

MEMORANDUM:

DATE: May 1st, 2007

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

FROM: Linn Tyhurst, Administrative Assistant

RE: Informational Mailing

Enclosed for your information and review are the following items:

1. POLICY CHANGE NOTICE #76

2. FOR YOUR INFORMATION

- a. North Coast EMS Quarterly QIP Summary
- b. FY 06-07 General Fund Grant #EMS 6046 Third Quarter Progress Report
- c. North Coast EMS Modified Base Hospital Program Evaluation
- d. North Coast EMS ETAD Outcome Report 2006
- e. Hospital Incident Command System Training Course
- f. Fixing Our Broken System: Emergency Care
- g. Homeland Security Assistance to Firefighters Grant Program Newsletter
- h. Rural Ambulance Service Budget Model

April 2007

TO: ALL PREHOSPITAL CARE POLICY MANUAL HOLDERS

Note: Record change notice on Record of Change Form. Insert this change notice behind the record of change sheet.

INSTRUCTIONS	POLICY #	POLICY DESCRIPTION	# OF PAGES
Replace	NA	Table of Contents	7
Replace	2112	Administration-Quality Assurance Ambulance Personal Protective Equipment	4
Add	5435	Treatment Guidelines- ALS Provider Nerve Agent Antidote Dosages	2
Add	6520	Administration- ALS Provider Pralidoxime (2-PAM) and Mark I Kit Provider Authorization	2
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NORTH COAST EMS

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Subject: Administration – Quality Assurance
Ambulance Personal Protective Equipment

I. Authority and Reference (incorporated herein by references)

- A. Division 2.5 of Health and Safety Code, Sections 1797.220, 1798.
- B. EMSA Guidelines #216, SB 409
- C. North Coast EMS Policies and Procedures

II. Purpose

All ambulance services, both emergency and non-emergency, must be integrated into the disaster medical response system. Through acceptance of the ambulance personal protective equipment (PPE) grant, the ambulance providers agree, through a contract or Memorandum of Understanding (MOU) with the North Coast EMS Agency, to participate in state and local disaster response or a declared emergency. In responding to any incident, it is the responsibility of all personnel to check in with the Incident Commander to determine appropriate levels of PPE.

Adherence to the PPE policy will ensure safety, readiness, and the ability to meet the requirements of an “all hazards” disaster response. This is consistent with the premise that ambulance personnel should not respond to an incident requiring PPE beyond their level of provision and training without adhering to published standards.

North Coast EMS has, through a grant from the California EMS Authority, procured Ambulance PPE in accordance with EMSA guidelines #216. All usage of this PPE is subject to the following terms and conditions.

III. Policy:

Every person working on an ambulance (public or private, emergency or non-emergency, ALS or BLS) shall have available PPE consistent with this policy.

IV. Procedure:

A. Availability and Specifications: The following required equipment shall be available on every ambulance within the region for providers who have received PPE equipment from EMSA; we strongly recommend the same for all providers, (i.e. all items on the next page except “Additional PPE”). We recommend acquisition of Extended Operations Equipment.

**Minimum Personal Protective Equipment (PPE)
EMSA Guidelines #216**

REQUIRED ITEM	SPECIFICATIONS
Head	
Rescue Helmet (Work Helmet)	NFPA 1951, Blue Color
Eye Protection, Work goggles	NFPA 1999, EMS Standards
Eye Protection, glasses	NFPA 1999, EMS Standards
Hearing Protection	Ear plugs or other
Body	
Garment – EMS Uniform-type (Barrier Protection, multiple use)	NFPA 1999, EMS Standards Full-body – Long-sleeve shirt and long pants
Jacket, full length – EMS, with reflective stripes	NFPA 1999, EMS Standards
Garment (single use)	NFPA 1999, EMS Standards “White Tyvek”
Hooded, chemical-resistant clothing	For Vehicle Decontamination “Tychem”
Hands	
Gloves – Chemical-protective, nitrile	Nitrile-type or equivalent
Gloves – Work (Multiple use, Leather)	NFPA 1999, Physical protection
Feet	
Footwear, Personal (Multi-use, Safety)	NFPA 1999 EMS Standards: <ul style="list-style-type: none"> • Height: min. 4” • Cut, puncture, & abrasion resistant • Toe safety • Barrier protection
Footwear covers, single use	NFPA 1999 OSHA: chemical resistant
Respiratory	
<ul style="list-style-type: none"> • N-100 Mask, <u>or</u> N-95 Mask 	
APR, Full-Face Respiratory Protection Mask (N95), or Level “C” or Escape Hood (NIOSH)	Fit-Testing Program Required
Additional PPE	
Prophylactic Medications (Nerve Agent), Mark I Auto-Injector Kit	As determined by local hazard assessments
Ballistic Vest, Protective	Optional, as determined by agency
Routine Equipment	
Flashlight, small	Or headlamp
Knife - Folding	Capable of cutting seatbelts
Glass punch	Capable of breaking windshields
Scissors/Shear	Bandage/Utility Note: Small equipment items/tools can be combined in a “multi-tool”
Stethoscope	
Personal communication device	Radio, on appropriate frequency
<ul style="list-style-type: none"> • Field Operations Guides (FOGs) 	Per local entity policy

