suction made ready. Deflate EOA/EGTA cuff. Remove EOA/EGTA.

#### VI. Special Information

- A. Use with caution with suspected drug overdose.
- B. Airway will not protect the aspiration of foreign material that is present in the mouth or pharynx.

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POLICIES AND PROCEDURES

Policy #5316 Page 3 of 2

 $Subject: \hspace{1.5cm} Scope \hspace{1mm} of \hspace{1mm} Practice/Procedure - EMT-II$ 

Esophageal Obturator Airway (EOA/EGTA)



POLICIES AND PROCEDURES

Policy #6523 Page 1 of 2

Subject: Treatment Guidelines – ALS Personnel

**Anaphylaxis** 

#### **Associated Policies:**

#### I. Priorities

- A. ABC's.
- B. Respiratory assessment (the more rapid the onset, the more severe the reaction).
- C. Identify anaphylactic shock (anxiety, difficulty swallowing, dyspnea, urticaria, angioedema, wheezing, and hypotension).
- D. Transport Code 2, after initiating therapy. Code 3, if signs and symptoms persist.

#### II. Anaphylactic Shock

Pediatric note: Drug doses listed are for adults. Refer to a pediatric length based tape for appropriate drug concentrations and dosages, defibrillator energy settings, and equipment sizes.

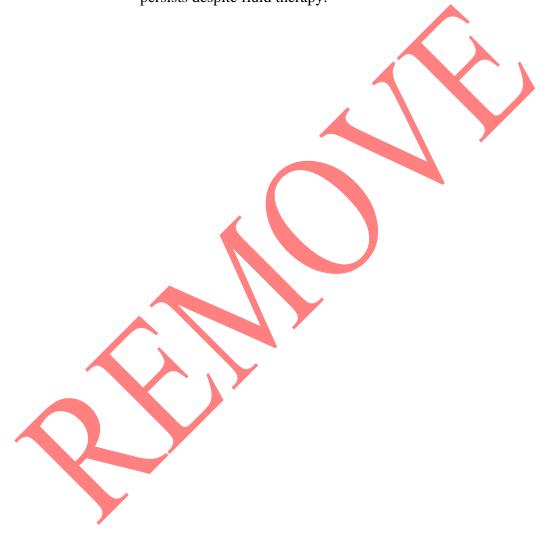
Skills and procedures denoted by double asterisks (\*\*) paramedic level only.

- A. The presence of urticaria/angioedema or history of exposure to allergen with dyspnea, stridor, wheezing, tachycardia, hypotension, anxiety, and tightness in the chest.
  - 1. Ensure a patent airway.
  - 2. Oxygen high flow. Be prepared to assist ventilations with appropriate airway adjuncts.
  - 3. Position of comfort.
  - 4. Cardiac monitor treat dysrhythmias per specific treatment guidelines.
  - 5. Contact base hospital.
  - 6. Consider early transport, Code 3.
  - 7. Establish two (2) IV's with large bore cannula. Re-check vitals after every 250cc or five (5) minutes.
  - 8. Consider Anti-Shock Trousers (MAST), if hypotension persists despite fluid and drug therapy.
  - 9. Epinephrine for adults in significant shock:
    - a. Epinephrine 1:10,000 slow IVP (15-60 seconds) in 0.1mg increments until BP systolic > 100 or total of 0.5mg given. May give up to 0.5mg of Epinephrine 1:1,000 sublingually or subcutaneously, if IV unavailable or delayed.
  - 10. Epinephrine for infants and children in significant shock:
    - a. Epinephrine 1:10,000 slow IVP in 0.05mg (0.5cc) increments titrated to relieve signs of shock or until a total of 0.01mg/kg is reached. May give 0.01mg/kg (up to 0.5mg of 1:1,000) subcutaneously or sublingually, if IV unavailable or delayed.

Subject: Treatment Guidelines – ALS Personnel

**Anaphylaxis** 

- Fluid Challenges: 11.
  - Adults 250cc at a time. a.
  - Pediatric 20cc/kg at a time. b.
- \*\* Dopamine infusion beginning at 2-5µg/kg/min, if hypotension 12. persists despite fluid therapy.



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## NEWSLETTER

Volume I, Issue I April 2013



## EMS Personnel Division

The staff of the EMS Personnel Division, at the EMS Authority, that work closely with the California Certifying Entities, would like to take a moment to express our appreciation for your partnership and suggestions this past year as we continue to enhance the EMT 2010 Central Registry. As we have passed our first milestone of the EMT 2010 Central Registry being online for two-years, we have put together a publication that will include EMT 2010 Central Registry Updates, Regulatory Information, and other news of interest.

#### — TOOLS, TIPS, AND HOT TOPICS—

# California Code of Regulations Updates

Chapter 2: Emergency Medical Technician

\* Amended regulations go into effect April 1, 2013

\* Course hours have been increased to 160 hours (136 hours didactic and skills and 24 hours clinical time with 10 documented patient contacts).

#### Chapter 3: Advanced Emergency Medical Technician

- \* Amended regulations went into effect September 12, 2012
- \* Updated written and skills testing to National Registry of EMT (NREMT)
- \* Training hours increased from 88 hours to 160 hours

#### Chapter 4: Paramedic

- \* Amended regulations go into effect April 1, 2013
- \* Updated paramedic basic scope of practice and local optional scope of practice
- \* Addition of a Critical Care Paramedic with curriculum outline, scope of practice, and required testing.
- \* Updated Paramedic Licensure Applications available

## Central Registry Invoice Information: Fees

The EMS Authority has changed the process for invoicing the certifying entities for their EMT certification activities. The new process will include a reminder of any outstanding balances from previous invoices. If 90-days have passed from the first invoice, the certifying entity and their governing board will be sent a letter notifying them they are 90-days past due and a 15% penalty is attached to the outstanding balance. The notice will also remind the certifying entity that if payment is not received in 30-days, access to the central registry will be suspended. W have received a few phone calls complaining about this process but the certifying entities are given plenty of notice and reminder of past due

balances. So far, no certifying entities have had their access to the Central Registry suspended. The specific lanugage in Chapter 10 of Title 22 is as follows:

Per the California Code of Regulations, Title 22, Division 9, Chapter 10.

- (a) All monies owed by the certifying entities shall be received by the Authority within thirty (30) days of the last day of the calendar month in which a certificate was issued, unless an agreement for some other payment plan has been made between the certifying entity and the Authority.
- (b) A certifying entity shall pay a penalty of fifteen percent (15%) of the fees owed as specified in Subsection (a) of this Section to the Authority if the fees are not transmitted to the Authority within ninety (90) days of the last day of the calendar month in which a certificate was issued, unless the certifying entity enters into an agreement with the Authority which specifies different terms.
- (c) The Authority may assess a penalty of \$500 for failure to update the Registry, within three (3) working days of taking certification action on an EMT or Advanced EMT certificate.
- (d) Failure to comply with any provisions of this Chapter shall result in the suspension of the certifying entity's access to the Registry until such a time that the certifying entity comes into compliance including the receipt of any delinquent fees and/or penalties at the Authority. The process for suspending a certifying entity's access to the Registry will be as follows:
- (1) The Authority will notify the certifying entity and their governing board in writing, by registered mail, of the provisions of this Chapter with which the certifying entity is not in compliance.
- (2) Within fifteen (15) working days of receipt of the notification of noncompliance, the certifying entity shall submit in writing, by registered mail, to the Authority one of the following:
- (A) Evidence of compliance with the provisions of this Chapter, or
- (B) A plan for meeting compliance with the provisions of this Chapter within thirty (30) calendar days from the day of receipt of the notification of noncompliance. (3) After thirty (30) calendar days from the mailing date of the noncompliance notification if no response pursuant to subsection (2) above is received from the certifying entity, the Authority shall suspend the certifying entity's access to the Registry and shall notify in writing, by registered mail, the certifying entity and their governing board of the suspension and the necessary steps that must be completed by the certifying entity in order to restore access to the Registry.
- (3) After thirty (30) calendar days from the mailing date of the noncompliance notification if no response pursuant to subsection (2) above is received from the certifying entity, the Authority shall suspend the certifying entity's access

to the Registry and shall notify in writing, by registered mail, the certifying entitiy and their governing board of the suspension and the necessary steps that must be completed by the certifying entity in order to restore access to the Registry.

# EMT/AEMT Enforcement Topic(s): Q & A

What is the process for an EMT who is on probation with a LEMSA and upgrades to Paramedic? If the Authority grants an applicant a Paramedic License the EMT Certificate is still active until it expires...being granted a Paramedic License is not an upgrade from an EMT Certificate. EMSA's Paramedic application asks the following question: Have you ever had

a healthcare certification, accreditation, or license denied, suspended, revoked or placed on probation, or are you under investigation at this time? It is the responsibility of the Paramedic applicant to disclose that they are on probation with the LEMSA or another Licensing Board in California or any other state. The Probation agreement on the EMT certificate would continue to run until it expires, regardless of the fact that the individual is granted a Paramedic License, RN License, Dental License...etc.

Does the discipline continue on his EMT certification until it expires? Yes

What if it was clinical opposed to DUI? (referring to probation while actively working)? Any and all conditions of Probation will be reviewed by EMSA upon discovery. The EMT Certification Probation terms must continue to run on the EMT certificate until the Probation agreement expires. Remember that the Probation agreement is a signed contract. The EMSA will independently investigate to determine if discipline should be rendered on the Paramedic License.

If the discipline transfers over to his Paramedic license, what happens if he is revoked and still has the EMT certification? Technically the discipline would not transfer from an EMT certification action to a paramedic license, those would be separate actions. If EMSA denies or revokes the paramedic license and the EMT is currently certified, the EMT certificate would still be valid. The EMT Certificate and the Paramedic License are issued by two separate entities, even though a Paramedic can work as an EMT under their Paramedic License, try not to confuse them. The Paramedic License is issued by EMSA. The EMT Certificate is issued by the Certifying Entity.

