

South Metro Fire Department
Clinical Policies and Procedures

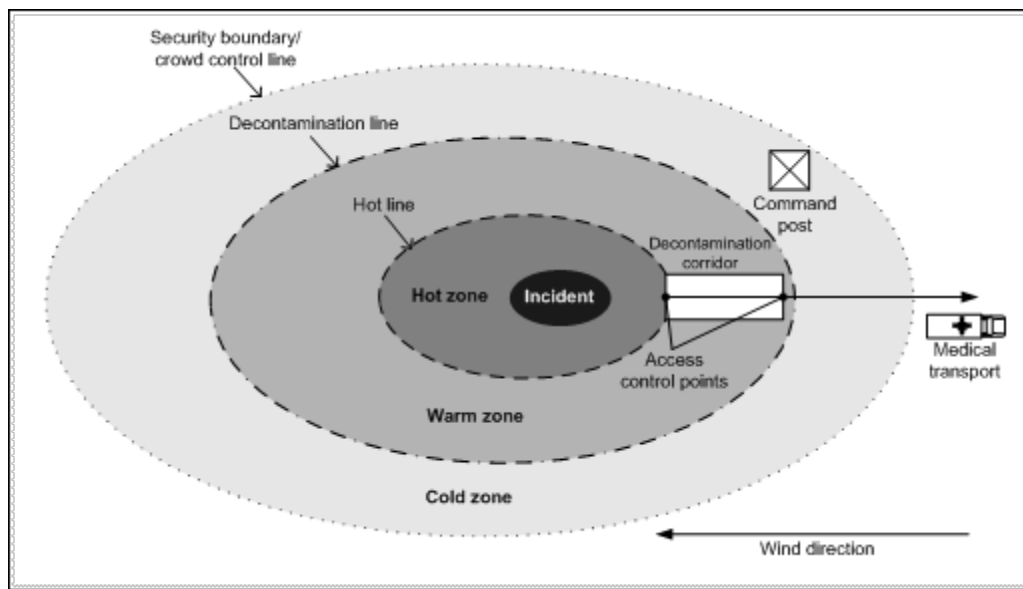
Title: Hazardous Materials and Environments
 Effective Date: December 15, 2015
 Authorized By: Keith Wesley, MD Medical Director
 Standard: Patient Care and Transport
 Policy: South Metro Fire personnel will follow accepted standards for the decontamination and treatment of patients exposed to toxic materials and will exercise reasonable caution to avoid personal contamination when responding to and working in or around potentially hazardous environments.

I. Purpose

- To describe the role and responsibility of HEMT/SMFD patient care providers related to handling, treating, decontamination, and transport of patients exposed to or contaminated with hazardous materials.
- To establish policy and procedure that reduces the risk and threat of exposure to crew members deployed at events involving hazardous materials or potentially hazardous environments.

II. Definitions

Zones:



III. Procedure

Recognizing and Identifying a HazMat Incident

1. As early as possible, recognize and identify whenever a hazardous material or environment may be involved in a response. Utilize dispatch information and initial

scene size-up to assist in identifying that a hazardous situation may exist.

2. Be suspicious of the potential for hazardous materials exposures at incidents involving transportation vehicles, farm injuries, clandestine drug labs, industrial sites, or when the type of injury or illness suggests there may be a hazardous material involved.
3. Avoid becoming an exposure victim yourself. This includes retreating to a safe distance or operating in the "cold zone" when perimeters are established.
4. Obtain accurate information about the mechanism of injury or substances involved from a qualified resource. Identify the hazards, health risks, routes of exposure, potential for secondary contamination and, if any decontamination is required.
5. Utilize information resources such as material safety data sheets, hazard placards, shipping papers, the North American Emergency Response Guidebook, Medical Control hospitals, poison control centers (800-222-1222), CHEMTREC (800-424-9300), and other hazardous materials medical care guidebooks to identify the appropriate actions to take and the care to provide.
6. Contact and establish direct Medical Control as soon as possible to assist in treatment and patient destination decisions.
7. Provide advanced notification to any receiving hospital about the materials involved.

General Response and Safety Considerations

1. Approach the scene and position the ambulance or a landing zone uphill and upwind. Maintain a safe distance for personnel and vehicles from the hazards involved including staging until it is determined safe to approach the immediate scene.
2. Avoid contaminating the ambulance and medical equipment by operating outside the perimeter of the restricted areas (in the "cold zone"). Recognize that the perimeter around any safety zone may fluctuate as conditions change. Avoid bringing the transport vehicle into any designated "warm" or "hot" zone.
3. Do not attempt to rescue or have physical contact with exposure victims unless the hazardous substance has been identified and you are equipped and trained to wear the appropriate personal protective equipment for the types and levels of hazard encountered.
4. Only the minimum number of personnel and equipment necessary should respond to the immediate scene of the incident. Limit your involvement to activities for which you have been trained and authorized.
5. Do not smoke, drink, or eat in a contaminated area.
6. In the event that accidental contamination occurs, all personnel, equipment, and vehicles that potentially had contact with contaminants should go through decontamination procedures. Ambulances utilized to transport exposure victims who were contaminated must be taken out of service to undergo decontamination.
7. Coordinate EMS activities with the Incident Commander.
8. Provide information as detailed and complete as possible to the hospital regarding the materials involved as well as the route and length of exposures.