Extended Operations Equipment	
"Go Pack" for disaster response	Mission-ready backpack or duffel bag for each person for response operations during a potential extended disaster event. <ul style="list-style-type: none"> Equipped for individual's self-sustainment for 72 hours Containing personal supplies and equipment needed to sustain operations and provide general response operations support
<ul style="list-style-type: none"> Water 	
<ul style="list-style-type: none"> Water purification 	Tablets or device
<ul style="list-style-type: none"> Rain Gear 	<ul style="list-style-type: none"> Head protection Top protection Bottom – optional
<ul style="list-style-type: none"> Extra set of emergency medical garments 	Emergency medical garment, as above
<ul style="list-style-type: none"> MRE 	Meals Ready-to-Eat, or equivalent
<ul style="list-style-type: none"> Ear protection 	Extra set

* NFPA - National Fire Protection Administration Standards (Standard Number)

B. Maintenance: All equipment shall be maintained in a ready-to-use state and shall be used in accordance with policy. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition.

C. Training: Prior to usage all personal who may be required to utilize PPE shall receive necessary training in the usage of equipment in accordance with OSHA requirements [ref. 29 CFR 1910.132(f)]. The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

1. When PPE is necessary; what PPE is necessary; how to properly don, doff, adjust, and wear PPE; the limitations of the PPE; and the proper care, maintenance, useful life and disposal of the PPE [ref. 29 CFR 1910.132 (f)(1)(i – v)].
2. Each affected employee shall demonstrate an understanding of the training specified in paragraph (f)(1) of this section, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE [ref. 29 CFR 1910.132 (f)(2)].

3. When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (f)(2) of this section, the employer shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where changes in the workplace render previous training obsolete; changes in the types of PPE to be used render previous training obsolete; or inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill [ref. 29 CFR 1910.132 (f)(3)].

4. The employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

5. The employer shall ensure proper fit testing for any respiratory protection in accordance with OSHA requirements (ref. 29 CFR 1910.134). In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use.

V. Procedures Required: The employer shall include in the program the following provisions of this section, as applicable:

A.

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Subject: Treatment Guideline - ALS Provider
Nerve Agent Antidote Dosages

Associated Policies:

A. Authority and reference (incorporated herein by reference)

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

B. Procedure

1. Ensure personal safety.
2. Separate patient from causative agent.
 - a. Victim's clothing should be removed and isolated by personnel wearing proper personal protective equipment.
3. NOTES:
 - a. For severely affected patients, do rapid decontamination and provide treatment.
 - b. Victims should be decontaminated prior to transport whenever possible; patients with life threatening symptoms should receive rapid decontamination and transport.
4. ABCs/monitor cardiac rhythm.
5. **Check pupil size.**
6. Spinal immobilization if indicated.
7. IV access, rate titrated to perfusion as needed.