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Who investigates (LEMSA or EMSA) an individual who holds an active EMT certificate and Paramedic license and is working as an EMT? The relevant employer or the LEMSA conducts the investigation that may result in EMT certification action as outlined in Process for EMT and AEMT Disciplinary Action Regulations. The EMS Authority conducts the investigation that may result in paramedic licensure action.

(Cases are evaluated on their unique merits, and these responses are not intended to be a substitution for legal counsel)

If an EMT petitions for reinstatement, can they contest the accusation and request an Administrative Hearing in front of an Administrative Law Judge? NO! The individual who petitions for reinstatement has already had a chance to contest the accusation. The case has been settled which led to the revocation/denial/suspension in the first place. The individual petitioning for reinstatement can submit in writing a request for Reinstatement and the Medical Director makes the final decision. It is recommended that you see your Legal Counsel for additional clarification. (See the California Administrative Procedure Act, section 11522 for clarification)

### Paramedic Licensure:

Postcards - Coming soon this spring EMSA will be sending out a postcard as a reminder to paramedics that they are up for renewal. The postcard will be sent to paramedics in lieu of the renewal form, saving the department over \$11,000 annually. The renewal form is available on our website at <a href="www.emsa.ca.gov">www.emsa.ca.gov</a> click on the "Paramedics" tab and click on "Paramedics Forms and Applications".

**Videos** - Videos are available for medics who need instructions on how to fill out their application. There are three videos available for paramedics; In State Initial Application, Out of State Application and the Renewal Application. Links to these videos are on our website at <a href="www.emsa.ca.gov">www.emsa.ca.gov</a> click on the "Paramedics" tab and click on "Paramedic Application Informational Videos".

## Training Program Eligibility:

The EMS Authority has noticed an increase in the application of the eligibility provisions for EMT, AEMT, and Paramedic training programs. As a reminder, the first item that any new application for training approval must meet one of the eligibility criteria listed in teh Training Program Approval sections of the respective regulations. Some training programs have been informed by the Bureau of



Private Postsecondary Education (Bureau) that they are exempt from Bureau approval because the EMT training program is less than a certain number of hours of training and their tuition is below a certain amount. If they are exempt from one criteria, they have to meet one of the others.

## To be eligible to conduct an EMT/AEMT/Paramedic training program in California, the prospective training program must meet one of the following criteria:

- (1) Accredited universities and colleges, including junior and community colleges, and private postsecondary schools as approved by the State of California, Department of Consumer Affairs, Bureau for Private Postsecondary Education\*.
- (2) Medical training units of a branch of the Armed Forces or Coast Guard of the United States.
- (3) Licensed general acute care hospitals which meet the following criteria:
- (A) Hold a special permit to operate a Basic or Comprehensive Emergency Medical Service pursuant to the provisions of Division 5; and
- (B) Provide continuing education to other health care professionals.
- (4) Agencies of government.

OR

- (5) LEMSAs (only available for EMT training programs)
- \* Bureau of Private Post-Secondary Education (BPPE) exemptions do not qualify as being approved. Prospective training programs must apply for and gain approval from the BPPE to be eligible to provide EMT/AEMT/ Paramedic Training to students.

## Training Program Webpage:

In February 2013, the EMS Authority, in an effort to streamline the Continuing Education (CE) Provider and

Training Program process, created a database where the local EMS Agencies (LEMSAs) have the ability to update the records of the CE Providers and EMS Training Program providers that they have approved.

There are 2 webpages where you will be able to work.

- The first one, is the <u>"test site"</u> where you can practice making updates and changes.
- The second one, in the "production site" where you will make your final changes.

To view the User Manuals, go into the "production site":

- For the Training Program Information On the left-hand side of the page click on "Training Programs", then click "About Training Programs".
- For the CE Provider Information- On the left-hand side of the page click on "Continuing Education Providers", then click "About Continuing Education Providers".

To request User IDs, Inactivate Users, or Report Issues please send an email to <u>paramedic@emsa.ca.gov</u>.

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# EMS Authority Contacts: EMS Personnel Division

Sean Trask (Chief of EMS Personnel Division):

\* Oversees Personnel Standards Unit, Paramedic Licensure Unit and Enforcement Unit

Michael Smith (Manager - Enforcement Unit)

\* Oversees EMT2010 Enforcement Process and Paramedic Enforcement Unit

Lisa Witchey (Manager - Personnel Standards Unit):

(916) 431-3707; Lisa. Witchey@emsa.ca.gov

\* Oversees BLS Program and Regulatory Updates

June Leicht (Manager - Paramedic Licensure Unit):

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\*Oversees Paramedic Licensure Unit and Paramedic Programs, NREMT Representatives, and EMT and Paramedic Billing

Laura Little (Personnel Standards Unit):

(916) 431-3717; Laura.Little@emsa.ca.gov

\*Provides My License Office (MLO) technical assistance, interpretations and

amendments of regulations, and assists EMTs/AEMTs with questions

#### Shona Merl (Enforcement Unit)

(916) 431-3692; Shona.Merl@emsa.ca.gov

\* Handles questions regarding CORIs, EMT disciplinary questions, and interpretations of regulations pertaining to EMT/AEMT discipline.

#### Brad Beltram (Paramedic Licensure Unit):

(916) 431-3648; Bradley.Beltram@emsa.ca.gov

\* In charge of printing and sending EMT certification cards, dishonored checks, and in charge of EMT and Paramedic invoices.

#### Priscilla Rivera (Paramedic Licensure Unit):

(916) 431-4741; Priscilla.Rivera@emsa.ca.gov

\* Paramedic Renewal Applications (A-L)

#### Caroline Fudge (Paramedic Licensure Unit):

(916) 431-3652; Caroline.Fudge@emsa.ca.gov

\* Paramedic Renewal Applications (M-Z)

#### Shawna McCabe (Paramedic Licensure Unit):

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\* Initial Paramedic Applications and Paramedic Challenge Applications

#### Janna Atkinson (Paramedic Licensure Unit):

(916) 431-3713; <u>Janna.Atkins@emsa.ca.gov</u>

\* Paramedic Mail and Payment Processing

#### PARAMEDIC LICENSURE GENERAL INFORMATION:

(916) 323-9875; Paramedic@emsa.ca.gov

California Emergency Medical Services Authority 10901 Gold Center Drive, 4th Floor Rancho Cordova, CA 95670 PHONE (916) 322-4336 FAX (916) 324-2875

#### **MEMORANDUM**

**DATE:** March 27, 2013

**TO:** All BLS Providers

**FROM:** Wendy Chapman, Programs Manager

**RE:** Changes to EMT-I Basic Scope of Practice

Effective April 1, 2013 the state regulations for EMT-I will be changing. There are a few important changes/additions to the BLS Scope of Practice that you need to be aware of. The following items have been added:

- Pulse Oximetry
- Supplemental oxygen therapy devices including, humidifiers, partial rebreathers and venturi masks
- Continuous Positive Airway Pressure (CPAP)
- Hemostatic Dressings (pursuant to the EMSA approved list)

There is a section added related to administering over the counter medications such as oral glucose, sugar solutions or aspirin, as approved by the local EMS agency Medical Director. At this time North Coast EMS is not approving the use of these items. This section may be reviewed again at a later date for consideration.

North Coast EMS is in the process of developing policies and protocols for these items and they will be sent out as soon as possible.

Prior to any agency implementing the use of these added skills or equipment they will need to ensure that their currently certified EMT-I have been trained to competency and oriented to the North Coast EMS related policies and procedures. This training shall be at a minimum of two (2) hours in the above procedures, one (1) hour of the training will have to be for Hemostatic Dressings. The instructor for this training should be at least the paramedic level or higher. Providers must retain documentation of this training/competency for at least four (4) years. Providers need only furnish North Coast EMS copies of this training upon request.

To review the new EMT-I regulations you can find them at www.emsa.ca.gov



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

#### **MEMORANDUM**

**DATE:** March 27, 2013

TO: North Coast EMS ALS Provider Agencies, PCNCs, and PCMDs

FROM: Louis Bruhnke, Associate Director

RE: IMPORTANT: April 1, 2013 Paramedic Scope of Practice Changes

Effective April 1, 2013, the following changes to the Paramedic Scope of Practice will be implemented:

- Amiodarone will be added to the Paramedic <u>Basic</u> Scope
- **Atrovent** will be added to the Paramedic Basic Scope
- Cardiac Pacing will be added to the Paramedic <u>Basic</u> Scope and the optional accreditation process will be discontinued. All current North Coast EMS Paramedics who are currently accredited to use Cardiac Pacing are allowed to continue its use.
- **CPAP** will be added to the Paramedic Basic Scope
- Lasix will be removed from the Paramedic Scope.

The above and associated policy and protocol changes will be send out in the next Informational Mailing as soon as possible.

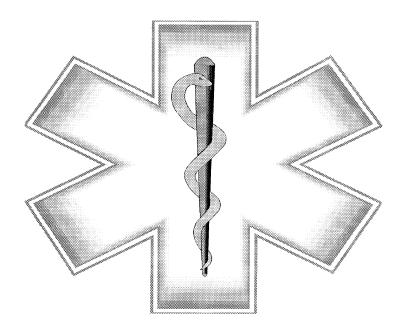
North Coast EMS is currently requesting approval from the EMSA to retain Lasix for any provider who so wishes ONLY with the endorsement of the provider's (Modified) Base Hospital PCMD and ONLY for transports exceeding 45 minutes. All providers must suspend use of Lasix on April 1. Providers who have received the endorsement of their (Modified) Base Hospital PCMD may request retention of Lasix for transports exceeding 45 minutes. North Coast EMS will advise these providers when EMSA authorization has been received that they may only then resume stocking and administering Lasix.

All ALS providers may initiate stocking and administering **Amiodarone**, **Atrovent**, **Cardiac Pacing and CPAP** per North Coast EMS policy after April 1, 2013 and after having ensured that all their personnel have been trained to competency and oriented to North Coast EMS related policies and procedures. Providers must retain documentation of this training/competency for at least 4 years. Providers need only furnish North Coast EMS copies of this training documentation upon request.

