

FIRE AND RESCUE DEPARTMENT

410 E. Fifth Street . Loveland, Colorado 80537 (970) 962-2471 • FAX (970) 962-2912 • TDD (970) 663-5144

# EMERGENCY DECONTAMINATION (1.1)

Presented by Engineer Shelby Vrem September 2011

**NPFA 472** 

# TASK SKILL DESCRIPTION AND DETAIL

Emergency decontamination is used in potentially life threatening situations to rapidly remove most of the contaminants from an individual, regardless of a formal decontamination corridor.

Emergency decontamination usually involves removing contaminated clothing and dousing the victim with flooding quantities of water. If a decontamination corridor has not yet been established, isolate the exposed victims in a contained area and establish an emergency decontamination area. Do not allow the water runoff to flow into drains, streams, or ponds; try to divert it into an area where it can be treated and/or disposed of later. Do not delay decontamination; human life always comes first.

# **Steps in Emergency Decontamination**

- 1. Identify the contaminated person.
- 2. Remove contaminated person from the threatened area.
- 3. Remove contaminated person's helmet and flood victim with water (see Figure 1).



Figure 1

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4. Remove contaminated person's SCBA leaving the mask in place (see Figure 2)



Figure 2

- 5. Remove contaminated person's clothing while maintaining continuous washing (see Figure 3).
  - a. Remove coat.
  - b. Remove pants
  - c. Remove flash hoods
  - d. Remove SCBA mask





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- Remove victim to clean area.
- 7. Inform medical personnel of contaminant.

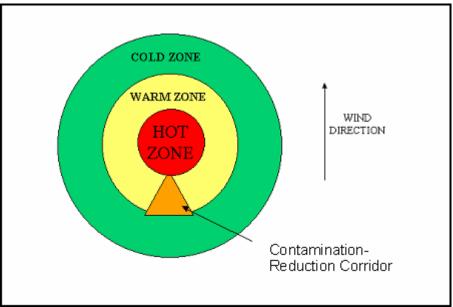


Figure 4

# Steps in decontaminating ambulatory patients

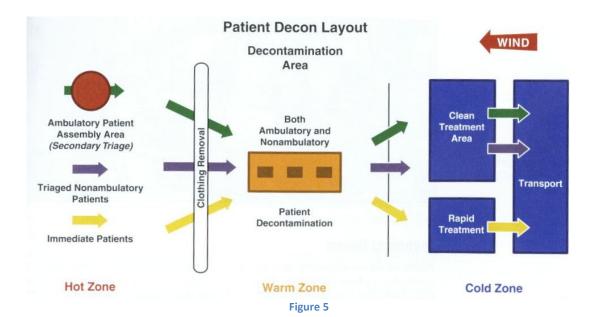
- Direct patients by voice, PA system amplification, and/or hand signals to the gross decontamination area inside the hot zone but away from the high-risk areas (see Figure 4).
- 2. Direct patients to remove their clothing down to their underwear.
- 3. Place the patient's clothing in trash barrels whenever possible, separating valuable personal effects into clear plastic bags, and placing the patient's name or a unique identifying number on the bags whenever possible.
- Vacuum, brush, or wipe all particulate matter off the contaminated patients. 4.
- Have patients close their mouth and eyes.
- Using handheld sprayers containing tepid water and/or a diluted bleach solution, rinse the patient from head to toe for 1 minute.
- 7. Scan the patient with detection equipment and report the results to the treatment team if a radiologic agent is involved.
- 8. Direct patients to proceed to the cold zone (see Figure 4).



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# Steps in decontaminating non ambulatory patients

- 1. Remove the person from the high-risk area in the quickest way possible and carry the patient to the edge of the hot zone bordering the warm zone (see Figure 5).
- 2. Remove the patient's clothing, cutting it off as necessary, down to the underwear.
- 3. Place the patient's clothes in a trash barrel, separating personal effects into clear plastic bags and placing the patient's name or a unique identifying number on the bags whenever possible.
- 4. Vacuum, brush, or wipe off all particulate matter from the patient.
- 5. Close the patient's mouth and pinch the nose shut if the patient cannot do so.
- 6. Using the handheld sprayer or hose line, rinse the patient with tepid water for 1 minute, beginning with the face and airway and proceeding to open wounds. Follow by head-to-toe rinsing in a systematic fashion.
- 7. Ensure that the armpits, genitalia, and the back are rinsed.
- 8. Rinse the backboard before transferring the patient to the cold zone, unless switching to clean basin.
- 9. Apply a C-collar as soon as possible if a C-spine injury is suspected and a collar is available
- 10. Determine whether secondary decontamination will be done. If not, carry the patient into a decontamination alley to be quickly dried, covered, wrapped in an enclosing blanket, and then carried to the cold zone on a backboard.
- 11. Scan the patient with detection equipment and report the results to the treatment team if a radiologic agent is involved.
- 12. Transfer the patient to properly protected cold-zone personnel who will perform indicated patient care (see Figure 5).

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# **Advantages**

- Requires minimal equipment(usually just a water source such as a hose line)
- Reduces contamination quickly
- Does not require a formal contamination reduction corridor or decontamination process

# Limitations

- Creates contaminated runoff that can harm the environment and other exposures
- Does not always totally decontaminate the victim

# TASK SKILL INSTRUCTIONAL REQUIREMENTS AND IMPLEMENTATION

- GOAL
- MAY BE NECESSARY FOR VICTIMS AND RESCUERS
- VICTIMS MAY NEED IMMEDIATE MEDICAL TREATMENT
- SEVERAL SITUATIONS IN WHICH IT MAY BE NEEDED
- QUICK FIX
- REMOVAL OF ALL CONTAMINANTS MAY NOT OCCUR
- CAN HARM ENVIRONMENT
- PROCEDURES MAY DIFFER DEPENDING ON CIRCUMSTANCES/HAZARDS PRESENT

# REFERENCE INFORMATION

Hazardous Materials for First Responders, 3<sup>rd</sup> ed., pp. 379-380 IFSTA Essentials 5<sup>th</sup> Edition-Chapter 23