



**ARCADIA FIRE DEPARTMENT
STANDARD OPERATING GUIDELINE**

**MASS DECONTAMINATION
OF AMBULATORY VICTIMS**

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PURPOSE

The Arcadia Fire Department is committed to the safety of all employees at emergency incidents. The purpose of the following Decontamination Plan is to provide guidelines by which Arcadia Fire Department can quickly and effectively decontaminate victims of Industrial Accidents and Terrorism incidents. The premise of this Plan will assist in providing continuity of practice between the various agencies within our city.

This plan is designed for the First Responders and not intended to modify any policies or procedures that are established and designed for Hazardous Materials Response.

Emergency Decontamination is the initial or gross decontamination intended to rapidly remove as much contamination as possible. Emphasis is placed on rapidly performing this procedure to minimize the effects of the contaminating agent.

First responders will initiate this process by directing victims to remove their clothing down to their undergarments and then showering the victims utilizing the most expeditious process available.

Mass Decontamination is the multiplication of the emergency decontamination process sufficient to accommodate large numbers of contaminated persons.

Technical Decontamination is the deliberate and precise decontamination using pools, special decontamination solutions, monitoring methods, and specially trained personnel. (HMRT, Department of Defense, Military, etc.)

PROCEDURE

A. Chemical, Biological and Nuclear Incidents

This decontamination plan will be utilized regardless of the agent used. Generally speaking, chemical agents, particularly the Nerve Agent class, result in immediate symptoms ranging from muscle tremors or respiratory distress to Salivation, Lacrimation, Urination, Diarrhea, Gastro Intestinal and Emesis (SLUDGE) or even death. Some chemical agents, such as vesicants (Blister Agents), may not exhibit symptoms for several hours.

Biological Agents will typically display symptoms within 3-7 days after exposure and generally present as flu type symptoms. When Nuclear or Radiological Agents are utilized symptoms may be immediate or may take 4-5 days to manifest. There may be no outward signs to identify that a radiological source is present.

B. General Response Information:

1. Incidents where possible dissemination is occurring or has just occurred.
 - a. Approach up wind, up hill if possible.
 - b. Rely on dispatch information. The presence of multiple victims should be an immediate indicator that this “is not business as usual”.
 - c. Give a concise size up. Be specific about what you see.
 - d. Attempt to identify agent if possible by noting signs and symptoms exhibited by victims.
 - e. Request additional resources early.
 - f. Note obvious conditions and advise other responding additional units.
 - g. Consider “Ground Zero” as presenting the greatest hazard.
 - h. Initial crews should wear full personal protective equipment and double glove of Nitrile and latex. Leather gloves may be worn over inner gloves for additional tear protection.
 - i. Protect yourself from inhalation exposure first.
 - j. Establish Control Zones
 1. Hot (Exclusion Zone)
 2. Warm (Contamination Reduction Zone)
 3. Cold (Support Zone)
 - k. There always exists the possibility of additional devices. Briefly check the area prior to setting up Treatment areas, the incident command post

- l. If an additional device is located:
 1. Evacuate the area
 2. Address victims via public address system on apparatus.
- m. Communicate the need for their assistance.
- n. Evacuate victims upwind, uphill, and upstream of incident.
- o. Implement MVI / MCI protocols.
- p. Request Medical Alert Center make notification to area hospitals of potential impact.
- q. Complete risk analysis in conjunction with health department officials and determine an incident action plan (IAP).
- r. Determine the need for Decontamination
 1. Are the victims symptomatic?
 2. Do they appear to have been contaminated?
 3. Are the victims complaining of :
 - a. Skin irritation
 - b. Respiratory irritation
 4. Have instruments detected the presence of a contaminant?
- s. Isolate Victims / Patients into a Safe Refuge Area.
 1. Address potentially exposed victims via Public Address system on apparatus
 - a. Try not to use words that would cause undue stress to the victims:

EXAMPLE: “ Ladies and Gentlemen: You may have been exposed to a potentially hazardous substance. We are doing everything possible to help you but we need your help. As a precaution, we are asking you to calmly follow the directions of the firefighters. “
 2. Give clear and concise directions.

3. Evacuate victims upwind, uphill, and upstream of incident.
4. Segregate the symptomatic from the asymptomatic victims. Attempt to segregate symptomatic male and female patients.
5. Do not move deceased victims.
6. Some victims will leave the scene regardless of your efforts. Do not attempt to physically restrain these people. Medical Alert Center will advise nearby hospitals that they may be receiving patients who have self-triaged themselves and what decontamination requirements are needed.
7. Declare an MVI / MCI
 - a. Carry out Decontamination procedures

NOTE:

Traditionally, non-disaster hazardous materials operations have focused on providing a “clean” patient to the medical care provider. An infected or exposed person may be contagious or contaminated. This prospect results in the potential for spreading a contaminant. Be aware that decontamination as it applies to chemical or radiological exposure victim may not be equally effective for the victim exposed to a biological agent.

EMERGENCY DECONTAMINATION PROCEDURES

Once the decision is made to quickly decontaminate victims, a thorough knowledge of these procedures will expedite the operation. The first and most important point to remember is YOUR SAFETY! Be a part of the solution and not a part of the problem. Also remember that emergency decontamination is NOT always the best decision. Know when to implement emergency decontamination procedures and when it is best not to act too quickly.