Effected policies: 5308, 5312, 6503, 6504, 6506, 6508, 6509, 6510, 6522, 6527, 6529, 6530, 6531, 6534, 6546

Thank you.

3340 Glenwood Street, Eureka, California 95501 Serving Del Norte, Humboldt and Lake Counties



Second Quarter Progress Report
October 1, 2012 to December 31, 2012
General Fund Contract # EMS-1251

**January 10, 2013** 

#### Overview:

In the second quarter of Fiscal Year 2012-2013, North Coast Emergency Medical Services (EMS) continued to serve as the local EMS agency for the functions delegated by Del Norte, Humboldt and Lake Counties. The Agency managed the regional EMS system in accordance with state law, regulation and guideline, under direction of the Joint Powers Governing Board and in coordination with a large network of organizations and individuals located within the three county area. North Coast EMS staff and contractors facilitated the planning, coordination and evaluation of the EMS system through an administrative process involving community consensus, patient and EMS participant advocacy and continuous quality improvement (CQI).

Highlights during the second quarter included: implementation of the federal EMS for Children (TACTICAL) four-year community grant with the University of California Davis Medical School; ongoing participation in the state process to adopt STEMI, Stroke and EMS for Children regulations; submission of the HPP budget and scope if work to CDPH on LEMSA disaster-related deliverables (the recently requested update is being prepared at this time); selection of three new part-time Regional Nurse Contractors; confirmation of region-wide narrowband readiness of the Med Net Communications System; initiation of the process to develop an Advanced EMT program for the region; development of plans to implement the new state Paramedic scope of practice; initiation of a process to evaluate current mental health patient impact on the EMS system; re-implementation of the STEMI program in Humboldt County and, participation in the state disaster exercise.

The Joint Powers Governing Board directed the activities of North Coast EMS during the second quarter of FY 2012-13. The Board consisted of the following members: Supervisor Rob Brown, Lake County, Chairperson; Supervisor Martha McClure, Vice-Chairperson, Del Norte County; and Supervisor Ryan Sundberg, Humboldt County. Alternates to the JPA Board continued to be: Supervisors Mike Sullivan, Del Norte County; Susan Buckley, Humboldt County; and Supervisor Denise Rushing, Lake County. The Agency was managed by general fund employees and part-time contractors as listed below:

- Larry Karsteadt, Executive Director (1.0 FTE)
- Wendy Chapman, Programs Manger (1.0 FTE)
- Maris Hawkins, Fiscal Manager (0.8 FTE)
- Louis Bruhnke, EMT-P, Associate Director (1.0 FTE)
- Rhiannon Potts, Administrative Assistant (1.0 FTE)
- Ken Stiver, M.D., Regional Medical Director
- Pam Mather, R.N., EMSC and Trauma Nurse Coordinator
- Jay Myhre, EPCIS Programmer
- Ezequiel Sandoval, Office Computer Maintenance
- Moss, Levy and Hartzhiem, Agency Audit
- Cheryl Wraa, R.N., EMSC Program Manager (0.5 FTE)
- Tina Wood, R.N., Mary-Cardinale-Stein, R.N., and Stayce Curry, R.N., Regional Nurse Contractors

#### North Coast Emergency Medical Services General Fund #1251 Second Quarter Progress Report

#### Fiscal Year 2012-13

The following report on progress at North Coast EMS during the second quarter of Fiscal Year 2012-13. This report meets the requirements of the California EMS Authority General Fund Contract #EMS-1251 and the document entitled: "EMSA Policy for Funding Regional EMS Agencies with State General Fund (March 2011; EMSA #104)."

#### 1.0 System Organization and Management

**Objective:** To develop and maintain an effective management system to meet the emergency medical needs and expectations of the population served.

Task: The organization and management responsibilities of the regional EMS agency, at a minimum, include:

- 1. Staff development, training and management: North Coast EMS personnel attended or participated in the following state EMS functions, including: EMS for Children meetings, EMSC Education Forum, EMSAAC Legislative Committee & EMSC regulation calls, EMSA/LEMSA meeting in Sacramento, EMSC Regionalization (TACTICAL) calls, Regional and EMSA calls & meeting in San Francisco; EMSAAC meeting in San Francisco; two North-RTCC calls; and, in the following local EMS functions: Humboldt/Del Norte Medical Advisory Committee (MAC) meetings; Lake County Emergency Medical Care Committee (EMCC) meetings; Lake County Trauma Advisory Committee meeting; Humboldt County EMCC meeting; Humboldt County Child Death Review Team meetings; Humboldt County Child Passenger Safety Committee meeting; Humboldt County Fire Chiefs Association meetings, Lake County & Humboldt County HPP meetings; EMSC-related visits to Redwood Memorial, Mad River and St Helena Clearlake Hospitals; EMSC-related meetings with TACTICAL CORE GROUP, PdLNs and paramedics; meeting with Assembly Representative Wesley Chesbros new field representative; NorCal call regarding Hoopa Ambulance; interviews and meetings with new REGIONAL Nurse Coordinators Tina Wood, Mary Cardinale-Stein and Stayce Currey; meetings with Supervisor Bass and Louis Robinette re; Department of Veterans Affairs and impact on local ambulance services; meetings with Sempervirons and local ambulance representatives re: mental health and EMS; Public Health Table Top exercise; call for interview re: Community Paramedic program; an EMD meeting in Humboldt County; and several HPP Disaster budget and scope of work related meetings and calls.
- **2**. **Allocating and maintaining office space, office equipment, supplies:** North Coast EMS acquired supplies and equipment as needed.
- 3. Executing and maintaining contracts with member counties, service providers, consultants and contract staff: North Coast EMS continued to receive Maddy Funds from all three counties and dispensed funds upon request after receipt of a verification of compliance form. We submitted to the EMSA the State General Fund first quarter report; implemented the

contract with UCD for the federal EMS for Children TACTICAL REGIONALIZATION program that includied advertising for the Cultural Broker position and conducting meetings and EDAP site visits. We initiated the Agency's annual fiscal audit process; submitted the HPP LEMSA disaster budget and scope of work to CDPH; contracted with Mary-Cardinale-Stein, Tina Wood and Stayce Currey as Regional Nurse Contractors. We continued administrative contracts with Dr. Stiver as Regional Medical Director, Pam Mather as EMSC and Trauma Coordinator, EPCIS programmer Jay Myhre, Ezequiel Sandoval - Office IT, and Moss, Levy and Hartzhiem specific to the fiscal audit. We advertised for the EMSC Cultural Broker position and received three applications. We included plans to contract with County LEMSA Disaster Coordinators in the HPP Disaster application, continued contracts with seven base hospitals, 16 Paramedic Service Providers, numerous First Responder agencies, two Emergency Medical Dispatch Centers, six EDAPs and two Trauma Centers. We also received two requests regarding the provision of new aero medical services within the region.

**4. Other:** we submitted comments to EMSA specific to the pre-public comment draft of EMS for Children regulations and initiated the process to develop comments for the STEMI and Stroke regulations pre-public comment drafts; and distributed one Informational Mailing.

#### 2.0 Staffing and Training

**Objective:** To ensure LEMSA authorized personnel functioning within the EMS system are properly trained, licensed/certified/authorized and/or accredited to provide medical care to the public.

#### **Workload Indicators for the Staffing Training responsibilities:**

- 1. Total number and type of training programs conducted by regional agency: None.
- 2. Other: The Agency currently has 510 certified EMT-Is, 136 accredited paramedics, 30 MICNs, six approved EMT-I and 12 approved First Responder training programs, and 35 approved Continuing Education Providers. We continue to monitor these important programs as staff resources allow. We reviewed the revised state EMT regulations, the Advanced EMT regulations and Paramedic regulations, draft EMSC regulations and participated in the process to develop state STEMI and Stroke standards. We began to develop an Advanced EMT program with the STAR area and initiated a process to assess paramedic scope of practice changes. We also initiated plans to host a CISD training program, EMSC TACTICAL continuing educations sessions in Lake and Humboldt Counties, and distributed information specific to Crisis Intervention Team Training.

#### 3.0 Communications

**Objective:** To develop and maintain an effective communications system that meets the needs of the EMS system.

Task: The communications responsibilities of the regional EMS agency, at a minimum, include:

1. On-going assessment of the communications status and needs: We verified that the Med Net

Communications System is narrow band compliant in Del Norte and Lake Counties. In Humboldt County, all of the hospitals and new vehicular repeaters are narrow band ready and the Med Net and MCI Channel Mt Top Repeaters are in the process of being reprogrammed. Pratt Mt is done, Horse and Pierce will be done soon and the Rodgers Mt Top Repeater will be done after funding is available for new battery packs. We appreciate the assistance we've received from communications and EMS personnel throughout the region but are concerned about the reduction of coverage associated with narrow banding.

- 2. Approval of ambulance dispatch centers (as delegated): This function is not delegated to us, but all three counties have centralized dispatch for ambulances (with the exception of Hoopa {K'ima:w} Ambulance in Humboldt County). We also assessed results of WIDE-AREA Med Net radio tests in Humboldt County.
- 3. Approval of emergency medical dispatch (EMD) training and/or operational programs: A meeting with representatives from our two approved EMD programs at CAL-FIRE Fortuna, the Eureka Police Department, and City Ambulance dispatch, was conducted to help ensure ongoing compliance and address issues.

#### 4.0 Transportation

**Objective:** To develop and maintain an effective EMS response and ambulance transportation system that meets the needs of the population served.

Task: The response and transportation responsibilities of the regional EMS agency, at a minimum, include:

- 1. Inspection of ambulance or LALA/ALS providers (as delegated): nothing new.
- 2. Development of performance standards as needed. Policies and procedures were reviewed and drafted for public review in one periodic Informational Mailing distributed this quarter. Authorized ALS Providers continue to submit quarterly QIP reports, each with a pre-selected relevant quarterly focus. These are reports are summarized by Associate Director Bruhnke and used to enhance system coordination and patient care as well as validate each base hospitals and providers ongoing oversight of Quality Improvement pursuant to state regulations. We continued to work with our ALS Providers and others to assess the shortage of critical medications, although this appears to be less of an issue at this time. We initiated a process to assess the impact of late or rejected Department of Veterans Affairs (DVA) reimbursements to local ambulance services. We also submitted a support letter for continuation of ambulance services by K'ima:w Ambulance, initiated a process to evaluate and enhance the management of mental health patients and began to assess the impact of upcoming changes to the state paramedic scope of practice. Finally, we initiated a process to determine how to collect additional prehospital data as part of the new EMSC TACTICAL project.

