



## FACT SHEET

### Casualty Management After Detonation of a Nuclear Weapon In an Urban Area

This document contains recommended immediate actions for police officers, firefighters, and emergency medical technicians who may be faced with the detonation of a nuclear weapon in a populated area.

#### The Situation

The devastation is similar to that experienced at the World Trade Center, except that the dust is radioactive. There are thousands of people dead and injured as well as contaminated. In addition, there are thousands of people in a large area with serious radiation exposures but no obvious physical injury or visible contamination.

#### Protecting Yourself

- Stay away from ground zero. Enter the surrounding area only to save lives. The radiation levels will be very high.
- Ensure your own physical safety. Look for fires, exposed high voltage wires, sharp or falling objects, tripping hazards, or hazardous chemicals. Be alert for changing conditions.
- Wear a mask to reduce the dose from inhalation of radioactive dust. Ideally the mask should be a full face mask with a HEPA filter, but even breathing through a wet handkerchief or cloth will help. There will be little danger from radioactive gases, so a self contained breathing mask, while effective, is not necessary.
- Dust will collect on your clothing. Remove and discard it after you leave the area. If you fail to remove clothing you will continue to receive radiation exposure and expose others. Wear loose fitting clothes covering as much of your body as possible. Any removable garment that will prevent the dust from coming into direct contact with your skin will suffice.
- Open wounds or abrasions must be protected from radioactive contamination.
- If running water or showers are available, full body rinsing with lukewarm water is advised. Even a fire hose may remove most contamination not already removed with the outer clothing.
- Wash vehicles before permitting them to leave the scene, except for emergency vehicles performing life-saving functions.
- Do not eat, drink, or smoke while exposed to potentially radioactive dust or smoke. Water may be necessary for people working in high temperatures with bulky protective clothing. If absolutely necessary to drink water, drink from a canteen or other closed container.
- Beware of heat stress.
  - If radiation monitoring instruments are available, wrap them in plastic bags to prevent their contamination. Use them to map the areas leading up to the highest dose rates. Enter the high dose rate areas only when necessary to save a life, make these entries as short as possible, and rotate the personnel who make these entries.
  - Use the form attached to this brochure to record contact information for all exposed workers so they can be given medical examinations later. The Department of Health and Human Services will request this information later.
  - Wash thoroughly with lukewarm water as soon as possible after leaving the area, even if you decontaminated before leaving the scene.

## Casualty Management After Detonation of a Nuclear Weapon In an Urban Area

(continued from previous page)

### Protecting the Injured and Exposed

- Physical injuries are more serious than radioactive contamination. Deal with life-threatening conventional injuries first. When the patients are stable, then deal with radioactive contamination. Patients who were treated and are now stable should be evacuated from radiation areas.
- Tell nearby hospitals to expect the arrival of radioactively contaminated and injured people.
- Victims will have radioactive dust on their clothing. If many people are covered with dust, it will not be feasible to conduct a careful survey of each person. Assume all of the dust is radioactive. Set up a facility where each person can remove and discard their outer clothing, wash as thoroughly as possible, and don coveralls or wrap in blankets. This facility should be upwind and far enough from ground zero to prevent radiation levels from interfering with monitoring of patients.
- Record keeping is as important for the long-term health of the victims as it is for the emergency responders. Use the form attached to this brochure to record contact information for as many exposed persons as feasible without interfering with life saving efforts. Retain the forms. The Department of Health and Human Services will request this information later and use it for medical monitoring.
- Many people without apparent injuries will leave the scene. Make public service announcements on radio and television advising these people to bag their clothes, place the clothes outdoors, and wash thoroughly. People experiencing nausea, vomiting, reddening of the skin, or unexplained lesions should be advised to report to a hospital immediately and request a checkup for Acute Radiation Syndrome (ARS) (see [www.bt.cdc.gov/radiation/ars.asp](http://www.bt.cdc.gov/radiation/ars.asp)).

### For More Help

In the event of a radiation emergency, notify your state Radiation Control Program Director. Telephone numbers for each state may be found at [www.crcpd.org/map/map.asp](http://www.crcpd.org/map/map.asp).

Notify the CDC Emergency Preparedness Branch at their 24-hour telephone number: 770-488-7100.

### Other Information

Reeves GI, Jarrett DG, Seed TM, King GL, and Blakely WF (Editors). Triage of Irradiated Personnel (Proceedings of an Armed Forces Radiobiology Research Institute workshop), 1998. Contains background information on emergency operations in the presence of high levels of radiation. This document is available on the Internet at <http://radhealth.usuhs.mil/triageproceedings.pdf>.

Jackson B, Peterson DJ, Bartis J, LaTourette T, Brahmakulam I, Houser A, Sollinger J. Protecting Emergency Responders: Lessons Learned from Terrorist Attacks (NIOSH Workshop Proceedings). Contains important lessons learned from the World Trade Center and Oklahoma City events regarding selection and use of protective clothing. ISBN: 0-8330-3149-X CF-176-OSTP, available at [www.rand.org/publications/CF/CF176](http://www.rand.org/publications/CF/CF176).

Download the following form at [www.bt.cdc.gov/radiation/pdf/radiationmedicalform.pdf](http://www.bt.cdc.gov/radiation/pdf/radiationmedicalform.pdf) (PDF) to collect information from persons in the affected area.

### Additional Links for First Responders and Physicians

- Casualty Management After a Deliberate Release of Radioactive Material ([www.bt.cdc.gov/radiation/casualtiesradioactive.asp](http://www.bt.cdc.gov/radiation/casualtiesradioactive.asp))
- Acute Radiation Syndrome (for Physicians) ([www.bt.cdc.gov/radiation/arsphysicianfactsheet.asp](http://www.bt.cdc.gov/radiation/arsphysicianfactsheet.asp))

For more information, visit [www.bt.cdc.gov/radiation](http://www.bt.cdc.gov/radiation),  
or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).