



TERRORIST USE OF NUCLEAR BLAST

Experts believe that a large, strategic nuclear attack on the United States is unlikely these days. Other scenarios are also unlikely—the materials are expensive and the technology is complicated. However, vigilance against terrorism is important. The detonation of a nuclear device results in an explosion creating intense heat, light, radiation, pressure and spread of radioactive material—or, if the attempted detonation is unsuccessful, the conventional high-explosives portion of the nuclear device could still explode, spreading the radioactive nuclear material. Nuclear devices can range from a weapon carried by an intercontinental missile to, theoretically at least, a bomb small enough to be carried by an individual. A “suitcase bomb” blast, though not as great as that of a military nuclear weapon, could still be very destructive.



Potential targets for nuclear blast attack include the following:

- Strategic military bases and missile sites
- Government centers such as national and state capitals
- Major ports and airfields
- Financial, industrial, transportation and communication centers
- Petroleum refineries and electrical power plants
- Major landmarks or events where large concentrations of people are expected



What Happens

A nuclear blast creates a fireball that vaporizes surrounding material and carries it aloft in the familiar “mushroom cloud.” At ground level, it causes widespread destruction and fires. The vapor cloud condenses into radioactive dust (“fallout”) that can travel long distances and contaminate whatever it settles on. The nature and extent of these hazards depend on the characteristics of the bomb, where it detonates and weather conditions.

A nuclear blast can immediately kill or injure people in range through blast, heat or flying debris. People partially protected by distance or shielding can be blinded by the intense light that accompanies the blast. Other effects may be delayed; their seriousness depends on the type and amount of radiation absorbed by the body (the dose) and the exposure pathway (what organs and tissues receive this dose). People close enough to the blast to receive large doses of external radiation could develop radiation sickness and die within days or months. External exposure to lower doses of radiation and internal exposure from breathing air or eating food contaminated with radioactive fallout could lead to an increased risk of developing cancer and other health effects later.

Fallout from a nuclear detonation remains radioactive for a period of time; however, approximately 99% of the radioactivity is gone in the first two weeks. The presence of radioactivity can be detected only by using sensitive monitoring devices. Monitoring can project the arrival of radioactive fallout from a distant blast. Such predictions would be announced through official channels, but any increase in the buildup of gritty surface dust and dirt would be reason to take protective measures.



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How to Prepare

- The fundamental preparatory steps are to get an **emergency supply kit** and make a **family emergency plan**. During a heightened threat, increase supplies to last for up to two weeks.
- The three keys to protection from radiation and fallout are time, distance and shielding:
 - Time—The less time spent exposed to radiation and radioactive fallout, the lower the dose.
 - Distance—The farther you are from the blast and radioactive fallout, the lower the dose.
 - Shielding—The heavier and denser the materials are between you and the radiation or radioactive fallout, the lower the dose.
- Find out if buildings in your area are built as blast shelters or designated as fallout shelters. If not, make a list of potential shelters near work and home, including interior areas of large buildings and basements, subways and tunnels. If you live or work in a large building, determine the safest place in the building for sheltering and stock emergency supplies.

What to Do

- If a nuclear attack is anticipated, those near likely targets could decide or be advised to evacuate. In the event of **evacuation**—
 - Listen to the radio or TV for instructions and information on procedures, routes and shelters.
 - Take an emergency supply kit.
 - Consider neighbors who may need help.
- If a **nuclear blast occurs** with no warning or too little time to get out of the area—
 - Take cover (“shelter-in-place”) immediately as far below ground as possible. Any protection is better than none at all. The further from the detonation, the more intervening shielding and the less time spent in radioactive areas, the better.
 - Take your emergency supply kit, if possible.
 - To keep out radioactive dust, close doors, windows and vents and turn off ventilation systems.
 - Stay put and use the radio, TV or Internet to get official information and instructions.
- If you are **caught outside** by a nuclear blast—
 - Heat and shock wave arrival depends on your distance from the detonation. Take cover behind anything that offers blast protection, lie flat on the ground with your head pointing toward the blast and cover your head and hands. Use available cloth as a breathing filter.
 - Don’t look at the flash or fireball—they can blind you.
 - No matter how far you are from the blast site, take shelter from fallout as soon as you can, upwind if possible. Before entering shelter, dust off, keeping your mouth and nose covered. As soon as possible, shed contaminated clothing and wash your hair and skin.

After a nuclear blast, most fallout would occur in the first 24 hours, near and downwind from the blast. People in most affected areas could be allowed out of shelter within a few days and, if necessary, evacuated to unaffected areas. Those in the areas with highest radiation levels might have to shelter for up to a month. If you must be outside where radioactive fallout is a concern—

- Clean and cover any open wounds on your body.
- Cover your mouth and nose with a damp towel. Use stored food and drinking water, not fresh food or open water.

Where to Find Additional Information

- Federal Emergency Management Agency—<https://www.ready.gov/nuclear-blast>
- Centers for Disease Control and Prevention (CDC)
<http://emergency.cdc.gov/radiation/nuclearfaq.asp>
- American Red Cross—<http://www.redcross.org/prepare/disaster/terrorism>

It’s up to you. Prepare strong. Get an emergency supply kit with enough supplies for at least three days, make an emergency plan with your family and be informed about what might happen.