#### **5.0** Assessment of Hospitals and Critical Care Centers

**Objective:** To establish and/or identify appropriate facilities to provide for the standards and care required by a dynamic EMS patient care delivery system.

Task: The facilities and critical care responsibilities of the regional EMS agency, at a minimum, include:

- 1. Complete hospital closure impact reports: None were requested or completed in this quarter, although we initiated an inquiry on behalf of Dr. Karen Tait, Lake County Health Officer, relative to the official ED status (Basic or Standby) of Saint Helena Clearlake Hospital.
- 2. Emergency Departments Approved for Pediatrics (EDAPs): North Coast EMS continued to receive and distribute Maddy "Richie's" funding for EDAPs, although several hospitals have not yet submitted requests and we are holding close to \$88,000. We initiated the EMSC TACTICAL Regionalization program with UCD, advertised for and extended the Cultural Broker Contract position, and met with the core TACTICAL group, PdLNs and paramedics. We conducted visits to two EDAPs in Humboldt County (Mad River and Redwood), and met with St Helena Clearlake Hospital representatives to make sure that they are interested in continuing EDAP designation. The latter was confirmed although they will need to provide materials to verify compliance. Since the last quarter update SHCH appointed a new PdLN. We provided detailed comments on the second pre-public draft of EMS for Children (EMSC) regulations and determined that the optimum way to collect additional prehospital EMSC data will be to develop a manual form. Later, when the EPCIS program is revised, we will build a pull-down EMSC menu. The IRB approval process at UCD has taken longer than estimated but should be initiated early next quarter.
- 2. **Base Hospital Monitoring:** we contracted with two Regional Nurse Contractors, Mary Cardinale-Stein and Tina Wood to assist with the monitoring process, although no action was necessary this quarter. Also, we were informed that Interim PCNC Amber Ford, R.N., at J. Phelps Hospital completed the MICN class as required.
- 3. **Trauma Center Designation**: We are planning to co-conduct a site visit to Sutter Coast Hospital in June 2013 with the Oregon Trauma Coordinator. We participated in two calls of the re-constructed North Regional Trauma Coordinating Committee (N-RTCC), plan to participate in a face-to-face meeting next quarter, and the Executive Director assumed responsibility for Chairing the inter-facility transfer (IFT) subcommittee. We also evaluated a Re-triage survey tool for the EMSA and initiated a process to develop guidelines for IFT trauma patients.
- 4. Cardiac, Stroke and Mental Health Subsystem Development: Dr. Stiver, Tina Wood and the Executive Director met with Saint Joseph Hospital representatives to review steps specific to STEMI Receiving Center (SRC) designation. This will include determination by the JPA of the annual SRC fee. We expect to receive the completed Pre-Site Visit SRC Tool in January and will initiate other steps at that time. We participated in a process to organize statewide EMSAAC and EMDAC comments on the state STEMI and Stroke pre-public draft regulations that are now due in late January. We contracted with Tina Wood to assist with the designation of SJH as a SRC, Mary Cardinale-Stein to assist with Stroke program development, and both to help with development of the Advanced EMT program. We also contracted with Stayce Curry to help assess the impact of Mental Health patients on the EMS system. Several meeting shave been conducted at this point, and Stayce has initiated a comprehensive review of laws and regulations impacting the management of mental health patients.

#### 6.0 Data Collection and Evaluation

**Objective:** To provide for appropriate system evaluation through the use of quality data collection and other methods to improve system performance and evaluation.

Task: The data collection and system evaluation responsibilities of the regional EMS agency, at a minimum, include:

- **1. Review of reportable incidents:** North Coast EMS reviews all received reportable incidents. During the quarter one formal review was continued.
- 2. Review of prehospital care reports including Automated External Defibrillators (AED) reports: The Agency maintains the regional Prehospital Care Report (PCR) computerized system and submits the AED report to the EMSA when requested. All PCRs are electronically submitted and we prepare routine data reports as well upon request. Aero medical transports in Lake County, CEMSIS-Trauma from Sutter-Lakeside and Sutter-Coast Hospitals, internship records and PCRs are periodically reviewed, and disclosure protected case review is conducted as needed. Both State CEMSIS Trauma and PCR data are periodically transmitted to the EMSA. As part of the new EMSC TACTICAL project, we continued a process to expand EPCIS data collection for pediatric patients. This quarter, numerous EPCIS computer issues were addressed by Associate Director Bruhnke. Most have been resolved but some are ongoing.
- 3. Quality Improvement Program (QIP): North Coast EMS oversees an extensive Quality Improvement Program and utilizes an EMSA approved Regional QIP Plan. QIP Plans have been approved by North Coast EMS for all Base Hospitals and ALS Providers, who are also required to submit quarterly QIP updates. Late reports result in a notification process and potential probation, although reports are generally submitted on time. The Associate Director summarizes the QIP quarterly updates each quarter to highlight excellence and selects, with input from QIP Liaisons, a different QIP focus each quarter. We also continue to plan to utilize one of our new Regional RN Contractors to assist with the QIP program process.
- **4. Trauma Advisory Committee:** We co-coordinated and conducted a Lake County Trauma Advisory Committee meeting that included presentations by Jan Gritsch, RN, Trauma Coordinator of SJH Santa Rosa Memorial Hospital, Mary Cardinale-Stein and Pam Mather. Joanne Chapman from Coast Valley's EMS was also present. Trauma 1 data is periodically submitted from both Trauma Centers for transmission to the EMSA. We also plan to conduct a Trauma Center review site visit in the last quarter with Oregon representatives, and are actively involved with re-institution of the North-RTCC.
- **5.** Processing and investigation of quality assurance/improvement incident reports: The Agency has numerous policies regarding processing and investigation of incident reports. Several letter templates were recently utilized for the first time.

#### 7.0 Public Information and Education (PI&E)

**Objective:** To collaborate with community partners so that the population within the jurisdiction of the regional EMS agency has access to information and public information courses as it relates to emergency medical services.

Task: The public information and education responsibilities of the regional EMS agency, at a minimum, include:

- 1. Involvement in the public service announcements involving prevention or EMS related issues: North Coast EMS staff members participate in local injury and illness prevention, children's safety programs as staff time and funding permits.
- 2. Participation in public speaking events, and represent EMS agency during news events and incidents: Nothing to report this quarter.

#### 8.0 Disaster Medical Response

**Objective**: To collaborate with Office of Emergency Services, Public Health and EMS responders in the preparedness and response of the regions EMS system in the event of a disaster or catastrophic event within the region or in neighboring jurisdiction.

Task: The disaster medical response system responsibilities of the EMS region, at a minimum, include:

- 1. Coordination with the regional disaster medical/health coordinator system: North Coast EMS coordinates with the RDMHC as needed, including attending disaster planning meetings and observing exercises and drills as staff time permits. Two exercises, including the State exercise, and several meetings were attended this quarter. This included implementation for the first of North Coast EMS involvement in HavBed exercise data collection, and development and submission of the LEMSA HPP budget and scope of work, and subsequent revision, to CDPH.
- 2. Hospital Preparedness Program Contract LEMSA Disaster Deliverables: In collaboration with our three counties, EMSA and CDPH, North Coast EMS submitted a scope of work and budget to CDPH relative to the assumption of HPP LEMSA Disaster related deliverables. We are currently in the process of revising the scope of work as requested and plan to submit that to CDPH early next quarter. The contract, with JPA Board approval of the budget and subcontract in January, will include: designation of Associate Director Louis Bruhnke as the North Coast EMS Disaster Coordinator; development of subcontracts and selection in each county of a County LEMSA Coordinator; acquisition of telecommunications equipment to enhance communications between representatives within the three counties and North Coast EMS personnel.

#### PDLN meeting

Amber Ford- Jerold Phelps Hospital
Rita Nicklas- Sutter Coast
Mary Cardinale-Stein (phone) - Lakeside
Claudia Helms (phone) - Saint Helena Redbud
Tim Horeczko - TACTICAL principal investigator
Larry Karsteadt - TACTICAL site investigator, NCEMS executive director
Cheryl Wraa - TACTICAL program manager
Pam Mather - NCEMS Clinical coordinator

The meeting was called to order at 2:00 pm on October 4, 2012

Introductions were made and Tim Horeczko gave an overview of the project.

Role of the PDLN:

The role of the PDLN is to help to let us know what is working and what is not. They will be the "go to" and education person.

They will be a part of the Pediatric Regional Council that will meet 2-4 times per year.

The IRB is with UC Davis. This will cover confidentiality issues and UCD will have an MOU with each facility. All information will be de-identified and protected.

Cheryl Wraa, program manager, will be doing the chart abstraction at each facility.

She will visit every few months to do abstraction and visit the facility.

St. Helena Redbud has assigned a PdLN. This person will be attending the conference in San Diego.

The 2 Sutter health facilities (Sutter-Lakeside and Sutter Coast) will probably do one MOU through CPMC.

The different cultural groups will also be included on the council (American Indian, Hispanic, and other defined groups)

The State is approaching EMS for Children regulations. There is a 2<sup>nd</sup> pre-public draft that Larry Karsteadt would like the PDLNs to review. A copy of the draft regulations was given to each PDLN. The EDAP will now be called Community Pediatric Receiving Hospital. The agency is concerned that the new State data requirements may be difficult for everyone to accomplish. The requirements are described in the draft regulations on pages 20 – 34 and 37 – 40 are the areas that need to be reviewed.

Public comments for the two other document regarding Pediatric Transfer and Pediatric Transport is due in October also. Please review and send comments to the State or to the agency to include in their comments.