C. Nerve Agent Dosages

Subject: Treatment Guideline - ALS Provider
Nerve Agent Antidote Dosages

Associated Policies:

Suspected Nerve Agent Exposure :

•Mild/Moderate Symptoms :

- Mark I kits (Atropine 2 mg auto-injector and Pralidoxime 600 mg auto-injector).
 - 1-2 Mark I kits, 1M at 10 minute intervals. Maximum 3 Mark I kits.
- *If Mark I kits not available:*
 - *Atropine: 2-4 mg IM/IV at 10 minute intervals as needed.*

•Severe Symptoms :

- Mark I kits (Atropine 2 mg auto-injector and Pralidoxime 600 mg auto-injector):
 - 3 Mark I kits, 1M in rapid succession.
- *If Mark I kits not available:*
 - *Atropine: 6 mg IM/IV repeat as needed.*

Elderly Patients (> 65 years of age) or those with underlying cardiovascular or renal disease:

- Atropine: 1.0 mg IM. Repeat doses may be given at base direction; IM or IV.
- Pralidoxime (2-PAM): 7.5 mg/kg IM, maximum of 600 mg (one auto-injector) per dose.
NOTE: Elderly patients must weigh at least 80 kg to receive 1 auto-injector of Pralidoxime.

Pediatric Patients (< 12 years):

- Atropine - 0-2 years: 0.5 mg IM
 - = 2-12 years 1.mg IM
 - 0.02 mg/kg IVP, minimum of 0.1 IVP
- Pralidoxime (2-PAM) – 20 mg/kg IP or IVP

NOTE: Pediatric patients must weigh at least 30 kg to receive 1 auto-injector IM.

NOTES:

- If Pralidoxime (2-PAM) powder 1 Gm for reconstitution is available:
Reconstitute as directed by Base Hospital or use 20 ml sterile water without preservative to produce a concentration of 50 mg/mL.
Adult dose 1 Gm over 30 minutes IV of 600 mg - 1Gm IM in divided injections if necessary.
>65 yrs 7.5 mg/kg IM or IV. Max IV dose 1 Gm over 30 minutes. May repeat once in 1 hr.
<12 yrs 20 mg/kg IM or IV. Max IV dose 1 Gm over 30 minutes. May repeat once in 1 hr.

Approved _____ Date _____

Approved as to Form _____ Date _____

Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit Provider Authorization

Associated Policies:

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

II. Purpose

To establish the procedure and requirements to authorize any North Coast EMS ALS service to stock or permit EMT-Ps employees to administer Pralidoxime (2-PAM) or use the Mark I Kit. Only 2-PAM approved providers may stock or allow 2-PAM or the Mark I Kit to be administered by EMT-Ps.

III. Procedures

- A. Any currently authorized NCEMS ALS Provider licensed and permitted to transport patients from within the NCEMS region may request 2-PAM and Mark I Kit authorization.
- B. Authorizations to provide such service within the NCEMS region is contingent upon executing and maintaining a participation agreement with NCEMS, which includes:
 1. Abiding by all state laws, regulations and North Coast EMS policies, procedures and protocols.
 2. Ensuring that only paramedics trained in the indications, contraindications, administration of 2-PAM, the Mark I Kit, and relevant county "Chempack" activation and Chempack drug distribution policies.
 3. Ensuring that all provider employed paramedics receive at least 2 hours of 2-PAM and Mark I Kit/Chempack training within 1 month of initial employment and at least 1 hour of refresher 2-PAM and Mark I Kit/Chempack Chempack training every 2 years thereafter. Initial training may be by proctored instruction alone or by self-study followed by a written exam proctored by the provider. Ongoing of 2-PAM and Mark I Kit/Chempack training must fulfill the requirements of California State approved continuing education (CEs).
 4. Ensuring that each authorized paramedic utilizing 2-PAM or the Mark I Kit completes the required documentation on the North Coast EMS computerized PCR system.
 5. Ensuring that the provider's Quality Improvement Program (QIP) Plan describes the provider's Paramedic employee 2-PAM

Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit Provider Authorization

Associated Policies:

and Mark I Kit/Chempack initial and ongoing training verification record keeping (log).

6. Ensuring the maintenance of the log referred to above.
- C. Both the base Hospital and ALS provider shall review each such utilization of 2-PAM or the Mark I Kit via its own Continuous Quality Improvement (CQI) process. North Coast EMS reserves the right to audit the service provider's records involving utilization of 2-PAM or the Mark I Kit for CQI purposes.

