Chemical Weapons Elimination

Chemical Weapons Elimination
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Emergency Room Procedures in Chemical Hazard Emergencies: A Job Aid

Preparations

1. Try to determine agent identity.

2. Break out personal protection equipment, decon supplies, antidotes, etc.

3. Is chemical hazard certain or very likely?

YES:

- Put on personal protective equipment.
- Set up hot line.

4. Clear and secure all areas which could become contaminated.

5. Prepare to or secure hospital entrances and grounds.

6. Notify local emergency management authorities if needed.

7. If chemical is a military agent and Army has not been informed, call them.

8. If an organophosphate is involved, notify hospital pharmacy that large amounts of atropine and 2-PAM may be needed.

When victim arrives
(Note: A contaminated patient may present at an emergency

room without prior warning.)

9. Does chemical hazard exist?

- Known release/exposure (including late notification)
- Liquid on victim's skin or clothing
- Symptoms in victim, EMTs, others
- Odor (H, L, phosgene, chlorine)
- M-8 paper, if appropriate

YES: Go to 10.

NO: Handle victim routinely.

10. Hold victim outside until preparations are completed (put on personal protective equipment to assist EMTs as necessary).

11. If patient is grossly contaminated (liquid on skin, positive M-8 paper) OR if there is any suspicion of contamination, decontaminate patient before entry into building.

Initial Treatment and Identification of the Chemical Agent

1. Establish airway if necessary.
2. Give artificial respiration if not breathing.
3. Control bleeding if hemorrhaging.
4. Symptoms of cholinesterase poisoning?
   - Pinpoint pupils
   - Difficulty breathing (wheezing, gasping, etc)
   - Local or generalized sweating
   - Fasciculations
   - Copious secretions
   - Nausea, vomiting, diarrhea
   - Convulsions
   - Coma

   YES: Go to Nerve Agent Protocol
5. History of chlorine poisoning?

   YES: Go to Chlorine Protocol
6. Burns that began within minutes of poisoning?

   YES: Go to 7.

   NO: Go to 8.

7. Thermal burn?

   YES: Go to 9.

   NO: Go to Lewisite Protocol

8. Burns or eye irritation beginning 2-12 hours after exposure?

   YES: Go to Mustard Protocol

   NO: Go to 9.

9. Is phosgene exposure possible?

- Known exposure to phosgene
- Known exposure to hot chlorinated hydrocarbons
- Respiratory discomfort beginning a few hours after exposure

YES: Go to Phosgene Protocol

10. Check other possible chemical exposures:

- Known exposure
- Decreased level of consciousness without head trauma.
- Odor on clothes or breath
- Specific signs or symptoms

PHOSGENE PROTOCOL

1. Restrict fluids, chest x-ray, blood gases

Results consistent with phosgene poisoning?
YES: Go to # 4

2. Dyspnea?

YES: OXYGEN, positive end-expiratory pressure

3. Observe closely for at least 6 hours.

- IF SEVERE DYSPNEA develops, go to 4.
- IF MILD DYSPNEA develops after several hours, go to 1.

4. Severe dyspnea develops or x-ray or blood gases consistent with phosgene poisoning:

- Admit
- Give oxygen under positive end-expiratory pressure
- Restrict fluids
- Take chest x-ray
- Get blood gases
- Put on seriously ill list

MUSTARD PROTOCOL

1. Airway obstruction?
YES: Tracheostomy

2. If there are large burns:

- Establish IV line - do not push fluids as for thermal burns.
- Drain vesicles - unroof large blisters and irrigate area with tropical antibiotics.

3. Treat other symptoms appropriately:

- Antibiotic eye ointment
- Sterile precautions prn
- Morphine prn (generally not needed in emergency treatment; might be appropriate for in-patient treatment.)

LEWISITE PROTOCOL

1. Survey extent of injury.

2. Treat affected skin with British Anti-Lewisite (BAL) ointment (if

CHLORINE PROTOCOL

1. Dyspnea?

- Try bronchodilators
- Admit

available). 3. Treat affected eyes with BAL ophthalmic ointment (if available). 4. Treat pulmonary/severe effects • BAL in oil, 0.5 ml/25 lbs body wt. deep IM to max of 4.0 ml. Repeat q 4 h x 3 (at 4, 8, and 12 hours). • Morphine prn 5. Severe poisoning? **YES:** Shorten interval for BAL injections to q 2 h.	• Give oxygen by mask • Take chest X-ray 2. Treat other problems and reevaluate (consider phosgene). 3. Respiratory system OK? YES: Go to 5. 4. Is phosgene poisoning possible? **YES**: Go to Phosgene Protocol 5. Give supportive therapy; treat other problems or discharge.

NERVE AGENT PROTOCOL

1. Severe respiratory distress? **YES:** • Intubate and ventilate • ATROPINE Adults: 6 mg IM or IV Inf/ped: 0.05 mg/kg IV • 2-PAM C1 Adults: 600-1000 mg IM or slow IV Inf/ped: 15 mg/kg slow IV 2. Major secondary symptoms? **NO**: Go to 6. **YES:** • ATROPINE Adults: 4 mg IM or IV Inf/ped: 0.02 - 0.05 mg/kg IV • 2-PAM C1 Adults: 600-1000 mg IM or slow IV Inf/ped: 15 mg/kg • OPEN IV LINE	3. Repeat atropine as needed until secretions decrease and breathing easier Adults: 2 mg IV or IM Inf/ped: 0.02 - 0.05 mg/kg IV 4. Repeat 2-PAM C1 as needed Adults: 1.0 gm IV over 20-30 min Repeat q lh x 3 prn Inf/ped: 15 mg/kg slow IV 5. Convulsions? NO: Go to 6. YES: DIAZEPAM 10 mg slow IV Inf/ped: 0.2 mg/kg IV 6. Reevaluate q 3-5 min. IF SIGNS WORSEN, repeat from 3. Note: Warn the hospital pharmacy that unusual amounts of atropine and 2-PAM may be needed

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