Terrorism: General

College Station Emergency Management

A division of the College Station Fire Department

What is terrorism?
Terrorism is the use of force or violence against persons or property for the purpose of intimidation, coercion, or ransom. Terrorists often use violence and threats to create fear among the public, to try to convince people that their government is powerless to prevent acts of terrorism, and to get immediate publicity for their causes.

Acts of terrorism can range from threats to actual assassinations, kidnappings, airline hijackings, bomb scares, car bombs, building explosions, mailings of dangerous materials, agroterrorism, computer-based attacks, and the use of chemical, biological, and nuclear weapons—weapons of mass destruction (WMD).

Why talk about terrorism?
In addition to the natural and technological hazards described elsewhere in this guide, people face threats of terrorism posed by extremist groups, individuals, and hostile governments.

Terrorists can be domestic or foreign, and their threats to people, communities, and the nation range from isolated acts of terrorism to acts of war.

High-risk terrorism targets include military and civilian government facilities, international airports, large cities, and high-profile landmarks. Terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers. They are capable of spreading fear by sending explosives or chemical and biological agents through the mail.

STAY INFORMED: KNOW HOW YOU WOULD RECEIVE ALERTS, WARNINGS, AND EMERGENCY INSTRUCTIONS. Officials will provide alerts, warnings, and emergency instructions to the general public, nearly always by radio and television. Sirens, ringdown telephone systems, and other warning systems may also be used. Broadcast stations (radio and television) licensed by the Federal Communications Commission (FCC) are required to participate in the Emergency Alert System (EAS) and broadcast warnings. Many cable television networks also carry emergency warnings and instructions. NOAA Weather Radio disseminates advisories, watches, and warnings through essentially the same radio and television stations, as well as directly through NOAA Weather Radio. In addition, many communities have specific sirens.

What is the Homeland Security Advisory System?
The Homeland Security Advisory System is a mechanism for disseminating information about the current risk of terrorist acts to federal, state, and local authorities and, through them and the media and to the public. The system provides graduated warnings—called threat conditions—that mandate increasing security measures as the risk of an act of terrorism increases. Each threat condition triggers a corresponding set of protective measures by federal departments and agencies to reduce vulnerability and increase response capability, including situation reports and, as appropriate, recommendations to states and local governments. You will be informed by local officials if you need to take specific actions where you live and work.

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Preparedness and Threat Conditions Under the Homeland Security Advisory System
The five threat conditions are:
Low (green): low risk of terrorist attacks
Guarded (blue): general risk of terrorist attacks
Elevated (yellow): significant risk of terrorist attacks
High (orange): high risk of terrorist attacks
Severe (red): severe risk of terrorist attacks

What is the best source of information in the event of a terrorist act?
In case of a terrorist act of any kind, you should pay close attention to official instructions via radio, television, and whatever other means of alert, warning, and providing instructions officials may use. In the immediate area of a terrorist act, officials of the local police, fire, and other safety departments are the best sources of information and instructions.

What general precautions can I take in advance to protect myself from a terrorist act?
Many of the steps you should take to prepare for the possibility of a terrorist act are the same steps you should take to prepare for natural or technological disasters: Stay Informed; Make a Family Disaster Plan and keep it up to date; assemble and maintain a Disaster Supplies Kit; learn and practice evacuation and sheltering procedures; and prepare for any special protective measures included in your plan.

Within the immediate area of a terrorist act, you would need to rely on police, fire, and other officials for instructions. However, you can be ready for terrorism in much the same way you would stay alert for other emergencies.

You should:
- Be aware of your surroundings.
- Move or leave if you feel uncomfortable or if something does not seem right.
- Be prepared to evacuate or to take shelter if officials instruct you to do so.
- Take precautions when traveling:
    - Be aware of conspicuous or unusual behavior.
    - Do not accept packages from strangers.
    - Do not leave luggage unattended.
    - Promptly report unusual behavior, suspicious or unattended packages, and strange devices to the police or security personnel.
- Learn where emergency exits are located in buildings you frequent. Plan how to get out in the event of an emergency.
- Know the location and availability of hard hats in buildings in which you spend a lot of time.
- Ask if your local radio and television stations participate in the Emergency Alert System (EAS).
- Be prepared to do without services you normally depend on—electricity, telephones, natural gas, gasoline pumps, cash registers, ATMs, and Internet transactions.

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- Work with apartment and office building owners to ensure that the following items are located on each floor of the building:
  - Portable, battery-operated radio and extra batteries
  - Several flashlights and extra batteries
  - First aid kit and manual
  - Hard hats and dust masks
  - Bright colored tape to rope off dangerous areas

- If you are an employer:
  - Make sure your workplace has a building evacuation plan that is regularly practiced.
  - Take a critical look at your heating, ventilation, and air conditioning system to determine if it is secure or if it could feasibly be upgraded to better filter potential contaminants, and be sure you know how to turn it off if you need to.
  - Think about what to do if your employees cannot go home.
  - Make sure you have appropriate supplies on hand.