Maddy funding is available to the EDAPs for equipment, education, etc. A new round of funding is available and will be available soon. This funding sunsets in January 2014 and we may be asking for those involved to contact there representative to continue or act on the fund.

There will be a team of educators from this area that will go to UC Davis for a yearly training at the simulation center for education that will be tailored to the needs of this area. This will be funded by the grant to "train the trainers" in regard to pediatric care.

The TACTICAL team would also like to come up to this area to do requested education around the time of the MAC meetings and the Pediatric Council Meeting.

Tertiary facilities that are identified as tertiary receiving centers will be made aware of the grant project. These include but are not limited to:

Children's Hospital Oakland UC Davis Medical Center UC San Francisco Medical Center Oregon Health Sciences California Pacific Medical Center Lucille Packard (Stanford)

The data points that will be abstracted were shared with the PDLNs for discussion.

The meeting was adjourned at 3:30pm.

# MCI CHANNEL TEST

# 11/07/2012 0900

- The Tuesday before the Second Wednesday of each month (Thursday after second Wednesday for PM test)
- New! Pre-alerts only to Fortuna & Garberville Ambulance
- At 1000 switch MED-NET ENHANCED on the Moducom to tone "EMERGENCY" (2100 for PM test)
- Stack and send page over Med Net
- Announce "Fortuna with the monthly MCI channel test, standby by for check-back". Wait 15 to 30 seconds and do check:

ROLL CALL: IMPORTANT! Pause 3-5 seconds each time after pressing transmit before speaking into microphone.

| Phelps Hospital      | X | GRA1     | X |
|----------------------|---|----------|---|
| Redwood Memorial     | X | FRA 1    | X |
| St. Josephs Hospital |   | FRA 2    | X |
| Mad River Hospital   |   | CTA1     | X |
| Eureka Medcom        | X | CTA2     | X |
|                      |   | CTA3     | X |
|                      |   | Arcata 1 | X |
|                      |   | Arcata 2 | X |
|                      |   |          |   |

- After the test, announce "The test is complete. The MCI channel will be deactivated in 1 minute".
- Reset Med-Net channel to Enhanced repeater tone
- This should stack "emergency off", send this over Med Net enhanced

# • E-MAIL TO MCI TEST

MCI CHANNEL TEST

DATE 02/01/2013 @ 0930

- The Tuesday before the Second Wednesday of each month (Thursday after second Wednesday for PM test)
- New! Pre-alerts only to Fortuna & Garberville Ambulance
- At 1000 switch MED-NET ENHANCED on the Moducom to tone "EMERGENCY" (2100 for PM test)
- · Stack and send page over Med Net
- Announce "Fortuna with the monthly MCI channel test, standby by for check-back". Wait 15 to 30 seconds and do check:

ROLL CALL: IMPORTANT! Pause 3-5 seconds each time after pressing transmit before speaking into microphone.

| Phelps Hospital      |      | GRA1     |     |
|----------------------|------|----------|-----|
| Redwood Memorial     |      | FRA 1    | X   |
| St. Josephs Hospital |      | FRA 2    | X   |
| Mad River Hospital   |      | CTA1     | U/A |
| Eureka Medcom        | X    | CTA2     |     |
|                      | 4072 | CTA3     |     |
|                      |      | Arcata 1 |     |
|                      |      | Arcata 2 |     |
|                      |      |          |     |

- After the test, announce "The test is complete and the MCI channel will be deactivated in 1 minute".
- Reset Med-Net channel to Enhanced repeater tone
- This should stack "emergency off", send this over Med Net enhanced
- FAX TO NORTHCOAST EMS 445-0443
- E-MAIL TO HUUECC ->MCI TEST



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BRN and prehospital CE will be offered pending approval.



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Home > EMS Insider > CMS Innovation Grant Recipients Share Secrets > CMS Innovation Grant Recipients Share Secrets

# CMS Innovation Grant Recipients Share Secrets



Thursday, October 18, 2012 Teresa McCallion, EMT-B

The following article is an EMS Insider exclusive. The Insider, the premier publication for EMS managers, supervisors, chiefs and medical directors, is a must-have resource for the critical, accurate information EMS leaders need. The monthly publication offers quality investigative reporting, exclusive articles, management tips and the very latest news on legislative issues, grants, current trends and controversies. For more about how to become an Insider, click <a href="https://example.com/here/beta/here/here/beta/here/beta/here/beta/here/beta/here/beta/here/beta/here/

This past year, the Centers for Medicare & Medicaid Services (CMS) announced it would award up to \$1 billion in Healthcare Innovation Grants to applicants with the most compelling new ideas to deliver better health, improved care and lower costs to people enrolled in Medicare, Medicaid and the Children's Health Insurance Program. Awards ranged from \$1 million to \$30 million and cover a period of up to three years through annually renewable cooperative agreements.

The objective of this initiative is to encourage creative partnerships that will identify and test new

care delivery and payment models with the goal of addressing the unmet healthcare needs of underserved or low-income populations while reducing healthcare costs and hospitalizations. The caveat was that the projects had to be ready to deploy rapidly—within six months of the award.

Approximately 3,000 providers, payers, local government, public-private partnerships and multipayer collaboratives from across the country applied. Only 107 grants were awarded.

The first of the awards were announced in May, followed by a second batch a month later. Of the organizations awarded a Healthcare Innovation Grant, three included an EMS component: Prosser (Wash.) Public Hospital District, Regional Emergency Medical Services Authority (Reno, Nev.), and Upper San Juan (Colo.) Heath Service District. All three involved a version of the community paramedic, each with a slightly different focus based on the particular needs of their individual communities.

Officials from each of the organizations say that news of the award was both exhilarating and daunting. They're keenly aware that the eyes of the EMS industry throughout the nation are watching.

Prosser Public Hospital District (Prosser, Wash.)
Prosser Public Hospital District (PPHD) serves a large, scarcely populated area of eastern Washington State, with its own EMS system of 30 EMTs and paramedics.

PPHD EMS Manager Mike Schreiner says the secret to their successful grant application, for which they were awarded \$1,470,017, was basing it on a project they had been working on for the past two years. "By the time we learned of the grant, we'd done a lot of background work," he says. "We were very fortunate that we were already going down that road. We just needed to fine tune the money to make it work."

The basic premise of PPHD's Community Resource Medic program was to involve EMS, an under-utilized resource with regard to high-risk patients, in patient care to prevent a crisis. Because EMS is hospital-based, it was easier to incorporate into the solution, Schreiner says. But he also looked to outside sources for inspiration, particularly the Eagle County, Colo. community paramedic program, he says.

The Community Resource Medic program started by identifying a specific class of patients who, once released from the hospital, often fail to follow through with their primary care physicians. Frequently, these patients suffer from chronic illnesses. Without proper follow-up care, their conditions worsen and they end up back at the hospital, often by ambulance.

After some investigation, Schreiner says they learned why these patients were missing follow-up appointments. "I'm seeing the third generation of people who only know how to call an ambulance and go to the hospital for healthcare," he says. Additionally, Prosser is home to a large Hispanic population. Although many Spanish-speaking providers serve at the farm workers clinic, cultural issues beyond language exist that also need to be addressed.

Once the program was launched, community resource paramedics visited patients at home within 48–52 hours of discharge, providing medical monitoring, basic lab work, patient education and encouragement to keep follow-up appointments. "Our goal is to drive patients

back to primary care doctors," Schreiner says.

Prior to the grant, the biggest deterrent for the program had been reimbursement. So Schreiner brought the idea of applying for the Innovation Grant to the team. "[They] really took it from there," he says. "This is a whole new program."

The grant funds community paramedics to continue in the role pioneered by the Community Resource Medic program, to increase access to primary and preventive care, provide wellness interventions, decrease emergency room utilization and improve outcomes.

One of the main objectives is to make a big enough difference so that hospitals, the federal government and the community at large would see the benefit and fund it. "Our goal is to prove that it can be sustainable," he says.

Schreiner also hopes that the program will bring EMS closer into the fold of the medical community. "We want to be seen as problem solvers," he says. He admits there was some skepticism early on from home health nurses and physicians. Again, he turned to other programs for advice. By focusing on episodic care and convincing physicians that the paramedics weren't providing primary care, attitudes shifted. "They wondered, 'why haven't we done this sooner?" he says.

Over a three-year period, Prosser Public Hospital District's program will train an estimated 10 workers, including community paramedics, medical information coordinators, registered nurse case managers and medical doctors.

Regional Emergency Medical Services Authority (Reno, Nev.)

Founded in 1986, the nonprofit Regional Emergency Medical Services Authority (REMSA) is the sole provider of ground and air ambulance services in the Reno-Sparks area. Four hundred employees serve a population of 400,000. However, due to a large influx of tourists, that number increases dramatically depending on the time of year and events.

The project, the REMSA Community Health Early Intervention Team (CHIT), received \$9,872,988 in funding through the Innovation Grant program. The estimated three-year savings is \$10,500,000. According to REMSA's grant application, the savings will come through "reductions in non-urgent emergency department visits, unreimbursed emergency department costs, hospital admissions, and hospital readmissions, as well as decreased hospital stays, fewer ambulance transports, and improved overall healthcare and continuity of care."

The key to being awarded the grant, says REMSA CEO Patrick Smith, was establishing critical partnerships within the community, including the University of Nevada-Reno School of Community Health Sciences, the Washoe County Health District, the State of Nevada Office of EMS and local hospital systems. He explains that REMSA has a significant advantage in that these organizations have been working together since the ambulance company was created by a blue ribbon committee 25 years ago. "The key was aligning the interests," Smith says. "By doing that ... all the components share the savings and [can] be more innovative."

The project has three components. The first is to create an alternate pathway for individuals to access care. Lower acuity calls will be triaged into a system that offers advice from a nurse over the phone.

If the call warrants, a community paramedic could be sent to the patient to assess the problem. The paramedic will receive specialized training to either treat the patient at home or determine whether to transport the patient to an urgent care facility, physician's office, mental health facility, or via ambulance—the more traditional route—to the hospital.

