

Sierra – Sacramento Valley EMS Agency Treatment Protocol

Hazardous Material Exposure



Effective: 12/01/2016

Next Review: 07/2019

E-7

Approval: Troy M. Falck, MD – Medical Director

SIGNATURE ON FILE

Approval: Victoria Pinette – Executive Director

SIGNATURE ON FILE

Refer to S-SV EMS Hazardous Material Incidents policy (836)

Important caveats for medical responders:

- EMS personnel shall not enter or provide treatment in the Contamination Reduction Zone (Warm Zone) or Exclusion Zone (Hot Zone) unless specifically trained, equipped and authorized to do so.
- EMS personnel shall not use Haz Mat specific personal protective equipment (PPE), including self-contained breathing apparatus (SCBA), unless specifically trained, fit tested and authorized to do so.
- Do not transport patients until they have been completely decontaminated. If transport personnel become contaminated, they shall immediately undergo decontamination.
- Do not delay the treatment or transportation of immediate patients who are contaminated with radioactive material (page 3).
- Early base/modified base hospital contact, and CHEMPACK activation when appropriate (S-SV EMS Nerve Agent Treatment Protocol E-8), will maximize assistance from necessary resources.
- Refer to Hazardous Materials Medical Management Reference as appropriate.

Information that must be obtained by EMS personnel on every hazardous materials incident:

- Number of patients.
- Material involved or DOT 4-digit placard #.
- Route(s) of exposure for each patient.
- Signs & symptoms for each patient.
- Decontamination procedure completed for each patient.
- Procedure utilized to determine effectiveness of decontamination procedure.
- Risk of secondary exposure to rescuers.
- PPE required to transport patient.

See Pages 2 & 3 For Specific Treatment

Sierra – Sacramento Valley EMS Agency Treatment Protocol



Hazardous Material Exposure

E-7

BLS

- Establish and secure airway as appropriate/necessary
- O₂ at appropriate flow rate
- Contact base/modified base hospital for assistance in determining a decontamination/treatment plan if necessary
- After patient is fully decontaminated, cover with blankets and/or sheets as appropriate
- If eye exposure occurs, irrigate each exposed eye with NS – ensure contact lenses are removed

ALS

- Cardiac Monitor
- IV/IO NS TKO in non-burned/non-contaminated extremity (may bolus up to 1000 mL)

HYDROFLUORIC ACID (HF)

Calcium Chloride 10%

- 10 ml slow IV/IO
- May repeat every 5 minutes

For HF burns isolated to the hands, fingers, or toes

Calcium Chloride 10%

- Pour contents of one ampule into a sterile glove and immerse affected area into solution
- If Calcium Gluconate gel has been applied, do not remove - no further treatment is necessary

Note: Skin exposure to HF with a concentration > 20% can cause fatal hypocalcemia and should be treated. Provide continuous EKG monitoring to look for QT-interval prolongation which is an early sign of hypocalcemia

ORGANOPHOSPHATE OR CARBAMATE

Atropine

- 2 mg IV/IO if HR < 60
- May repeat every 3 minutes to HR > 80
- No maximum dose

Refer to Nerve Agent Treatment Protocol (E-8) if additional treatment is necessary

Note: Precautions must be taken to prevent direct contact with secretions of a patient who has ingested organophosphates or carbamate pesticides



RADIATION EMERGENCIES

- Patient care takes priority over radiological concerns - addressing contamination issues should not delay treatment of life-threatening injuries
- Viable patients are a high priority - 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, N-95 masks, protective eyewear, shoe protectors, and head cap) are recommended, including 2-3 pair of disposable gloves
- 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

Patients

- If oxygen is warranted, use a non re-breather mask if tolerated to provide protection from inadvertent respiratory contamination hazards
- An N95 mask is appropriate to protect patient from inadvertent respiratory contamination hazards when oxygen is not indicated
- Frequent glove changes will reduce the spread of contamination and should be considered prior to handling the patient or 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 and maintain ET 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/monitor vitals while transporting patient 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 Exclusion (Hot) Zone
- Patient's condition permits a more thorough radiological survey prior to continued care
- Conduct a head to toe assessment as the patient's injuries warrant
- If patients clothing has not been removed during decontamination procedures, 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