

**OP exposure produces multi-system toxicity. Respiratory muscle weakness and bronchorrhea cause early deaths. Atropine is the first line antidote.**

## Toxicity / Risk Assessment

- Deliberate ingestion normally results in severe toxicity
- Any paediatric exposure is potentially lethal
- Dermal/ inhalational exposure: toxicity unlikely

## Clinical features

Time of onset of toxicity varies with agent and route of exposure (minutes – hours)

Early death is secondary to excessive respiratory secretions and respiratory muscle paralysis

### **Acute Toxicity:**

Cholinergic system excess predominates

- Nicotinic: ↑ HR, ↑ BP, fasciculations, muscle weakness
- Muscarinic: salivation, bronchorrhea, bronchospasm, ↓HR, ↓BP, lacrimation, diarrhoea, miosis, vomiting, diaphoresis
- CNS: confusion, agitation, seizures, coma

Hydrocarbon additive can cause chemical pneumonitis

**Delayed toxicity:** - Delayed neuropathies: up to 6 weeks

- Intermediate syndrome: paralysis 2-4 days post exposure

**Management** – Oxygenation, adequate atropinisation +/- intubation are mainstays of treatment

Universal precautions for staff (gown, gloves). Personal protective equipment (PPE) is **NOT** required.

Manage in resuscitation area. Remove clothing. Place in plastic bag. If dermal exposure, decontaminate by washing with soap and water.

Activated charcoal is not indicated.

**PLEASE DISCUSS ALL CASES WITH CLINICAL TOXICOLOGIST**

## Antidote: Atropine

Administer ASAP to all patients with muscarinic symptoms (very large doses may be required):

- 1200 mcg (50 mcg/kg children) IV bolus and double dose every 5 minutes
- Continue IV boluses until *adequate atropinisation* is achieved:

**Adequate atropinisation is defined as: HR > 80 bpm, systolic BP > 80 mmHg, chest clinically clear**

- Commence atropine infusion: Provide infusion delivering a 10-20% of the cumulative dose required to achieve 'adequate atropinisation' PER hour

## Antidote: Pralidoxime (see separate guideline)

- NOT ROUTINELY ADMINISTERED IN ALL CASES. Discuss with clinical toxicologist.

Seizures: treat with diazepam 5mg IV, optimise oxygen delivery, ensure adequate atropinisation

## **Disposition**

- Critical care bed admission for all patients with significant symptoms
- Admit all patients for observation. Discuss period of observation with clinical toxicologist.
- Admitted patients should be observed for at least 24 hours post last dose of atropine