Respond Appropriately to Increases in the Five Threat Conditions of the Homeland Security Advisory System

To be prepared, no matter what the threat condition under the Homeland Security Advisory System, you should:

- Learn what the five threat conditions mean, and make sure members of your household know too.
- Discuss with children their fears about terrorists, terrorist attacks, or other hazards they may reveal as frightening to them.
- Update your Disaster Supplies Kit, emergency supplies for your vehicle, and Family Disaster Plan.
- Consider expanding your Family Disaster Plan by developing more detailed plans for communications with household members and out-of-area contacts.
- Choose the room your household would use to shelter-in-place for a short time, and gather and prepare the items needed to seal the room.
- Plan for someone to take care of your pets, even evacuating them if necessary, in case you are not home in an emergency but the pets are. Make sure the person is familiar with your pet, knows where the pet's emergency kit is and to take it along, and knows how to reach you so you can be reunited with your pet.
- Also choose the room or space for a tornado shelter and protection from radiation, preferably in the basement, or for protection against a chemical agent, choose a room on a higher floor, preferably an inner room most easily sealed against outside air in which to "Shelter-in-Place".
- Learn what the plans are for each threat condition at your workplace, at your children's schools or daycare centers, or any other place members of your household spend time.
- Check with school officials to determine their plans for an emergency and procedures to reunite children with parents and caregivers.

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- If you live in an apartment building, discuss with the building manager what preparations management has made and exactly what you should do during an emergency.
- If you have a mobility problem or other special need, make emergency plans for warning, evacuation, and shelter with your family, friends, employer, co-workers, and building manager.
- Contact your neighbors to discuss their plans and needs.
- Develop alternative routes to and from school, work, and other places to which you routinely travel. Have all drivers in your household practice them.
- Learn your community's public warning system. Learn what the warning signals sound like and what you should do when you are notified.
- Keep informed by routinely listening to a local radio or television station.
- In addition to your Family Disaster Plan, be prepared with a disaster plan at work, at school, or wherever you spend considerable time.
- Learn where emergency exits are located in buildings you frequent.
- Notice where exits are when you enter unfamiliar buildings.
- Plan how to get out of a building, subway, congested public area, or traffic in an emergency.
- Notice where staircases are located.
- Notice heavy or breakable objects that could move, fall, or break in an explosion.
- Ensure that you and your family can continue functioning even if you cannot return home by regularly updating the important documents you keep in safe places inside and outside your home. In your primary family vehicle, keep a copy of your Family Disaster Plan and copies of other items or information you would need if something were to prevent you or other family members from returning home for several days, or even longer. (Your Family Disaster Plan contains the phone numbers of family members and out-of-town contacts; postal and email addresses; prescription numbers and the phone numbers of prescribing physicians.)

In response to elevated threat conditions under the Homeland Security Advisory System

- If the Homeland Security Advisory System threat condition is yellow (significant risk):
  - Be extra observant and report any suspicious activity to authorities.

- If the threat condition is orange (high risk), to the steps for yellow, add:
  - Avoid high-profile or symbolic locations.
  - Exercise caution when traveling.
  - If a need is announced, donate blood at a designated blood collection center.

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- If the threat condition is red (severe risk), to the steps for orange and yellow, add:
  - Follow official instructions about restrictions to normal activities.
  - Contact your employer to determine whether or not to go to work.
  - Avoid public gathering places, such as sports arenas, fairgrounds, theme parks, or other high-risk locations.
  - Keep listening to a local radio or television station for possible warnings or instructions.
  - Prepare to shelter-in-place or evacuate if instructed to do so by officials.

Specific Types of Terrorism

What can I do to protect myself and my family from specific types of terrorism?

While there are general precautions you and your family can take to help prepare for various types of disasters, many protective measures, such as those that follow, are addressed to one or more specific kinds of hazards and the nature of the threats they pose.

Shelter-in-place applies to different types of terrorist attacks, but details vary. For example, you would use duct tape and plastic sheeting to seal an internal room against chemical agents. For sheltering against radiation dispersed by a radiological dispersion device (RDD or "dirty bomb") or radioactive fallout particles after a nuclear explosion, you would normally prefer a basement shelter to a higher floor; duct tape and plastic would help keep radioactive dust out, but primary protection from radioactive particles would be achieved by applying the principles of mass, distance, and time.

Preparedness measures for the most commonly known and logically anticipated possibilities are covered in the following sections.

