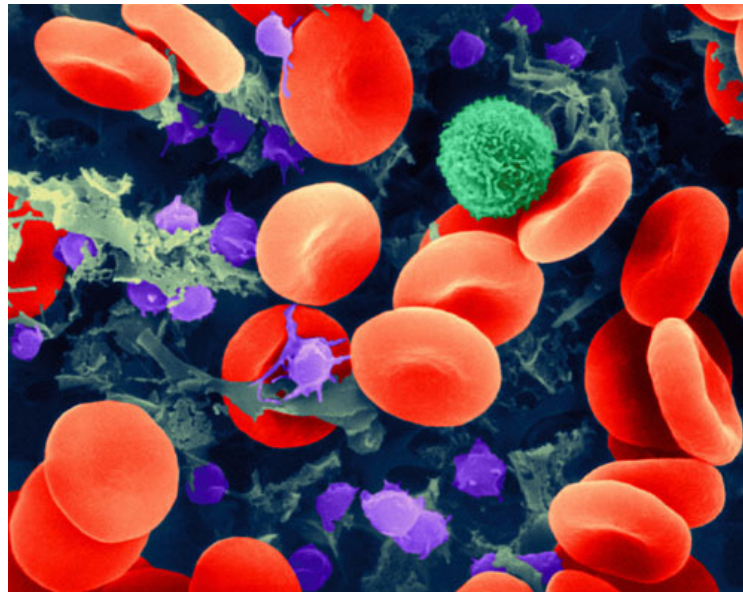


Unit 6: Bioterrorism and Infectious Diseases

Instructor's Background Text Part 2 of 2



PKIDs' Infectious Disease Workshop

Made possible by grants from the Northwest Health Foundation,
the Children's Vaccine Program at PATH and PKIDs.

PKIDs' Infectious Disease Workshop

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There are people who've helped us whose names are not on this printed list. That omission is not deliberate, but rather from our own clumsiness in losing important pieces of paper, and we apologize.

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The authors specifically disclaim any responsibility for any liability, loss, or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this workshop.

Introduction

PKIDs (Parents of Kids with Infectious Diseases) is a national nonprofit agency whose mission is to educate the public about infectious diseases, the methods of prevention and transmission, and the latest advances in medicine; to eliminate the social stigma borne by the infected; and to assist the families of the children living with hepatitis, HIV/AIDS, or other chronic, viral infectious diseases with emotional, financial and informational support.

Remaining true to our mission, we have designed the *Infectious Disease Workshop (IDW)*, an educational tool for people of all ages and with all levels of understanding about infectious diseases. In this workshop, you will learn about bacteria and viruses, how to prevent infections, and how to eliminate the social stigma that too often accompanies diseases such as HIV or hepatitis C.

We hope that both instructors and participants come away from this workshop feeling comfortable with their new level of education on infectious diseases.

The IDW is designed to “train-the-trainer,” providing instructors not only with background materials but also with age-appropriate activities for the participants. Instructors do not need to be professional educators to use these materials. They were designed with both educators and laypersons in mind.

The IDW is comprised of a master Instructor’s Background Text, which is divided into six units: Introduction to Infectious Diseases, Disease Prevention, Sports and Infectious Disease, Stigma and Infectious Disease, Civil Rights and Infectious Disease, and Bioterrorism and Infectious Disease.

For each unit, instructors will find fun and helpful activities for participants in five age groups: 2 to 6 years of age, 6 to 9 years of age, 9 to 12 years of age, 13 to 18 years of age and adults.

We welcome any questions, comments, or feedback you may have about the IDW or any other issue relating to infectious diseases in children.

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Protecting Families from Deadly Diseases

If a biological weapon is ever released, it could take days for symptoms to develop and for the biological agent to be identified. Over the course of hours or days, hospitals and government health departments will notice an increase in specific diseases or signs and symptoms (syndromes). They will determine the cause of the outbreak and deploy available antibiotics or vaccines, if they exist, to treat and prevent the spread of disease.



Currently, all doctors, hospitals and medical facilities are on high alert for any unusual disease outbreak that could be caused by suspected biological weapons.

If a bioterrorist attack occurs, parents should react the same way they would if there was a sudden, severe outbreak of influenza or other serious epidemic in their local community.

Parents should limit their and their children's exposure to infected individuals (if the disease can be transmitted person-to-person), and they should prepare for a possible quarantine within their homes. Here are some guidelines for such a scenario from public health specialists at the Johns Hopkins University Center for Civilian Biodefense Studies:

- Prepare as if a hurricane or blizzard was coming. Every coastal home in Florida should have a supply of water, flashlights, fuel and food. Families across the country should do the same. In the event of an epidemic, a government-mandated quarantine or home stay is possible, depending on the agent used, and could range from one to three weeks. Access to grocery and drug stores may be limited during that time.
- Place the phone number of local hospitals and city, county or state public health departments in a prominent place. Public health departments will be monitoring disease outbreaks and will make recommendations about what precautions families should take. Health departments and other government agencies will decide whether to recommend children stay home from school. They will also advise families where to go for smallpox immunizations or for antibiotics that are used to prevent certain epidemics.
- If parents are particularly anxious about what to do in the event of an epidemic, they should talk to their physicians now about any concerns they have and find out how well-informed the physician is.
- You should do what you can to prevent the spread of infectious disease, no matter what the cause. If children are ill, don't send them to school and spread the infection. If parents are ill, stay home.