PLEASE NOTE- A PUBLIC SAFETY AGENCY OR PRIVATE SECTOR AMBULANCE SERVICE IS NOT ALLOWED TO FUNCTION AS A SERVICE PROVIDER OF 2-PAM OR THE MARK I KIT IN THE NORTH COAST EMS REGION UNLESS THAT AGENCY HAS BEEN APPROVED. FUNCTIONING WITHOUT A CURRENT AND VALID PARTICIPATION AGREEMENT WITH NORTH COAST EMS IS A VIOLATION OF CALIFORNIA LAWS.

Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit (Autoinjector) Administration

Associated Policies:

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

II. Purpose

Nerve Gas auto-injectors are to be used when EMS personnel or patients are exposed to nerve agents (Sarin, Soman, Tabun, VX) and have signs and symptoms of nerve agent exposure. Pralidoxime chloride is only to be administered by EMS personnel trained in its use and employed by a North Coast EMS 2-PAM and Mark I Kit authorized ALS provider per North Coast EMS policy 6520.

III. Equipment

- A. MARK I auto-injector antidote kit containing -
 1. **Atropine** auto-injector (2 mg in 0.7 cc.)
 2. **Pralidoxime Chloride** auto-injector – 2-PAM Cl (600 mg in 2 cc.)

MARK I antidote kit



IV. Procedure

A. *Injection Site Selection*

1. The injection site for administration is normally in the **outer thigh muscle** (Figure 1). It is important that the injections be given into a **LARGE** muscle area.
2. If the individual is thinly-built, then the injections should be administered into the **upper outer quadrant** of the buttocks (Figure 2).

Figure 1: Outer Thigh Muscle

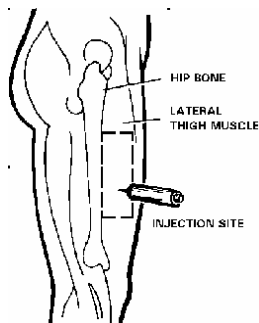
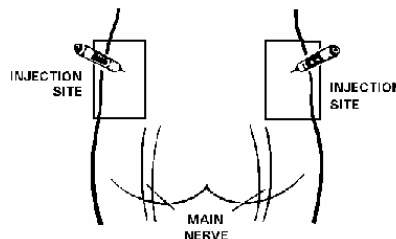


Figure 2: Upper Outer Quadrant



Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit (Autoinjector) Administration

Associated Policies:

B. Arming the Auto-injector

1. Immediately put on your protective mask.
2. Remove the antidote kit.
3. With your non-dominant hand, hold the auto-injectors by the plastic clip so that the larger auto-injector is on top (Figure 3A) and both are positioned in front of you at eye level. With your dominant hand grasp the **Atropine** auto-injector (the smaller of the two) with the thumb and first two fingers (Figure 3B). DO NOT cover or hold the needle end with your hand, thumb, or fingers, you might accidentally inject yourself.
4. Pull the injector out of the clip with a smooth motion (Figure 3C). **The auto-injector is now armed.**

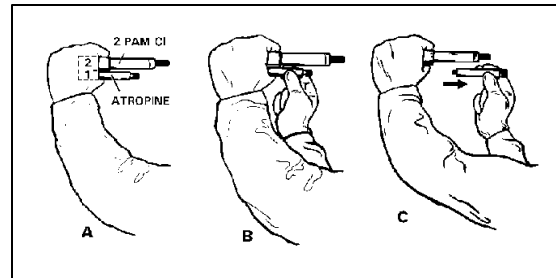
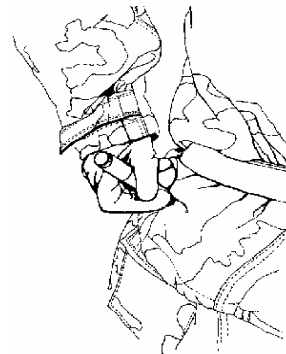


Figure 3: *Removing Atropine auto-injector from the clip*

Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit (Autoinjector) Administration