9. Victims of hazardous materials exposures may need to be quickly moved to a safe area before decontamination and treatment are attempted.
10. Rescuer safety is of paramount importance and takes precedence over all other activities.

Basic Victim Decontamination Procedures

In the event SMFD crewmembers find themselves involved with a contaminated scene or patient, the following decontamination procedures apply:

1. The first objective of decontamination is to stop the absorption and the extent of exposure to the victim and the rescuer while containing the material to prevent secondary exposures.
2. The first level of decontamination should always be done in the field, in an area safe for responders, and before entering the ambulance. Gross decontamination is the first step and involves removing the clothes and then quickly removing as much of the visible contaminant as possible.
3. Victims who are contaminated and not severely injured or incapacitated should be instructed to move away from contact with materials and instructed to perform initial decontamination of themselves.
4. If contaminant is present, quickly remove all of the victim's over-garments, jewelry, and personal items. Undergarments should also be removed while providing for privacy when practical. Save and contain all items removed in plastic containers.
5. If the material is in a solid form, carefully brush as much as possible off the victim. When circumstances allow, provide respirator or mask protection for the victim's nose and mouth.
6. Decontamination with water is a universal procedure for most surface contamination. Flush the involved areas of the body with plain water in adequate amounts to remove contamination. Additional decontamination with soap or degreasing agents may be necessary for specific exposures. Do not try to neutralize chemicals while on the victim's skin as this process often generates heat.
7. Removal of contact lenses is necessary with eye exposures to gases or solids.
8. Exposed eyes should be flushed clear with water or Normal Saline. For strong acid or alkali, flush eyes for a minimum of 10 to 15 minutes, continued during transport if necessary.

Specific Medical Care Guidelines

1. Provide basic life support and attend to ABC's as indicated for the injuries and medical problems that present. Some life-saving interventions may need to be performed simultaneous with decontamination.
2. Do not perform mouth-to-mouth or mouth-to-mask resuscitation on a hazardous materials victim.
3. Utilize barrier devices and protective clothing to protect the victim, yourself and other responders from secondary exposures.
4. Oxygen is a universal treatment that should be administered for most cases of respiratory exposures. Avoid supplemental oxygen administration with either

Paraquat or Diquat poisoning unless the patient shows signs of severe cyanosis, respiratory compromise, or respiratory or cardiac arrest.

5. Determine which specific treatments are indicated and recommended for the hazardous materials involved using an approved medical reference manual for hazardous materials injuries.
6. Avoid spreading surface contamination or introducing it internally by invasive procedures such as vascular access or intubations.
7. When it is safe to do so, provide advanced care as per written guidelines for specific exposures or in accordance with direct (on-line) Medical Control orders.
8. If engaged in medical surveillance of hazardous materials event responders, in addition to standard vital sign assessment, include monitoring temperature, hydration status, ECG rhythm, SpO₂ and ETCO₂ levels.

Transport and Patient Destination Guidelines

Even though on-scene decontamination may have been performed, the following additional precautions should be taken when transporting patients who have been exposed to hazardous materials:

1. Involve as few vehicles and personnel as is necessary to provide for the medical care needs of the victims. Avoid using multiple ambulances for transport if possible. Consider alternative methods of transportation (i.e., bus) or putting multiple patients in the same ambulance. Protect and consider removal of unneeded equipment from the scene.
2. After the initial decontamination at the scene, the otherwise wet and unclothed patient should be placed in a wrap or cocoon inside a plastic isolation bag, body bag or an impervious cover, excluding the head. Leave access to the arms or chest as needed to provide essential interventions.
3. Provide fresh air ventilation to the driver and patient compartments by opening windows and utilizing the exhaust fan systems. Utilize filter masks (N-95) or positive pressure respirators as appropriate for the hazard involved if you are trained, equipped and specifically authorized to do so.
4. For radiation exposure patients, determine if any radioactive contamination is present that would pose a risk to the transport crew. Before accepting any patient transport, consult Medical Control, or for inter-facility transfers the facility Radiation Safety Officer, to determine any risk to the crew.
5. Not all hospitals will be capable of handling patients or responders exposed to hazardous materials. Consult with MRCC to determine the appropriate hospital or other destination for the victims. Utilize the local plan to determine the best destination and treatment for exposure victims.
6. All vehicles and equipment known to be or possibly exposed to contaminants must be isolated and taken out of service until substance-appropriate cleaning and decontamination is completed and documented.
7. For any personnel possibly exposed to contaminants at the scene, or when involved in treating or transporting exposure victims, determine if any medical evaluations or decontamination are indicated before returning to service. Consult Medical

Control to determine if evaluations or treatments are indicated based on the individual's exposures and involvement in the incident.

IV. Documentation

- Using the appropriate incident reporting process or forms, and separate from the patient care report, document the involvement of each HEMT/SMFD responder at the hazardous scene and the substances they were potentially exposed to. Include the route and length of exposures, the locations they entered at the scene, any protective clothing or equipment utilized, and any decontamination or treatment procedures they received.
- If hazardous materials exposures occur to HEMT/SMFD patient care providers, each employee must complete an Employee Incident Report that includes all of the specific substances and types of exposures involved.

Previous Versions: