

H-10 <b>ORGANOPHOSPHATES &amp; CARBAMATES</b>	Includes: Nerve Gas Exposure	
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*Examples:* Malathion, parathion, ethion, bendiocarb, aldicarb, sarin & VX nerve agents

- Indication for concern/treatment:
- Possible exposure → commonly found in **insecticides** or possible WMDs, and
  - Cholinergic toxidrome: **Pinpoint pupils, slow heart rate & drowning in their own secretions**

HazMat Care/ Decontamination
H-01

Aggressive Respiratory & Hemodynamic Support:

- **100% O<sub>2</sub>** & early **Endotracheal Intubation** if significantly altered mental status, per Airway/O<sub>2</sub> Maintenance [A-01] and DAI/RSI [A-04].
- **IV/IO Access, Fluid Resuscitation and Vasopressors**, per IV Protocol [1-03] and Medical Shock [M-06].

**Paramedic**

**Atropine 1-2 mg IV/IO** (repeat every 5 minutes & escalate dose as needed)

Peds: 0.02 mg/kg (repeat & escalate as needed)

- Endpoint of escalation/treatment is **control of secretions**
- May need **VERY** large doses

**HazMat Medic**

**Pralidoxime (2-PAM) 1 gram IV/IO** over 2 minutes

Peds: 20-50 mg/kg (recommend discussion with Medical Control prior to administration)

- May use IM route if no access.
- Not necessary with carbamate poisonings

<b>Alternative: DuoDote® or Mark I Kit</b>	<u>Moderate Symptoms</u>	<u>Severe Symptoms</u>
	<ul style="list-style-type: none"> <li>Administer <b>ONE</b> kit</li> <li>Repeat every 5 minutes if needed</li> </ul>	<ul style="list-style-type: none"> <li>Administer <b>THREE</b> kits</li> <li>Repeat as needed</li> </ul>
	Peds: <40kg do <u>not</u> use kits ( <i>discuss with Medical Control if needed</i> )	
<ul style="list-style-type: none"> <li>DuoDote® (single autoinjector): 2.1 mg atropine 2.1 mg &amp; 600 mg pralidoxime</li> <li>Mark I Kit (<u>two</u> auto injectors): 2 mg atropine &amp; 600 mg pralidoxime</li> </ul>		

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<b>Cholinergic Toxidrome (commonly seen symptoms):</b>	
<b>DUMBELS</b>	<b>SLUDGE-M</b>
D – Diarrhea U – Urination M – Miosis (Pinpoint pupils) B – Bronchospasm, bradycardia, bronchorrhea E – Emesis L – Lacrimation S – Salivation	S – Salivation L – Lacrimation U – Urination D – Diarrhea G – Gastro-intestinal pain & hyperactivity E – Emesis M – Miosis (Pinpoint pupils)
<i>Essentially: Pinpoint pupils, slow heart rate &amp; drowning in their own secretions</i>	

#### KEY POINTS:

- May be inhaled, ingested, or absorbed through the skin..
- Binds with the acetylcholinesterase, initially causing excitation of nerve conduction and then paralysis.
- Not all pesticides are considered organophosphates or carbamates. In addition, Carbamates tend to be less severe and self limiting and requires less aggressive treatment.
- Atropine should be titrated to clinical effect.

#### SPECIAL SITUATIONS:

- **Seizures:** Treat with Versed (midazolam) or Ativan (lorazepam) as per Seizure guideline [M-09].

**NOTE:** Poison Control may be contacted [1-800-222-1222] for **INFORMATION ONLY**. Treatment modalities must utilize these guidelines, or may be received received through online Medical Control.