Keep a first aid kit with antiseptic, bandages, anti-diarrhea medication and over-the-counter pain killers. Dr. Luciana Borio, a fellow at Johns Hopkins University Center for Civilian Biodefense Studies and a critical care medicine fellow at the National Institutes of Health, recommends that parents should also keep a card with all their children's key medical information, such as medication schedule and food or drug allergies. "If a parent becomes ill, they want to make sure their children are taken care of appropriately," Dr. Borio added.

Now for some guidelines on what not to do:

- Don't stockpile antibiotics, said Dr. Borio. Of the suspected biological agents that would cause widespread disease, three (anthrax, plague and tularemia) could be treated with antibiotics. But don't call the family doctor for a prescription. Antibiotics quickly expire, dosages vary and the timing of when to take antibiotics and for how long varies depending on the biological agent used in an attack. For instance, in the case of anthrax, antibiotics must be administered before symptoms appear and in the case of plague, antibiotic treatment must continue for seven days following last exposure. The federal government already has a stockpile of antibiotics that will be deployed to affected areas in the event of an attack.
- Don't bother with a face mask (or dust mask). They won't keep disease microbes away, said Dr. Borio. The masks were seen in New York City to keep air-borne dust and asbestos particles out of noses and throats.



Since the terrible destruction of the World Trade Towers, government agencies have been working hard to put systems and reporting processes in place to quickly identify any emerging epidemic that could be caused by a bioterrorist.

Terrorism Preparedness

The American Red Cross specializes in helping out during disasters. Although not everything listed here applies to a bioterrorist attack, the following are some tips from them on how we can all help ourselves:

1. Create an emergency communications plan

Choose an out-of-town contact your family or household will call or email to check on each other should a disaster occur. Your selected contact should live far enough away that they would be unlikely to be directly affected by the same event, and they should know they are the chosen contact. Make sure every household member has that contact's, and each other's, email addresses and telephone numbers (home, work, pager and cell). Leave these contact numbers at your children's schools, if you have children, and at your workplace. Your family should know that if telephones are not working, they need to be patient and try again later or try email. Many people flood the telephone lines when emergencies happen but email can sometimes get through when calls don't.



2. Establish a meeting place

Having a predetermined meeting place away from your home will save time and minimize confusion should your home be affected or the area evacuated. You may even want to make arrangements to stay with a family member or friend in case of an emergency. Be sure to include any pets in these plans, since pets are not permitted in shelters and some hotels will not accept them.

3. Assemble a disaster supplies kit

If you need to evacuate your home or are asked to “shelter in place,” having some essential supplies on hand will make you and your family more comfortable. Prepare a disaster supplies kit in an easy-to-carry container such as a duffel bag or small plastic trash can. Include “special needs” items for any member of your household (infant formula or items for people with disabilities or older people), first aid supplies (including prescription medications), a change of clothing for each household member, a sleeping bag or bedroll for each, a battery powered radio or television and extra batteries, food, bottled water and tools. It is also a good idea to include some cash and copies of important family documents (birth certificates, passports and licenses) in your kit.

Copies of essential documents—like powers of attorney, birth and marriage certificates, insurance policies, life insurance beneficiary designations and a copy of your will—should also be kept in a safe location outside your home. A safe deposit box or the home of a friend or family member who lives out of town is a good choice.



For more complete instructions, ask your local Red Cross chapter for

the brochure titled *Your Family Disaster Supplies Kit* (stock number A4463).

4. Check on the school emergency plan of any school-age children you may have

You need to know if they will keep children at school until a parent or designated adult can pick them up or send them home on their own. Be sure that the school has updated information about how to reach parents and responsible caregivers to arrange for pickup. And, ask what type of authorization the school may require to release a child to someone you designate, if you are not able to pick up your child. During times of emergency the school telephones may be overwhelmed with calls.

For more information on putting together a disaster plan, request a copy of the brochure titled *Your Family Disaster Plan* (A4466) from your local American Red Cross chapter. You may also want to request a copy of *Before Disaster Strikes . . . How to Make Sure You're Financially Prepared* (A5075) for specific information on what you can do now to protect your assets.

If Disaster Strikes

- Remain calm and be patient.
- Follow the advice of local emergency officials.
- Listen to your radio or television for news and instructions.
- If the disaster occurs near you, check for injuries. Give first aid and get help for seriously injured people.
- If the disaster occurs near your home while you are there, check for damage using a flashlight. Do not light matches or candles or turn on electrical switches. Check for fires, fire hazards and other household hazards. Sniff for gas leaks, starting at the water heater. If you smell gas or suspect a leak, turn off the main gas valve, open windows, and get everyone outside quickly.
- Shut off any other damaged utilities.
- Confine or secure your pets.
- Call your family contact—do not use the telephone again unless it is a life-threatening emergency.
- Check on your neighbors, especially those who are elderly or disabled.