The third leg is allowing paramedic ambulances to also transport lower acuity patients to alternated destinations—such as urgent care facilities, physician's offices and mental health facilities—other than an emergency department, or treat and not transport. REMSA has requested a waiver from CMS to provide these alternate services and is awaiting approval. This is a significant change from the traditional payment approach by CMS, and could affect the entire ambulance industry. To implement, REMSA will train approximately 22 workers and create 22 new jobs, including community paramedics. "This will be a new position," says REMSA Vice President Mike Williams. REMSA is working with teaching partners at the University of Nevada-Reno using curriculum developed by North Central EMS Institute.

Smith is mindful of those who have been paving the way. "There are a lot of pioneers out there. We say 'thanks' and let's continue to learn from each other," he says.

Upper San Juan Health Service District (San Juan, Colo.)
Upper San Juan serves a remote, rural region, of more than 3,400 residents living in medically underserved areas of southwestern Colorado. Like Prosser, it had already begun an outreach program using community paramedics to provide an interface for primary care physicians.

"We've already been working hard to show that we are trying to change the traditional healthcare [model] where people get sick and come in to the hospital," says Upper San Juan Health Service District CEO Bradley A. Cochennet. "This is an outgrowth of a desire to do more than just provide defensive medicine. The problem was that none of it was being reimbursed." Cochennet also admits he had a ringer for the grant proposal. "One of our EMTs is a grant writer," he says.

The centerpiece of the Health Service District is the three-year old Pagosa Springs Medical Center, the only hospital within 60 miles. It's home to Pagosa Springs EMS, a four-ambulance ALS and BLS service that provides emergency medical response to Archuleta County and portions of Hinsdale and Mineral Counties.

For the past three years, the district has been documenting areas of improvement, including early detection of heart attacks and strokes. In order to more fully serve a remote population, the hospital had already developed an advanced telemedicine program.

The \$1,724,581 grant will expand the current model that focuses on patients at risk for heart attacks and strokes through cardiovascular early detection and wellness programs, remote diagnostics for cardiologist consultations and a telemedicine acute stroke care program. A portion of the grant will be used to upgrade and retrain its EMS division to manage urgent care transports and in-home follow-up patient care.

But first, they had to identify the obstacles to follow-up care and provide solutions. In southwestern Colorado, a huge hindrance was travel time and expense—a cost not normally considered in healthcare estimates since it's often borne by the patient.

"You are looking at a quantum leap in savings," Cochennet says. He estimates that in six months, the savings in the cost of helicopter transports, the most common form of medical transport for acute patients, is \$300,000. Overall, the district says this program will reduce healthcare costs by approximately \$8.1 million during the three-year grant period.

"That's just the money. What is the price of an extra year of life or a better quality of life?" he asks.

#### Summary

All three organizations report that, so far, working with CMS has been remarkably smooth. "Our experience with this grant has been very positive," Cochennet says. Each grant winner is assigned a program officer to help with the process. So far, they have submitted their operations plans and expect to get underway with their projects as soon as they get the go-ahead from CMS. "I feel confident coming out of this that, with their help, we will be very successful," Schreiner says.

The key to launching these programs goes beyond the immediate savings. A large part of the process is to create a program that can be duplicated anywhere in the U.S. By providing grant money, CMS hopes to spur such innovative programs as the ones proposed by REMSA, Prosser and Upper San Juan. "These will be tools people will want to use," Cochennet says.

EMS Insider Administration and Leadership federal grant grant funding grants

Teresa McCallion

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#### **EMERGENCY MEDICAL SERVICES AUTHORITY**

10901 GOLD CENTER DRIVE, SUITE 400 RANCHO CORDOVA, CA 95670 (916) 322-4336 FAX (916) 324-2875



5351

SEP 2 4 7917

September 20, 2012

Larry Karsteadt North Coast EMS Agency 3340 Glenwood Avenue Eureka, CA 95501

Dear Mr. Karsteadt:

We have completed our review of North Coast EMS Agency's 2011 Emergency Medical Services Plan Update, and have found it to be in compliance with the EMS System Standards and Guidelines and the EMS System Planning Guidelines. Following are comments on your EMS plan update:

Transportation Plan:

Based on the documentation you provided please see the attachment on the EMS Authority's determination of the exclusivity of North Coast EMS Agency's ambulance zones.

Your annual update will be due on September 20, 2013. Please submit North Coast EMS Agency's Trauma Status Report, as a separate document, with your EMS plan update. If you have any questions regarding the plan review, please contact Sandy Salaber at (916) 431-3688 or by email <a href="mailto:ssalaber@emsa.ca.gov">ssalaber@emsa.ca.gov</a>.

Sincerely,

Howard Backer, MD, MPH, FACEP

Director

Attachment





# EMS Patient Offload Delays in the ED: Background Information for a Stakeholder Meeting

\_\_\_\_

Co-sponsored by:

California Emergency Medical Services Authority (EMSA) and California Hospital Association (CHA)

Tuesday, March 5, 2013

California Hospital Association

1215 K Street | Sacramento, CA 95814

Prepared by:

Bruce Barton, EMS administrator, Riverside County
Katie Tataris, MD, EMS Fellow, UCSF
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BJ Bartleson, RN, MS, NEA-BC, VP Nursing & Clinical Services, CHA

# **EMS Patient Offload Delays**

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#### Introduction

Emergency medical services system (EMS), hospitals, and their emergency departments (ED) are fundamental components of California's health care delivery network. Together they provide 24/7 access to emergency health services and the safety net for health care for the uninsured. Each year Californians average more than 11 million ED visits, resulting in more than 1.7 million admissions. Thus the availability and effective functioning of the EMS system and EDs are of vital importance to all Californians.

These systems of emergency care operate in a rapidly changing health care environment with economic pressures, price competition, public scrutiny, regulations and cost-containment initiatives. At the same time, population growth and California's aging population are contributing to the rising demand for care that is increasingly complex, but with additional expectations of improved patient safety and quality of care.

The emergency medical system and hospital emergency departments operate as separate distinct entities, but are linked through policies, procedure, and regulations to provide effective patient care from the initial notification of an emergency and response in the field to the time the EMS provider drops off the patient at the emergency department and returns to the community, while the patient receives evaluation, care, and hospitalization, if needed. The efficiency and effectiveness of each component in the chain of treatment radically affects the others; therefore, all members of the system must work together to ensure an adequate response. Since each local EMS system and its hospital emergency departments are unique, collaborative problem solving must be used to find solutions to system problems. A recent (2009) study on ambulance diversion in California found that when hospitals and their local emergency medical services agency were focused and united in reducing diversion, employing a collaborative process and best practices helped achieve a reduction of ambulance diversion, improved patient flow and opened lines of communication among participants".<sup>2</sup>

This statewide collaborative between The Emergency Medical Services Authority, the California Hospital Association, and other stakeholders, is intended to address the problem of ambulance patient offload delays. This document is intended to provide background information on ambulance offload delays to facilitate discussion among the participant stakeholders.

<sup>&</sup>lt;sup>1</sup> OSHPD, Baseline Five-Year Trends for California's Hospital Emergency Departments, 9/19/2012- 2010 data

<sup>&</sup>lt;sup>2</sup> California Healthcare Foundation, Reducing Ambulance Diversion in California, Strategies and Best Practices, issue brief 2009.

# **Meeting Objectives**

The objectives of this initiative are to:

- 1. Convene a collaborative group process;
- 2. Provide focus on the problem of ambulance offload delay and establish standards for data collection, reporting, and the development of consistent metrics;
- 3. Explore successful and promising approaches to resolving or improving the problem through processes that can be controlled locally; and
- 4. Propose how to disseminate and institute solutions between medical systems and jurisdictions with problematic delays.

# **Emergency Medical Services (EMS) Patient Offload Delay Description**

EMS patient offload time is the interval between arrival of an ambulance patient at the ED until the EMS and ED personnel transfer the patient to an ED stretcher and the ED staff assume the responsibility for care for the patient.<sup>3</sup> It is also known as ambulance wall time, ambulance wait times, EMS patient parking, and capture of emergency medical services.

Sometimes, after arrival at the hospital emergency department, ambulance patients remain on the ambulance gurney with emergency medical service personnel in attendance for an extended period of time, preventing the ambulance crew(s) from returning to service in a timely fashion. This is commonly referred to as ambulance patient offload delay.

Cone et.al. more technically describe the off load time as ," a turnaround interval composed of six fixed events (arrive at hospital, remove patients from ambulance, enter ED, transfer to an ED bed, EMS personnel leave ED, leave hospital) that follow the movement of the patient and EMS providers, as well as a number of variable events that do not occur in the same sequence with every run but may still be required to get the ambulance back into service (notification of unit status to dispatch, delivery of verbal and written reports to the ED staff, and completion of the ambulance call report.)<sup>4</sup> In this and all off load time models, the interval ends either when the crew signals "available" or when the ambulance leaves the hospital. It does not include instances when the crews may be stationed at the hospital or remain in the emergency department even after the unit is available for the next call.

<sup>&</sup>lt;sup>3</sup> Cooney DR, Millian MG, Carter A, Lawner BJ, Nable JV, Wallus HJ. Ambulance diversion and emergency department offload delay: resource document for the National Association of EMS Physicians position statement. Prehosp Emerg Care. 2011 Oct-Dec;15(4):555-61.

<sup>&</sup>lt;sup>4</sup> Cone DC,Davidson SJ,Nguyen Q. A time and motion study of the emergency medical services turnaround interval. Am Emerg Med 1998,31,241-6.

