

Monterey County EMS System Policy



Policy Number: 8060
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Nerve Agent Antidote (MK-1 Kit) Administration

I. INTRODUCTION

Nerve Gas auto-injectors are to be used when EMS personnel are exposed to nerve agents (Sarin, Soman, Tabun, Vx) and have signs and symptoms of nerve agent exposure, or when EMS personnel treat victims in an MCI situation in the hot zone.

II. EQUIPMENT

A. Mark I auto injector antidote kit containing:

1. **Atropine** auto injector (2 mg in 0.7 ccs)
2. Pralidoxime Chloride auto injector – **2-PAM** (600 mg in 2 cc's)



B. Additional **Atropine** (2 mg) auto injectors

III. PROCEDURE

A. If you experience any or all of the nerve-agent poisoning symptoms, you must **IMMEDIATELY** self-administer the nerve gas antidote.

B. 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).

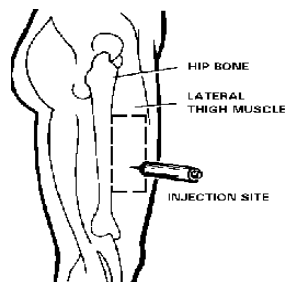


Figure 1 - Thigh injection site

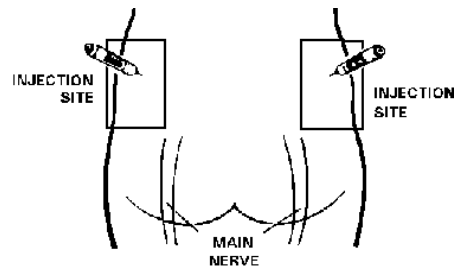


Figure 2 - Buttocks injection site

C. 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 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 3). DO NOT cover or hold the needle end with your hand, thumb, or fingers-you might accidentally inject your self. An accidental injection into the hand WILL NOT deliver an effective dose of the antidote, especially if the needle goes through the hand.
4. Pull the injector out of the clip with a smooth motion. The auto injector is now armed.



Figure 3- Removing the Atropine injector from the clip

D. Administering the antidote to yourself

The Monterey County EMS Agency, due to regulatory constraints, does not directly authorize self-administration of medications. Any agency or provider that elects to utilize these procedures for the purpose of self-administration should obtain approval and authorization from their own risk management and/or medical director.

1. Hold the auto injector with your thumb and two fingers (pencil writing position). Be careful not to inject yourself in the hand!
2. Position the green (needle) end of the injector against the injection site (thigh or buttock) (Figure 4). DO NOT inject into areas close to the hip, knee, or thighbone.

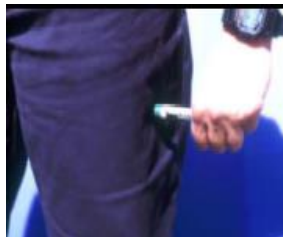


Figure 4: Atropine thigh self-administration

3. Apply firm, even pressure (not jabbing motion) to the injector until it pushes the needle into your thigh (or buttocks). Using a jabbing motion may result in an improper injection or injury to the thigh or buttocks.
4. Hold the injector firmly in place for at least 10 seconds. Firm pressure automatically triggers the coiled spring mechanism. This plunges the needle through the clothing into the muscle and at the same time injects the antidote into the muscle tissue.
5. Carefully remove the auto injector from your injection site.
6. Next pull the **2 PAM** injector (the larger of the two) out of the clip (Figure 5).
7. Inject yourself in the same manner as the steps above, holding the black (needle) end against your outer thigh (or buttocks) (Figure 6).

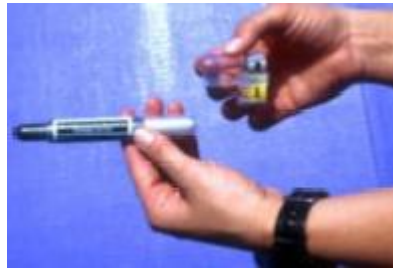


Figure 5- Removing **2 PAM** Auto-injector from clip



Figure 6 - **2 PAM** thigh self-administration

8. Massage the injection sites, if time permits.
9. After administering the first set of injections, wait 5 to 10 minutes. After administering one set of injections, you should initiate decontamination procedures, as necessary, and put on any remaining protective clothing.
10. Atropine only should be repeated as needed. (Note: multiple doses of Atropine may be needed – see Dosage Scheme for Mark I Administration below.)

E. Administering the antidote to another in the Hot Zone

1. Ensure appropriate personal protective actions and patient protection to eliminate or reduce additional contamination/exposure.
2. Squat, DO NOT kneel, when masking the casualty or administering the nerve agent antidotes to the casualty. Kneeling may force the chemical agent into or through your protective clothing.
3. Position the casualty on his or her side (swimmers position).
4. Position yourself near the casualty's thigh.
5. The procedure for site selection and medication administration is the same as outlined above.
6. **Atropine only** should be repeated as needed. (Note: multiple doses of **Atropine** may be needed – see Dosage Scheme for Mark I Administration below.)

F. Dosage Scheme For Mark I Administration - via auto injector for self-administration or use in the hot zone

Signs & Symptoms	Onset	# of auto injectors to use:
Vapor: small exposure • Pinpoint pupils • Runny nose • Mild SOB	Seconds	MARK I auto injector antidote kit – 1 dose initially (contains Atropine and 2-PAM) May repeat x1 in 10 minutes.
Liquid: small exposure • Sweating • Twitching • Vomiting • Feeling weak	Minutes to Hours	MARK I auto injector antidote kit – 1 dose initially (containing Atropine and 2-PAM) May repeat x1 in 10 minutes.
Both: large exposure • Convulsions • Apnea • Copious secretions	Seconds to Hours	MARK I auto injector antidote kit – 3 doses initially

END OF POLICY



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