A Word on What Could Happen

As we learned from the events of September 11, 2001, the following things can happen after a terrorist attack:

- There can be significant numbers of casualties and/or damage to buildings and the infrastructure, so employers need up-to-date information about any medical needs you may have and how to contact your designated beneficiaries.
- Heavy law enforcement involvement at local, state and federal levels follows a terrorist attack due to the event's criminal nature.
- Health and mental health resources in the affected communities can be strained to their limits, maybe even overwhelmed.
- Extensive media coverage, strong public fear and international implications and consequences can continue for a prolonged period.

- Workplaces and schools may be closed, and there may be restrictions on domestic and international travel.
- You and your family or household may have to evacuate an area, avoiding roads blocked for your safety.
- Clean-up may take many months.

Evacuation

If local authorities ask you to leave your home, they have a good reason to make this request, and you should heed the advice immediately. Listen to your radio or television and follow the instructions of local emergency officials and keep these simple tips in mind:

- Wear long-sleeved shirts, long pants and sturdy shoes so you can be protected as much as possible.
- Take your disaster supplies kit.
- Take your pets with you; do not leave them behind. Because pets are not permitted in public shelters, follow your plan to go to a relative's or friend's home, or find a "pet-friendly" hotel. Lock your home.
- Use travel routes specified by local authorities—don't use shortcuts because certain areas may be impassable or dangerous.
- Stay away from downed power lines.

Listen to local authorities

Your local authorities will provide you with the most accurate information specific to an event in your area. Staying tuned to local radio and television, and following their instructions is your safest choice.

If you're sure you have time:

- Call your family contact to tell them where you are going and when you expect to arrive.
- Shut off water and electricity before leaving, if instructed to do so. Leave natural gas service ON unless local officials advise you otherwise. You may need gas for heating and cooking, and only a professional can restore gas service in your home once it's been turned off. In a disaster situation it could take weeks for a professional to respond.

Shelter in place

If you are advised by local officials to "shelter in place," what they mean is for you to remain inside your home or office and protect yourself there. Close and lock all windows and exterior doors. Turn off all fans, heating and air conditioning systems. Close the fireplace damper. Get your disaster supplies kit, and make sure the radio is working. Go to an interior room without windows that's above ground level. In the case of a chemical threat, an above-ground location is preferable because some chemicals are heavier than air, and may seep into basements even if the windows are closed. Using duct tape, seal all cracks around the door and any vents into the room. 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.

Additional Positive Steps You Can Take

Raw, unedited footage of terrorism events and people's reactions to those events can be very upsetting, especially to children. We do not recommend that children watch television news reports about such events, especially if the news reports show images over and over again about the same incident. Young children do not realize that it is repeated video footage, and think the event is happening again and again. Adults may also need to give themselves a break from watching disturbing footage. However, listening to local radio and television reports will provide you with the most accurate information from responsible governmental authorities on what's happening and what actions you will need to take. So you may want to make some arrangements to take turns listening to the news with other adult members of your household.

Another useful preparation includes learning some basic first aid. To enroll in a first aid and AED/CPR course, contact your local American Red Cross chapter. In an emergency situation, you need to tend to your own well-being first and then consider first aid for others immediately around you, including possibly assisting injured people to evacuate a building if necessary.



People who may have come into contact with a biological or chemical agent may need to go through a decontamination procedure and receive medical attention. Listen to the advice of local officials on the radio or television to determine what steps you will need to take to protect yourself and your family. As emergency services will likely be overwhelmed, only call 9-1-1 about life-threatening emergencies.

First Aid Primer

If you encounter someone who is injured, apply the emergency action steps: **Check-Call-Care**.

Check the scene to make sure it is safe for you to approach. Then check the victim for unconsciousness and life-threatening conditions. Someone who has a life-threatening condition, such as not breathing or severe bleeding, requires immediate care by trained responders and may require treatment by medical professionals. **Call** out for help. There are some steps that you can take, however, to **care** for someone who is hurt, but whose injuries are not life threatening.

Control Bleeding:

- Cover the wound with a dressing, and press firmly against the wound (direct pressure).
- Elevate the injured area above the level of the heart if you do not suspect that the victim has a broken bone.
- Cover the dressing with a roller bandage.
- If the bleeding does not stop:
 1. Apply additional dressings and bandages.
 2. Use a pressure point to squeeze the artery against the bone.
- Provide care for shock.

Care for Shock:

- Keep the victim from getting chilled or overheated.
- Elevate the legs about 12 inches (if broken bones are not suspected).
- Do not give food or drink to the victim.

Tend Burns:

- Stop the burning by cooling the burn with large amounts of water.
- Cover the burn with dry, clean dressings or cloth.

Care for Injuries to Muscles, Bones and Joints:

- Rest the injured part.
- Apply ice or a cold pack to control swelling and reduce pain.
- Avoid any movement or activity that causes pain.
- If you must move the victim because the scene becomes unsafe, try to immobilize the injured part to keep it from moving.

Be Aware of Biological/Radiological Exposure:

- Listen to local radio and television reports for the most accurate information from responsible governmental and medical authorities on what's happening and what actions you will need to take.