### **Scope of the Problem**

This problem is not unique to California. Other states including New York, Massachusetts, Nevada, Pennsylvania and West Virginia<sup>5</sup> have documented and addressed this issue. Recent reports from Canada, United Kingdom and Australia indicates that this issue is international.<sup>6</sup>

Although widespread in California, the problem is not uniform or consistent. Specific medical centers or regions are disproportionately affected. Many health care systems and acute care emergency departments have never routinely had a problem or they have resolved it. In some jurisdictions or ambulance zones, the problem has not been measured and evidence is anecdotal. In a study involving 200 cities (including California cities), the national average wait time for handing off ambulance patients has doubled since 2006, from 20 minutes to over 45 minutes, resulting in a loss of nearly 5 million hours of EMS system productivity. A study from Los Angeles (2004) revealed 21,240 incidents (one out of every eight transports) in a one-year period when EMS providers were out of service for more than 15 minutes waiting to transfer a patient to the ED staff. There were 8.4% of incidents were greater than one hour and the maximum wait time was 6.75 hours. Some urban areas in California report ambulance wait times to transfer care in the ED not uncommonly reaching 2-4 hours.

# **EMS Patient Offload Delay Data Collection Challenges**

One of the first challenges for measuring and monitoring the problem of patient offload delays in the emergency department is to agree on a uniform definition and measurement. Various methods and metrics are currently in use. San Joaquin County incorporates the "capture of emergency medical services" for 30 minutes into their diversion avoidance policy. Kern County also uses a 30-minute standard for reporting. Santa Clara County has met with hospitals to implement a 15-minute transfer of care expectation. LA County is currently working with stakeholders to implement system standards and metrics. San Bernardino County works with the Hospital Association of Southern California (HASC) and has maintained a 25-minute transfer standard since 2005. Riverside County also has a 25-minute standard and has an active duty officer to monitor system status.

Because there will always be uncontrollable surges in patient arrivals and ambulance traffic to an emergency department, any standard time parameter should apply to a given proportion of ambulance runs to an ED; for example, 90% of patient care transfers from EMS to an emergency department should be accomplished within 30 minutes. While there is a clear

<sup>&</sup>lt;sup>5</sup> West Virginia Ambulance Authority Begins Cutting Ambulance Wait Time. Charleston Daily Mail. Wednesday, August 15, 2012.

<sup>&</sup>lt;sup>6</sup> The Sunday Times, Perth Australia, June 9, 2012.

<sup>&</sup>lt;sup>7</sup> Williams DM. "2005 JEMS 200 City Survey," J. Emer. Med. Serv. Vol. 31(2):44-100, 2006

 $<sup>^8</sup>$  Eckstein M, Chan LS. The effect of emergency department crowding on paramedic ambulance availability. Ann Emerg Med; 43(1):100-105

agreed start time, when the ambulance arrives at the emergency department door, there are several different end times that could be measured.

#### **Associated Factors**

Ambulance offload delays are not an isolated issue, but are symptoms of the larger problem. Research and expert opinion connect Emergency Department crowding, ambulance diversion, patient offload delay, and emergency department patient boarding with obstructions in hospital throughput. 9,10,11 Many factors have been identified as contributing to decreased patient throughput, including decreased inpatient capacity, nurse patient ratios, hospital regulations limiting areas of care, and inability to rapidly turn over hospital beds. Additional issues affecting emergency department crowding are increasing patient complexity, lack of hospital beds, increased psychiatric holds due to fewer mental health community resources, delays in radiology, laboratory and ancillary services, shortage of specialists, lack of physical plant space, increased medical record documentation, and increasing difficulties in placement and arrangements for follow-up care. The final common endpoint is that emergency department beds are full, including admitted patients, and the ED cannot free gurneys and staff to accept new patients arriving by EMS. The fact that many ambulance patients do not have critical or even emergent conditions also does not provide incentive to rapidly clear existing patients from ED gurneys. The problem then may impact other hospitals, if the first overcrowded hospital initiates ambulance diversion (not allowed within all jurisdictions).

# **Impact on Patient Care**

When pre-hospital providers wait with the patient on their stretcher unable to transfer the patient to a hospital gurney and to transfer care to the ED staff, it creates issues of patient safety. The paramedics or EMTs must continue to care for the patient they brought to the ED, rather than transferring to the higher level of care that is the standard within a hospital ED. Delay in ED patient transfer has not been well studied in relation to patient care outcomes, but the associated factors of diversion status and ED boarding both have been linked to increases in patient morbidity and mortality. The GAO report on ED crowding used ambulance diversion and patients leaving the ED without being seen as proxy measures—both of which result in treatment delays. Waiting for an open ED bed also leads to delays in medication administration and failure to meet standard of care for treatments such as antibiotics for sepsis, as the clock

<sup>&</sup>lt;sup>9</sup> Eckstein M, Chan LS. Op. Cit.

<sup>10</sup> http://www.chcf.org/publications/2009/07/reducing-ambulance-diversion-in-california-strategies-and-best-practices

<sup>&</sup>lt;sup>11</sup> United States Government Accountability Office. Hospital Emergency Departments: Crowding Continues to Occur, and Some Patients Wait Longer than Recommended Time Frames. GAO-09-347 April 2011.

starts when the patient enters the ED.<sup>12</sup> Delays in patient throughput in the ED actually decreases hospital cost efficacy and increases subsequent hospital stays.<sup>13</sup> <sup>14</sup>,<sup>15</sup>

The National Association of EMS Physicians (NAEMSP) position paper states:

Patient-level consequences have not been well studied. Despite this fact, one might hypothesize that offload delay leads to delay to definitive care, poor pain control, delayed time to antibiotics, increased morbidity, and possibly even mortality. Ultimately, there is a reasonable concern that ambulance offload delay will compromise patient safety. <sup>16</sup>

The Emergency Nurses association had published a white paper that reviews data on the effects of holding patients in the ED.  $^{17}$ 

The widespread practice of holding or boarding patients in the emergency department is a major contributing factor to ED crowding and may lead to ambulance diversion or a delay in ambulance unloading, a delay in the provision of emergency care, and/or prolonged lengths of stay for ED patients being admitted to the inpatient hospital or transferred to another facility. Further, holding and crowding may result in reduced quality of care and increased risks to patient safety.

# Impact on EMS system

The ambulance unit and staff that are delayed in the ED are effectively out of service, decreasing advanced life support coverage in the community, which can increase response time for subsequent critical cases, including cardiac arrest and major trauma. ED delays of the EMS professionals back up the entire system: dispatch centers have increased task times, and EMS supervisors spend their time in the hospital attempting to make their units available. The compilation of these additional non-productive unit-hours are costly to the company and to the community, since readiness accounts for a large portion of the cost associated with ambulance coverage in a community, and ambulance contracts mandate maximal response times to critical

<sup>&</sup>lt;sup>12</sup> Pines JM, et al., "The Association between Emergency Department Crowding and Hospital Performance on Antibiotic Timing for Pneumonia and Percutaneous Intervention for Myocardial Infarction," *Academic Emergency Medicine*, vol. 13 no. 8 (2006).

<sup>13</sup> U.S. GAO. Op.Cit.

<sup>&</sup>lt;sup>14</sup> Emergency Nurses Association White Paper, 2006. Holding patients in the Emergency Department. https://www.ena.org/IENR/Documents/HoldingPatientsEDWhitePaper.pdf

<sup>&</sup>lt;sup>15</sup> Rabin E, Kocher K, McClelland M. Solutions to emergency department boarding and crowding are underused and may need to be legislated. Health Affairs, 2012; 31(8):1757-1766.

<sup>16</sup> Cooney DR, et al, 2011. Op. Cit.

<sup>17</sup> Emergency Nurses Association White Paper. Op. Cit.

calls. The cost to fully supply and staff an ambulance for 60 minutes is termed a 'unit hour'. This varies by type of system but averages \$100/hour. By adding up the total hours that EMS personnel wait to hand over their patients, and then multiply by the cost of a unit hour, the result is a tremendous financial loss to the system.

In 2012, Riverside and San Bernardino Counties logged approximately 20,535 total delay hours accounting to \$3 million in lost unit hours during that year (not counting potential lost revenue). Also in 2012, Sacramento Metro Fire Department accumulated 17,345 hours of delays in patient offload time at one hospital with an estimated system cost for this time of \$2.6 million. When multiple ambulances are delayed, Sacramento Fire has to pull paramedic firefighters from other stations, meaning fire suppression units are unavailable to respond.

# **Regulatory Framework**

California Health and Safety Code, Division 2.5, and the associated California Code of Regulations (Title 22, Chapter 4, Section 100145) defines the paramedic scope of practice, which does allow for paramedics to practice "while in the ED of an acute care hospital until responsibility is assumed by hospital staff"; however, this does not provide for routine or extended continuation of care for patients transported by EMS personnel once the hospital is responsible for the care of the patient.

EMTALA states that a hospital is responsible for the care of a patient when the patient or ambulance arrives on "hospital grounds". EMTALA requires initial assessment and triage of the patient without delay. Legal transfer of care to the hospital is not dependent upon or delayed by a report given by EMS provider. Moreover, EMTALA does not specifically define the transfer of responsibility or the 'formal acceptance' of the patient from EMS to ED staff.

State and federal regulatory agencies have issued statements regarding delays in patient transfer in the ED in relation to ambulance diversion, ED overcrowding, and ED patient boarding.

In June 2007, the California Department of Public Health Licensing and Certification issued an All Facility Letter (AFL 07-04) on EMS-ED patient parking:

The CDPH realized that there is crowding in many hospital emergency departments. There needs to be a different solution to this problem as "parking" patients in hospitals and refusing to release EMS equipment or personnel puts patients' health at risk and jeopardizes the ability of the EMS staff to provide their important services to California's communities.

The Center for Medicare and Medicaid Services addressed the issue with S&C -06-21 (July 2006):

CMS recognizes the enormous strain and crowding many hospital emergency departments face every day. However, this practice is not a solution. "Parking" patients in hospitals and refusing to release EMS equipment or personnel jeopardizes patient health and impacts the ability of EMS personnel to provide emergency services to the rest of the community.

This practice [delaying ambulance ED offload] may result in a violation of the Emergency Medical Treatment and Labor Act (EMTALA) and raises serious concerns for patient care and the provision of emergency services in a community. Additionally, this practice may also result in violation of the Conditions of Participation for Hospitals.... A hospital that delays the screening examination or stabilizing treatment of a patient who arrives via transfer from another facility by not allowing EMS to leave the patient could also be in violation of EMTALA.

