NORTH COAST EMERGENCY MEDICAL SERVICES
3340 Glenwood Street, Eureka, CA 95501 (707) 445-2081 (800) 282-0088 FAX (707) 445-0443

MEMORANDUM:

DATE: **June 18, 2014**

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 # 103**
      Replace- Table of Contents
      Replace- Policy #2302 Cancellation and Transfer of Patient Care Policy
      Replace- Policy #2304 AEMT/BLS- Determination of Death
      Replace- Policy #2305 ALS Determination of Death
      Replace- Policy #2306 Physician Involvement with EMT's and Paramedics
      Replace- Policy #4002 Fee Schedule
      Replace- Policy #5304 Atropine Sulfate
      Replace- Policy #5305 Calcium Chloride 10% Solution
      Replace- Policy #5306 Dextrose 50% (D_{50}) Protocol; Dextrose 25% (D_{25}) Protocol, Dextrose 10%
      Replace- Policy #5307 Epinephrine (Adrenalin)
      Replace- Policy #5308 Furosemide (Lasix)
      Replace- Policy #5309 Lidocaine (Xylocaine)
      Replace- Policy #5310 Morphine Sulfate
      Replace- Policy #5311 Naloxone (Narcan)
      Replace- Policy #5312 Nitroglycerine
      Replace- Policy #5313 Sodium Bicarbonate
      Replace- Policy #5318 Adult and Pediatric Endotracheal Intubation Protocol
      Replace- Policy #5320 IV Caps
      Replace- Policy #5323 Glucose Test Strip Protocol
      Replace- Policy #5324 ALS Defibrillation Protocol
      Replace- Policy #5325 Use of Non-Invasive Diagnostic Devices
      Replace- Policy #5327 End Tidal CO_2 Detection
      Replace- Policy #5329 Albuterol Sulfate
      Replace- Policy #5330 Aerosol Therapy with Small Volume Nebulizer Protocol
      Replace- Policy #5333 Rectal Administration of Diazepam Protocol

Replace- Policy #5334 Finger Stick for Blood Glucose Protocol
Replace- Policy #5335 Cardioversion- Conscious Patient Protocol
Replace- Policy #5336 Medical Control Combitube Airway Protocol
Replace- Policy #5439 Fentanyl (Sublimaze)
Replace- Policy #6030 Oxygen Administration Protocol
Replace- Policy #6037 Spinal Motion Restriction
Replace- Policy #6555 Pain Management Policy (Adult and Pediatric)

Remove- Policy #2204 LALS Supply and Equipment List
Remove- Policy #4008 Expanded Scope of Practice Training and Testing
Remove- Policy #5303 EMT II Scope of Practice
Remove- Policy #5321 EMT II Standing Radio Failure
Remove- Policy #5322 EMT II Radio Failure Policy
Remove- Policy #5326 Pulse Oximetry Usage
Remove- Policy #5331 Aspirin
Remove- Policy #5422 EMT-P Radio Failure Policy
Remove- Policy #5437 Paramedic Administered Vaccinations
Remove- Policy # 6016 Head and Neck Trauma
Remove- Policy # 6017 Chest Trauma
Remove- Policy # 6018 Abdominal Trauma
Remove- Policy # 6019 Extremity Trauma Amputations
Remove- Policy # 6034 Traumatic Amputation Protocol
Remove- Quick Reference

b. **MCI Channel Test 4/8/14**
c. **MCI Channel Test 6/10/14**
d. **MCI Channel Test 6/12/14**
e. **GF 3rd Quarter Progress Report**
f. **EMSC TACTICAL Performance Report**

NORTH COAST EMERGENCY MEDICAL SERVICES
3340 Glenwood Street, Eureka, CA 95501 (707) 445-2081 (800) 282-0088 FAX (707) 445-0443

CHANGE NOTICE CHANGE #103

DATE: 6/18/14

TO: ALL PREHOSPITAL CARE POLICY MANUAL HOLDERS

INSTRUCTIONS	POLICY #	POLICY DESCRIPTION	# OF PAGES
REPLACE	2302	Cancellation and Transfer of Patient Care Policy	3
REPLACE	2304	AEMT/BLS- Determination of Death	2
REPLACE	2305	ALS-Determination of Death	3
REPLACE	2306	Physician Involvement with EMT's and Paramedics	2
REPLACE	4002	Fee Schedule	3
REPLACE	5304	Atropine Sulfate	2
REPLACE	5305	Calcium Chloride 10% Solution	1
REPLACE	5306	Dextrose 50% (D_{50}) Protocol; Dextrose 25% (D_{25}) Protocol, Dextrose 10%	1
REPLACE	5307	Epinephrine (Adrenalin)	3
REPLACE	5308	Furosemide (Lasix)	2
REPLACE	5309	Lidocaine (Xylocaine)	2
REPLACE	5310	Morphine Sulfate Protocol	2
REPLACE	5318	Adult and Pediatric Intubation Protocol	3
REPLACE	5320	IV Caps	1
REPLACE	5323	Glucose Test Strip Protocol	1
REPLACE	5324	ALS Defibrillation Protocol	2
REPLACE	5325	Use of Non-Invasive Diagnostic Devices	1

REPLACE	5327	End Tidal CO_2 Detection	2
REPLACE	5329	Albuterol Sulfate	2
REPLACE	5330	Aerosol Therapy with Small Volume Nebulizer Protocol	2
REPLACE	5333	Rectal Administration of Diazepam Protocol	2
REPLACE	5334	Finger Stick for Blood Glucose Protocol	2
REPLACE	5335	Cardioversion- Conscious Patient Protocol	2
REPLACE	5336	Medical Control Combitube Airway Protocol	2
REPLACE	5439	Fentanyl	2
REPLACE	6030	Oxygen Administration Protocol	3
REPLACE	6037	Spinal Motion Restriction	3
REPLACE	6555	Pain Management Protocol	2
REMOVE	2204	LALS Supply and Equipment List	
REMOVE	4008	Expanded Scope of Practice Training and Testing	
REMOVE	5303	EMT II Scope of Practice	
REMOVE	5321	EMT II Standing Radio Failure	
REMOVE	5322	EMT II Radio Failure Policy	
REMOVE	5326	Pulse Oximetry Usage	
REMOVE	5331	Aspirin	
REMOVE	5422	EMT-P Radio Failure Policy	
REMOVE	5437	Paramedic Administered Vaccinations	

REMOVE	6016	Head and Neck Trauma	
REMOVE	6017	Chest Trauma	
REMOVE	6018	Abdominal Trauma	
REMOVE	6019	Extremity Trauma	
REMOVE	6034	Traumatic Amputation Protocol	
REMOVE		Quick Reference	

NORTH COAST EMS

POLICIES AND PROCEDURES

TABLE OF CONTENTS

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

EMT-II

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

POLICIES AND PROCEDURES

TABLE OF CONTENTS (cont.)

Subject: Administration – Patient Care
Cancellation and Transfer of Patient Care Policy

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

II. Purpose

To establish procedural guidelines for basic life support (BLS) personnel to discontinue response of advanced life support (ALS) or Advanced Emergency Medical Technician (AEMT) and provide BLS transport, and guidelines for AEMT personnel to discontinue an ALS response and provide AEMT transport. This policy is also intended to establish a procedure for prehospital care personnel to relinquish care and custody of a patient to a lower certificate holder.

III. Guidelines For Cancellation of ALS or AEMT Response by BLS Personnel

A. In general, BLS personnel at the scene of a medical emergency should not transport if ALS or AEMT personnel are responding. Ordinarily, BLS personnel should wait for ALS or AEMT personnel to arrive at the scene. The following exceptions may be applied:
   1. the patient is suffering from an injury or illness which clearly requires rapid transport in order to reduce the risk of increased morbidity or mortality caused by delayed transport; or,
   2. the patient clearly has only a minor injury or illness which has no apparent indication for ALS or AEMT care.

B. If, in the opinion of BLS personnel, the patient meets one of the above exceptions for cancellation of ALS or AEMT with BLS transport, then the BLS provider shall contact the base hospital by radio or telephone with a complete report of the patient's condition. The base hospital physician or MICN shall determine if cancellation of ALS or AEMT with BLS transport is appropriate.

C. ALS or AEMT may be cancelled with base hospital permission for BLS transport. Transporting BLS units shall attempt to rendezvous with an ALS or AEMT unit between the scene and receiving hospital if so ordered by the base hospital.

D. In the event of radio failure and/or inability to telephone the base hospital, the BLS unit may transport a patient if the patient clearly meets one of the exception criteria in paragraph A of this section. In the event that the patient has any apparent indication for ALS or AEMT, then the transporting BLS unit shall not cancel an ALS or AEMT response; rather, the BLS unit shall attempt to rendezvous with an ALS or AEMT unit between the scene and receiving hospital.

Subject: Administration – Patient Care
Cancellation and Transfer of Patient Care Policy

IV. Guidelines For Cancellation of ALS Response by AEMT Personnel

A. AEMT personnel at the scene of a medical emergency should not transport a patient if ALS personnel are responding, and the patient has indication(s) for prehospital ALS treatment exceeding AEMT scope of practice. The following exceptions may be applied:

1. the patient is suffering from an injury or illness which clearly requires rapid transport in order to reduce the risk of increased morbidity and mortality caused by delayed transport; or,
2. the patient has an injury or illness which does not require EMT-P treatment (therapy within EMT-P scope of practice that exceeds AEMT scope of practice) for the relief of unnecessary suffering, and/or decreased risk of morbidity and mortality.

B. If, in the opinion of AEMT personnel, the patient meets one of the above exceptions for cancellation of ALS with AEMT transport, then the AEMT provider shall contact the base hospital by radio or telephone with a complete report of the patient's condition. The base hospital physician or MICN shall determine if cancellation of ALS with AEMT transport is appropriate.

C. ALS may be cancelled with base hospital permission for AEMT transport. Transporting AEMT units shall attempt to rendezvous with an ALS unit between the scene and receiving hospital if so ordered by the base hospital.

D. In the event of radio failure and/or inability to telephone the base hospital, the AEMT unit may transport a patient if the patient clearly meets one of the exception criteria in paragraph A of this section. In the event that the patient has any apparent indication for ALS, then the transporting AEMT unit shall not cancel an ALS response; rather, the AEMT unit shall attempt to rendezvous with an ALS unit between the scene and receiving hospital.

V. Relinquishing Patient Care to a Lower Certificate Holder

A. The following prehospital care certificate holders may relinquish custody and care of a patient to a lower certificate holder when the patient's condition clearly does not require the scope of practice of higher certificate holder; that is, the scope of practice of the lower certificate holder can address the needs of the patient: EMT-P to AEMTI or EMT-I; AEMT to EMT-I.

B. If a prehospital provider seeks to relinquish care to a lower certificate holder, he/she shall contact the base hospital with a complete report of the patient's condition, and specify to whom the patient will be transferred (AEMT to EMT-I; EMT-P to AEMT, etc.). The base hospital may grant or deny permission for the same.

Subject: Administration – Patient Care
Cancellation and Transfer of Patient Care Policy

C. In the event of radio failure and/or inability to telephone the base hospital, the higher certificate holder shall maintain care and custody of the patient.

VI. Documentation and Base Hospital Review

A. Implementation of this policy by prehospital care personnel shall be documented on the Prehospital Care Report (PCR).

Approved: _____

Approved as to Form: _____

Subject: Administration – Patient Care
AEMT/BLS – Determination of Death

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 establish regional policy and procedure for basic life support (BLS) and AEMT personnel to determine and document death in the prehospital setting. For the purpose of this policy, "BLS personnel" is defined as a rescuer who is currently certified as a Emergency Medical Technician-I within the North Coast EMS region. AEMT is defined as an Advanced Emergency Medical Technician currently certified within the North Coast EMS region.

III. Policy

A. Do Not Resuscitate (DNR) Requests:

CPR should not be initiated on a pulseless, non-breathing patient when a valid Do Not Resuscitate (DNR) Request,No Code or No CPR Order meeting Policy #2307 requirements is presented.

B. Obvious Death:

CPR does not need to be initiated if a pulseless, non-breathing patient has one or more of the following conditions:

1. Decapitation.
2. Decomposition.
3. Incineration of the torso and/or head.
4. Visible exposure, destruction, and/or separation of vital internal organs (brain, spinal cord, liver, heart, or lungs).
5. Rigor or livor mortis (without contributing environmental factors - see special considerations).
6. Severe injuries obviously incompatible with life.
7. Submersion greater than or equal to twenty-four (24) hours.

C. Possible Death:

If any doubt exists regarding the patient's conformance with the criteria above for obvious death, then CPR shall be initiated (unless impossible) and maintained until transfer of patient care to ALS personnel, or patient delivery at a receiving hospital.

D. North Coast Paramedics's may discontinue CPR upon voice orders from a base hospital physician. EMT-I's/AEMT transferring care to ALS personnel are authorized to follow a Paramedics instructions to discontinue resuscitation.

E. At no time shall BLS/AEMT personnel discontinue CPR unless one or more of the following criteria are met:

1. The rescuer is physically exhausted and unable to continue.
2. Spontaneous circulation and respiration is restored.
3. CPR is being transferred to other persons qualified to perform CPR.
4. A California-licensed physician at the scene assumes total responsibility for the patient by ordering BLS personnel to discontinue CPR.
5. A valid Do Not Resuscitate (DNR) Request, No Code, or No CPR Order meeting Policy #2307 requirements is provided.

IV. Procedure

A. In any event where death is determined by BLS/AEMT personnel notify the appropriate agency with primary investigative authority (coroner, law enforcement) and all pertinent facts and findings should be documented as soon as possible. Refer to your County Coroner's policy regarding disposition of the deceased.

B. If death appears to be from other than natural causes, the body and scene should be disturbed as little as possible to protect potential crime scene evidence.