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I. BUILDING EXPLOSION

What can I do before a terrorist attack to protect myself and my family from building explosions?
The most common terrorist attacks, those that have caused the most casualties and damage, have been explosions.

Being Prepared for an Explosion
Explosions can collapse buildings and cause fires. If you live or work in a large or multi-level building, or visit one frequently, you should:

- Know where emergency exits are located.
- Review and practice emergency evacuation procedures.
- Make sure that the following items are on your floor of the building and you know where to find them:
    - Fire extinguishers in working order. (Make sure you know how to use them.)
    - A portable, battery-operated radio or television and extra, fresh batteries.
    - Flashlights and extra, fresh batteries.
    - Hard hats.
    - First aid kit and first aid manual.
    - Bright-colored tape to rope off dangerous areas.

If an Explosion Occurs at Work or in a Public Building, Sports Arena, or Stadium

- Leave the building as quickly as possible. Do not stop to retrieve anything or to make phone calls.
- Take the stairs, not an elevator.
- If things are falling around you, get under a sturdy table or other object that can shield you until they stop falling. Then leave quickly, watching for weakened floors and stairs and falling debris as you exit.
- In an open arena or stadium without a dome, the open field may be the safest place, however crowded, until things stop falling.
- If there is a fire, stay low to the floor and exit the building as quickly as possible.

If you are trapped by debris:

- Do not light a match.
- Do not move about or stir up dust.
- Cover your mouth with a densely woven handkerchief or clothing.
- Rhythmically tap on a pipe or wall so that rescuers can hear where you are.
- Use a whistle if one is available.
- Shout only as a last resort when you hear sounds and think someone will hear you. Cover your mouth and nose with a handkerchief or cloth instantly after each shout to prevent dust inhalation. Shouting can cause a person to inhale dangerous amounts of dust.

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II. CHEMICAL WEAPONS

What are chemical weapons of mass destruction (WMD) and what can I do to protect myself and my family?
Chemical agents are poisonous vapors, aerosols, liquids, and solids that have toxic effects on people, animals, or plants. They can be released by bombs or sprayed from aircraft, boats, and vehicles. They can be used as a liquid to create a hazard to people and the environment. Some chemical agents may be odorless and tasteless. They can have an immediate effect (a few seconds to a few minutes) or a delayed effect (2 to 48 hours). Chemical agents that are potentially lethal are difficult to deliver in lethal concentrations. Outdoors, the agents often dissipate rapidly. Chemical agents are also difficult to produce.

A chemical attack could come without warning. Signs of a chemical release include people having difficulty breathing, experiencing eye irritation, losing coordination, becoming nauseous, or having a burning sensation in the nose, throat, and lungs. Also, the presence of many dead insects or birds may indicate a chemical agent release.

What to Do to Be Prepared for a Chemical Weapon

- Check your Disaster Supplies Kit to make sure you have available and ready to use:
  - -A roll of duct tape (recommended thickness of 10 millimeters) and scissors.
  - -Plastic sheeting for doors, windows, and vents for the room in which you will shelter-in-place. To save critical time during an emergency, pre-measure and pre-cut the plastic sheeting for each opening (recommended thickness of 4 to 6 millimeters or greater).
- You may want to store these items that you would use to seal a room against chemical agents in the internal room selected as the place to shelter-in-place.
- Choose an internal room to shelter in, preferably one without windows and on the highest level.
- Pet owners should encourage local health authorities to have plans for people and their pets to be decontaminated together, where they can be treated quickly, to prevent repeated cross-contamination.

How to Shelter-in-Place (Chemical Incident)
If officials advise people in a specific area to shelter-in-place because of a short-term chemical release, households should have the following in the shelter-in-place room:

- Plastic sheeting pre-cut to fit room openings. (Cut the plastic a minimum of 6 inches wider than each opening. The thickness of the plastic should be 4 to 6 millimeters or greater.)
- Duct tape and scissors. (The thickness of the duct tape should be 10 millimeters or greater.)

A shelter-in-place room should be an interior room, preferably one without

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windows, that you can seal to block out air that may be contaminated by the short-term release of hazardous chemical agents. The room should be above the ground-level floor. In the case of a chemical threat, an above-ground location is preferable because some agents are heavier than air and may seep into basements even if the windows are closed.

Guidelines for sheltering-in-place are based on the need to shelter for only a few hours— more than sufficient time for a short-term release of airborne agents to dissipate. Ten square feet of floor space per person will provide sufficient air to prevent carbon dioxide build-up for up to five hours, assuming each person is resting and breathing at a normal rate. The cloud released by a terrorist's chemical weapon would have dissipated within three hours.

However, local officials are unlikely to recommend the public shelter in a sealed room for more than 2-3 hours because the effectiveness of such sheltering diminishes with time as the contaminated outside air gradually seeps into the shelter. At this point, evacuation from the area is the better protective action to take. In any event, follow instructions from local officials, and ventilate the shelter when the emergency has passed to avoid breathing contaminated air still inside the shelter.

