

NUCLEAR BLAST

A nuclear blast is an explosion with intense light and heat, a damaging pressure wave, and widespread radioactive material that can contaminate the air, water, and ground surfaces for miles around. A nuclear device can range from a weapon carried by an intercontinental missile to a small portable nuclear device transported by an individual. All nuclear devices cause deadly effects when exploded.

Hazards of Nuclear Devices

The danger of a massive strategic nuclear attack on the United States is predicted by experts to be less likely today. However, terrorism, by nature, is unpredictable.

In General, Potential Targets Include:

- Strategic missile sites and military bases.
- Centers of government, such as Washington, D.C. and state capitals.
- Important transportation and communication centers.
- Manufacturing, industrial, technology, and financial centers.
- Petroleum refineries, electrical power plants, and chemical plants.
- Major ports and airfields.

The Three Factors for Protecting Oneself from Radiation and Fallout are Distance, Shielding, and Time.

- **Distance** - The more distance between you and the fallout particles, the better. An underground area, such as a home or office building basement, offers more protection than the first floor of a building.
- **Shielding** - The heavier and denser the materials - thick walls, concrete, bricks, books, and earth - between you and the fallout particles, the better.
- **Time** - Fallout radiation loses its intensity fairly rapidly. In time, you will be able to leave the fallout shelter. Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1 percent of its initial radiation level.

Taking Shelter During a Nuclear Blast is Absolutely Necessary. There are 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.

Remember that any protection, however temporary, is better than none at all, and the more shielding, distance, and time you can take advantage of, the better.

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Before a Nuclear Blast

The following are things you can do to protect yourself, your family, and your property in the event of a nuclear blast.

- Build an Emergency Supply Kit (<http://www.ready.gov/build-a-kit>).
- Make a Family Emergency Plan (<http://www.ready.gov/make-a-plan>).
- Find out from officials if any public buildings in your community have been designated as fallout shelters.
- If your community has no designated fallout shelters, make a list of potential shelters near your home, workplace, and school, such as basements, subways, tunnels, or the windowless center area of middle floors in a high-rise building.
- During periods of heightened threat, increase your disaster supplies to be adequate for up to two weeks (<https://www.ready.gov/build-a-kit>).

During a Nuclear Blast

The following are guidelines for what to do in the event of a nuclear explosion.

- Listen for official information and follow the instructions provided by emergency response personnel.
- If an attack warning is issued, take cover as quickly as you can, below ground if possible, and stay there until instructed to do otherwise.
- Find the nearest building, preferably built of brick or concrete, and go inside to avoid any radioactive material outside.
- If better shelter, such as a multi-story building or basement can be reached within a few minutes, go there immediately.
- Go as far below ground as possible or in the center of a tall building.
- During the time with the highest radiation levels, it is safest to stay inside, sheltered away from the radioactive material outside.
- Radiation levels are extremely dangerous after a nuclear detonation, but the levels reduce rapidly.
- Expect to stay inside for at least 24 hours unless told otherwise by authorities.
- When evacuating is in your best interest, you will be instructed to do so. All available methods of communication will be used to provide news and/or instructions.

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If You are Caught Outside and Unable to Get Inside Immediately:

- Do not look at the flash or fireball - it can blind you.
- Take cover behind anything that might offer protection.

Lie flat on the ground and cover your head. If the explosion is some distance away, it could take 30 seconds or more for the blast wave to hit.

- Take shelter as soon as you can, even if you are many miles from ground zero where the attack occurred - radioactive fallout can be carried by the winds for hundreds of miles.
- If you were outside during or after the blast, get clean as soon as possible to remove radioactive material that may have settled on your body.
- Remove your clothing to keep radioactive material from spreading. Removing the outer layer of clothing can remove up to 90% of radioactive material.
- If practical, place your contaminated clothing in a plastic bag and seal or tie the bag. Place the bag as far away as possible from humans and animals so that the radiation it gives off does not affect others.
- When possible, take a shower with lots of soap and water to help remove radioactive contamination. Do not scrub or scratch the skin.
- Wash your hair with shampoo or soap and water. Do not use conditioner in your hair because it will bind radioactive material to your hair, keeping it from rinsing out easily.
- Gently blow your nose and wipe your eyelids and eyelashes with a clean, wet cloth. Gently wipe your ears.
- If you cannot shower, use a wipe or clean, wet cloth to wipe your skin that was not covered by clothing.

After a Nuclear Blast

People in most of the areas that would be affected could be allowed to come out of shelter within a few days and, if necessary, evacuate to unaffected areas. The heaviest fallout would be limited to the area at or downwind from the explosion. It might be necessary for those in the areas with highest radiation levels to shelter for up to a month.

Returning to Your Home

Remember the following when returning home:

- Keep listening to the radio and television for news about what to do, where to go, and places to avoid.
- Stay away from damaged areas. Stay away from areas marked "radiation hazard" or "HAZMAT."