

## Appendix K - Radiological

### Objectives:

- Early recognition and appropriate intervention of patients injured following the detonation of a Radiological Dispersal Device
- Protect responders from inhalational exposure to radioisotopes during patient care

### General Information:

- **Treatment of seriously injured or ill radiologically contaminated patients takes priority over all other activities, including decontamination. Do not delay advanced life support to assess contamination status. Perform required emergency care**
- Patients with open wounds should have the wound dressed and bandaged without cleaning
- The most likely isotopes used for Radiological Dispersal Devices will emit Gamma radiation, in addition to Alpha and Beta. Therefore, most available detectors (GammaRAE, Ludlum Ratemeter, etc.) will identify contamination. However, the dispersal of a source reduces the level of radioactivity and therefore, detection above background may be difficult
- When monitoring for patient contamination (external), the use of portal monitors (found at several hospital emergency departments and available through the Hampton Roads Metropolitan Medical Strike Team) and/or the use of hand-held ratemeters with a “pancake” probe is suggested. When using hand-held ratemeters, a quick “triage” of contamination should focus on the head (hair) and feet (shoes), with a more extensive survey on those found to be contaminated
- Once radiological contamination has been identified, the following resources may be of assistance:
  - a) **Radiation Emergency Assistance Center/Training Site (REACT/TS)**
    - i Weekday phone: (865) 576-3131
    - ii Weekend/Night phone: (865) 576-1005
  - b) **Armed Forces Radiobiology Research Institute, Medical Radiobiology Team**
    - i Phone: (301) 295-0530
- **Other Antidotes:**
  - a) DTPA is available in the region and is co-located with the CDC Chempacks
  - b) Victims suspected or known to be internally contaminated with plutonium, americium, or curium will be the primary candidates for DTPA treatment
  - c) DTPA is intended to reduce long-term risk of developing cancer or other radiation-induced illness for people directly exposed to three alpha-wave radio-isotopes and emergency responders
  - d) Ca-DTPA is far more effective in chelating radio-isotopes than Zn-DTPA if administered within about 24 hours after exposure. After 24 hours, the effectiveness is about equal



### Warnings/Alerts:

- Responders should wear a minimum of N 95 respirators when responding to non-specific explosions to reduce the chance of internal contamination
- Contaminated patients from a RDD present a low risk of exposure to health care providers

### OMD Notes:

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### References:

- Wireless Information System For Emergency Responders (WISER), National Library of Medicine. Application version 4.3.208; Database version 4.3.7
- Commonwealth of Virginia, Department of Health, DTPA Radiological Countermeasures Annex, February, 2009

### Performance Indicators:

Signs and Symptoms indicating exposure

Vital Signs

Treatment and Response to Treatment

## CBRNE - Radiation