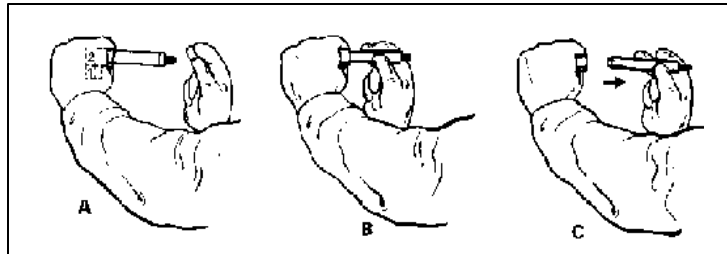
5. Next pull the **Pralidoxime Chloride** (2-Pam Cl) auto-injector (the larger of the two) out of the clip, see Figure 5.
6. Inject yourself in the same manner as the steps above, holding the black (needle) end against your outer thigh or buttocks, see Figure 4.
7. Massage the injection sites, if time permits.
8. After administering the first set of injections, you should initiate decontamination procedures, as necessary, and put on any remaining protective clothing.
9. Refer to Nerve Agent Antidote Dosages policy 5435 for dosing and re-dosing.

Subject: Administration- ALS Provider

Pralidoxime (2-PAM) and Mark I Kit (Autoinjector) Administration

Associated Policies:

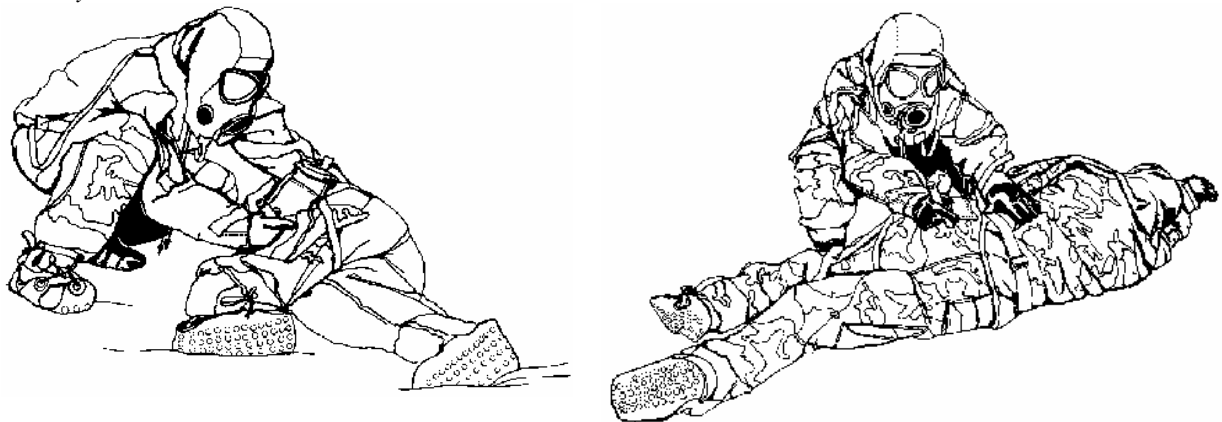
Figure 5: *Removing 2-Pam Cl auto-injector from clip*



D. Treatment of casualties in the HOT Zone:

1. Squat, DO NOT kneel, when administering treatment, see Figure Kneeling may force the chemical agent into or through your protective clothing.
2. Mask the casualty.
3. Position the casualty in the recovery position and position yourself near the casualty's thigh.
4. Administer the auto-injectors as described above. Multiple doses of Atropine may be needed, refer to North Coast EMS Nerve Agent Antidote Dosages policy 5435. for dosing and re-dosing.

Figure 6: *Thigh and Buttock administration to a casualty*



Subject: Administration- ALS Provider
Pralidoxime (2-PAM) and Mark I Kit (Autoinjector) Administration

Associated Policies:

**PLEASE NOTE- A PUBLIC SAFETY AGENCY OR PRIVATE SECTOR
AMBULANCE SERVICE IS NOT ALLOWED TO FUNCTION AS A SERVICE
PROVIDER OF 2-PAM OR THE MARK I KIT IN THE NORTH COAST EMS
REGION UNLESS THAT AGENCY HAS BEEN APPROVED. FUNCTIONING
WITHOUT A CURRENT AND VALID PARTICIPATION AGREEMENT WITH
NORTH COAST EMS IS A VIOLATION OF CALIFORNIA LAWS.**

Approved _____ Date _____

Approved as to Form _____ Date _____