C. BLS Personnel who do not begin resuscitation of a pulseless and apneic patient shall document the prehospital event on a First Responder Report or Prehospital Care Report (PCR) to be retained by that provider agency for a period of not less than 4 years.

V. Special Information

A. Division 2.5 of the California Health and Safety Code, Section 1798.6(a), states that the authority for patient care management in an emergency shall be vested in that licensed or certified health care professional, which may include any paramedic or other prehospital emergency personnel, at the scene of the emergency who is most medically qualified specific to the provision of rendering medical care.

B. Hypothermia can mask the positive neurological reflexes which indicate life, so it is imperative to be certain no contributing environmental factors exist, such as cold water submersion or cold exposure. If there exists any possibility that either of these could be a factor, resuscitation should be started immediately.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Administration- Patient Care
ALS- Determination of Death

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 establish regional policy and procedure for advanced life support (ALS) personnel to determine and document death in the prehospital setting. For the purpose of this policy, "ALS personnel" is defined as a rescuer that is a currently licensed as a EMT-P within the North Coast EMS Region. Additionally, this policy shall outline procedures to be followed whenever CPR is withheld or discontinued in the prehospital setting (also, refer to Policy #2307).

III. Policy

A. Do Not Resuscitate (DNR) Requests:
CPR should not be initiated on a pulseless, non-breathing patient when a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements is presented.

B. Obvious Death:
CPR does not need to be initiated if a pulseless, non-breathing patient has one or more of the following conditions:
1. Decapitation
2. Decomposition
3. Incineration of the torso and/or head
4. Visible exposure, destruction, and/or separation of vital internal organs (brain, spinal cord, liver, heart or lungs).
5. Rigor or livor mortis (without contributing environmental factors- see special information)
6. Major trauma resulting in full arrest with a known down time of greater than twenty (20) minutes with no CPR initiated.
7. Severe injuries obviously incompatible with life.
8. Submersion greater than or equal to twenty-four (24) hours.
9. Blunt trauma in asystole or PEA<40bmp.

C. Discontinuation of CPR
Resuscitation attempts may be discontinued under the following circumstances:
1. Upon presentation of a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements.
2. When the EMT is exhausted and cannot continue resuscitative efforts.
3. When the base hospital physician directs the discontinuation of resuscitative efforts based on the information available to him/her. Some suggested guidelines are:
    a. Documented apnea and pulselessness > ten (10) minutes without CPR.

Subject: Administration- Patient Care
ALS- Determination of Death

b. No response to ACLS > thirty (30) minutes.
c. No ventricular activity after ten (10) minutes of ACLS.

IV. Procedure
A. ALS personnel need not initiate CPR when death has been determined using the criteria outlined above.
B. A cardiac monitor may be used by ALS personnel to assist in their determination of death without being committed to initiation of other ALS procedures.
C. Discontinuation of CPR:
1. Identify all mortal injuries or confirm that a valid Do Not Resuscitate (DNR) Request, No Code or No CPR Order meeting Policy #2307 requirements is provided.
2. Record EKG rhythm strip and confirm asystole.
3. Contact base hospital, relay all facts/findings and request permission to discontinue CPR.
D. When CPR is not initiated, or has been discontinued after treatment of asystole, by BLS, AEMT, or ALS personnel:
1. Notify base hospital physician or MICN of findings via radio or telephone
2. Notify County Coroner or appropriate investigative authorities if this has not already been done.
3. Complete North Coast EMS Prehospital Care Report (PCR) with all surrounding facts, findings, and time death was determined.

V. Special Information
A. Division 2.5 of the California Health and Safety Code, Section 1798.6(a), states that the authority for patient care management in an emergency shall be vested in that licensed or certified health care professional, which may include any paramedic or other prehospital emergency personnel, at the scene of the emergency who is most medically qualified specific to the provision of rendering medical care.
B. Hypothermia can mask the positive neurological reflexes which indicate life, so it is imperative to be certain no contributing environmental factors exist, such as cold water submersion or cold exposure, especially in children. If there exists any possibility that either of these could be a factor, resuscitation should be started immediately.
C. Resuscitative efforts may be extended despite apparent death, at the discretion of the base hospital physician, to facilitate organ donation.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Administration – Patient Care
Physician Involvement with EMT's and Paramedics

Associated Policies:

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
- D. California Medical Association
- E. State Emergency Medical Services Authority

II. Purpose
To establish alternatives for physician involvment with EMTs and Paramedics.

III. Procedure
- A. Physicians
  After identifying yourself by name as a physician licensed in the State of California, and if requested, showing proof of identity, you may choose to do one of the following:
  1. Offer your assistance with another pair of eyes, hands, or suggestions, but let the life support team remain under base hospital control; or,
  2. request to talk to the base hospital physician and directly offer your medical advice and assistance; or,
  3. take total responsibility for the care given by the life support team and physically accompany the patient until the patient arrives at a base hospital and responsibility is assumed by the receiving physician. In addition, you must sign for all instructions given in accordance with local policy and procedure. When possible, remain in contact with the base hospital physician.
- B. EMT's and Paramedics
  1. Treat all physicians on-scene politely and with respect.
  2. May request that the physician identify himself as a physician licensed in the State of California, and may request proof of identity.
  3. If possible, contact base hospital physician.
  4. Drugs and equipment may be made available for the physician's use if the MD complies with the requirements as listed above under Section A.

Subject: Administration – Patient Care
Physician Involvement with EMT's and Paramedics

5. Medical control of ALS/AEMT personnel remains with the base hospital.
6. If complications arise, consider initiation of an incident report.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Certification
Fee Schedule

I. Authority and Reference (incorporated herein by references)
A. Division 2.5 of Health and Safety Code
B. North Coast EMS Policies and Procedures

II. Purpose
To establish a fee schedule and policy for all certification levels.

III. The following schedule of fees are established to offset costs; all fees are payable in advance:

EMT-I (re)certification	40.00
EMT-I (re) certification for first responders with a NCEMS recognized volunteer agency, requires chief signature	20.00
EMSA Initial Central Registry Fee	75.00
EMSA Recertification Central Registry Fee	37.00
EMT-II (Re)certification	50.00
EMT-II Test & Retest	50.00
EMT-P Accreditation (including cases when there has been a lapse of accreditation)	150.00
Extension of Accreditation Time Limit Without Cause	50.00
Special Care Transfer Paramedic Accreditation (Hep/Nitro)	20.00
MICN Initial Authorization/ Reauthorization if lapsed	80.00
MICN Re-Authorization	50.00
MICN Skills Test & Retest	50.00
Written Retest	20.00
Reactivation from LOA	20.00
Card Replacement	10.00
Suspension Reinstatement	25.00
Special Test	50.00
"Rush"of Certification, Accreditation or Authorization Card	15.00
Returned Check Fee	25.00
First Responder / Continuing Education Program Approval (Fee charged for private organizations with a recognized role in first aid or prehospital care education/training only.)	50.00
Initial ALS Provider Fee	500.00
Base Hospital Closure or Downgrading Fee	2000.00
Proposed Only: Trauma Center Application and Annual Maintenance Fee Level III Trauma Center Level IV Trauma Center	 5000.00 2500.00
STEMI Receiving Center Initial Fee	15000.00
Aero Medical Helicopter Provider Oversite and Monitoring Annual Fee	10,000.00

Subject: Certification
Fee Schedule

North Coast EMS will deduct a 20% administrative fee from all certification fees that are returned because applicant decides not to certify/authorize after the background investigation has been initiated.

IV. Policy (for initial, recertification/authorization, and all retests)

A. Certification fees are reduced by 50% for active volunteer firefighters who are with a North Coast EMS recognized volunteer first responder agency applying for EMT-I. Documentation for this waiver will be met by including the Fire Chief's signature on the application. (Cal Fire and Forest Service firefighters are not eligible for this waiver.)

B. "Volunteers" may request a waiver of certification fees by sending a letter of waiver request to North Coast EMS with the certification application. The letter must state the applicant's name, address, phone number, provider agency affiliation, and that at no time do they receive money for performing patient care in the field. The waiver request will be evaluated by the North Coast EMS Executive and/or Medical Director(s). The decision will be final unless an appeal is presented to the Joint Powers Governing Board.

C. If EMT-I certification fees are paid by a personal check, certification will be held for thirty (30) days from the date of receipt of the check.

D. Allow at least thirty (30) days upon receipt of a completed application by North Coast EMS for a certificate to be issued. An individual may request that his/her certification/accreditation/authorization card be processed sooner, or that we rush the process and call the employer immediately to confirm certification/accreditation/ authorization, by requesting "Rush" in writing, and enclosing an additional $15.00 Rush Fee, payable by cash or money order only. In this case, we will call the employer immediately after confirming certification, accreditation or authorization, and the certification card will be processed within ten (10) working days of North Coast EMS receipt of the completed application, written "Rush" request, and fee.

E. No EMT-I, EMT-II, EMT-P, or MICN will exercise his/her skills unless they are currently certified/authorized/accredited. The certification/ accreditation/authorization requirements include the submittal of the appropriate paperwork and fee. If a check covering the fee is returned by the bank for any reason, the individual will be immediately suspended for a thirty (30) day period and will be required to pay the Returned Check Fee of $25 and any other associated costs. (The thirty (30) day suspension begins upon written notification from North Coast EMS and, as long as returned check fee and any other associated costs are paid, ends thirty calendar days later. North Coast will also notify employer and base hospital by phone.)

F. There is no provision for extension of expiration dates on certifications. When an individual's certification/authorization/accreditation card expires,

Subject: Certification
Fee Schedule

the individual is no longer certified/authorized/accredited and is no longer allowed to function at their former level of certification/authorization/accreditation.

G. The fee for a returned check is $25.00. If an individual's check is returned by the bank, North Coast EMS will not accept a check from, or extend credit to, that individual in the future.

H. Special Care Transfer Paramedic Accreditation fee is in addition to the initial accreditation fee. This accreditation will allow individuals to transfer patients who require an established Nitro/Heparin drip. This fee must be accompanied by the appropriate application and paramedic's are not allowed to function in this capacity without North Coast EMS authorization.

Approved: _____

Approved as to Form: _____

Date: 4/24/14

Subject: Scope of Practice/Procedure - Paramedic
Atropine Sulfate

Associated Policies:

I. Class
   A. Parasympathetic blocker (anticholingeric). Blocks vagal effects.

II. Indications
   A. Symptomatic bradycardia
   B. Second or third degree atrioventricular (AV) block
   C. Pulseless bradycardias.
   D. Asystole.
   E. Symptomatic organophosphate poisoning.

III. Therapeutic Effects
   A. Blocks parasympathetic action on the heart.
   B. Enhances conduction through the AV junction.
   C. Accelerates heart rate thereby improving cardiac output.
   D. Suppresses hypercholinergic effects of organophosphate poisoning.

IV. Contraindications
   A. Absolute:
      1. Tachycardia.
      2. Hypersensitivity.
   B. Relative:
      1. Narrow-angle glaucoma.
      2. Wide complex Third Degree AV block.

V. Adverse Effects
   A. Blurred vision.
   B. Dryness of the mouth.
   C. Flushing of the skin.
   D. Urinary retention.
   E. Headache.
   F. Tachycardia.
   G. Palpitations.

VI. Administration and Dosage
   A. Bradycardia with pulses:
      1. Adult: 0.5 mg IV (minimum single dose 0.5 mg) every 5 minutes to a maximum of 0.04 mg/kg.
      2. Pediatric: 0.02 mg/kg (minimum single dose 0.1 mg and a maximum single dose 0.5 mg), which may be repeated every 5

Subject: Scope of Practice/Procedure - Paramedic
Atropine Sulfate

minutes as needed to a maximum total dose of 1 mg in a child and 2.0 mg in an adolescent.

B. Pulseless bradycardias:
   1. Adult: 1.0 mg IV repeat every 3-5 minutes up to maximum total dose of 0.04 mg/kg. Double the dose to 2 mg for ET.
   2. Pediatric: 0.02 mg/kg IV or IO minimum single dose 0.1 mg. 0.04 mg/kg ET administration and dilute to total volume of 3-5 ml with normal saline.

C. Asystole:
   1. Adult: 1.0 mg. IV (2-2.5 mg ET) repeat every 3-5 minutes up to maximum total dose of 0.04 mg/kg.
   2. Pediatric: 0.02 mg/kg IV or IO, minimum single dose 0.1 mg. 0.04 mg/kg ET and dilute to total volume of 3-5 mg with normal saline.

D. Organophosphate:
   1. Adult: 2 mg IV or IM every 5 to 15 minutes as needed.
   2. Pediatric: 0.05 mg/kg, IV, IO or IM every 15 minutes as needed.

VII. Special Information
   A. Doses smaller than 0.5 mg in an adult can cause paradoxical bradycardia.
   B. Doses smaller than 0.1 mg in a child or infant can cause paradoxical bradycardia.
   C. Rule out hypoglycemia before treating for organophosphate poisoning.
   D. Need for atropine should be weighed against exacerbation of possible ischemic heart disease or AMI. Use with caution in the presence of chest pain.
   E. Can cause ventricular fibrillation in the presence of hypoxia or acidosis.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

I. Class
   A. Electrolyte.

II. Indications
   A. Hyperkalemia in renal dialysis patients.
   B. Hypocalcemia.
   C. Calcium channel blocker toxicity.
   D. Magnesium sulfate overdose or signs of toxicity..

III. Therapeutic Effect
   A. Increases serum calcium levels.

IV. Contraindications
   A. Absolute:
      1. Hypercalcemia.
   B. Relative:
      1. Digitalis therapy (Use with caution, may cause ventricular fibrillation or bradycardia).

V. Adverse Effects
   A. Bradycardia.
   B. Asystole.
   C. Hypotension.
   D. Nausea and vomiting.
   E. Peripheral vasodilatation.

VI. Administration and Dosage
   A. Adult: 500 mg to 1 gram (5 ml to 10 ml) of 10% solution, IV slowly over 60 seconds, may repeat once in 10 minutes, if necessary.
   B. Pediatric: 20-25 mg/kg (0.2-0.25 ml/kg) of 10% solution, IV slowly over 60 seconds.

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

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Dextrose 50% (D_{50}) Protocol; Dextrose 25% (D_{25}) Protocol, Dextrose 10%

I. Class
   A. Carbohydrate.

II. Indications
   A. Suspected hypoglycemia.
   B. Altered level of consciousness in the adult or pediatric patient with blood glucose reading less than 80.
   C. Altered level of consciousness in the neonate with blood glucose less than 40.
   D. Coma of unknown etiology.
   E. Status epilepticus.

III. Therapeutic Effects
   A. Restores blood sugar toward normal.

IV. Contraindications
   A. Absolute:
      1. Undiluted D_{50} or D_{25} can cause cardiac dysrhythmias or arrest in the Neonate. Dilute medication on Base Order only.
   B. Relative:
      1. None.

V. Adverse Effects
   A. Severe tissue necrosis if administrated via infiltrated IV site.

VI. Administration and Dosage
   A. Adult: 25 Gm D_{50} via IV.
   B. Pediatric: (< 35 kg) 0.5-1.0 Gm/kg (2-4 ml/kg) D_{25} via IV or IO.
   C. Neonate: 0.5-1.0 Gm/kg (3cc/kg) D_{50} diluted to 10% concentration with normal saline via IV or IO. On Base Order only.

VII. Special Information
   A. Determine blood glucose level prior to administration of medication.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

Associated Policies:

I. Class
   A. Naturally occurring catecholamine with alpha and beta adrenergic effects.

II. Indications
   A. Anaphylactic shock.
   B. Acute asthma.
   C. Cardiac arrest.
   D. Bradycardia refractory to atropine.
   E. Treatment of shock with profound hypotension from any cause unresponsive to fluid resuscitation.
   F. Severe croup.
   G. Life threatening epiglotitis.

III. Therapeutic Effects
   A. Bronchodilator.
   B. Maintains blood pressure.
   C. Stimulates spontaneous contractions of myocardium.
   D. Increases myocardial tone.

IV. Contraindications
   A. Absolute:
      1. None.
   B. Relative:
      1. Use with cautions in persons over 40 years of age or known ischemic heart disease.

V. Adverse Effects
   A. Tachycardia.
   B. Palpitations.
   C. Tremors.

VI. Administration and Dosage
   A. Anaphylactic shock:
      1. Adult:
         a. Epinephrine 1:1,000 0.3 mg-0.5 mg IM, may repeat every 15 minutes as necessary.
         b. Epinephrine 1:10,000 slow IV (15-60 seconds) in 0.1 mg increments to maximum of 0.5 mg titrated to relieve signs of shock.

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

2. Pediatric:
   a. Epinephrine 1:1,000 0.01 mg/kg (maximum dose 0.5 mg)IM.
   b. Epinephrine 1:10,000 slow IV (15-60 seconds) in 0.05 mg (0.5cc) increments to maximum of 0.01 mg/kg.

B. Asthma:
1. Adult:
   a. Epinephrine 1:1,000 0.01 mg/kg SQ (maximum single dose 0.5 mg). May repeat in 20 minutes.
2. Pediatric:
   a. Epinephrine 1:1,000 0.01 mg/kg SQ (maximum single dose 0.5 mg). May repeat in 20 minutes.

C. Cardiac Arrest:
1. Adults:
   a. Epinephrine 1:10,000 1 mg IV IO or 2-2.5 mg ET every 3 to 5 minutes. If no response consider:
2. Pediatric:
   a. Epinephrine 1:10,000 0.01 mg/kg, IV or IO.
   b. Epinephrine 1:1,000 0.1 mg/kg ET diluted with normal saline to total volume of 3-5 ml.
   c. Subsequent doses Epinephrine 1:1,000 0.1-0.2 mg/kg IV, IO, or ET every 3 to 5 minutes.

D. Severe Bradycardia and Hypotensive Shock State:
1. Adult:
   a. Dilute 1 mg epinephrine in 500 ml D_5W or NS (or 0.5 mg in 250 ml) = 2 mcg/ml. Initial infusion rate = 1 mcg/minute, titrated to the desired effect (average infusion dose range = 2-10 mcg/min).

Drip Set Used	**Drops per Minute to Deliver Desired Dose per Minute**									
	1mcg	*2mcg*	*3mcg*	*4mcg*	*5mcg*	*6mcg*	*7mcg*	*8mcg*	*9mcg*	*10mcg*
10gtts/ml set	5	10	15	20	25	30	35	40	45	50
15gtts/ml set	7.5	15	23	30	38	45	53	60	68	75
20gtts/ml set	10	20	30	40	50	60	70	80	90	100
60gtts/ml set	30	60	90	120	150	180	210	240	270	300

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

2. Pediatric:
   a. Dilute Epinephrine 1:1,000 0.6 mg/kg in enough NS to create a 100 ml solution. 1 ml/hr (60 gtt tubing) delivers 0.1 mcg/kg/min. Initiate infusion at 20 ml/hr until tachycardia ensues. Then reduce infusion to the desired rate. Average dose range = 0.1-1 mcg/kg/minute, or
   b. Use the Pediatric Resuscitation tape, refer to each weight for specific doses, ml's to remove and add to make 100 ml solution, and delivery rate. Each weight will provide a different concentration of the infusion solution and rate of delivery.

E. Severe Croup or Epiglotitis:
   1. Adult and pediatric:
      a. Nebulize 5cc Epinephrine 1:1,000 via SVN without dilution. Do not repeat within 60 minutes

VII. Special Information
   A. Incompatible with bicarbonate and furosemide solutions. Flush IV lines between injections.
   B. Endotracheal administration is no longer the preferred route of administration and should be avoided.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure – Paramedic
Furosemide (Lasix)

Associated Policies: 6502, 6503, 6531

I. Class
   A. Diuretic.

II. Indications
   A. Severe Congestive Heart Failure (CHF) with previous history, **and:**
      1. Patient transport time is anticipated to exceed 45 minutes,
      2. The use of nitrites and CPAP mask device (if available) have not resulted in patient improvement,
      3. The patient has a **history** of CHF and is currently prescribed **medication**(s) consistent with that history,
      4. The patient is NOT taking (a) bronchodilator(s),
      5. The patient is **afebrile,**
      6. The patient is **normotensive** or **hypertensive,**

III. Therapeutic Effect
   A. Stimulates kidneys to excrete water, salt and potassium which lead 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.

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. DOSAGES GREATER THAN **40mg** REQUIRE A BASE ORDER.

VII. Special Information
   A. Sulfonamide sensitive persons may develop an allergic reaction.

Subject: Scope of Practice/Procedure - Paramedic
Furosemide (Lasix)

Associated Policies:

VIII. **ONLY TO BE USED BY PROVIDER AGENCIES WITH PRIOR NORTH COAST EMS APPROVAL. ALL USES OF FUROSIMIDE MUST BE REVIEWED BY THE PROVIDER QIP LIASION AND BASE HOSPITAL PCNC.**

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

Associated Policies:

I. Class
   A. Ventricular antidysrhythmic.

II. Indications
   A. Ventricular tachycardia.
   B. Recurrent ventricular fibrillation.
   C. For pain management following Intraosseous (IO) placement in the conscious or semi-conscious patient.

III. Therapeutic Effects
   A. Suppresses ventricular ectopic activity by decreasing the excitability of the heart muscle and its conduction system.

IV. Contraindications
   A. Absolute:
      1. Concurrently with Amiodarone except when used for pain management following IO placement.
      2. Bradycardia.
      3. Asystole.
      4. Idioventricular rhythms.
      5. Hypersensitivity.
      6. 2nd or 3rd degree heart block.
   B. Relative:
      1. Renal dysfunction.
      2. CHF.
      3. Patients over 70 years old. (Consider lower doses and/or very slow IV for these patients.)

V. Adverse Effects
   A. Slurred speech.
   B. Altered level of consciousness.
   C. Toxic levels can cause seizures.
   D. Muscle twitching.

VI. Administration and Dosage
   A. Adult:
      1. Ventricular Tachycardia with a pulse: 1.0-1.5mg/kg IVP/IO, repeat if needed 0.5-0.75mg/kg boluses every

Subject: Scope of Practice/Procedure
Lidocaine (Xylocaine) Protocol

5-10 minutes to a total of 3.0mg/kg. If lidocaine is successful, initiate IV infusion at 2-4mg/minute.

2. Ventricular fibrillation or Pulseless ventricular tachycardia: 1.0-1.5 mg/kg IV/IO. Repeat every 3-5 minutes as needed. Total maximum dose 3 mg/kg.

B. Pediatric:
   1. 1 mg/kg IV/IO
   2. Infusion rate: Dose of 20-50 mcg/kg/min.
      a. To mix: add 300 mg (15 ml of 2% Lidocaine 20 ml/cc) to 250 ml NS or D_5W. (1 micro drop/kg/minute of this solution = 20 mcg/kg/minute), or
      b. Use the Pediatric Resuscitation tape, refer to each weight for specific doses, ml's to remove and add to make desired solution, and delivery rate. Each weight will provide a different concentration of the delivery solution and rate of delivery.

C. Following IO placement in the conscious patient.
   1. Adult - 20mg to 40mg Lidocaine 2% slowly through the IO site. Wait approximately 30-60 seconds before flushing with normal saline.
   2. Pediatric - 0.5mg/kg slowly through the IO. Not to exceed 40mg.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - ALS
Morphine Sulfate

Associated Policies:

I. Class
A. Opiate (narcotic). Natural opium alkaloid.

II. Indications
A. Ischemic chest pain without improvement from nitrites.
B. Burns.
C.. Trauma patients with adequate vital signs.
D.. Abdominal pain in the absence of hypotension.

III. Therapeutic Effects

A. Promotes analgesia, decreases pain perception and anxiety.
B. Increase venous capacitance and reduces systemic vascular resistance.
C. Decreases myocardial oxygen demand.

IV. Contraindications
A. Absolute:
1. Hypersensitivity.
2. Hypotension by evidence of systolic blood pressure of less than 90. Stablize blood pressure prior to administration. .

B. Relative:
1. Compromised respirations.
2. Women in labor - REQUIRES BASE CONTACT
3. Use caution in the presence of Acute Pulmonary Edema from all causes.

V. Adverse Effects
A. Respiratory depression.
B. Decreased level of consciousness.
C. Transient hypotension.
D. Bradycardia or tachycardia.
E. Nausea and vomiting.

VI. Administration and Dosage
A. Loading dose range:
Adult: 2 to 5 mg (max single dose should not exceed 0.1mg/kg) slow IV repeated every 3 to 5 minutes to total three doses. Additional dosing should be considered based on vital signs and pain levels. Monitor respiratory effort and blood pressure closely.

Subject: Scope of Practice/Procedure - ALS
Morphine Sulfate

Associated Policies:

Intramuscular (IM) 5 to 15 mg single dose, MAY NOT BE REPEATED.
For Adult patients ONLY.- If significant pain persists after initial loading dose range of Morphine Sulfate administration IV/IO, consider Midazolam 1mg IV/IO Following Midazolam administration, additional dosing of Morphine should be reduced to 2 mg increments IV/IO.. May repeat Midazolam 1mg IV/IO, once in 10 minutes if needed**. ANY ADDITIONAL DOSING OF MIDAZOLAM REQUIRES BASE CONTACT.**

B. Pediatric: 0.05 to 0.1 mg/kg slow IV (Maximum 2 mg single dose) over 3 to 5 minutes. May repeat every 5-10 minutes at 1/2 dose until desired effect is achieved.
IM 0.1 mg/kg single dose. May not be repeated. .

C. Infant under 6 months (est. 8 kg): 0.05 mg/kg slow IV over 3 to 5 minutes. May repeat every 5 to 10 minutes at 1/2 dose once prior to BASE CONTACT. Contact base hospital for IM dosing of Infants under 6 months of age.

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

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

Associated Policies:

I. Class
   A. Narcotic antagonist.

II. Indications
   A. Narcotic overdose.
   B. Altered level of consciousness or unconsciousness of unknown etiology.

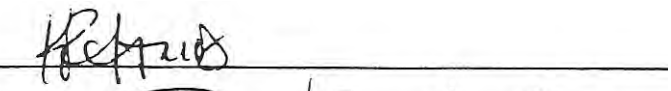
III. Therapeutic Effect
   A. Reverses action of narcotic drugs.

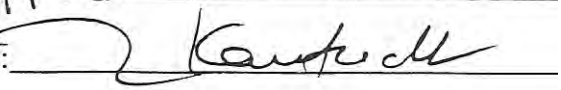
IV. Contraindications
   A. Absolute:
      1. None.
   B. Relative:
      1. Use caution in depressed neonate with suspected narcotic exposure. May precipitate seizures.

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.
   B. Narcan can reverse adverse effects of Morphine and Fentenyl.

Approved: 

Approved as to Form: 

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Nitroglycerine (NTG)

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 90 systolic.
  2. Avoid use in the presence of the Acute Inferior MI can cause hypotension. Consider Morphine or Fentanyl 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 90.
- B. Acute Pulmonary Edema:
  1. Systolic blood pressure greater than 90: 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 90 systolic.

Subject: Scope of Practice/Procedure – ALS
Nitroglycerine (NTG) Protocol

Associated Policies:

Special Information

A. Age increases hypotensive response.
B. If hypotension occurs, place patient low fowlers or supine if tolerated. Consider small fluid boluses (150-200cc) titrated to blood pressure if hypotension persists after 3 - 5 minutes.
C. Should not be administered if erectile dysfunction drugs have been used in the previous 24 hours.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Sodium Bicarbonate

Associated Policies:

I. Class
   A. Alkalizing agent, buffer.

II. Indications
   A. Prolonged cardiac arrest setting.
   B. Known pre-existing hyperkalemia.
   C. Known or suspected diabetic ketoacidosis.
   D. Tricyclic antidepressant overdose.
   E. Phenobarbital overdose.
   F. Consider use in traumatic crush type chest injuries.

