

SIERRA-SACRAMENTO VALLEY EMS AGENCY  
ALS PROTOCOL-MEDICAL EMERGENCY

ENVIRONMENTAL  
REFERENCE NO. E-7

**SUBJECT: HAZARDOUS MATERIAL EXPOSURE**

---

HazMat incidents require special attention and frequently the need for specially trained personnel. Refer to policy # 836 Hazardous Material Incident.

4 important caveats for medical responders are:

- Do **not** enter a contaminated area unless properly protected.
- **Specialized protective equipment and/or SCBAs shall not be utilized by untrained personnel.**
- Do not transport a contaminated pt until the pt has been thoroughly decontaminated. **Exception**, do not delay the treatment or transportation of immediate criterion patients that are contaminated. with radioactive material.
- Early base contact will maximize assistance from necessary resources.

Refer to Hazardous Materials Medical Management Reference

- Confirm # of victims, hazmat involved or DOT 4-digit placard # from IC & call base hospital for guidance
- Pts should be fully decontaminated by appropriate trained and equipped personnel. **Exception**, do not delay the treatment or transportation of immediate criterion patients that are contaminated with radioactive material
- After pt is fully decontaminated, cover w/ blankets and/or sheets as appropriate for medical and weather conditions.
- If transporting personnel become contaminated, they shall immediately undergo decontamination
- **If eye exposure occurs, irrigate each exposed eye w/ 1 liter NS - remove contact lenses**

**BASIC THERAPY**

- **ABCs** - establish & secure airway, w/ adjuncts as appropriate and necessary.
- **Oxygen** @ appropriate flow rate
- **If trauma suspected, use full spinal immobilization**
- **EKG**

See pages 2 & 3 for Specific Therapies

---

Effective Date: 09/01/07  
Next Review Date: 03/2010  
Approved by:

Date last reviewed revised: 03/07  
Page 1 of 3

William Koenig, MD  
S-SV EMS Medical Director

Victoria Pinette  
S-SV EMS Regional Executive Director

**CHEMICAL BURNS**

- **BASIC THERAPY**
- **IV Access** - NS in non-burned extremity
- **Contact base hospital**

↓

**IF** isolated burn w/o inhalation is documented & **ALL** of the following are present:

- a. SBP > 100mmHg
- b. no allergy to Morphine
- c. pt in severe pain

**Morphine Sulfate 2 mg increments**, slow IV push (max 2mg/min). Titrate to tolerable pain level - discontinue MS if SBP < 100 mmHg

**ORGANOPHOSPHATE OR CARBAMATE PESTICIDES**

- **BASIC THERAPY**
- **IV Access** - NS in non-burned extremity
- **Contact base hospital**

↓

**Atropine 2.0 mg IV push** if HR < 60  
 May repeat q 3 minutes to HR > 80  
No maximum dose.

**NOTE:** Precautions must be taken to prevent direct contact with secretions of the pt who has ingested organophosphate or carbamate pesticides.

**HYDROFLUORIC ACID (HF)**

Skin exposure to HF with conc. > 20% can cause fatal hypocalcemia & should be treated. Provide continuous EKG to look for QT-interval prolongation = early sign of hypocalcemia.

- **BASIC THERAPY**
- **Copious water irrigation**
- **IV Access** - NS in non-burned extremity
- **Contact base hospital**
- **Calcium Chloride 10% - 10cc slow IV push**  
 May repeat q 5 minutes

↓

For HF burns that are isolated to the hand(s), finger(s), or toe(s):

- **Calcium Chloride 10%** - pour contents of one ampule into sterile glove & immerse affected area into solution.
- If **Calcium Gluconate gel** has been applied, do not remove. No further treatment is necessary.

# RADIATION EMERGENCIES

- Patient care always takes priority over radiological concerns. Addressing contamination issues should not delay treatment of life-threatening injuries.
- Viable patients are a high priority. Therefore, rapidly extricate, treat and transport those patients who are most critical and likely to survive.
- It is highly unlikely that the levels of radioactivity associated with a contaminated patient would pose a significant health risk to care providers.
- Body substance Isolation Clothing (gloves, gowns, masks, or protective eyewear, shoe protectors and, head cap) are recommended, including 2-3 pair of latex gloves.
- Outside the hot and warm zones N-95 masks, if available are recommended, if not surgical masks should be adequate
- Due to fetal sensitivity to radiation, assign pregnant staff to other duties.

## Ambulance Preparation

If time permits, consider the following:

- Avoid using internal and external compartments; work out of mobile kits as much as possible
- Close all internal compartments prior to loading patient
- Cover radio communication microphones with a rubber glove
- Cover floor of ambulance with disposable papers or pads

## Victims

- If oxygen is warranted for patient treatment use a non re-breather mask, if patient will tolerate it. Additionally, the mask provides protection from inadvertent facial contamination hazards. An N95 or surgical mask is appropriate to protect pt from inadvertent facial contamination hazards when oxygen is not indicated.
- Frequent glove changes will reduce the spread of contamination, and should be considered prior to handling patient, and patient care adjuncts.
- All medical procedures should be utilized to save an immediate patient. If it is medically necessary to intubate a patient that is contaminated, then do so.
- Change gloves prior to intubation
- Maintain endotracheal tube sterility if possible

## Patients with limited or no field decontamination

- Initiate ALS care as necessary
- Keep patient wrapped (cocoon style) as much as possible to minimize the potential for contamination spread.
- Only expose areas to assess and treat
- If necessary, cut and remove the patient's clothing away from the body being careful to avoid contamination to the unexposed skin
- Properly contain all removed clothing by placing it in a sealable bag.
- Continue to reassess and monitor vitals while in route to the appropriate receiving facility
- Contact with patient may result in transfer of contamination; change gloves as necessary

## Patients with field decontamination

- Patients with non life-threatening injuries should have field decontamination prior to removal from the hot zone.
- Patient's condition permits a more thorough radiological survey to continued care
  - Conduct a head to toe assessment as the patients injuries warrants
  - Patient's clothing should have been removed within the hot zone. If not keep patient wrapped (cocoon style) as much as possible.
  - Expose patient's injuries for assessing and treating only
  - Contact with patient may result in transfer of contamination; change gloves as necessary