S&C-07-20 (April 2007) clarified that S&C 06-21 does not mean that

a hospital will necessarily have violated EMTALA if it does not, in every instance, immediately assume from the EMS provider all responsibility for the individual, regardless of any other circumstances in the ED.... In some circumstances it could be reasonable for the hospital to ask the EMS provider to stay with the individual until such time as there were ED staff available to provide care to that individual.

If the provider cannot perform an immediate Medical Screening Exam, it must still triage the patient's condition immediately to ensure immediate intervention is not required.

#### **Solutions and Best Practices**

#### *Identifying the bottleneck*

Since ambulance diversion, ambulance wait time and ED boarding are all linked to hospital throughput, they all must be examined together and in context with EMS system performance requirements to meet community service needs. Effective mitigation strategies designed to reduce ambulance patient offload time must include methods to improve hospital throughput and the establishment of meaningful metrics for benchmarking.

A National Association of EMS Physicians (NAEMSP) position resource document states:

It is clear that EMS systems do not exist in a vacuum isolated from the rest of the health care system. In addition, it is also clear that the most efficient way to ensure that the EMS system is able to respond to the emergent needs of the public is to maximize

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hospital throughput strategies.... Ultimately, the solution to ED diversion, ambulance offload delays, and overall hospital throughput is a matter of all entities in a given health care system working together in an integrated manner for the overall good of the public health. <sup>18</sup>

#### **Definition** and measurement

The NAEMSP recommends that "reliable data on prolonged delivery time, offload delay, and the impact on EMS systems can be used to leverage hospitals to improve ED throughput by reorganizing or committing additional resources. EMS and hospital system agreement on criteria for ED ambulance diversion is also important. Limiting offload delay may greatly impact the outcome for ill and traumatized patients and, therefore, benchmarks for offload delay should be adopted. Communication of system resource availability, as well as factors relating to offload delay, should also be integrated into every EMS system." <sup>6</sup>

## Measures to address ED overcrowding and boarding

Strategies that optimize bed management reduce boarding by improving the efficiencies of hospital flow. Some examples include improved registration procedures, space reorganization, patient placement "zones", addition of observation and treatment-in-progress bed space areas, use of bed tracking technology, changing patient flow patterns, adding urgent care and flexible bed space. Staff has been reconfigured into teams inclusive of such new roles as patient flow coordinator, and many hospitals have added pharmacists to the care delivery team to more quickly address the increased complicated polychronic individual on multiple medications. Inpatient throughput also has a direct impact on an ED's ability to move admitted patients through the process. Increased staff has been added to focus on more effective and rapid discharge of inpatients. Many hospitals have added physician hospitalists, discharge care teams, discharge waiting areas and inpatient flow coordinators. Other hospital strategies to reduce ED boarding and crowding include moving boarders to inpatient halls, active bed management, elective surgical case smoothing, and a simplified admission protocol. <sup>19</sup> The GAO report reviewed data on suggested measures. 20 These strategies are often underused, sometimes due to lack of incentives or cost containment initiatives, in other cases, innovative strategies may be hampered or prohibited by regulations or building and fire codes.

<sup>&</sup>lt;sup>18</sup> Cooney DR, 2011. *Op. Cit.* 

<sup>19</sup> Rabin E, 2012. Op. Cit.

 $<sup>^{20}\</sup> United\ States\ Government\ Accountability\ Office.\ Hospital\ Emergency\ Departments:\ Crowding\ Continues\ to\ Occur,\ and\ Some\ Patients\ Wait\ Longer\ than\ Recommended\ Time\ Frames.\ GAO-09-347\ April\ 2011.$ 

# Standards for ED boarding and hospital throughput

The Joint Commission, Agency for Healthcare Research and Quality (AHRQ), and CMS have all recognized the problem of patient flow in the Emergency Department, its root cause of hospital throughput, and its association with patient safety. Subsequently, new standards and guidelines for hospital throughput are being developed. Eventually, this should affect the downstream problem of EMS patient transfer delays, but more urgent measures to address this problem are warranted.

- 1. Agency for Healthcare Research and Quality (AHRQ) publishes many best practice documents for managing hospital throughput and patient flow. <sup>21</sup>
- 2. New CMS core measures (2014) address ED and hospital throughput. 22
- 3. The Joint Commission accreditation standards for ED Patient Flow (LD.04.03.11) has nine elements of performance (EP). They have recommended that "boarding timeframes not exceed 4 hours in the interest of patient safety and quality of care." EP8 requires leaders to take action to improve patient flow when goals are not achieved. Leaders who must take action include the board, medical staff, along with the CEO and senior leadership." <sup>23</sup>

#### American college of Emergency Physicians (ACEP) Clinical Policy

Reducing the time that patients remain in the emergency department (ED) after an admission decision has been made can improve access to treatment and increase quality of care. ACEP agrees with the National Quality Forum deliberations noting the importance of examining the median time from admit decision time to time of departure from the ED for patients admitted to inpatient status:

The problem of boarding emergency department (ED) patients is multifactorial with causes that span the entire health care delivery system. Boarding is a major patient safety issue. <sup>24</sup>

Optimal utilization of the emergency department (ED) includes the timely evaluation, management, and stabilization of all patients. Boarding of admitted patients in the ED contributes to lower quality of care, reduced timeliness of care, and reduced patient

 $<sup>^{21}\</sup> http://www.ahrq.gov/qual/ptflow/ptflowguide.pdf$ 

<sup>&</sup>lt;sup>22</sup> http://www.ahrq.gov\qual\ptflow\ptflowguide.pdf

<sup>&</sup>lt;sup>23</sup> http://www.jointcommission.org/assets/1/18/Pre\_Publication\_EDO\_HAP.pdf http://www.jointcommission.org/issues/article.aspx?Article=lFlB9kMZVBP527NDSKyuwfkXuYbHq4T05UmK9Azy4nE% 3D

<sup>&</sup>lt;sup>24</sup> ACEP Clinical Policy. Boarding of Pediatric Patients in the Emergency Department Approved January 2012

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satisfaction. ED crowding is a direct result of diminished bed and resource capacity created by boarding. <sup>25</sup>

A proxy for emergency department crowding includes the proportion and lengths of time patients remain in the emergency department after the decision to admit. Studies have shown that boarding patients in the emergency department can lead to greater hospital lengths of stay over prompt admissions. Reducing this time potentially improves access to care specific to the patient condition and increases the capability of facilities to provide additional treatment. <sup>26</sup>

### Best Practice Examples

A common theme among best practice examples is a "top to bottom" hospital focus on mitigation strategies and information sharing that involve coordination between the ED, bed control (house supervisor), and hospital administration.

- a. AHRQ Service Delivery Innovations Profile St. Francis Medical Center, Lynwood, California. <sup>27</sup>
- b. Valley Hospital Emergency Critical Care Center, Las Vegas, Nevada. <sup>28</sup>
- c. AHRQ Forbes Regional Campus of Western Pennsylvania Patient Flow Improvements. <sup>29</sup>
- d. Pennsylvania Patient Safety Advisory Managing Patient Access and Flow in the ED to Improve Patient Safety. <sup>30</sup>
- e. Florida State EMS Administrator (Jan 22, 2009) lists 21 recommendations that mostly can be implemented by EMS agencies. <sup>31</sup>
- f. Victoria, BC, has published guidelines to provide direction for hospital and ambulance staff on the process for reception and handover of patients arriving by ambulance in Victoria's metropolitan public hospital emergency departments.<sup>32</sup>

 $<sup>^{25}</sup>$  ACEP clinical policy. Boarding of Admitted and Intensive Care Patients in the Emergency Department Approved April 2011

<sup>&</sup>lt;sup>26</sup> ACEP Clinical Policy Statement 2011. http://www.acep.org/Clinical---Practice-Management/Definition-of-Boarded-Patient/

<sup>&</sup>lt;sup>27</sup> http://www.innovations.ahrq.gov/content.aspx?id=1757

<sup>&</sup>lt;sup>28</sup> http://www.rwjf.org/en/research-publications/find-rwjf-research/2006/09/valley-hosptial-medical-center.html

<sup>&</sup>lt;sup>29</sup> http://www.innovations.ahrq.gov/content.aspx?id=2491

 $<sup>^{30}\</sup> Pennsylvania\ Patient\ Safety\ Advisory\ 2010\ Dec; 7[4]: 123-34.$  http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2010/dec7% 284% 29/documents/123.pdf

<sup>31</sup> http://www.doh.state.fl.us/demo/ems/EMSAC/ACPDFS/AccesstoCareBestPracticesPositionPaper.pdf

<sup>32</sup> http://www.health.vic.gov.au/emergency/presentation-guide%20.pdf

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In West Virginia, ambulance personnel now can offload non-emergency patients to the emergency department's waiting room, as long as they make contact with the ER's charge nurse.

#### *Legislative solutions*

Nevada State Legislature passed Senate Bill 458 in late spring 2005 that created a standard of 30 minutes to transfer the care of patients from EMS to hospital staff.

Massachusetts passed a law in 2009 to prohibit diversion and monitor wait times. Based on a review published by the AMA, no increase in wait times has been seen through 2010. The legislation initially included fines if the time limit was exceeded, but these were dropped.

In England, some EMS agencies charge hospitals for delays in transfer of patients over 15 minutes. Moreover, England has addressed ED overcrowding by requiring an ED throughput limit of 4 hours in 90% of patients.

#### **Areas for Discussion**

- 1. Develop standardized nomenclature, definitions, metrics and reporting for ambulance patient transfer (of care) in policies for local EMS agencies and EMS receiving hospitals.
- 2. Prioritize known practices that are most likely to impact delays in problem areas.
- 3. Assist local jurisdictions in developing measurable and sustainable goals to reduce the incidence of patient offload delays using short, intermediate and long-term strategies.
- 4. Contribute to State (EMSA) and Federal discussions/efforts to examine the core issues and develop solutions such as alternative patient destinations, community paramedic programs, patient case management and alternatives for care of mental health patients.