III. Therapeutic Effects
   A. Acts as a buffer, but has several undesirable physiologic effects.
   B. Can reduce hyperkalemia secondary to acid base shifts.

IV. Contraindications
   A. Absolute:
      1. Metabolic or respiratory alkalosis.
      2. History prolonged vomiting.
   B. Relative:
      1. Congestive heart failure.

V. Adverse Effects
   A. Alkalosis.

VI. Administration and Dosage
   A. Adult: 1 mEq/kg IV, may repeat 0.5 mEq/kg every 10 minutes.
   B. Pediatric: 1 mEq/kg, IV or IO, may repeat 0.5 mEq/kg, every 10 minutes.
   C. Neonate: (< 5 kg) 4.2% 1 mEq/kg, IV or IO (Dilute 1 to 1 with IV solution) and give over 1 to 2 minutes.

VII. Special Information
   A. Not recommended for routine use in cardiac arrest setting. Use only after intubation and adequate CPR with continuing arrest.
   B. Use with caution in patients who cannot tolerate a salt load.
   C. Can cause intracerebral hemorrhage especially in the pediatric patient.

Subject: Scope of Practice/Procedure - Paramedic
Sodium Bicarbonate

D. Precipitates if mixed with other medications.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure – EMT-II
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 epiglottis.
  - 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. CO2 Detector Device-Adult and Pediatric

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

Subject: Scope of Practice/Procedure – EMT-II
Adult and Pediatric Endotracheal Intubation Protocol

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 cuffed tubes.
   b. Pediatric and infant sizes can be determined using:
      1) Resuscitation tape should be used but ET tubes can be sized using the child's small fingernail.
      2) Cuffed tubes for children greater than 1 year of age can be used by personnel have been specially trained in their use.
      3) Uncuffed tubes are still acceptable for routine use in all ages of pediatrics.
3. Insert stylet and bend ET tube into a "Lazy J". The distal end of the stylet 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. Preoxygenate 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. Place CO_2 Detector:
    a. Use the correct size device. (Do not use Adult CO_2 detector on a patient less than 15kg).
    b. Place on ET tube and ventilate patient.
    c. Observe CO_2 detector for appropriate color change.
13. When Capnography is available,
    a. Attach sensor endotracheal tube.
    b. Note CO2 level and waveform changes.
    c. Capnography should remain in place and monitored through out transport.
14. Note tube position and secure tube in place with tape or ET tube hold device.
15. Reassess ventilations, watch for chest rise and auscultate lung fields

Subject: Scope of Practice/Procedure – EMT-II
Adult and Pediatric Endotracheal Intubation Protocol

VII. When considering need for Extubation:

1. No chest rise with ventilation.
2. Absent breath sounds.
3. Presence of epigastric ventilation sounds.
4. Purple color on CO_2 detector with exhaustion for patient with a pulse.
5. ETCO2 less than 20 in a patient with a pulse, or less than 10 in a pulseless patient.
6. Only consider extubation on the patient who have return of spontaneous respirations, when they have regained consciousness, AND who are coughing, gagging AND struggling against the ET tube.
7. Critical airway patients (IE severe facial burns, severe facial injuries or any respiratory failure patient) that are ALREADY intubated with confirmed tube placement and who are "bucking" the tube or struggling against assisted ventilations, consider "light" sedation with
   a. Versed 1mg IV every 5 minutes or as needed to maintain control of the patient. DO NOT medicate to completely eliminate patient's own respiratory effort.
   b. Consider pain management in the critically injured patient with obvious painful injuries as their agitation may be due to pain.
   c. Consider Morphine OR Fentynl per protocol.
   d. Always monitor pulse Ox and ECG monitor or ETCO2 when available.

VII. If patient requires extubation,:

1. Ensure patient is awake and alert and able to protect their own airway. Patient should be explained the procedure when possible.
2. Turn patient on side or sit them upright and suction oropharynx.
3. If cuff was used, deflate cuff completely.
4. Removing the tube should occur while the patient is exhaling.
5. Gently but quickly remove the tube to avoid the gag reflex.
6. Patient may have a cough or sore throat.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
IV Caps

Associated Policies:

I. Purpose
   A. To maintain an open route for the administration of intravenous fluid or medication when continuous infusion of intravenous solution is unnecessary.

II. Indications
   A. Any TKO line when fluid/volume are not indicated.
   B. Violent/combative patient when IV line can be pulled easily.

III. Contraindications
   A. Absolute:
      1. Any emergency when fluid/volume are indicated.
   B. Relative:
      1. None.

IV. Equipment
   A. Appropriate intravenous catheter.
   B. IV cap.
   C. Tape or appropriate securing device.
   D. Normal Saline flush.
   E. 3cc, 5cc or 10cc syringe.

V. Procedure
   A. Insert intravenous catheter, and attach IV cap.
   B. Anchor with tape or appropriate securing device.
   C. Cleanse IV cap port if indicated with alcohol swab.
   D. Flush with at least 3cc of Normal Saline.
      1. After insertion of IV cap.
      2. After each medication.
   E. Intravenous fluid may be attached at any time to the IV cap.
   F. Attach an 18 or 20 Ga. 1" needle or IV adapter device to preferred IV tubing and solution.
   G. Cleanse IV cap port with alcohol swab.
   H. Insert securely into the center of the IV cap port, careful not to penetrate through IV cap into IV catheter.
   I. Anchor with tape.

Approved: _____

Approved as to Form: _____

Subject: Scope of Practice/Procedure - Paramedic
Glucose Test Strip Protocol

Associated Policies: 5306, 5334

I. Indications
- A. Suspected diabetic emergencies.
- B. Any coma of unknown etiology.
- C. Status Epilepticus of uncertain etiology.
- D. Syncope, stroke, or seizures with focal deficit.
- E. Any alteration in mental status.

II. Therapeutic Effects
- A. Gives estimate of blood glucose level.

III. Contraindications
- A. Absolute:
  - 1. None.
- B. Relative:
  - 1. None.

IV. Adverse Effects
- A. None.

V. Procedure
- A. Use glucose test strip as instructed by manufacturer on blood sample taken from venipuncture or finger stick for test purposes.
- B. Electronic glucometers may be used at the discretion of the provider and the base hospital.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure – Paramedic
ALS Defibrillation Protocol

Associated Policies:

I. Therapeutic Effects
   A. Attempts to completely depolarize the myocardium and provide an opportunity for the natural pacemaker centers of the heart to resume normal activity.

II. Indications
   A. Ventricular fibrillation.
   B. Pulseless ventricular tachycardia.
   C. Unstable ventricular tachycardia with a pulse.

III. Contraindications
   A. Absolute:
      1. Asystole.

IV. Equipment
   A. One (1) monitor/defibrillator.
   B. One (1) set defibrillation pads or conductive gel, or, one (1) set remote defibrillation patches. (Fast patch if available.)
   C. One (1) set infant pad adapters if not integral to device.

V. Procedure
   A. Ensure that CPR has been initiated. If available assistance is limited, defibrillation takes precedence over CPR.
   B. Attach fast patches or use paddles for "quick look" and evaluate the cardiac rhythm.
   C. Use pediatric adapters for pediatrics less than 10 kg.
   D. If "hands off" defibrillation is not used, place defibrillation pads or apply conductive gel to paddles.
   E. Select appropriate energy level:
      1. Adult: Start 200 J.
      2. Pediatric: Use resuscitation tape, or start, 2 J/kg.
      3. Use manufacture's recommended doses for biphasic defibrillators.
   F. Charge paddles.
   G. Apply one paddle to the right of the upper sternum just below the right clavicle, the other, just to the left of the nipple in the midaxillary line.
   H. Anterior posterior position may also be used. One paddle is positioned on the anterior chest over the heart and the other is positioned behind the heart on the back.

Subject: Scope of Practice/Procedure – Paramedic
ALS Defibrillation Protocol

I. If pediatric paddles are unavailable and adult paddles are used, the anterior-posterior paddle position should be used.
J. Exert firm pressure.
K. Make sure no personnel are directly or indirectly in contact with the patient.
L. State and look to be sure area is clear.
M. Press both discharge buttons simultaneously to deliver shock.
N. Deliver the shock sequence as indicated by specific treatment protocol.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure – AEMT/Paramedic
Use of Non-Invasive Diagnostic Devices

Associated Policies:

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

II. Purpose

To define the mechanism for approval of non-invasive diagnostic tools such as electronic glucose measuring devices, and other such non-invasive devices by AEMT/ALS field personnel.

III. Procedure
- A. Non-invasive diagnostic devices not included in the required equipment list (Policy #2205) may not be used without the written approval of North Coast EMS.
- B. A written request for approval to use electronic glucose measuring devices, and other such non-invasive devices must be made to North Coast EMS complying with the following requirements:
  1. That provider agrees to utilize the manufacturer and/or North Coast EMS specified program to train personnel.
  2. That records of training will be maintained by both the provider and the base hospital PCNC.
  3. That initial skills competency will be demonstrated to the base hospital PCNC, PCMD or their designee.
  4. That all AEMT/ALS personnel will demonstrate competency by a specified date.
- C. Written approval of the base hospital must also be provided to North Coast EMS.
- D. The North Coast EMS Medical Director will return a decision within forty-five days (45) unless additional information is necessary. All decisions will be made within ninety (90) days of receipt of the request.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
End Tidal CO_2 Detection

Associated Policies:

I. Indications
   A. All patients who have been orally or nasally intubated.

II. Therapeutic Effect
   A. Measures presence of CO_2 in the airway.

III. Contraindications
   A. Absolute:
      1. None.
   B. Relative:
      1. End tidal CO_2 detectors may report unreliable results (no CO_2 detected) in patients without a pulse due to low perfusion state, inadequate CPR, or on a nonviable patient.

IV. Equipment
   A. End tidal CO_2 detector.

V. Procedure
   A. Inspect CO_2 detector for:
      1. purple color.
      2. dryness.
   B. Suction any fluid that is present in the endotracheal tube.
   C. Remove end caps from both ends of the CO_2 detector (if present).
   D. Attach CO_2 detector to bag-valve device.
   E. Connect the bag-valve device with the CO_2 detector attached to the endotracheal tube, keeping CO_2 detector clean and dry.
   F. Begin ventilations, use proper ventilation rate for infant, child or adult, observing for bilateral rise and fall of the chest.
   G. Assess tube placement by auscultating/observing for:
      1. absence of bubbling, gurgling noise in epigastric area – two (2) breaths.
      2. lung sounds bilaterally – two (2) breaths, each side.
   H. Observe CO_2 detector for color change during exhalation - after a total of six (6) breaths.
   I. Initiate corrective measures as needed:
      1. Patient with a pulse.
         a. Yellow, leave in place.
         b. Tan, re-evaluate:

Subject: Scope of Practice/Procedure - Paramedic
End Tidal CO_2 Detection

1) Check possible causes of low perfusion such as inadequate ventilation, hypovolemia, etc.
2) Ventilate six (6) more times and re-assess tube placement and CO_2 detector for color change.

c. Purple, problem:
1) Tube is incorrectly placed, extubate.
2) Ventilate with BVM, re-intubate.

2. Patient without a pulse:
a. Yellow, leave in place.
b. Tan, re-evaluate:
1) May be due to retained CO_2 from BVM ventilation, alcohol, carbonated drinks, or inadequate CPR.
2) Ventilate six (6) more times and re-assess tube placement and CO_2 detector for color change.
c. Purple, problem:
1) Visualize vocal cords.
a) If tube is placed below the vocal cords, leave in place, and check adequacy of CPR.
b) If tube is incorrectly placed, extubate, ventilate with BVM and re-intubate.

VI. Special information
A. CO_2 detectors are only an adjunct to careful patient assessment.
B. CO_2 detectors should not be used as the sole means of assessing correct ET tube placement.
C. CO_2 detector must be kept clean and dry.
D. If CO_2 detector color is not purple on removal from packet, CO_2 detector should be discarded.
E. Fluid in CO_2 detector inactivates detector; if wet, CO_2 detector will appear mottled. CO_2 detector is then no longer usable and should be discarded.
F. Adult detector has 38 cc's dead space. This dead space may cause rebreathing of CO_2 by patients under 15 kg due to smaller tidal volume of these patients.
G. If pediatric detector is unavailable, adult detector can be used for initial assessment only then it must be removed. Do not leave device in place through duration of transport.
H. CO_2 detector becomes inactivated when used over a long period of time. Two (2) hours for adults and one (1) hour for pediatrics.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Albuterol Sulfate

Associated Policies:

I. Class
   A. Beta-2 specific bronchodilator.

II. Indications
   A. Acute bronchial asthma.
   B. Bronchospasm associated with bronchitis or emphysema.

III. Therapeutic Effects
   A. Decreases reversible bronchospasm.

IV. Contraindications
   A. Absolute:
      1. Known hypersensitivity.
   B. Relative:
      1. Hypertension.
      2. Coronary artery disease.
      3. Congestive heart failure.
      4. Convulsive disorders.
      5. Hyperthyroidism.
      6. Diabetes.
      7. Pregnancy.
      8. Tricyclic antidepressant use.

V. Adverse Effects
   A. Most frequent adverse effects include tachycardia and tremors.
   B. Less frequent adverse effects include headache, hypertension, cough, and nausea.

VI. Dosage
For normal dose range refer to dosage chart below:

Patient Weight	Premixed unit dose bottle (0.083%)	.5% Solution
>45kg (100 lbs)	1 Blister (3ml)	.5cc in 2cc normal saline
18kg - 45kg	½ Blister (1.5ml)	.25cc in 1-1.5cc normal saline
<18kg	¼ Blister (.75ml)	.1cc in 0.5-1.0cc normal saline

VII. Special Information

Subject: Scope of Practice/Procedure - Paramedic
Albuterol Sulfate

A. For severe bronchospasm, continuous medication administration can be considered.
B. Can be used with Atrovent (Policy # 5440)
C. Treatments can be repeated as needed. Use caution with large doses, may exacerbate pre-existing diabetes and ketoacidosis.
D. Albuterol Sulfate inhalation solutions are packaged as 3.0mg/3cc. This is equivalent to 2.5mg albuterol sulfate in all forms.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Aerosol Therapy with Small Volume Nebulizer Protocol

Associated Policies: 5329, 5411,, 5440, 6529, 6530,

I. Indications
   A. Refer to indications of specific medication to be nebulized.

II. Therapeutic Effects
   A. Administration of aerosolized solution and medications to the respiratory system.

III. Contraindications
   A. Absolute:
      1. Refer to specific medication to be administered.
   B. Relative:
      1. Refer to specific medication to be administered.

IV. Adverse Effects
   A. Suppression of respiratory drive in patients with COPD.
   B. Refer to specific medication to be administered.

V. Equipment
   A. One (1) small volume nebulizer, Puritan Bennett #0001140 or equivalent.
   B. One (1) 3cc syringe with needle or vial access device.
   C. One (1) 5-10cc vial of normal saline (if pre-mixed solution is not available).
   D. Oxygen source.
   E. Medication (pre-mixed with normal saline if available).
   F. Oxygen mask and/or mouth piece.

VI. Procedure
   A. Assemble required equipment. Select an appropriate patient/appliance interface (mask or mouth piece). Connect to oxygen source.
   B. Position patient high fowlers, if tolerated.
   C. Place small child or infant on caregiver's lap.
   D. Explain procedure to the adult or teenage patient.
   E. For child, explain how treatment is being given, not why.
   F. Add appropriate dose of medication and volume of solution to the nebulizer.
   G. Adjust oxygen flow meter to deliver 7-10 liters per minute to the nebulizer.
   H. If patient can cooperate deliver nebulized bronchodilator through mouthpiece.

Subject: Scope of Practice/Procedure - Paramedic
Aerosol Therapy with Small Volume Nebulizer Protocol

I. Instruct the patient to inspire fully, briefly hold his/her breath, passively exhale, and pause before the next inhalation.
J. Continue procedure until the medication has been depleted.
K. If child or patient is unable to cooperate or is hypoxic and cannot assist, bronchodilator can be administered via aerosol mask, or
L. "Piggy back" nebulizer with mouth piece into side of oxygen mask and tape into place.
M. In event of BVM use, the small volume nebulizer can be adapted to fit between mask and bag to administer aerosol medications via positive pressure.
N. Following treatment, encourage the patient to cough.

VII. Special Information
A. Monitor patient for signs of respiratory depression.
B. Use nebulizer in addition to oxygen therapy, not instead of.
C. If available, use pulse oximetry as adjunct to small volume nebulizer.
D. Medications and solutions that can be administered via small volume nebulizer:
1. Albuterol Sulfate.
2. Epinephrine.
3. Normal Saline.
4. Atrovent

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Rectal Administration of Diazepam Protocol

Associated Policies: 5332, 6516

I. Indications
- A. Pediatric patient, age less that twelve (12) years, who:
  1. is actively seizing and has been seizing for more than ten (10) minutes, or
  2. is actively seizing and has recurrent seizures, with no re-awakening in between seizures, and
  3. has had one (1) failed attempt at intravenous access or no vein is immediately apparent after close inspection.

II. Therapeutic Effects
- A. Decreases cerebral irritability.
- B. Relaxes skeletal muscle tissue.
- C. Sedation.

III. Contraindications
- A. Absolute:
  1. Suspected or known allergy to Diazepam.
- B. Relative:
  1. Shock.
  2. Trauma to rectum.
  3. Congenital or surgical anomaly of the rectum.

IV. Adverse Effects
- A. Respiratory depression or arrest may be caused or worsened by Diazepam.
- B. Drowsiness, vertigo, ataxia, transient hypotension.
- C. Rectal injury may occur due to forceful entry of syringe.
- D. Inadequate absorption, following rectal administration.

V. Equipment
- A. 1-5 ml disposable syringe -- without needle.
- B. Water-soluble lubricant.
- C. 16 or 18 gauge needle (for drawing the medication).

VI. Procedure
- A. Assure airway is open. Provide high-flow oxygen. Be prepared to support ventilation with appropriate airway.
- B. Explain the procedure to the parent or care giver.
- C. Place the patient in a lateral knee-chest position or supine with an assistant holding the legs apart.

Subject: Scope of Practice/Procedure - Paramedic
Rectal Administration of Diazepam Protocol

D. Draw Diazepam 0.5 mg/kg (maximum dose 20 mg) into a 1-5 ml syringe -- do not use a larger syringe.
E. Remove the needle from the syringe.
F. Lubricate syringe barrel with water soluble lubricant.
G. Gently insert the lubricated syringe into the rectum approximately 2-4 cm.
H. Instill the Diazepam into the rectum.
I. Squeeze the buttocks together while removing the syringe to facilitate drug retention.
J. Document response and vital signs. Observe the patient carefully for respiratory depression and hypotension.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

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

I. Indications
- A. Suspected diabetic emergencies.
- B. Any coma of unknown etiology.
- C. Status epilepticus of uncertain etiology.
- D. Syncope, stroke, or seizures with focal deficit.
- E. Altered mental status.

II. Therapeutic Effects
- A. Gives estimate blood glucose level.

III. Contraindications
- A. None

IV. Adverse Effects
- A. None

V. Equipment
- A. Lancet, lancing device (optional).
- B. Gloves and face protection, as necessary.
- C. Antiseptic solution. (Note: alcohol may reduce the accuracy of the glucose test strip, be sure to let it dry before lancing finger).
- D. Bandaid.
- E. Glucose test strip for glucose determination of capillary or venous blood.
- F. Cotton balls.

VI. Procedure
- A. Put on gloves and use face protection, as necessary.
- B. Assemble all necessary supplies and equipment.
- C. Select a suitable site (generally the dependent side of the second or third digit of either hand).
- D. Prepare the site. Cleanse the site thoroughly with antiseptic solution. Wipe the site with a dry cotton ball.
- E. Use your thumb proximal to the puncture site to function as a mild tourniquet and to stabilize the skin over the puncture site.
- F. Gently puncture the site with the lancet.
- G. Dispose of the lancet in a provided “puncture resistant” biohazard container.
- H. “Milk” the finger by applying gentle pressure to the site, then let go, allowing blood to fill finger, then squeeze again.

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

I. Turn the finger over and allow the accumulated drop of blood to drip freely onto the strip. Do not "wipe" the blood off of the finger with the strip.
J. Follow manufacturer's directions on reading the glucose test strip.
K. Cleanse the site again with antiseptic solution. Apply a dry, sterile dressing (bandaid is fine).

VII. Special Information
A. If the patient is very dehydrated or has poor circulation to extremities, then the results may be inaccurate.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure - Paramedic
Cardioversion – Conscious Patient Protocol

Associated Policies:

I. Indications
   A. Inadequate cardiac output and signs of poor perfusion associated with tachycardia not due to hypovolemia, or primary respiratory insufficiency.

II. Therapeutic Effects
   A. Rapid termination of cardiac dysrhythmias associated with inadequate cardiac output.
   B. Synchronized cardioversion is designed to deliver a shock at the peak of the R wave avoiding the vulnerable relative refractory period.
   C. Synchronization may reduce the energy required to end the dysrhythmia.

III. Contraindications
   A. Absolute:
      1. Supraventricular tachycardia due to hypovolemic shock.
   B. Relative:
      1. Suspected digitalis toxicity.

IV. Adverse Effects
   A. Erythema or irritation of skin will occur, particularly if good conductive medium and skin contact are not achieved.
   B. Muscle cramps and pain.
   C. Ventricular fibrillation and asystole.

V. Equipment
   A. Monitor/defibrillator with synchronizer and adult and pediatric paddles or adapters available.
   B. Defibrillation pads or equivalent.

VI. Procedure
   A. Start IV prior to procedure if possible.
   B. Attach monitor and select lead that gives upright QRS complex. Determine rhythm. Obtain 12 Lead ECG when possible.
   C. In responsive patients and with IV access available, consider need for anesthesia.
   D. Turn synchronizer switch to “on” position. Set the energy level as prescribed by protocol.
   E. Verify that the monitor is detecting the R waves.
   F. Place defibrillator pads. Apply paddles to chest as for defibrillation.

Subject: Scope of Practice/Procedure - Paramedic
Cardioversion – Conscious Patient Protocol

G. Charge capacitor.
H. Assure that all personnel are clear, depress and hold firing buttons until defibrillator delivers the shock.
I. If no shock is delivered increase the amplitude of the R wave and retry or turn off synchronizer switch and deliver the shock unsynchronized.
J. If synchronization fails to convert the rhythm, increase output for subsequent shocks.
K. If patient is cardioverted into or progresses to ventricular fibrillation, turn off synchronizer and defibrillate.

VII. Special Instructions
A. Cardioversion is rarely indicated in children. Dose for pediatric patients start at 0.5 J/kg. If rhythm persists double the dose.
B. The energy requirements for adults are based on the type of dysrhythmia being treated.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Scope of Practice/Procedure – Paramedic
Medical Control Combitube Airway Protocol

Associated Policies: 5303, 5402, 6504

I. Indications
- A. Unconscious patient with absent gag reflex who is apneic or hypoventilating.
- B. Unable to perform endotracheal intubation.

II. Contraindications
- A. Patient who appears under sixteen (16) years old.
- B. Patient under five (5) feet tall.
- C. Known esophageal disease (cancer, varices, surgery, etc.)
- D. Ingestion of caustic substance.
- E. Suspected narcotic overdose prior to administration of Naloxone.

III. Equipment
- A. Combitube Airway.
- B. 100+ cc syringe for inflation of pharyngeal cuff.
- C. 20cc syringe for inflation of distal cuff.
- D. Water soluble lubricant.
- E. Stethoscope.
- F. Portable suction device.

IV. Insertion Procedure
- A. Inflate each cuff and check for leaks, apply emesis diverter to Tube #2.
- B. Deflate cuffs.
- C. Apply water soluble lubricant to distal end of tube.
- D. Hyperventilate patient.
- E. Place patient's head in a neutral position.
- F. Grab lower jaw and lift upward.
- G. Insert tube, advance until teeth/gums are between black rings on tube.
- H. Inflate pharyngeal cuff (Port #1 with blue pilot balloon) with 100cc of air.
- I. Inflate distal cuff (Port #2 with white pilot balloon) with 15cc of air.
- J. Ventilate through Tube #1.
- K. Assess ventilation:
  1. Rise and fall of the chest.
  2. Bilateral lung sounds.
  3. Gastric auscultation.
- L. If CHEST RISE is PRESENT and GASTRIC SOUNDS are ABSENT:
  1. Secure tube.
  2. Verify placement.
  3. Continue ventilation.

Subject: Scope of Practice/Procedure – Paramedic
Medical Control Combitube Airway Protocol

M. If NO CHEST RISE and GASTRIC SOUNDS are PRESENT
   1. Remove the emesis diverter and ventilate on Tube #2.
   2. Assess ventilation as above.

N. If UNABLE to CONFIRM PLACEMENT via EITHER TUBE
   1. Remove Combitube.
   2. Continue ventilations with mask.

V. Special Information
   A. The Combitube will enter the esophagus 85% of the time, so inflation with Tube #1 is ordinary.
   B. If ventilation is through Tube #2 then the tube is in the trachea and Tube #2 may be used for medication administration and suctioning just as if it were an ordinary ET tube.
   C. The Combitube must be removed in order to re-attempt endotracheal intubation.
   D. An intubation attempt should not take longer than thirty (30) seconds.
   E. Removal of the Combitube should be accomplished with the patient on their side and suction immediately available.
   F. If resistance is met when advancing the tube then the attempt should be discontinued.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Treatment Guidelines – BLS
Oxygen Administration Protocol

Associated Policies:

I. Purpose:

1. The purpose of this policy is to ensure that high quality care is delivered to patients with regard to the administration of oxygen and the appropriate monitoring of patients receiving oxygen.
2. The administration of supplemental oxygen is an essential element of appropriate management for a wide range of clinical conditions. However, oxygen should be regarded as the drug that it is and not administered unless the patient's condition warrants its use.
3. Failure to administer oxygen appropriately can result in serious harm to some patients.

II. Definitions:

1. High vs. Low Concentration
   a. Low Concentration (21% to 50%)
   b. High Concentration (50% to 100%)
2. High or Low flow -
   a. Low flow adds oxygen to patients' inspiratory flow.
   b. High flow provides all inspiratory flow. (40-60liters per minute)

III. Equipment:

1. Low Flow devices:
   a. Nasal Cannulas
   b. Simple Face Masks
   c. Non Rebreather Masks
2. High Flow devices:
   a. CPAP Mask Device
   b. Bag Valve Mask Device
   c. Mechanical Ventilators (*not in BLS scope*)

IV. Indications:

1. The lowest flow of supplemental oxygen should be given to patients to maintain normal oxygen saturations.
2. Noninvasive monitoring of blood oxygen saturation can be useful to decide on the need for oxygen administration and how much should be administered.
3. It is appropriate to administer high concentrated oxygen to patients during the initial assessment to avoid any unnecessary delay for those patients who are truly hypoxic.
4. Once the initial assessment has been completed, oxygen administration than can be titrated to the patient's needs.

5. Patients who should always receive high concentrations of oxygen include those patients with evidence of hypoxia, (IE agitation or cyanosis), altered mental status, poor tissue perfusion or Carbon Monoxide exposure.
6. Severe trauma patients, GI bleeds or potential hypovolemic patients should receive high concentrations of oxygen.
7. In addition, any patient with actual or potential airway compromise or respiratory compromise should receive high concentrations of oxygen.
8. Critically ill or injured patients should be given low flow/ high concentrated oxygen via a non-rebreather mask without delay and reevaluated frequently to determine if supplemental oxygen is being delivered in the appropriate amounts.
9. Patient who should not receive high concentrated oxygen:
   a. Patients who have oxygen saturations of greater than 94% without signs or symptoms of hypoxia or impending airway compromise.
   b. Chest pain or stroke patients without respiratory distress and adequate vital signs.
   c. Patients without hypoxia or hemodynamically compromised.
   d. Patient with history of COPD without signs of respiratory failure.
10. Any patient may benefit from low concentration/low flow administration of oxygen but the clinician needs to weigh the risks and benefits of doing so.

V. Procedure

1. Assemble supplies and equipment:
2. Obtain baseline Pulse Oximetry level when available.
3. Ensure oxygen is available in quantity needed
4. Determine patient's oxygen need and provide oxygen via appropriate device.
5. Connect device to oxygen source, and adjust liter flow to desired rate. Be sure oxygen is flowing before patient application.
6. Apply delivery device to patient.
7. Recheck patient frequently for signs of improvement or deterioration.
8. Evaluate Pulse oximetry reading frequently.
9. Titrate oxygen delivery to maintain Pulse Oximetry of 94%.

VI..Dosage

1. Mild Distress: - No signs of hypoxia or hemodynamic compromise. Patients with Pulse Oximetry of 94% to 100%.
   a. Low flow/low concentration - 2 to 6 liters via Nasal Cannula or blow by.

Subject: Treatment Guidelines – BLS
Oxygen Administration Protocol

2. Medium Distress: - Signs of hemodynamic compromise and a normal mentation with adequate respiratory rate and effort. During initial evaluation of potentially critical patients. (e.g. --multi system trauma patients, altered level of consciousness or complicated chest pain or stroke patients.)
   Patients with Pulse Oximetry of 90% to 94%
   a. Low flow/Medium to High Concentration Simple face mask or Non Rebreather Mask-

3. Severe Distress: - Unresponsive with or without adequate respiratory effort and/or rate. Respiratory and/or cardiac arrest. Partial airway obstruction or impending airway compromise. Critically ill, hemodynamically unstable patients who are altered from possible hypoxic causes. Severe congestive heart failure patients or COPD patients that would benefit from positive pressure.
   a. Low Flow/High Concentration - Non-rebreather mask - 12 to 15 liters per minute, if respiratory effort is adequate.
   b. High Flow/High Concentration - CPAP mask device - 10 to 20 liters per minute for respiratory distress secondary to CHF or COPD in the conscious patient.
   c. High Flow/ High Concentration - Assist Ventilations with BVM with 15 to 25 liters, when respiratory effort or rate is inadequate at appropriate ventilatory rate:
      Adults and children: 10 to 12 times a minute.
      Infants < one (1) year: 20 times a minute.

VII. Precautions:
1. Monitor respiratory effort and rate closely if patient has a history of COPD. In isolated cases, respiratory depression may occur during administration of high concentrated oxygen to COPD patients.
2. Evaluate all patients frequently and determine the need to titrate oxygen administration either more aggressively or the need to reduce the administration rate.
3. When pulse Oximetry is available, leave in place to allow for serial levels to be monitored.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

Subject: Treatment Guidelines - BLS
Spinal Motion Restriction Policy

Associated Policies:

I. INTRODUCTION

A. The purpose of SMR is to protect patients from movement that could worsen an unstable spinal fracture, which is rare (<1% in major trauma victims).

B. Multiple studies have shown that mechanism of injury is generally a poor predictor of injury, and that many patients are immobilized inappropriately.

C. Traditional full spinal immobilization, the current standard for almost all patients, may cause airway compromise, skin breakdown, and pain in virtually everyone, which inevitably leads to unnecessary X-rays.

D. Most significant spinal injuries will present with spine pain, vertebral tenderness to palpation, and sometimes with neurologic symptoms and/or deficits. Alert and oriented patients with true spinal injuries will self-splint. These injuries are best recognized with a careful history and physical exam.

E. SMR should reduce, not increase, patient discomfort. SMR/immobilization that increases pain should be avoided.

F. SMR should be accomplished using the most appropriate tool for each specific circumstance. This may include vacuum splints, stiff or soft cervical collars, short boards or KEDS, padded long boards, straps, commercial head stabilizer, soft materials such as pillows and pull sheets.

G. Penetrating trauma patients without spinal pain or neurologic deficits do not need SMR.

H. No patient should be placed in SMR without being thoroughly assessed for its need.

II. SPINAL INJURY ASSESSMENT

A. Determine if there is a potential for unstable spinal injury.

1. Assess for High-Risk Factors - If any high-risk factors are present, strongly consider SMR.
   - Age >65
   - Meets NCEMS Trauma Triage Criteria (Policy # 7000)
   - Axial load to the head (IE Diving Injury)
   - Numbness or tingling in extremities

B. Assess for patient reliability.

1. Is patient cooperative, sober and alert without:
   - Significant distracting injuries
   - Language barrier

C. Perform a spinal exam

1. Palpate vertebral column thoroughly for tenderness

D. Perform a motor/sensory exam:

- Assess wrist and finger extension (both hands)
- Assess planterflexion (both feet)
- Assess dorsilflexion (both feet)

Subject: Treatment Guidelines - BLS
Spinal Motion Restriction Policy

Associated Policies:

- Check gross sensation in all extremities.
- Check for abnormal sensations to extremities.

E. Are all exam findings normal?
Omit Spinal Motion Restriction

F. Any abnormal exam or finding? - Possible Spine Injury
Apply Spinal Motion Restriction.

III. PROCEDURE:

A. Perform the spinal injury assessment prior to application of SMR.
B. Methods/tools to achieve SMR that are allowable: (less invasive to more invasive) Lateral, semi-fowler's or fowler's position with cervical collar only, soft collars, pillows, vacuum splint or mattress, children's car seats, KED, backboards with adequate padding, head immobilizers or straps.
C. Provide manual stabilization restricting gross motion. Alert and cooperative patients may be allowed to self-limit motion if appropriate with or without cervical collar.
D. Apply cervical collar as needed or as appropriate to limit patient movement.
E. When needed, extricate patient limiting flexion, extension, rotation and distraction of spine.
F. Keeping with the goals of restricting gross movement of spine and preventing increased pain and discomfort, self extrication by patient is allowable.
G. Pull sheets, other flexible devices, scoops and scoop-like devices can be employed if necessary.
H. Hard backboards should only have limited utilization for extrication and for securing certain patient groups.
I. Apply adequate padding or vacuum mattress to prevent tissue ischemia and increase comfort.
J. Place patient in position best suited to protect airway and allow adequate breathing.
K. Ensure patient is secured to the transport gurney with proper seatbelts.
L. Securing the head with head bed and tape can be considered for patient comfort but never without the torso being secured.
M. Regularly reassess motor/sensory function (including wrist/finger extension, plantar/dorsal flexion of the feet and sharp/dull sensation exam if possible).

IV. SPECIAL PATIENT POPULATION CONSIDERATIONS

A. Use SMR with caution with patients presenting with dyspnea. Consideration must be made for elevation of the upper body once patient is secured.
B. Bariatric patients can suffocate when placed flat on their backs. Use devices that would allow a more upright position.
C. Pediatric Patients and Car Seats

Subject: Treatment Guidelines - BLS
Spinal Motion Restriction Policy

Associated Policies:

1. Infants restrained in a rear-facing car seat may be immobilized and extricated in the car seat. The child may remain in the car seat if the immobilization is secure and his/her condition allows (no signs of respiratory distress or shock). Pediatric patients in car seats that do not support their entire bodies need to be placed in SMR using other means

D. Combative patients: Avoid methods that provoke increased spinal movement and/or combativeness.

E. In the event of a patient being placed in SMR/full immobilization prior to the BLS/ALS transporting unit arrival to the scene, the transporting provider has the discretion to remove or modify SMR if the patient meets the requirements outlined in the spinal injury assessment.

F. CMS/PMS should be re-assessed prior to and after complete removal of spinal precautions. It must be considered that rapid transport to appropriate definitive care is of the utmost importance. This must be taken into account in the management of SMR and major trauma patients.

Approved: _____

Approved as to Form: _____

Date: 6/16/14

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

Associated Policies:

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

II. Purpose

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

III. Indications:

- A. Severe pain in the presence of adequate vital signs (blood pressure >90).
- B. When extrication, movement or transportation is required which will cause considerable pain to the patient AND there are no known contraindications to administering any analgesia.

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

V. Procedure:
- A. Determine origin of the pain (examples: isolated extremity trauma, chronic medical condition, burns, abdominal pain, multi-system trauma).
- B. Identify those patients with the complaint of pain or have obvious signs of discomfort.
- C. Determine initial pain score on a scale of 1 to 10 and document this finding in the Prehospital care report.
- **D. May use either Morphine Sulfate or Fentanyl per agency and NCEMS policies, NEVER BOTH unless directed to so by Base Hospital via Direct Verbal Order.**
- E. Determine baseline blood pressure, pulse rate and Pulse Oximetry.
- F. Monitor vital signs closely (i.e. respiratory rate/effort, LOC, O_2 saturation).
- G. Leave Pulse Oximetry in place for serial saturations.
- H. Determine need for oxygen per Oxygen Administration Policy # 6030.
- I. Establish IV or IO access per policy.
- J. Determine need for IV fluids. Do not administer fluid boluses without indications.

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

Associated Policies:

K. Administer Morphine Sulfate (Policy # 5310) IV/IO. Consider one IM injection if IV is delayed or unavailable.

OR

L. Administer Fentanyl (Policy # 5439) IV/IO. Consider one IN administration if IV is delayed or unavailable.
M. If significant pain persists after Morphine Sulfate in doses greater than 10mg IV/IO consider a single dose of Midazolam 1 mg IV/IO. Subsequent dosing of Morphine Sulfate should be reduced to 2mg increments.
N. DO NOT administer Fentanyl and Midazolam in the same patient without a DIRECT ORDER from the BASE HOSPITAL.
O. Zofran may be co-administered to alleviate nausea and/or vomiting with narcotics. Strongly consider Zofran use for patients who are immobilized.
P. Repeat pain scale and all vital signs following administration of all medications.
Q. Contact Base Hospital physician for additional Fentanyl administration requests when needed.
R. Monitor patient and vital signs carefully and ensure a patent airway.

VI. Special Considerations:

A. Always have Narcan readily available to reverse any respiratory depression that may occur or chest rigidity caused from Fentanyl.
B. Consider half (½) the dose of Fentanyl in patients ≥ 65 years with all routes.
C. Use caution in the suspected drug or alcohol intoxication.

VIII. Documentation and Patient Care Reporting

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

Approved: _____

Approved as to Form: _____

Date: 6/16/14

MCI CHANNEL TEST

4/8/14 AM

- 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	x	FRA 2	x
Mad River Hospital	x	CTA1	x
Eureka Medcom	x	CTA2	NEG
		CTA3	x
		Arcata 1	UA
		Arcata 2	UA

- 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

- 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	x	FRA 1	x
St. Josephs Hospital	x	FRA 2	x
Mad River Hospital	x	CTA1	x
Eureka Medcom	x	CTA2	x
		CTA3	
		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

06/12/2014

- The Tuesday before the Second Wednesday of each month (Thursday after second Wednesday for PM test)
- Contact City Ambulance 10 minutes prior to drill
- 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.

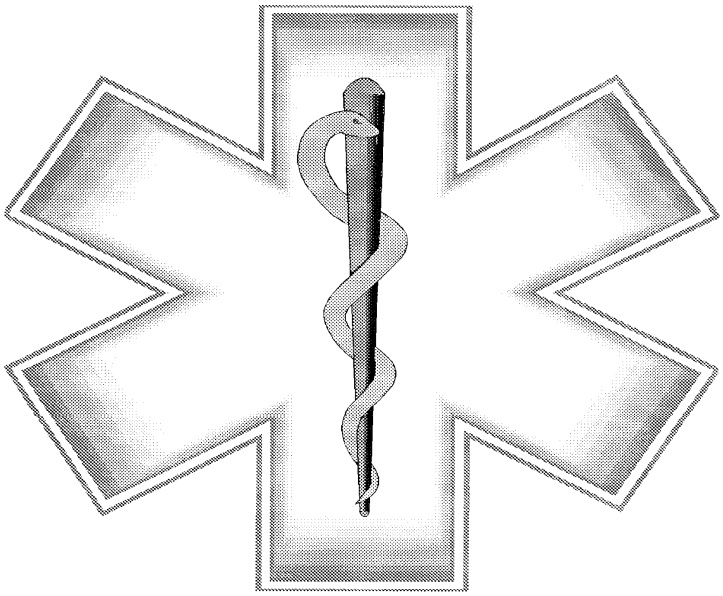
Phelps Hospital	X	GRA1	X
Redwood Memorial	X	FRA 1	X
St. Josephs Hospital	X	FRA 2	X
Mad River Hospital	X	CTA1	X
Eureka Medcom	x	CTA2	X
		CTA3	X
		Arcata 1	X
		Arcata 2	x

- 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
- **E-MAIL TO HUUECC ->MCI TEST**
- **NR=No Response U/S=Unstaffed U/A- Unavailable**

NORTH COAST EMERGENCY MEDICAL SERVICES

3340 Glenwood Street, Eureka, California 95501

Serving Del Norte, Humboldt and Lake Counties



Third Quarter Progress Report

January 1, 2014 to March 31, 2014

General Fund Contract # EMS-1318

April 22, 2014

Overview:

In the third quarter of Fiscal-Year 2013-2014, North Coast Emergency Medical Services (NCEMS) continued to serve as the local EMS agency (LEMSA) for the Counties of Del Norte, Humboldt and Lake Counties. We also inadvertently reported last quarter that "we continued to provide contract EMS services on behalf of Nor Cal EMS, Inc. for the southern portion of Trinity County." Please note that as of October 1, 2013, our contract arrangement with Nor Cal EMS, Inc. and our thirty plus year relationship with the southern Trinity ended.

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. 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.

The Joint Powers Governing Board directed the activities of North Coast EMS during the third quarter of FY 2013-14. 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 the following employees and part-time contractors*:

- 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/Regional HPP Disaster Coordinator (1.0 FTE)
- Rhiannon Potts, Administrative Assistant (1.0 FTE)
- Cheryl Wraa, R.N., EMSC TACTICAL Program Manager (0.5 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*
- Nina-Surbaugh-Gibbs – EMSC TACTICAL Cultural Liaison*
- Stayce Curry, R.N., Regional Nurse Contractor – Mental Health*
- Dennis Louy (Del Norte), Tina Wood (Humboldt), Kimberly Miinch (Lake) – County HPP Disaster Liaisons *
- Kayce Hurd, EMT Policy Revision Specialist*
- Tim Citro, EMT-P – Airway Policy & Matt Dennis, EMT-P – AED*
- Selinda Shontz – STEMI Program Contractor & Vickie Gibney – MICN Test*
- Humboldt County Counsel*

North Coast Emergency Medical Services
General Fund #1318 Third Quarter Progress Report

Fiscal Year 2013-14

The following report updates progress at North Coast EMS during the third quarter of Fiscal-Year 2012-13. This report meets the requirements of the California EMS Authority General Fund Contract #EMS-1318 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 activities including: federal, state and regional EMS for Children meetings and calls, EMSAAC and EMDAC meetings in LA, EMSAAC Legislative Committee calls, EMSA/LEMSA call, State HPP Capablities, Region II MHOAC and EMSAAC Disaster Sub-Committee program meetings and calls, EMSAAC QIP Coordinator calls and meetings, North-RTCC (attended by Cheryl Wraa); and, in the following local EMS activities: Joint Powers Governing Board meeting (no quorum); Humboldt/Del Norte Medical Advisory Committee (MAC) meetings, Lake County Emergency Medical Care Committee (EMCC) meetings, Lake Trauma Advisory Committee meeting, Lake Inter-facility Transfer (IFT) meetings and calls, EMSC TACTICAL meetings and calls, federal SPROC calls, Humboldt County Child Death Review Team meetings, Humboldt County Child Passenger Safety Committee meeting, Humboldt County Fire Chiefs Association meetings, phone meeting with Sutter-Lakeside Hospital representatives, Image Trend training (attended by Jay Myhre) and calls, Sutter-Coast & Del Norte Ambulance meetings, HPP Disaster meetings and calls, Del Norte Ambulance Strategic Planning meeting, Del Norte Ambulance and Sutter-Coast meeting, Emergency Operations Manual Workshop, etc. We also initiated the process to re-institute the Del Norte County MAC-Lite meetings.

2. **Allocating and maintaining office space, office equipment, supplies:** North Coast EMS replaced the office router and continues to use and plan to expand the video conferencing equipment. The two sites located in Lake County will soon have permanent video cameras and another will be located in Del Norte County. We also ordered a new copy machine.

3. **Executing and maintaining contracts with member counties, service providers, consultants and contract staff:** North Coast EMS continued to receive and dispense Pediatric Maddy Funds **f**rom all three counties. No regional comments were received on the Regional Annual EMS Plan update, the State General Fund second quarter progress was submitted to EMSA, as were the EMSC TACTICAL Progress Report to HRSA and the 4 separate (one for each North Coast EMS county and one regional summary HPP Mid-Year Reports to CDPH

(please find attached) We continued administrative contracts with: UCD for the federal EMS for Children TACTICAL REGIONALIZATION program (Year Two) and the second year Regional HPP Disaster contract with CDPH, Dr. Stiver as Regional Medical Director, Pam Mather as EMSC and Trauma Coordinator, EPCIS programmer Jay Myhre, Ezequiel Sandoval - Office IT, Moss, Levy and Hartzhiems- fiscal audit, Stayce Curry as Regional Mental Health Coordinator – Mental Health, Kayce Hurd and Tim Citro – Paramedic and EMT policy revisions, Dennis Louy, Tina Wood (and Continuing Education for Hoopa), Kimberly Miinch - County HPP Disaster Liaisons, Nina Surbaugh-Gibbs – EMSC Cultural Liaison, Selinda Shontz – STEMI, , Matt Dennis – AED Contractor. Unfortunately Kimberly Miinch and Nina Surbaugh-Gibbs have or will soon resign from their respective subcontract positions. We executed an agreement with Humboldt County Counsel's office to provide legal services and with Vickie Gibney to update the MICN exam. We continued contracts with seven designated base hospitals, 14 Paramedic Service Providers, numerous First Responder agencies, two Emergency Medical Dispatch Centers, six EDAPs and two Trauma Centers. We continued to process the request by Air Methods to operate as an ALS Provider/Aero Medical Provider within Lake County in coordination with Lake County and initiated a similar process with REACH. We continued to work with ICEMA to implement Image Trend throughout the region; at this time almost every ALS Provider is using the new e-PCR program. Data collection MOUs have also been jointly executed with UC Davis and us at five of seven facilities as part of the EMSC TACTICAL project. Prehospital and hospital pediatric patient record information will be extracted, blinded and complied under the UC Davis IRB program.

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 544 certified EMT-Is, 132 accredited paramedics, 28 MICNs, 1 approved Paramedic, 1 approved MICN, six approved EMT-I and 12 approved First Responder training programs, and 33 approved Continuing Education Providers. We continued to monitor these important programs as staff resources allowed and made additional modifications to policies and protocols associated with the revised State Paramedic Regulations, including steps to implement Fentanyl and, for EMT-Is, aspirin. Plans to implement the Advanced EMT program continue to be delayed due to other priorities and insufficient staff time, we continued to assess the Community Paramedic Program and submitted comments on the pre-public draft of the Public Safety regulations. During this quarter we contracted with Vickie Gibney to update the MICN written exam and, she conducted a MICN class for several new PCNCs and interested others. We also initiated the process to secure approval as a BRN CEU provider to compliment the EMSC TACTICAL program.

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:** The entire Med Net System has been narrow-banded.

2. **Approval of ambulance dispatch centers (as delegated):** All three counties have centralized dispatch for ambulances (with the exception of Hoopa {K'ima:w} Ambulance in Humboldt County). We continued to assess and work with the local community to improve results of WIDE-AREA Med Net radio tests in Humboldt County.

3. **Approval of emergency medical dispatch (EMD) training and/or operational programs:** Nothing new to report.

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 LALS/ALS Providers (delegated):** We continue to await execution of the Base Hospital contract amendment to add Air Methods/Mercy Air and REACH as assigned ALS Providers in Lake County so we can begin the associated paramedic accreditation process.

2. **Development of performance standards as needed.** We are in the process of adding Fentanyl to the Paramedic and Aspirin to the EMT Scope of Practice. The process to update AEMT policies and protocols was again delayed due to other priorities and insufficient staff and contractor time. Authorized ALS Providers and designated Base Hospitals continue to submit quarterly QIP reports with a pre-selected relevant quarterly focus determined by NCEMS, although the usual summary reports by Associate Director Bruhnke were not completed due to focus on the HPP Disaster program and other priorities. We hope to secure a subcontractor to assist with this process. We continued to evaluate EMS system management of mental health patients with the help of Stayce Curry and County Mental Health personnel, with the intent to develop a 5150 Guideline for the region. We continued to monitor the ambulance status in the Hoopa area. Associate Director Bruhnke initiated a process to more effectively track policy and protocol changes and to update and enhance our website, and Executive Director Karsteadt attended a Strategic Planning session for Del Norte Ambulance.

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 and our plan to re-assess the impact on Standby ED status at St. Helena – Clearlake has been discontinued due to other priorities. We continued to monitor the process unfolding in Del Norte County relative to potential Critical Access Hospital designation.

2. **Emergency Departments Approved for Pediatrics (EDAPs):** North Coast EMS continued to receive and distribute Pediatric Maddy "Richie's" funding for EDAPs and continued the second year of the EMSC TACTICAL Regionalization program with UCD. We continued the process to verify EDAP compliance at St. Helena Clearlake and Jerold Phelps Community Hospitals, installed telemedicine services at the latter facility and activated pediatric telemedicine elsewhere with UC Davis. New Pediatric Liaison Nurses were assigned at Sutter-Coast, Sutter-Lakeside and Redwood Memorial Hospitals and the PdLN at St Joseph Hospital resigned. At this time five of the seven hospitals have executed Data Collection MOUs with UC Davis and us as part of the EMSC TACTICAL program. The EMSC TACTICAL progress report is attached to provide more information.

3. **Base Hospital Monitoring:** We are awaiting execution of the Base Hospital contract amendment to add Air Methods and REACH as assigned ALS Providers at Sutter-Lakeside Hospital. New Prehospital Care Nurse Coordinators (PCNCs) have been assigned at five of our seven Base Hospitals; PCMD replacements are underway as well.

4. **Trauma Center Designation**: New Trauma Coordinators (TC) were assigned at Sutter-Lakeside and Sutter-Coast Hospitals. The Lancet 1 problem at Lakeside continues to have issues that we are trying to resolve.

5. **Cardiac, Stroke and Mental Health Subsystem Development:** St Joseph Hospital indicated that they will soon send a letter of renewed interest and the completed STEMI Receiving Center Pre-Site Visit Checklist and we hope to begin the formal designation process as soon as we can with the help of Selinda Shontz. We continued to work with Stayce Curry and others to help assess the impact of Mental Health patients on the EMS system and were informed that Sutter-Lakeside Hospital is planning to become Stroke Certified this fall.

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 third quarter, we took no formal action but were requested to participate in the review of a few cases. One included clarification of the EMS role relative to 5150s.

2. **Review of prehospital care reports including Automated External Defibrillators (AED) reports:** The Agency continues to be in the process of implementing, with EMSA and ICEMA support, the Image Trend ePCR program that provides EMS data to the State. At this time, ICEMA has implemented the program at all but one of our ALS Providers, who's personnel are using it exclusively or are in the process of doing so. The transition from EPCIS to Image Trend is going very well. We also submit the AED report to the EMSA when requested and have recently contracted with Matt Davis to help compile this information for us. We receive and review REACH aero medical transports occurring in Lake County, CEMSIS-Trauma data from Sutter-Lakeside and Sutter-Coast Hospitals, internship records for period review, and disclosure protected case review is conducted as needed. Trauma Registry reports continue to have intermittent problems and we are working to resolve those. We also continued to transmit CEMSIS – EMS data to the EMSA, including the state required Cores Measures Report.

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 also submit quarterly QIP updates. Late reports can result in a notification process and potential probation, although reports are generally submitted on time. We temporarily discontinued Associate Director QIP Report summaries due to the increasing workload related to the HPP Disaster project and other new priorities. We also continued to participate in the review of QI related cases with one of our providers, all of which have been or are being satisfactorily resolved. Associate Director Bruhnke continued to be directly involved with the EMSAAC QI Group and remained instrumental in development a Provider QIP template.

4. **Trauma Advisory Committee:** A Lake County TAC meeting was conducted this quarter and Cheryl Wraa attended the North- Regional Trauma Coordinating Committee in Sacramento on our behalf. We hope to establish a video-conferencing connection so we can attend from here in the future.

5. **Processing and investigation of quality assurance/improvement incident reports:** The Agency has numerous policies and templates regarding the processing and investigation of incident reports. This quarter we participated in the review of a few cases.

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 participated in local injury and illness prevention and children's safety programs as shown in Section 1.0.1.

2. **Participation in public speaking events, and represent EMS agency during news events and incidents**: Nothing new 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 staff and HHP contractors coordinated with the RDMHC, attended meetings, participated in several local, state and regional Medical Disaster meetings and events. Please see the attached Regional HPP Disaster Mid=Year progress reports for more information.

2. **Hospital Preparedness Program Contract - LEMSA Disaster Deliverables:** In collaboration with our three counties, EMSA and CDPH, Associate Director Bruhnke continued to oversee the Regional HPP Disaster Program, including coordination with County HPP Disaster Liaisons. Video-conferencing equipment continued to be utilized successfully and is in the process of expansion. We continued to work with our county colleagues and liaisons to help identify LEMSA MHOAC roles, our Associate Director is now a member of the EMSAAC Disaster Group and the Executive Director attended the local EOM training. Please see the attached Regional HPP Mid-Year progress reports for more information.

Grant Number: H3AMC24073
Project Title: TACTICAL
Organization Name: Regents of the University of California
Mailing Address: Office of Research, Sponsored Programs, 1850 Research Park Drive, Suite 300, Davis, CA 95618
Primary Contact Information: James Marcin, MD, MPH, Professor / (916) 734-4726 / jpmarcin@ucdavis.edu

2. Accomplishments and Barriers

During this reporting period, we accomplished the following:

- Together with our collaborators at North Coast EMS (NCEMS), we convened our Pediatric Regional Council. We held two meetings of this Council this year (on 10/8/13 in Lake County and on 10/9/13 for Humboldt/Del Norte Counties).
- We held regular meetings with representatives of local hospitals on the North Coast to assess training needs and obstacles to high quality and efficient care coordination for seriously ill children.
- We worked with our legal and contract teams at UC Davis to finalize Memoranda of Understanding (MOUs) for this project. MOUs were distributed to seven North Coast hospitals- four hospitals executed final agreements and three hospitals are still reviewing.
- We visited all participating hospitals to assess telemedicine and family resource capabilities.
- We held the following trainings during this reporting period:
    - 2/6/14 Clear Lake: Pediatric Trauma, Trauma and Pregnancy
    - 3/26/14 Lakeport: Pediatric Assessment, Pediatric Trauma
    - 4/17/14 Eureka: Pediatric Assessment, Pediatric Trauma
    - We are planning an ACS Rural Trauma Course for Lake County this spring as well as an EMSC conference on June 27, 2014 at the Wharfinger Building in Eureka. Drs. Marianne Gausche-Hill, Ray Johnson and James Marcin are the main speakers.
- We designed surveys for North Coast pre-hospital providers, assessing their perceptions of the barriers to care of pediatric patients in the pre-hospital environment and to assess prehospital educational needs. We distributed surveys to the seven participating hospitals requesting ED volume, pediatric volume and number of pediatric transfers to tertiary care. Copies of the survey instruments are provided as attachments.
- With input from the EMSC FAN group, we developed a tool to send to tertiary centers to obtain information about local resources for families traveling during the care of their child.
- We obtained UC Davis IRB approval to conduct chart review of de-identified patient records at participating hospitals on the North Coast.
- We established telemedicine partnerships with four of the seven participating EDs. Each of these EDs are now able to connect to a tertiary Children's Hospital for pediatric emergency medicine and/or pediatric critical care consultations: 1) Jerald Phelps Hospital, 2) Mad River Community Hospital, 3) Redwood Memorial Hospital (in process), 4) Saint Helena Clear Lake Hospital (in process), 5) Sutter Coast Hospital, 6) Sutter Lakeside Hospital, and 7) St. Joseph Hospital (in process).
- We initiated the process to formally designate Jerald Phelps Hospital in Garberville as Emergency Department Approved for Pediatrics (EDAP). This will include utilization of pediatric telemedicine consultation at UC Davis. We provided support to Saint Helena Clear Lake Hospital in Lake County in their efforts to maintain EDAP designation. Upon completion of these steps, all hospitals within the three-county region will be EDAP designated. We updated the EDAP standards to include disaster preparedness criteria and continued to directly fund designated EDAPs to help purchase pediatric supplies, equipment and training through a special fund adopted within California and by each County Board of

Supervisors. We've distributed (or accrued for distribution) around $250,000 for this purpose since the fund was adopted. We also supported the continuation of this special fund within California and Humboldt County for the next three years.

- TACTICAL personnel were actively involved with EMS for Children developments within California. Dr. Jim Marcin, Wendy Chapman (North Coast) and Louis Bruhnke (North Coast) actively participated in development of the annual State EMS for Children Education Forum and continue to serve as members of the California EMSC Committee. Also, NCEMS personnel participated in the development of forthcoming EMS for Children regulations. Staff attended statewide EMS planning events including pediatric-related topics.
- NCEMS assisted the Hoopa Valley Tribal Council and Humboldt County in efforts to maintain paramedic-level ambulance services in the large, rural, remote areas of eastern Humboldt and western Trinity counties.
- We finalized prehospital and hospital data collection elements and identified the process we intend to use for pediatric chart review. NCEMS is implementing a new prehospital electronic patient care record program that supports transmission of data to the State EMS Authority and runs Core Measure queries, some related to pediatrics. This new program will utilize the national NEMSIS 3 data dictionary with the intent to directly integrate field and hospital data in the future. NCEMS staff attended the first Health Information Exchange conference held in California and initiated a linkage between EMS and local HIE programs.
- We drafted guidelines for the transfer of pediatric and trauma patients within the region, and in partnership with other EMS agencies in the northern third of the State, helped identify emergency, urgent and less urgent transfer patients. Adding telemedicine equipment and expert pediatric consults at distant centers will improve the transfer decision making process, as will efficient electronic exchange of patient information.
- We purchased IPADs for several project personnel and will use the new video conferencing equipment at NCEMS and around the region (acquired by a different grant) to more effectively communicate with EMSC core personnel and EMS stakeholders. This worked very well for the Pediatric Regional Council meeting located in Lake County. We also upgraded outdated computers for North Coast EMS staff and will soon upgrade office software to help enhance office and project efficiency.

We encountered the following barriers to progress this year:

- Significant turnover of key project staff resulted in delays to progress and loss of momentum. The original Principal Investigator, Dr. Tim Horeczko left the project last year. We received notice recently that Jackie Hausman (from the UC Davis telemedicine program) is leaving the project. In January, 2014, our Cultural Broker (Liaison) Nina Surbaugh took medical leave unexpectedly. We received her resignation recently and will begin to recruit for this critical position. Nina's absence impacted our ability to liaison as effectively with cultural leaders.
- We continue to encounter delays in getting responses from three area hospitals on the MOUs. We met with hospital Chief Administrative and Chief Medical Officers to address barriers to executing MOUs, and provided documentation of IRB approval at UC Davis to access de-identified patient records. We will continue to work with representatives of each hospital to encourage execution. The delays in MOU execution at three facilities in turn delayed the initiation of our data collection process.
- There have also been multiple changes in key personnel at several of the area hospitals. This slowed our progress on MOUs, and on EMSC planning issues as well.
- The size, ruggedness and inclement weather of the north coast region, its long internal travel distances over rugged terrain, its relative paucity of fixed wing or aero medical

resources and great distances to higher-level pediatric centers continues to create challenges for core team members and interested regional participants. For example, a critically important opportunity to liaison with Karuk tribal leaders at their remote headquarters was canceled due to a snowstorm and impassable roads. Also, it is not feasible to expect interested parties to attend a single centralized Council meeting or training session due to the long travel times. Consequently, project personnel must repeat the same offering on more than one occasion, and liaison opportunities with elders and key representatives of our many tribal groups remain scarce. The above conditions also result in delay and/or negative outcome of critically ill or injured pediatric patient transfers.

3. Goals and Objectives

Goal 1: To improve the NCEMSR's current Emergency Medical Services (EMS) for Children healthcare delivery system and to enhance its capabilities to optimize sharing of definitive care resources and the population's access to care.

Goal 1 Progress: As mentioned above, we drafted guidelines for the transport of acutely ill and injured children to a tertiary care facility. We are working with all seven local hospitals to secure and/or test their telemedicine units. Four of the seven EDs now have telemedicine capabilities. We are working on creating agreements with each of the hospitals. We have agreements with two hospitals for pediatric critical care telemedicine services with UC Davis. Jerold Phelps hospital is working to obtain EDAP designation, and having access to pediatric specialists via telemedicine readies them for such designation. We are near to completion of the formal process to continue EDAP designation at Saint Helena Clear Lake Hospital. NCEMS personnel assisted the Hoopa Valley Tribal Council in their work to ensure that paramedic ambulance services in a large portion of Humboldt County continue. This huge Humboldt Country area encompasses several tribes and tribal groups (Hoopa, Yurok, Karuk and others). NCEMS initiated a process with a new aero medical provider to begin air ambulance operations in Lake County. We also participated in the review of pediatric case-specific quality improvement opportunities to enhance patient care. Finally, project personnel are involved with development of statewide EMS for Children, trauma, STEMI and other EMS system enhancements.

Goal 2: To develop and refine a regionalized system to manage and transport acutely ill and injured children.

Goal 2 Progress: We have MOUs between the TACTICAL consortium and the following North Coast hospitals: Mad River Hospital in Arcata, Sutter Coast Hospital in Crescent City, Jerold Phelps Hospital in Garberville and St. Helena Hospital in Clearlake. We meet regularly with our Pediatric Regional Council to discuss our progress toward establishing MOUs with the remaining three hospitals. We recently distributed prehospital and hospital surveys to better understand current perceptions and realities of EMS caregivers and to identify opportunities for training and other EMS system improvements, including better understanding of cultural sensitivities. We continued efforts to identify needs and perceptions of tribal, Hispanic and other cultural groups relative to the EMS system and care of pediatric patients. TACTICAL personnel continued efforts to develop tools to assist family members of children who are sent out of the area. NCEMS continued a project to assess current practices associated with the management of mental health patients, including children. We are developing a best practices handbook to assist prehospital and hospital personnel in the care and management of psychiatric patients. The latter can overwhelm the EMS system and reduce the availability of local resources, and can involve long distance inter-facility transfers of pediatric patients.

Goal 3: To ensure ready and facilitate transfer of healthcare information for patient-centered care and investment in community provider education.

Goal 3 Progress: We have established a working method of collecting pre-hospital patient care data through a secure server and, as mentioned above, are implementing a new electronic patient care program that will more easily exchange data. We plan to begin data collection as soon as we can at the hospitals with executed MOUs. We developed a survey tool for pre-hospital care providers and are collecting these data currently. We continue to provide education and training on the following topics: Pediatric Assessment, Pediatric Trauma, Trauma and Pregnancy, and Pediatric Airways.

4. Significant Changes

We changed the PI of this award from Dr. Timothy Horeczko to Dr. James Marcin during this reporting period. This action was approved by HRSA. We also received notification recently that Jackie Hausman and Cultural Liaison Nina Surbaugh resigned.

5. Details on Regional Site Visits

We convened our second regional site visits, meeting with and orienting new team members (Dr. Marcin and Jackie Hausman). We held two Pediatric Regional Council meetings, one in Lake County on October 7th and the other in Humboldt County the next day. From the site visits, we were able to accomplish the following: communicate our goals and motivations, solicit input from stakeholders including cultural representatives, proceed with MOU execution for data collection with three additional hospitals, identify data elements to be collected, expand telemedicine opportunities, integrate additional local pediatricians into the project, and continue to plan project enhancements and targets. Site visits also allowed us to further access needs, identify existing resources for families at local hospitals (there were none), and coordinate with all project personnel to improve the projects' focus and enhance opportunities for success.

To amplify our presence and regional awareness of the project, we held several pediatric-focused trainings (described above). We also planned future trainings (described above) involving UC Davis personnel and other pediatric experts from within and outside the region.

6. Details on Project Monitoring and Oversight

We continue to monitor our progress toward achieving the goals/objectives of this project. As the PI of the project, Dr. Marcin convenes monthly (or more frequent) conference calls with the Site PI of NCEMS, Mr. Karsteadt as well as other key members of the project team. During these calls, Dr. Marcin and the NCEMS team discuss progress and barriers and make action plans for the month. Mr. Karsteadt reports to Dr. Marcin on personnel and budget, and appropriate regional developments/events that may impact the project. Dr. Marcin and the project team also participate in each EMSC SPROC conference call, during which they report on progress and share ideas with all SPROC grantees.

7. Plans for the Upcoming Budget Year

Per the established project timeline, we will perform two site visits in the coming year. We are planning a one-day pediatric EMS conference in Eureka, CA in June (speakers described above). We compiled a packet containing brochures that describe UC Davis resources for parents of children transferred there for care. We will work to create similar packets for other receiving hospitals (UCSF, Children's Hospital Oakland). We will continue the data collection effort, continue to develop pediatric and trauma patient transfer guidelines, provide ongoing training opportunities for the care of pediatric patients and effective utilization of pediatric telemedicine consultation at distance centers of expertise. We will continue to involve local pediatricians and cultural leaders in the development of this project, will seek qualified replacements for Jackie and Nina, and will continue to participate in the development of statewide EMS for Children system improvements. We may shift the Cultural Liaison position

from contract to an employee if this will help recruit and retain a qualified individual. We will finalize the EMS/Mental Health handbook for widespread distribution, expand utilization of telemedicine consultations, and continue to create opportunities for the exchange of data and electronic imaging. We also plan to add Wendy Chapman, North Coast EMS Programs Manager to the project due her expertise and ongoing involvement in the local and statewide EMS for Children activities and will adjust Mr. Karsteadt's time to compensate. We will expand use of newly acquired videoconferencing equipment to enhance communications between distant project personnel and regional TACTICAL participants. We will continue to link pediatric patients into our region-wide medical disaster planning efforts. Finally, we plan to expand use of telemedicine equipment with local clinics and perhaps, local pediatricians.

8. Status of federal Program anticipated outcomes

Anticipated Models:

- Pediatric Inter-facility Patient Transfer Guidelines – to enhance the transfer decision making process by the sending facility.
- Template or model for the orientation and assistance of families whose child is transferred to a distant hospital – potentially including directions, information on local transportation opportunities, distant center information on hotels and other resources, etc.
- Statewide EMS for Children standards or regulations in conjunction with the State EMS Authority and California EMS leaders that will include standards similar to those adopted by NCEMS as part of the EDAP program. This will also include disaster criteria for children.
- EMS/Mental Health Handbook – a best practices assessment of mental health patient care with recommendations for improvement.
- Prehospital, hospital and cultural survey tools and questionnaires – to enhance understanding of current perceptions, barriers to care and opportunities for EMS system enhancement.
- MOUs for data collection and telemedicine consultation with higher centers.
- Pediatric disaster patient guidelines and/or policies.

Multi-state Collaborations:

- We will continue to participate in SPROC calls and work with federal and state partners to identify opportunities to enhance care of and increase access for pediatric patients.
- NCEMS covers a large portion of southwestern Oregon in its catchment area. As a result, we collaborate with the State of Oregon and jointly designate and review the Level IV Trauma Center located in Del Norte County.
- The new electronic patient care records program at NCEMS is designed to transmit data to the State and to the national level. This program should integrate with hospital data systems in the future for immediate sharing of patient information across state boundaries.

Technological Network Infrastructure:

- The new IPAD integrated video conferencing capability at NCEMS and around the three-county region will facilitate communications between EMSC team members and regional project participants. It could also enhance statewide, multi-state and federal collaborations.
- Enhanced office computer technology will enhance work efficiency, communications and collaborations.
- Telemedicine consultations with distant centers by local hospitals and clinics will enhance patient care decision-making, transfer decision making and improve relationships across great distances.