Reduce Any Care Risks:

The risk of getting a disease while giving first aid is extremely rare. However, to reduce the risk even further:

- Avoid direct contact with blood and other body fluids.
- Use protective equipment, such as disposable gloves and breathing barriers.
- Thoroughly wash your hands with soap and water immediately after giving care.

It is important to be prepared for an emergency and to know how to give emergency care.

More Information

All of these recommendations make good sense, regardless of the potential problem. For more information on how to get ready for disaster and be safe when disaster strikes, or to register for a first aid and AED/CPR course, please contact your local American Red Cross chapter. You can find it in your telephone directory under "American Red Cross" or through the home page at www.redcross.org under "your local chapter."

For information about your community's specific plans for response to disasters and other emergencies, contact your local office of emergency management.

For information on what a business can do to protect its employees and customers as well as develop business continuity plans, you may want to get a copy of the *Emergency Management Guide for Business and Industry* and/or *Preparing Your Business for the Unthinkable* from your local American Red Cross chapter or see www.redcross.org/services/disaster/beprepared

For more information about the specific effects of chemical or biological agents, the following websites may be helpful:

- Centers for Disease Control and Prevention: www.bt.cdc.gov
- U.S. Department of Energy: www.energy.gov
- U.S. Department of Health and Human Services: www.hhs.gov
- Federal Emergency Management Agency: www.fema.gov
- Environmental Protection Agency: www.epa.gov/swercepp

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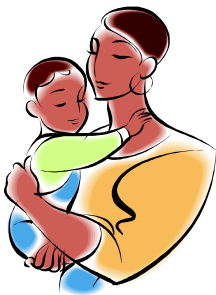
Children and Disaster

Disasters may strike quickly and without warning. These events can be frightening for adults, but they are traumatic for children if they don't know what to do.

During a disaster, your family may have to leave your home and daily routine. Children may become anxious, confused, or frightened. It is important to give children guidance that will help them reduce their fears.

Children and Their Response to Disaster

Children depend on daily routines: They wake up, eat breakfast, go to school, and play with friends. When emergencies or disasters interrupt this routine, children may become anxious.



In a disaster, they'll look to you and other adults for help. How you react to an emergency gives them clues on how to act. If you react with alarm, a child may become more scared. They see our fear as proof that the danger is real. If you seem overcome with a sense of loss, a child may feel their losses more strongly.

Children's fears also may stem from their imagination, and you should take these feelings seriously. A child who feels afraid is afraid. Your words and actions can provide reassurance. When talking with your child, be sure to present a realistic picture that is both honest and manageable.

Feelings of fear are healthy and natural for adults and children. But as an adult, you need to keep control of the situation. When you're sure that danger has passed, concentrate on your child's emotional needs by asking the child what's uppermost in his or her mind. Having children participate in the family's recovery activities will help them feel that their life will return to "normal." Your response during this time may have a lasting impact.

Be aware that after a disaster, children are most afraid that:

- The event will happen again.
- Someone will be injured or killed.
- They will be separated from the family.
- They will be left alone.

Advice to Parents

Prepare for Disaster

You can create a Family Disaster Plan and practice it so that everyone will remember what to do when a disaster does occur.

Contact your local emergency management or civil defense office or your local Red Cross chapter for materials that describe how your family can create a disaster plan. Everyone in the household, including children, should play a part in the family's response and recovery efforts.

Teach your child how to recognize danger signals. Make sure your child knows what smoke detectors, fire alarms and local community warning systems (horns, sirens) sound like.

Explain how to call for help. Teach your child how and when to call for help. Check the telephone directory for local emergency phone numbers and post these phone numbers by all telephones. If you live in a 9-1-1 service area, tell your child to call 9-1-1. Even very young children can be taught how and when to call for emergency assistance.

Help your child memorize important family information. Children should memorize their family name, address and phone number. They should also know where to meet in case of an emergency. Some children may not be old enough to memorize the information. They could carry a small index card that lists emergency information to give to an adult or babysitter.

After the Disaster: Time for Recovery

Immediately after the disaster, try to reduce your child's fear and anxiety.

Keep the family together. While you look for housing and assistance, you may want to leave your children with relatives or friends. Instead, keep the family together as much as possible and make children a part of what you are doing to get the family back on its feet. Children get anxious, and they'll worry that their parents won't return.

Calmly and firmly explain the situation. As best as you can, tell children what you know about the disaster. Explain what will happen next. For example, say, "Tonight, we will all stay together in the shelter." Get down to the child's eye level and talk to him or her.

Encourage children to talk. Let children talk about the disaster and ask questions as much as they want. Encourage children to describe what they're feeling. Listen to what they say. If possible, include the entire family in the discussion.

Include children in recovery activities. Give children chores that are their responsibility. This will help children feel they are part of the recovery. Having a task will help them understand that everything will be all right.

You can help children cope by understanding what causes their anxieties and fears. Reassure them with firmness and love. Your children will realize that life will eventually return to normal. If a child does not respond to the above suggestions, seek help from a mental health specialist or a member of the clergy.

(From "Helping Children Cope With Disaster." developed by the Federal Emergency Management Agency and the American Red Cross.)

Disaster Supplies Kit

There are six basics you should stock for your home: water, food, first aid supplies, clothing and bedding, tools and emergency supplies, and special items. Keep the items that you would most likely need during an evacuation in an easy-to-carry container—suggested items are marked with an asterisk(*). Possible containers include a large, covered trash container, a camping backpack, or a duffle bag.

Water

- Store water in plastic containers such as soft drink bottles. Avoid using containers that will decompose or break, such as milk cartons or glass bottles. A normally active person needs to drink at least two quarts of water each day. Hot environments and intense physical activity can double that amount. Children, nursing mothers, and ill people will need more.
- Store one gallon of water per person per day.
- Keep at least a three-day supply of water per person (two quarts for drinking, two quarts for each person in your household for food preparation/sanitation).*

Food

Store at least a three-day supply of non-perishable food. Select foods that require no refrigeration, preparation or cooking, and little or no water. If you must heat food, pack a can of sterno. Select food items that are compact and lightweight. Include a selection of the following foods in your Disaster Supplies Kit:

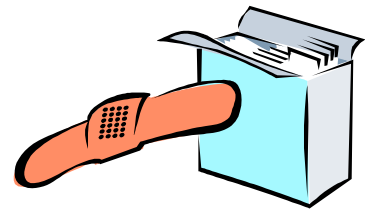
- Ready-to-eat canned meats, fruits, and vegetables.
- Canned juices.
- Staples (salt, sugar, pepper, spices, etc.).
- High energy foods.
- Vitamins.
- Food for infants.
- Comfort/stress foods.



First Aid Kit

Assemble a first aid kit for your home and one for each car:

- Sterile adhesive bandages in assorted sizes.
- Assorted sizes of safety pins.
- Cleansing agent/soap.
- Latex (non-permeable) gloves (2 pairs).
- Sunscreen.
- 2-inch sterile gauze pads (4-6).
- 4-inch sterile gauze pads (4-6).
- Triangular bandages (3).
- Non-prescription drugs.
- 2-inch sterile roller bandages (3 rolls).
- 3-inch sterile roller bandages (3 rolls).
- Scissors.



- Tweezers.
- Needle.
- Moistened towelettes.
- Antiseptic.
- Thermometer.
- Tongue blades (2).
- Tube of petroleum jelly or other lubricant.
- Tape.

Non-Prescription Drugs

- Aspirin or nonaspirin pain reliever.
- Anti-diarrhea medication.
- Antacid (for stomach upset).
- Syrup of Ipecac (use to induce vomiting if advised by the Poison Control Center).
- Laxative.
- Activated charcoal (use if advised by the Poison Control Center).



Tools and Supplies

- Mess kits, or paper cups, plates, and plastic utensils.*
- Emergency preparedness manual.*
- Battery-operated radio and extra batteries.*
- Flashlight and extra batteries.*
- Cash or traveler's checks, change.*
- Non-electric can opener, utility knife.*
- Fire extinguisher: small canister ABC type.
- Tube tent.
- Pliers.
- Tape.
- Compass.
- Matches in a waterproof container.
- Aluminum foil.
- Plastic storage containers.
- Signal flare.
- Paper, pencil.
- Needles, thread.
- Medicine dropper.
- Shut-off wrench, to turn off household gas and water.
- Whistle.
- Plastic sheeting.
- Map of the area (for locating shelters).



Sanitation

- Toilet paper, towelettes.*
- Soap, liquid detergent.*
- Feminine supplies.*
- Personal hygiene items.*
- Plastic garbage bags, ties (for personal sanitation use).
- Plastic bucket with tight lid.
- Disinfectant.
- Household chlorine bleach.



Clothing and Bedding

*Include at least one complete change of clothing and footwear per person.

- Sturdy shoes or work boots.*
- Rain gear.*
- Blankets or sleeping bags.*
- Hat and gloves.
- Thermal underwear.
- Sunglasses.

Special Items

Remember family members with special requirements, such as infants and elderly or disabled persons.

For Baby*

- Formula.
- Diapers.
- Bottles.
- Powdered milk.
- Medications.



For Adults*

- Heart and high blood pressure medication.
- Insulin.
- Prescription drugs.
- Denture needs.
- Contact lenses and supplies.
- Extra eye glasses.

Entertainment

- Games and books.

Important Family Documents

- Keep these records in a waterproof, portable container:
 1. Will, insurance policies, contracts, deeds, stocks and bonds.

2. Passports, social security cards, immunization records.
 3. Bank account numbers.
 4. Credit card account numbers and companies.
- Inventory of valuable household goods, important telephone numbers.
 - Family records (birth, marriage, death certificates).
 - Store your kit in a convenient place known to all family members. Keep a smaller version of the supplies kit in the trunk of your car.
 - Keep items in airtight plastic bags. Change your stored water supply every six months so it stays fresh. Replace your stored food every six months. Re-think your kit and family needs at least once a year. Replace batteries, update clothes, etc.
 - Ask your physician or pharmacist about storing prescription medications.

Emergency Car Kit

- Battery powered radio and extra batteries.
- Flashlight and extra batteries.
- Blanket.
- Booster cables.
- Fire extinguisher (5 lb., A-B-C type).
- First aid kit and manual.
- Bottled water and non-perishable high energy foods, such as granola bars, raisins and peanut butter.
- Maps.
- Shovel.
- Tire repair kit and pump.
- Flares.

General Disaster Preparedness Materials: Children and Disasters

- “Disaster Preparedness Coloring Book” (ARC 2200, English, or ARC 2200S, Spanish) Children & Disasters ages 3-10.
- “Adventures of the Disaster Dudes” (ARC 5024) video and Presenter's Guide for use by an adult with children in grades 4-6.

(From "Disaster Supplies Kit." developed by the Federal Emergency Management Agency and the American Red Cross.)

Food Supplies In Case Of Disaster

How long can food supplies be stored?

To judge how long you can store food supplies, look for an “expiration date” or “best if used by” date on the product. If you can not find a date on the product, then the general recommendation is to store food products for six months and then replace them.

Some households find it helpful to pull food products for their regular meals from their disaster supplies kit and replace them immediately on an ongoing basis, so the food supplies are always fresh.

What kinds of food supplies are recommended to store in case of a disaster?

Try to avoid foods that are high in fat and protein, and don't stock salty foods, since they will make you thirsty. Familiar foods can lift morale and give a feeling of security in times of stress. Also, canned foods won't require cooking, water or special preparation. Take into account your family's unique needs and tastes. Try to include foods that they will enjoy and that are also high in calories and nutrition.

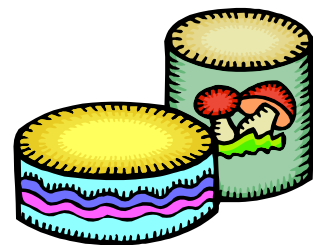
Store supplies of non-perishable foods and water in a handy place. You need to have these items packed and ready in case there is no time to gather food from the kitchen when disaster strikes. Sufficient supplies to last several days to a week are recommended.

Select foods that require no refrigeration, preparation or cooking, and little or no water. Foods that are compact and lightweight are easy to store and carry.

Try to eat salt-free crackers, whole grain cereals and canned food with high liquid content.

Recommended foods include:

- Ready-to-eat canned meats, fruits and vegetables. (Be sure to include a manual can opener.) Canned juices, milk and soup (if powdered, store extra water).
- High energy foods, such as peanut butter, jelly, crackers, granola bars and trail mix.
- Comfort foods, such as hard candy, sweetened cereals, candy bars and cookies.
- Instant coffee, tea bags.
- Foods for infants, elderly persons or persons on special diets, if necessary.
- Compressed food bars. They store well, are lightweight, taste good and are nutritious.
- Trail mix. It is available as a prepackaged product or you can assemble it on your own.
- Dried foods. They can be nutritious and satisfying, but some have a lot of salt content, which promotes thirst. Read the label.
- Freeze-dried foods. They are tasty and lightweight, but will need water for reconstitution.
- Instant Meals. Cups of noodles or cups of soup are a good addition, although they need water for reconstitution.
- Snack-sized canned goods. Good because they generally have pull-top lids or twist-open keys.



- Prepackaged beverages. Those in foil packets and foil-lined boxes are suitable, because they are tightly sealed and will keep for a long time.

Food Options to Avoid:

- Commercially dehydrated foods. They can require a great deal of water for reconstitution and extra effort in preparation.
- Bottled foods. They are generally too heavy and bulky, and break easily.
- Meal-sized canned foods. They are usually bulky and heavy.
- Whole grains, beans, pasta. Preparation could be complicated under the circumstances of a disaster.

What is the basis for the Red Cross recommendation to store supplies to last several days to a week?

Red Cross recommendations to have food, water, and other emergency supplies on hand are not new, and are considered reasonable in case of any disaster. Recommendations are to have supplies to last several days to a week. Most reasonable people would not consider such quantities of supplies as a “stockpile” or “hoarding.”

Some families may choose to store supplies to last several weeks or more. Certainly, if they wish to do so, they may. It is always wise to have sufficient food and water supplies on hand in case access to such supplies may be disrupted by a disaster.

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Water Storage Before Disaster Strikes

Use directions provided by your local or state public health agency. In the case where your local or state public health agency does not have information, follow the recommendations below.

What kinds of containers are recommended to store water in?

Make sure the water storage container you plan to use is of food grade quality, such as 2-liter soda bottles, with tight-fitting screw-cap lids. Milk containers are not recommended because they do not seal well.

Should water be treated before storing it?

If your local water is treated commercially by a water treatment utility, you do not have to treat the water before storing it. Treating commercially-treated water with bleach is superfluous and not necessary. Doing so does not increase storage life. It is important to change and replace stored water every six months or more frequently.

If your local water is not treated commercially by a water treatment facility, that is, if your water comes from a public well or other public, non-treated system, follow instructions about water storage provided by your public health agency or water provider. They may recommend treating it with a small amount of liquid household bleach. Still, it is important to change and replace stored water every six months or more frequently.



If your local water comes from a private well or other private source, consult with your local public health agency about recommendations regarding storage of water. Some water sources have contaminants (minerals or parasites) that can not be neutralized by treatment with liquid household chlorine bleach. Only your local public health agency should make recommendations about whether your local water can be safely stored, for how long, and how to treat it.

Can I use bottled water?

If you plan to use commercially prepared “spring” or “drinking” water, keep the water in its original sealed container. Change and replace the water at least once a year. Once opened, use it and do not store it further.

For more information, contact your local Red Cross chapter and ask for the brochure titled *Food and Water in an Emergency (A5055)*.

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Food And Water In An Emergency

If an earthquake, hurricane, winter storm or other disaster strikes your community, you might not have access to food, water and electricity for days, or even weeks. By taking some time now to store emergency food and water supplies, you can provide for your entire family. This brochure was developed by the Federal Emergency Management Agency in cooperation with the American Red Cross and the U.S. Department of Agriculture.

Having an ample supply of clean water is a top priority in an emergency. A normally active person needs to drink at least two quarts of water each day. Hot environments can double that amount. Children, nursing mothers and ill people will need even more. You will also need water for food preparation and hygiene. Store a total of at least one gallon per person, per day. You should store at least a two-week supply of water for each member of your family.

If supplies run low, never ration water. Drink the amount you need today, and try to find more for tomorrow. You can minimize the amount of water your body needs by reducing activity and staying cool.

Water Supplies

Emergency Outdoor Water Sources

If you need to find water outside your home, you can use these sources. Be sure to treat the water according to the instructions on the next page before drinking it.

- Rainwater.
- Streams, rivers and other moving bodies of water.
- Ponds and lakes.
- Natural springs.

Avoid water with floating material, an odor or dark color. Use saltwater only if you distill it first. You should not drink flood water.

Hidden Water Sources in Your Home

If a disaster catches you without a stored supply of clean water, you can use the water in your hot-water tank, pipes and ice cubes. As a last resort, you can use water in the reservoir tank of your toilet (not the bowl).

Do you know the location of your incoming water valve? You'll need to shut it off to stop contaminated water from entering your home if you hear reports of broken water or sewage lines. To use the water in your pipes, let air into the plumbing by turning on the faucet in your house at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the house.

To use the water in your hot-water tank, be sure the electricity or gas is off, and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve and turn-

ing on a hot-water faucet. Do not turn on the gas or electricity when the tank is empty.

Three Ways to Treat Water

In addition to having a bad odor and taste, contaminated water can contain microorganisms that cause diseases such as dysentery, typhoid and hepatitis. You should treat all water of uncertain purity before using it for drinking, food preparation or hygiene.

There are many ways to treat water. None is perfect. Often the best solution is a combination of methods.

Two easy treatment methods are outlined below. These measures will kill most microbes but will not remove other contaminants such as heavy metals, salts and most other chemicals. Before treating, let any suspended particles settle to the bottom, or strain them through layers of paper towel or clean cloth.

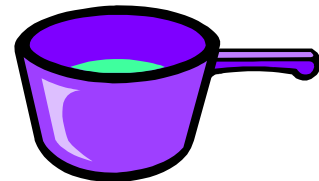
Boiling: Boiling is the safest method of treating water. Bringing water to a rolling boil for at least one minute will kill most organisms, keeping in mind that some water will evaporate. Let the water cool before drinking. Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This will also improve the taste of stored water.

Disinfection: You can use household liquid bleach to kill microorganisms. Use only regular household liquid bleach that contains 5.25 percent sodium hypochlorite. Do not use scented bleaches, colorsafe bleaches or bleaches with added cleaners.

Add 16 drops of bleach per gallon of water, stir and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand another 15 minutes.

The only agent used to treat water should be household liquid bleach. Other chemicals, such as iodine or water treatment products sold in camping or surplus stores that do not contain 5.25 percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

While the two methods described above will kill most microbes in water, distillation will remove microbes that resist these methods, and heavy metals, salts and most other chemicals.



Distillation: Distillation involves boiling water and then collecting the vapor that condenses back to water. The condensed vapor will not include salt and other impurities. To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.

Food Supplies

When Food Supplies Are Low

If activity is reduced, healthy people can survive on half their usual food intake for an extended period and without any food for many days. Food, unlike water, may be rationed safely, except for children and pregnant women.

If your water supply is limited, try to avoid foods that are high in fat and protein, and don't stock salty foods, since they will make you thirsty. Try to eat salt-free crackers, whole grain cereals and canned foods with high liquid content.

You don't need to go out and buy unfamiliar foods to prepare an emergency food supply. You can use the canned foods, dry mixes and other staples on your cupboard shelves. In fact, familiar foods are important. They can lift morale and give a feeling of security in time of stress. Also, canned foods won't require cooking, water or special preparation. The following are recommended short-term food storage plans.

Special Considerations

As you stock food, take into account your family's unique needs and tastes. Try to include foods that they will enjoy and that are also high in calories and nutrition. Foods that require no refrigeration, preparation or cooking are best.

Individuals with special diets and allergies will need particular attention, as will babies, toddlers and elderly people. Nursing mothers may need liquid formula, in case they are unable to nurse. Canned dietetic foods, juices and soups may be helpful for ill or elderly people.