A. Protection of Personnel

1. All personnel who come in contact with or have the potential to come in contact with any exposed victims must wear:
 - a) For chemical agents:
 - 1) A minimum of full structural firefighting Personal Protective Equipment (PPE) including SCBA with mask securely in place and breathing air. A minimum of two layers of gloves, Nitrile and latex.

b) For biological agents:

- 1) Standard communicable disease ensemble including eye protection and a minimum of a HEPA mask with double layer latex gloves - SCBA is the preferred method of providing respiratory protection.

c) For radiological incidents:

- 1) A minimum of full structural firefighting PPE including SCBA with mask securely in place and breathing air.
- 2) A minimum of two layers of Latex gloves.
- 3) Employ the principals of Time, Distance and Shielding.

NOTE:

When handling radiological incidents, First Responders can best protect themselves by using the principals of time, distance, and shielding. When responding to incidents suspected to be a radiological hazard, increase approach distances and employ monitoring early. Although First Responders may become contaminated after coming into contact with patients prior to decontamination, there is minimal possibility of exposure provided that First Responders wear appropriate structural firefighting ensemble and protect their respiratory tract with SCBA. Once patients have been decontaminated, regardless of how much radiation they received, they cannot expose or contaminate anyone else.

2. All personnel who have come in contact with or may have come in contact with exposed victims must proceed through the decontamination line before entering the cold zone.

B. Setting up the Decontamination Corridor

1. Select a large area that is upwind and uphill from the Hot Zone.
2. Consider weather conditions when selecting site.
3. Remember that you may be dealing with hundreds of victims.
4. A minimum of two decontamination lines must be established (one for civilian and one for emergency personnel).

NOTE:

When sufficient resources are on scene and there are large numbers of victims needing decontamination, form additional decontamination lines by adding additional engine companies to the sides of those engines that formed the original emergency decontamination corridor. Additionally, response personnel must be evaluated for decontamination needs prior to release from the incident.

5. Engines should be placed twelve to fourteen feet apart.
6. Place salvage covers on the ends of apparatus to provide for modesty.
7. Attach two and one half-inch (2 ½”) fog nozzle to a side two and one half-inch (2 ½”) discharge.
8. Engines should be at idle with discharge gates one-quarter (¼) open.
9. If possible, engines should pump in volume to limit pressure.
10. Adjust flow at nozzle and set for wide fog pattern (setting nozzle to partial flush seems to work best). Adjust pattern so it drops just short of opposite Engine Company.
11. Decontamination streams should form a wide intersecting cone pattern with stream from adjacent Engine Company.
12. **If resources are available**, control run off to greatest extent possible but remember that decontamination (life hazard) takes priority over environmental concerns. Control runoff to ensure it will not flow into clean areas that have not been secured.
13. If run-off is not confined, notify agencies that will be impacted downstream.
14. Segregate male and female patients when possible.
15. Take into consideration families, small children, the elderly, and physically or mentally challenged.
16. Male and female decontamination corridors can be quickly established using engines and salvage covers. Use your imagination, but remember that decontamination is a priority.
17. Isolate those who refuse to comply with your directions to prevent further contamination of victims and responders. If possible, keep them in the warm zone until decontamination is completed. DO NOT physically restrain these people.

C. Decontamination Process

1. Ambulatory Patients

- a) Have victims remove outer clothing down to their undergarments.
 - 1) Approximately 80% to 90% of the contaminants will be removed by removing clothing.

- 2) Remember to provide for modesty for all victims.
- 3) Place victim's clothing and personal belongings into a clear plastic bag twist the top of the bag and secure with. Attach a water- resistant Property Tag to the top of the bag. Place the 2nd half of the tag on the victim for later identification.

NOTE: *Law enforcement personnel may need contaminated personal belongings as evidence.*

- 4) Victims will pass from the Hot Zone to the Safe Refuge Area where they will be evaluated and prioritized for treatment. Secondly, this area is where the collection of information, and prevention of the spread of the contaminant by the patients occurs. These patients will then be passed to decontamination personnel.
- 5) The preferred decontamination solution is liquid soap and water. If this is not available, use plain water.
 - a. Instruct victims to wash themselves from top to bottom, front to back.
 - b. Victims should stay in decontamination stream for approximately 1 min.
 - c. Provide for modesty for each patient before leaving the decontamination corridor.
 - d. Consider blankets, sheets, towels from a local store or hotel; Tablecloths from restaurants; H/M modesty suits; etc.
 - e. Use your imagination but make every effort to provide modesty protection for all victims.
 - f. After decontamination, the Decontamination Unit Leader and / or the Medical Unit Leader will assess the patients for adequacy of decontamination. If hazardous materials personnel are available, random testing for residual contaminant may be done. **However, patients should not be quarantined or denied treatment and / or transportation while awaiting testing.** Normally, patients who proceed through the decontamination corridor will be presumed clean.

NOTE:

Unlike an industrial chemical hazardous materials incident, the priorities of a WMD incident are rapid decontamination, rapid treatment, and transportation when necessary. Due to the potentially large numbers of victims, adequacy of decontamination must be presumed.

2. Deceased

- a. Remember that this is a crime scene and deceased patients are the responsibility of the Coroners office.
- b. Patients who have expired prior to decontamination shall remain where they were found until directed otherwise by an on-scene Deputy Coroner.
- c. Patients who have expired after decontamination shall be moved to a temporary morgue site as directed by MCI protocol.