What to Do During a Chemical Attack
The following are guidelines for what you should do in a chemical attack.

If you are instructed to shelter-in place in your home or office building, you should:
- Close and lock all windows and exterior doors.
- Keep your pets with you, and have additional food, water, and cleaning supplies for them.
- Turn off all ventilation, including furnaces, air conditioners, vents, and fans.
- Move to shelter in an internal room and take your Disaster Supplies Kit. Be sure you have a working battery-powered radio.
- Seal the room with duct tape, plastic sheeting, and modeling clay. Use duct tape with a minimum thickness of 10 millimeters and pre-cut plastic sheeting with a thickness of 4 to 6 millimeters or greater to seal all cracks around doors, windows, and vents, and all wall plugs, switch plates, and cables. Use duct tape to seal around pipes and to seal off drains or other such openings.
- If you are told there is danger of explosion, close the window shades, blinds, or curtains.
- Call your emergency contact. Ideally your room will have a hard-wired telephone. Cellular telephone service may be overwhelmed or damaged during an emergency. You will need a working phone if you have to report a life-threatening emergency.
- Keep listening to your radio or television until you are told all is safe or you are told to evacuate. Local officials may call for evacuation in specific areas at greatest risk in your community.

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At home:
- Close the fireplace damper.
- Bring your pets with you, and be sure to bring additional food and water for them.
- Keep pets under your direct control. If you have to evacuate, you will not lose time trying to find them.
- Have plenty of plastic bags and newspapers (puppy training pads are also useful for this), as well as containers and cleaning supplies to deal with pet waste.

If you are caught in an unprotected area, you should:
- Move away immediately.
- Get upwind of the contaminated area.
- Find shelter as quickly as possible.

What to Do After a Chemical Attack

Decontamination is needed within minutes of exposure to minimize health consequences. Do not leave the safety of a shelter to go outdoors to help others until authorities announce it is safe to do so.

A person affected by a chemical agent requires immediate medical attention from a professional. If medical help is not immediately available, decontaminate yourself and assist in decontaminating others.

Pets should be decontaminated along with their owners, according to the best practices for each type of hazard. Any pet with you when you become contaminated may then contaminate you or others (cross-contamination). If you and your pet may have been contaminated together, contact your local health authorities as well as your doctor and veterinarian.

Chemical decontamination guidelines:
- Use extreme caution when helping others who have been exposed to chemical agents.
- Remove all clothing and other items in contact with the body. Contaminated clothing normally removed over the head should be cut off to avoid contact with the eyes, nose, and mouth. Put contaminated clothing and items into a plastic bag and seal it. Decontaminate hands using soap and water. Remove eyeglasses or contact lenses. Put glasses in a pan of household bleach to decontaminate them, and then rinse and dry them.
- Flush eyes with water.
- Gently wash face and hair with soap and water; then thoroughly rinse with water.
- Decontaminate other body areas likely to have been contaminated. Blot (do not swab or scrape) with a cloth soaked in soapy water and rinse with clear water.
- Change into uncontaminated clothes. Clothing stored in drawers or closets is likely to be uncontaminated.
- Proceed to a medical facility for screening and professional treatment.

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III. BIOLOGICAL WEAPONS

What are biological weapons of mass destruction (WMD) and what can I do to protect myself and my family?

Biological agents are organisms or toxins that can kill or incapacitate people, livestock, and crops. The three basic groups of biological agents that would likely be used as weapons are bacteria, viruses, and toxins. Most biological agents are difficult to grow and maintain. Many break down quickly when exposed to sunlight and other environmental factors, while others, such as anthrax spores, are very long lived.

Terrorists can disperse biological agents by spraying them into the air, by infecting animals that carry the disease to humans, and by contaminating food and water. Delivery methods include:

- Aerosols—biological agents can be dispersed into the air as a fine mist or powder that may drift for miles. Inhaling the agent may cause disease in people or animals.
- Animals—some diseases can be spread by insects and animals, such as fleas, mice, flies, mosquitoes, and livestock.
- Food and water contamination—some pathogenic organisms and toxins can persist in food and water supplies. Most microbes can be killed and toxins deactivated by cooking food and boiling water. Most microbes are killed by boiling water for one minute, but some require more time. Follow official instructions.
- Person-to-person—a few infectious agents can be spread from person to person. Humans have been the source of infection for smallpox, plague, and the Lassa viruses.

Specific information on biological agents is available at the Centers for Disease Control and Prevention Web site, http://www.bt.cdc.gov.

Using HEPA Filters

HEPA filters may be useful in biological attacks. If you have a central heating and cooling system in your home with a HEPA filter, leave it on if it is running or turn the fan on if it is not running. Moving the air in the house through the filter will help remove the agents from the air. If you have a portable HEPA filter, take it with you to the internal room where you are taking shelter and turn it on.

If you are in an apartment or office building that has a modern central heating and cooling system, the system's filtration should provide a relatively safe level of protection from outside biological contaminants. HEPA filters will not filter chemical agents.

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Filtration in Buildings
Building owners and managers should determine the type and level of filtration in their structures and the level of protection it provides against biological agents. The National Institute of Occupational Safety and Health (NIOSH) provides technical guidance on this topic in its publication, Guidance for Filtration and Air-Cleaning Systems to Protect Building Environments from Airborne Chemical, Biological, or Radiological Attacks. Visit http://www.cdc.gov/niosh/docs/2003-136 to download a copy of this document.

What to Do Before a Biological Attack

- Check with your doctor to ensure that all required or suggested immunizations are up to date. Children and the elderly are particularly vulnerable to biological agents.
- Consider installing a High Efficiency Particulate Air (HEPA) filter in your furnace return duct. These filters remove particles in the 0.3- to 10-micron range and will filter out most biological agents that may enter your home. If you do not have a central heating or cooling system, a stand-alone portable HEPA filter can be used.

If There Is a Biological Threat
Unlike an explosion, a biological attack may or may not be immediately obvious. While it is possible that you will see signs of a biological attack, as was sometimes the case with the anthrax mailings in 2001, it is perhaps more likely that local health care workers will report a pattern of unusual illness or there will be a wave of sick people requesting emergency medical attention. You will probably learn of the danger through an emergency radio or TV broadcast, or some other signal used in your community. You might get a telephone call or emergency response workers may come to your door.

In the event of a biological attack, public officials may not immediately be able to provide information on what you should do. It will take time to determine exactly what the illness is, how it should be treated, and who is in danger. However, you should watch TV, listen to the radio, or check the Internet for official news including the following:

- Are you in the group or area authorities consider in danger?
- What are the signs and symptoms of the disease?
- Are medications or vaccines being distributed?
- Where? Who should get them?
- Where should you get emergency medical care if you become sick?

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What to Do During a Declared Biological Emergency

- If a family member becomes sick, it is important to be suspicious.
- Do not assume, however, that you should go to a hospital emergency room or that any illness is the result of the biological attack. Symptoms of many common illnesses may overlap.
- Use common sense, practice good hygiene and cleanliness to avoid spreading germs, and get medical advice.
- Consider if you are in the group or area authorities believe to be in danger.
- If your symptoms match those described and you are in the group considered at risk, immediately get emergency medical attention.

If you are potentially exposed:

- Follow instructions of doctors and other public health officials.
- If the disease is contagious, expect to receive medical evaluation and treatment. You may be advised to stay away from others.
- If you have been exposed, you might be quarantined.
- For non-contagious diseases, expect to receive medical evaluation and treatment.

If you become aware of an unusual and suspicious substance nearby:

- Quickly get away.
- Wash with soap and water.
- Contact authorities.
- Watch TV, listen to the radio, or check the Internet for official news and information including what the signs and symptoms of the disease are, if medications or vaccinations are being distributed, and where you should get medical attention if you become sick.
- If you become sick, get medical attention.

Using HEPA Filters

HEPA filters may be useful in biological attacks. If you have a central heating and cooling system in your home with a HEPA filter, leave it on if it is running or turn the fan on if it is not running. Moving the air in the house through the filter will help remove the agents from the air. If you have a portable HEPA filter, take it with you to the internal room where you are taking shelter and turn it on.

If you are in an apartment or office building that has a modern central heating and cooling system, the system's filtration should provide a relatively safe level of protection from outside biological contaminants. HEPA filters will not filter chemical agents.

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IV. RADIOLOGICAL DISPERSION DEVICE (RDD)

What is a radiological dispersion device (RDD) and what can I do to protect myself and my family?
Terrorists' use of an RDD—often called "dirty nuke" or "dirty bomb"—is considered far more likely than their use of a nuclear explosive device. 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, but no nuclear explosion is involved. RDDs appeal to terrorists because they require limited technical knowledge to build and deploy compared with a nuclear device. Also, the radioactive materials in RDDs are widely used in medicine, agriculture, industry, and research and are easier to obtain than weapons grade uranium or plutonium.

The primary purpose of terrorists' use of an RDD would be to cause psychological fear and economic disruption. Some devices could cause fatalities from exposure to radioactive materials. Depending on the speed at which the area of the RDD detonation was evacuated or how successful people were at sheltering-in-place against radiation, the number of deaths and injuries from an RDD might not be substantially greater than from a conventional bomb explosion.

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, the type of radioactive material used, the quality and quantity of the radioactive material, and the local meteorological conditions, primarily wind and precipitation. The area affected could be placed off-limits to the public for several months during cleanup efforts.

What to Do Before an RDD Attack
There is no way of knowing how much warning time there might be before an attack by terrorists using an RDD or which measures the situation would call for, so being prepared in advance and knowing what to do and when are important. Be ready to take the same protective measures first that you would for a conventional explosion. Also be ready to take additional measures you would for protection from fallout radiation after a nuclear blast. The force of the blast would be like a conventional explosion, not a nuclear blast.

During an RDD Attack
While the explosive blast of an RDD will be immediately obvious, the presence of radiation will not be known until trained personnel with specialized equipment are on the scene. Whether you are indoors or outdoors, at home or at work, be extra cautious if you witness an explosive blast. It would be safer to assume radiological contamination has occurred—particularly in an urban setting or near other likely terrorist targets—and take the proper precautions. As with any radiation, you want to avoid or limit exposure.

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If you are outdoors:

- Move to shelter indoors immediately.
- If appropriate shelter is not available, move as rapidly as is safe upwind and away from the location of the explosive blast. Then, move to appropriate shelter as soon as possible.
- Continue listening to a local station on your radio or 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.

If you are indoors:

- Consider the time you have available. If you have time, turn off ventilation and heating systems, close windows, vents, fireplace dampers, exhaust fans, and clothes dryer vents. Get your Disaster Supplies Kit and battery-powered radio and take them to your shelter room.
- Take 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.
- Listen for official instructions and follow directions.
- 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 or from blast effects of a nearby explosion.

What to Do After an RDD Attack

Contamination from an RDD could affect a wide area, depending on the amount of conventional explosives used, the quantity and type of radioactive material released, and meteorological conditions. Radiation dissipation rates vary, depending mostly on the decay rate of the radioactive materials dispersed by the RDD and how much of the radioactive material is concentrated in any particular spot after it is scattered by the explosion. Evacuation might be more practical than staying in shelter near any spots with relatively high radioactivity readings.

An RDD will not produce a high-altitude cloud, so it cannot carry radioactive particles hundreds of miles as a surface-level nuclear blast would.

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V. NUCLEAR WEAPONS

What are nuclear weapons and what can I do beforehand to protect myself and my family from a nuclear explosion ?
The explosion of a nuclear weapon produces a blast or shock wave, intense heat, thermal radiation, initial nuclear radiation, and residual nuclear radiation. Such nuclear devices can range from a weapon carried by an intercontinental missile launched by a hostile nation to a single weapon transported to a port or major city by terrorists. The danger of a massive strategic nuclear attack on the United States, involving many weapons, receded with the end of the Cold War in 1989. However, some terrorists have been supported by nations that have nuclear weapons programs.

Hazards of a Nuclear Explosion
All nuclear devices cause deadly effects when exploded, including blinding light, intense heat (thermal radiation), initial nuclear radiation, blast, fires started by the heat pulse, and secondary fires caused by damage to buildings, gas and electrical lines, etc. In addition, a nuclear explosion at or near the earth's surface produces radioactive particles that rise in a mushroom-shaped cloud, and ultimately fall as radioactive fallout. A nuclear weapon detonated high in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field that acts like a powerful stroke of lightning.

The extent, nature, and arrival time of these hazards are difficult to predict. The geographical dispersion of hazard effects will be defined by the following:

- Size of the device. A more powerful bomb will produce more distant effects.
- Height above the ground the device was detonated. This will determine the extent of blast effects.
- Very high altitude nuclear explosions can produce EMP (electromagnetic pulse) effects throughout a 1,000-mile radius on the surface of the earth.
- Nature of the surface beneath the explosion. Some materials are more likely to become radioactive and airborne than others. Flat areas are more susceptible to blast effects than hilly terrain.
- Existing meteorological conditions. Wind speed and direction will affect arrival time of fallout. Precipitation may wash fallout from the atmosphere, affecting where it falls, the amount of fallout affected areas receive, and where it settles as rain is absorbed, puddles or runs off of surfaces.

Blast and Fire
Most of the material damage caused by a nuclear explosion at or near the surface is due directly or indirectly to the shock (or blast) wave that accompanies the explosion. Fires that burn out remaining buildings may be caused by the force of the explosion breaking gas or electric lines or, closer to the explosion, caused by initial thermal radiation.

If there were threat of an attack from a hostile nation during a crisis, which is not currently a realistic threat, people living near potential targets could be advised to

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evacuate or they could decide on their own to evacuate to an area not considered a likely target. Protection from radioactive fallout would require taking shelter in an underground area or in the middle of a large building.

