



- a. There is usually an asymptomatic interval of minutes after liquid exposure before these symptoms occur
 - b. Effects from vapor exposure occur almost immediately
8. Signs and symptoms with large acetylcholinesterase inhibitor agent exposures (regardless of route)
 - a. Sudden loss of consciousness
 - b. Seizures
 - c. Copious secretions
 - d. Apnea
 - e. Death
9. Obtain an accurate exposure history (as patient may become unconscious before arrival at the ED:
 - a. Time of ingestion or exposure
 - b. Route of exposure
 - c. Quantity of medication or toxin taken (safely collect all possible medications or agents)
 - d. Alcohol or other intoxicant taken
 - e. Pertinent cardiovascular history or other prescribed medications for underlying disease
10. The patient can manifest any of the signs and symptoms of the toxidrome based on the route of exposure, agent involved, and concentration of the agent:
 - a. Vapor exposures will have a direct effect on the eyes and pupils causing miosis
 - b. Patients with isolated skin exposures will have normally reactive pupils
 - c. Certain acetylcholinesterase inhibitor agents can place the patient at risk for both a vapor and skin exposure

Treatment and Interventions (See [dosing tables](#))

1. **Medications:**
 - a. Atropine
 - i. Atropine is the primary antidote for organophosphate, carbamate, or nerve agent exposures, and repeated doses should be administered liberally to patients who exhibit signs and symptoms of exposure or toxicity
 - ii. Atropine may be provided in multi-dose vials, pre-filled syringes, or auto-injectors
 - b. Pralidoxime chloride (2-PAM)
 - i. Pralidoxime chloride is a secondary treatment and should be given concurrently to reactivate acetylcholinesterase
 - ii. Pralidoxime chloride may be provided in a single dose vial, pre-filled syringes, or auto-injectors
 - iii. Auto-injectors typically contain 600 mg of pralidoxime chloride
 - iv. To be beneficial to the victim, a dose of pralidoxime chloride should be administered shortly after the nerve agent or organophosphate poisoning as it has minimal clinical effect if administration is delayed
 - c. Benzodiazepines
 - i. Benzodiazepines are administered as an anticonvulsant for those patients who exhibit seizure activity [See [Seizures Guideline](#) for doses and routes of administration]
 - ii. Lorazepam, diazepam, and midazolam are the most frequently used benzodiazepines in the prehospital setting; midazolam may have the fastest