



Radiological Dispersion Device

English [Español](#)

An RDD combines a conventional explosive device — such as a bomb — with radioactive material. It is designed to scatter dangerous and sub-lethal amounts of radioactive material over a general area.

Such RDDs appeal to terrorists because they require limited technical knowledge to build and deploy compared to a nuclear device. The size of the affected area and the level of destruction caused by an RDD would depend on the sophistication and size of the conventional bomb and other factors. The area affected could be placed off-limits to the public for several months during cleanup efforts.

Before an Radiological Dispersion Device (RDD) Event

There is no way of knowing how much warning time there will be before an attack by terrorists using a Radiological Dispersion Device (RDD), so being prepared in advance and knowing what to do and when is important. To prepare for an RDD event, you should do the following:

- Build an [Emergency Supply Kit](#) with the addition of duct tape and scissors.
- Make a [Family Emergency Plan](#).
- Find out from officials if any public buildings in your community have been designated as fallout shelters. If none have been designated, make your own list of potential shelters near your home, workplace, and school, such as basements, subways, tunnels, or the windowless center area of middle floors in high-rise buildings.
- If you live in an apartment building or high-rise, talk to the manager about the safest place in the building for sheltering and about providing for building occupants until it is safe to go out.

Taking shelter during an RDD event is absolutely necessary. There are two kinds of shelters - blast and fallout. The following describes the two kinds of shelters:

- **Blast shelters** are specifically constructed to offer some protection against blast pressure, initial radiation, heat, and fire. But even a blast shelter cannot withstand a direct hit from a nuclear explosion.
- **Fallout shelters** do not need to be specially constructed for protecting against fallout. They can be any protected space, provided that the walls and roof are thick and dense enough to absorb the radiation given off by fallout particles.

During an Radiological Dispersion Device (RDD) Event

While the explosive blast will be immediately obvious, the presence of radiation will not be known until trained personnel with specialized equipment are on the scene.

If the explosion or radiological release occurs inside, get out immediately and seek safe shelter. Otherwise, if you are:

Outdoors

- Seek shelter indoors immediately in the nearest undamaged building.
- If appropriate shelter is not available, cover your nose and mouth and move as rapidly as is safe upwind, away from the location of the explosive blast. Then, seek appropriate shelter as soon as possible.
- Listen for official instructions and follow directions.

Indoors

- If you have time, turn off ventilation and heating systems, close windows, vents, fireplace dampers, exhaust fans, and clothes dryer vents.
- Retrieve your disaster supplies kit and a battery-powered radio and take them to your shelter room.
- Seek shelter immediately, preferably underground or in an interior room of a building, placing as much distance and dense shielding as possible between you and the outdoors where the radioactive material may be.
- Seal windows and external doors that do not fit snugly with duct tape to reduce infiltration of radioactive particles. Plastic sheeting will not provide shielding from radioactivity nor from blast effects of a nearby explosion.
- Listen for official instructions and follow directions.

After an Radiological Dispersion Device (RDD) Event

After finding safe shelter, those who may have been exposed to radioactive material should decontaminate themselves. To do this, remove and bag your clothing (and isolate the bag away from you and others), and shower thoroughly with soap and water. Seek medical attention after officials indicate it is safe to leave shelter.

Contamination from an RDD event could affect a wide area, depending on the amount of conventional explosives used, the quantity and type of radioactive material released, and meteorological conditions.

Follow these additional guidelines after an RDD event:

- Continue listening to your radio or watch the television for instructions from local officials, whether you have [evacuated or sheltered-in-place](#).
- Do not return to or visit an RDD incident location for any reason.

Associated Content

- [Radiological Attack Fact Sheet: Dirty Bombs and Other Devices](#)
- [American Red Cross](#)
- [Centers for Disease Control and Prevention - Radiation Emergencies](#)

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[Return to top](#)

Disasters and Emergencies

All Hazards

Emergency Alerts

Attacks in Public Places

Avalanche

Bioterrorism

Chemical Emergencies

Cybersecurity

Drought

Earthquakes

Explosions

Extreme Heat

Floods

Hazardous Materials Incidents

Home Fires

Household Chemical Emergencies

Hurricanes

Landslides & Debris Flow

Nuclear Explosion

Nuclear Power Plants

Pandemic

Power Outages

Radiological Dispersion Device

Severe Weather

Space Weather

Thunderstorms & Lightning

Tornadoes

Tsunamis

Volcanoes

Wildfires

Winter Weather

Recovering from Disaster

Make a Plan

Get Involved

Ready Business

Ready Kids

Resources

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