In general, potential targets of strategic or terrorist nuclear weapon attacks 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

Radioactive Fallout
Even if individuals are not close enough to be directly affected by the blast, heat, or immediate radiation, they may be affected by the resultant radioactive fallout. Blasts that occur at or near the earth's surface create much greater amounts of fallout than blasts that occur at higher altitudes. This is because the tremendous heat produced from a nuclear blast causes an updraft of air, which forms the familiar mushroom cloud. When a blast occurs near the earth's surface, millions of vaporized dirt particles are also drawn into the cloud. As the heat diminishes, radioactive materials that have vaporized condense on the particles and fall back to earth. The phenomenon is called radioactive fallout. This fallout material decays over a long period of time and is the main source of residual nuclear radiation.

Radioactive particles from a nuclear explosion may be carried aloft by wind currents for hundreds of miles if the right conditions exist. Effects from even a small portable device exploded at ground level can be potentially deadly.

Nuclear radiation cannot be seen, smelled, or otherwise detected by normal senses. Radiation can be detected only by radiation-monitoring devices. This makes radiological emergencies different from other types of emergencies, such as floods or hurricanes. Monitoring can project the fallout arrival times, which will be announced through official warning channels. However, any increase in surface buildup of gritty dust and dirt should be a warning to take protective measures.

Factors for Protection From Radioactive Fallout
The three factors for protecting oneself from radioactive 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 (ground) floor of a building. A floor near the middle of a high-rise may be better, depending on what is nearby at that level on which significant fallout particles would collect. Flat roofs collect fallout particles, so the top floor is not a good choice, nor is a floor adjacent to a neighboring flat roof.
- Shielding—the heavier and denser the shielding 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

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to leave the fallout shelter. Radioactive fallout poses the greatest threat to people during the first two weeks, after which time it has declined to only about one percent of its initial radiation level.

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.

What to Do to Be Prepared for a Nuclear Explosion

- Modify your Disaster Supplies Kit so it is adequate for up to two weeks.
- 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 fallout shelters near your home, workplace, and school. These places would include basements or the windowless center area of middle floors in high-rise buildings.
- Subways and tunnels may be designated as fallout shelters, but should not be entered as long as there is immediate danger of nuclear attack because a blast over the area can convert them to a wind tunnel conveying a fatal shock wave.
- 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 before a nuclear explosion is absolutely necessary. There are two kinds of shelters—blast and fallout.

- Blast shelters are specifically constructed to offer some protection against blast pressure, initial radiation, heat, and fire; but even a blast shelter could not 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.

In Case of Warning of a Nuclear Attack

If you hear a nuclear attack warning, you should:

- Take cover as quickly as you can, below ground if possible, and stay there unless instructed to do otherwise.
- Listen for official information and follow instructions.

If you are caught outside and unable to get inside before the explosion occurs, you should:

- Never 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. Remember the three protective factors: distance, shielding, and time.

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After a Nuclear Attack
Decay rates of the radioactive fallout are the same for any size nuclear device. However, the amount of fallout will vary based on the size of the device and its proximity to the ground. Therefore, it might be necessary for those in the areas with highest radiation levels to shelter for up to a month.

The heaviest fallout would be limited to the area at or downwind from the explosion, and 80 percent of the fallout would occur during the first 24 hours.

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.

Electromagnetic Pulse (EMP)
In addition to other effects, a nuclear weapon detonated in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. An EMP acts like a stroke of lightning but is stronger, faster, and briefer. An EMP can seriously damage electronic devices connected to power sources or antennas, including communications systems, computers, electrical appliances, and automobile or aircraft ignition systems. The damage could range from a minor interruption to actual burnout of components. Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation could be affected. Battery-powered radios with short antennas generally would not be affected. Although an EMP is unlikely to harm most people, it could harm those with pacemakers or other implanted electronic devices.

What measures can I take to protect electric and electronic appliances from the effects of EMP?
Primary protective measures apply the same basic principles as lightning arrestors (you may find them where telephone lines enter your home) and surge protectors for computers and other electronic equipment. Any wire cable with a series of receptacles that is not in use should be grounded at both ends. If a cable is in use, ground one end only. Electrical and electronic conduits (such as cable television leads) are conductors and should also be grounded. Metal shielding will provide some protection but would be practical only for small, unplugged appliances. Metal shielding should cover but not touch the item it protects, to prevent coupling to the protected item.

Grounding supplies are readily available at electrical and hardware stores. Lightning arrestors and surge protectors are also available at some electronics stores. For EMP protection, look for the strongest protection against the most rapidly peaking surge. Ideally that would be nanoseconds, which you are unlikely to find, or the smallest number if given in milliseconds. If there is warning of an imminent nuclear attack, quickly do the following:

- Turn off your main power switch.
- Unplug all cables, extension cords, electrical appliances, and telephones.
- Disconnect wires connecting units of sound and video systems.
- Disconnect computers from the printer, monitor, keyboard, and other

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peripherals.
- Remove wireless phones from wired cradles.
- Fold up and/or disconnect all antennas.

Each of these measures helps a little, and helps more at the outer range of the EMP's reach, but could be inadequate against the EMP of a high-altitude nuclear explosion, depending on the range of the electrical field produced by the detonation of the nuclear device.

Because of the similar characteristics of lightning and EMP, the devices used for EMP protection will also provide a high degree of lightning protection, but the converse is not necessarily true.

Returning to Your Home

Any of the specific kinds of terrorist attacks described in the foregoing pages could make it necessary for you to evacuate your home. When you return, you should:

- Keep listening to the radio or 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." Remember that radiation cannot be seen, smelled, or otherwise detected by human senses.

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VI. AGROTERRORISM

What is agroterrorism and what can I do to protect myself and my family?
Agroterrorism involves the act of any person knowingly or maliciously using biological or other agents as weapons against the agricultural industry and the food supply—plants and especially animals. Experts believe outbreaks caused by the deliberate spread of animal diseases by terrorists are likely to have much higher costs than natural occurrences or epidemics, because terrorists will act strategically, that is, they will aim at causing as much damage as possible.

Agroterrorism does not require a high level of technical knowledge. It is relatively easy to acquire and spread the agents causing plant and animal diseases. In addition, the most likely agents, such as anthrax, hoof and mouth disease, or fungi-causing plant diseases—rusts, blast, and smuts—pose little risk to the potential terrorist. The low level of knowledge required and the low risk make agroterrorism an attractive option for terrorists.

The primary responsibility for prevention and public education rests on government agencies and research organizations that have the technical and scientific role and capability to identify plant and animal diseases, isolate and eliminate early cases, and direct countermeasures to control outbreaks when they occur.

Agricultural education and extension services inform farmers and livestock operators of the threats and work with farmers, veterinarians, and crop consultants to prevent and control plant and animal diseases.

Stay Informed
People concerned with agroterrorism should take steps to be informed. The consuming public should also be informed of the nature of agroterrorism and the forms it may take. Concerned individuals may also want to be involved at the local level to be sure that people involved with community disaster plans are aware of the process for dealing with outbreaks that threaten production of a healthy food supply and the local agricultural economy.

It is also important to be informed about what the threats are, what measures are taken to combat and control outbreaks of any kind, and what foods and food sources are unaffected and still safe. Keep informed of how outbreaks are managed and how the response and recovery proceed so you can have confidence in the food production system and the effectiveness of steps to deal with problems whenever they arise.

Follow Instructions
Follow instructions of officials when an outbreak occurs. It is especially important to cooperate fully with quarantine orders and instructions about what to avoid, and not to find ways to avoid the cost or inconvenience of efforts to quickly eliminate threats to a safe food supply.

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VII. CYBER-TERRORISM

What is a cyber (computer-based) attack and what can I do to protect myself and my family?

Information technology, through the use of computers, has changed the way we transact business, run the government, conduct national defense, keep order, and communicate with our friends and families. All of these activities—both critical and mundane—are accomplished through an interdependent electronic and communications network. If the security of this network is compromised, services could be interrupted, including essential infrastructure services in areas such as telecommunications, energy, finance, manufacturing, water, transportation, health care, and emergency response.

Cyber attacks targeted against information technology can occur in the following ways:

- Hacking—an attack against the software of an information system by an unauthorized person who electronically enters the system from the outside.
- Sabotage—an attack against the software and/or hardware of an information system by a person on the inside who is trusted with access to the system.

To protect yourself from some of the effects of a cyber attack, you should:

- Be prepared to do without services you normally depend on that could be disrupted—electricity, telephones, natural gas, gasoline pumps, cash registers, ATMs, and Internet transactions.
- Keep handy a battery-powered radio or television and routinely listen to local broadcasts.

Be prepared to respond to official instructions if a cyber attack triggers other hazards, for example, a hazardous materials release, nuclear power plant incident, or dam or flood control system failure. You may need to evacuate the area, go to a public shelter, or shelter-in-place.

Terrorism: General

College Station Emergency Management

A division of the College Station Fire Department

Notes:

For further related information, refer to these other Disaster Guides:

Disaster Supplies Kit
Evacuation and Sheltering
Family Disaster Plan
Fire, Residential
Home Safety
Post Disaster Safety

This Disaster Guide is provided by the College Station Division of Emergency Management. For other disaster guides, and further information, visit our website at **www.cstx.gov/dem**.

Original content is from: *Talking About Disaster: Guide for Standard Messages*, produced by the National Disaster Education Coalition, Washington, D.C.