Make sure you have a manual can opener and disposable utensils. And don't forget nonperishable foods for your pets.

How to Cook If the Power Goes Out

For emergency cooking you can use a fireplace, or a charcoal grill or camp stove can be used outdoors. You can also heat food with candle warmers, chafing dishes and fondue pots. Canned food can be eaten right out of the can. If you heat it in the can, be sure to open the can and remove the label first.

Short-Term Food Supplies

Even though it is unlikely that an emergency would cut off your food supply for two weeks, you should prepare a supply that will last that long.

The easiest way to develop a two-week stockpile is to increase the amount of basic foods you normally keep on your shelves.

Storage Tips

- Keep food in a dry, cool spot—a dark area if possible.

- Keep food covered at all times.
- Open food boxes or cans carefully so that you can close them tightly after each use.
- Wrap cookies and crackers in plastic bags, and keep them in tight containers.
- Empty opened packages of sugar, dried fruits and nuts into screw-top jars or air-tight cans to protect them from pests.
- Inspect all food for signs of spoilage before use.
- Use foods before they go bad, and replace them with fresh supplies, dated with ink or marker. Place new items at the back of the storage area and older ones in front.

Nutrition Tips

During and right after a disaster, it will be vital that you maintain your strength. So remember:

- Eat at least one well-balanced meal each day.
- Drink enough liquid to enable your body to function properly (two quarts a day).
- Take in enough calories to enable you to do any necessary work.
- Include vitamin, mineral and protein supplements in your stockpile to assure adequate nutrition.

Shelf-life of Foods for Storage

Here are some general guidelines for rotating common emergency foods.

Use within six months:

- Powdered milk (boxed).
- Dried fruit (in metal container).
- Dry, crisp crackers (in metal container).
- Potatoes.

Use within one year:

- Canned condensed meat and vegetable soups.
- Canned fruits, fruit juices and vegetables.
- Ready-to-eat cereals and uncooked instant cereals (in metal containers).
- Peanut butter.
- Jelly.
- Hard candy and canned nuts.
- Vitamin C.

May be stored indefinitely (in proper containers and conditions):

- Wheat.
- Vegetable oils.
- Dried corn.
- Baking powder.
- Soybeans.
- Instant coffee, tea and cocoa.
- Salt.
- Noncarbonated soft drinks.

- White rice.
- Bouillon products.
- Dry pasta.
- Powdered milk (in nitrogen-packed cans).

Disaster Supplies

It's 2:00 a.m. and a flash flood forces you to evacuate your home—and fast. There's no time to gather food from the kitchen, fill bottles with water, grab a first-aid kit from the closet and snatch a flashlight and a portable radio from the bedroom. You need to have these items packed and ready in one place before disaster strikes.

Pack at least a three-day supply of food and water, and store it in a handy place. Choose foods that are easy to carry, nutritious and ready-to-eat. In addition, pack these emergency items:

- Medical supplies and first aid manual.
- Hygiene supplies.
- Portable radio, flashlights and extra batteries.
- Shovel and other useful tools.
- Household liquid bleach to treat drinking water.
- Money and matches in a waterproof container.
- Fire extinguisher.
- Blanket and extra clothing.
- Infant and small children's needs (if appropriate).
- Manual can opener.



If the Electricity Goes Off . . .

- **FIRST**, use perishable food and foods from the refrigerator.
- **THEN**, use the foods from the freezer. To minimize the number of times you open the freezer door, post a list of freezer contents on it. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers (meaning foods are safe to eat) for at least three days.
- **FINALLY**, begin to use non-perishable foods and staples.

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Bibliography

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www.aap.org

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www.apic.org

Centers for Disease Control and Prevention: *Public Health Emergency Preparedness and Response*
www.bt.cdc.gov

Center for the Study of Bioterrorism at the Saint Louis University School of Public Health
bioterrorism.slu.edu

Department of Health and Human Service: Homepage for Metropolitan Medical Response System (MMRS) information
www.mmrs.hhs.gov/

Johns Hopkins Medicine: Center for Civilian Biodefense Strategies
www.hopkins-biodefense.org

Northwest Center for Public Health Practice at the University of Washington School of Public Health and Community Medicine: *Bioterrorism Training Tools; Hands-on Training for Public Health Emergencies*
healthlinks.washington.edu/nwcphp

Seattle and King County Public Health. “*Update on Bioterrorism Preparedness: The role of Public Health and health care providers.*”
www.metrokc.gov

The U.S. Army Medical Research Institute of Infectious Diseases
www.usamriid.army.mil

U.S. Army Office of the Surgeon General: The Medical NBC (Nuclear, Biological, Chemical) Online Information Server
www.nbc-med.org

U.S. Food and Drug Administration: Bioterrorism
www.fda.gov

Unit 6: Bioterrorism and Infectious Diseases

Instructional Activities

To view the following activities, click on the websites below.

Ages 2-6

www.pkids.org/266.pdf

Ages 6-9

www.pkids.org/696.pdf

Ages 9-12

www.pkids.org/9126.pdf

Teens

www.pkids.org/teen6.pdf

Adults

www.pkids.org/adult6.pdf