

# Safety Packet for Volunteer Efforts after Disasters

Covered Topics:

Page

• General Safety After Storm.....	1
• Food and Water Safety.....	2
• Dehydration.....	4
• Heat Exhaustion.....	5
• Heart Attack Symptoms.....	5
• Electrical Safety After a Disaster.....	6
• Proper Sewage Clean-Up Procedures.....	6
• Hygiene.....	7
• Mosquitoes.....	7
• Chainsaw Safety.....	8
• Roof Safety.....	10
• Ladder.....	10
• Snake Safety.....	11
• Coping With Stress.....	12
• Important Phone Numbers and Websites.....	13

Storm impacted areas are unstable and dangerous. **BEFORE ENTERING ANY LOCATION: LOOK UP, LOOK DOWN, LOOK ALL AROUND** for any potential hazards. Enter each situation carefully and thoughtfully.

## General Safety

Serious injury can result for anyone dealing with the aftermath of a major storm, tornado, or other disaster, so it's wise to be overly cautious.

- Walk or drive cautiously. Debris-filled streets are dangerous. Snakes and rodents may be a hazard. Washouts may weaken road and bridge structures and could collapse under vehicle weight.
- Before entering a building, check for structural damage. Make sure it's not in danger of collapsing. Turn off any outside gas lines and let the house air for several minutes to remove escaping gas.
- When entering a building, don't use open flame as a light source. Use a battery-operated flashlight.
- Be sure children are safe and being cared for at all times. Never leave young children alone or allow them to play in damaged buildings or areas that might be unsafe.
- Treat and clean all minor wounds quickly to avoid infection.
- Keep chemicals used for disinfecting and poisons used for insect and rodent control out of the reach of children.

- Wear protective clothing on legs, arms, feet and hands while cleaning up debris. Wear rubber gloves while scrubbing flood-damaged interiors and furniture.
- Pace yourself, you may be on-scene for long hours with no days off. Drink lots of water and take frequent breaks when possible.

## **Food and Water**

### **Water**

After a major storm you must assume that all water sources are contaminated until proven safe. Purify all water used for drinking, cooking and for washing eating and cooking utensils. Also purify the water used for washing hands, body and kitchen and bathroom surfaces.

Until services are full restored every effort should be made to conserve water usage. Fix any plumbing leaks as soon as possible to save drinkable water.

Do not use water that has a dark color, an odor, or contains floating material.

*To disinfect water*, use **ONE** of the following methods:

1. Boil at a rolling boil for 10 minutes.
2. Add eight drops of liquid chlorine bleach (such as Clorox) per gallon of water (about 1/8 tsp – this would make a puddle the size of a dime). Make sure the bleach has no active ingredient other than 4 percent to 6 percent sodium hypochlorite. Mix the bleach and water thoroughly. Let it stand for 30 minutes. The water should still have a slight chlorine odor. If it does not, add another dose of chlorine and let stand for another 15 minutes.

#### **Percent chlorine Drops per gallon of water**

1%	40
4% to 6%	8
7% to 10%	4

3. Add 20 drops of 2 percent iodine per gallon of clear water or 40 drops per gallon of cloudy water.
4. Add water purification tablets according to directions on the package. These tablets can be bought at most drug and sporting goods stores.

Household bleach is acceptable, as long as it is a pure bleach product, without additives such as soap, detergent, or perfumes. The amount of bleach required depends on the strength of the product and the amount of water.

Household iodine, such as used for first aid purposes, is also used to purify water. Use iodine that is 2% USP (United States Pharmacopoeia) strength. The amount for

disinfection is 20 drops per gallon for clear water. Let the water stand for 20 to 30 minutes. If the water is cloudy, double the amount of iodine. If the water is cold (below 50 degrees Fahrenheit), wait at least an hour. Iodine can cause the water to have an off-taste.

Stores catering to hikers and campers, or drug stores, usually carry chlorine or iodine in tablet, crystal, or drop form to use for disinfecting water. Follow product directions carefully.

Always use clean or purified water to wash any parts of the body that have come in contact with surfaces contaminated by flood waters.

Water in water pipes and toilet flush tanks (not bowls) is safe to drink if the valve on the main water line was closed before the flood.

## **Food Safety**

Storm-damaged foods may not be safe to eat. If you have a question about the safety of any item, dispose of it. Otherwise, keep the following points in mind:

- Destroy the following foods if they have been covered by flood waters: fresh fruits and vegetables; foods in cardboard or paper cartons; foods in bags, such as rice and flour; foods, liquids or beverages in crown-capped bottles or containers with pull-tops, corks or screw caps. This includes canned foods in glass jars, whether you bought them or canned them yourself.
- Destroy all foods that were covered by water which may have been contaminated with industrial waste. This includes those foods sealed in unopened cans.
- Foods in sealed cans not fouled by industrial waste may be safe to eat if the cans don't have bulges or leaks, but you must first disinfect the cans before you open them.
- To disinfect cans, remove labels and wash the containers with soap or detergent. Rinse in a chlorine bleach solution using two tablespoons of household laundry bleach to each gallon of water. Rinse containers in clean water, dry and re-label them. The cans can also be sterilized by covering with water and boiling for at least 10 minutes.

## **Frozen Foods**

In the event of a power failure, frozen or refrigerated foods warmed to above 40 F for two to three hours may not be safe to eat.

Once-frozen foods which have thawed completely and warmed to temperatures above 40 F should be cooked or eaten immediately or discarded. After cooking, items can be refrozen.

Partially thawed frozen foods with ice crystals may be safely refrozen.

Breads can be refrozen as well as fruits and vegetables that are still at or below 40 degrees.

Discard all stuffed poultry.

Do not refreeze frozen dinners that have thawed.

Discard any meat that has a questionable odor or has reached 40 F for two hours.

Foods in a freezer without power may stay frozen from one to three days, depending on these conditions:

1. The door must remain closed.
2. The freezer must be mostly full.
3. The temperature outside must be moderate.
4. The freezer must be large and well-insulated.

Dry ice can be placed in a freezer on boards or heavy paper on top of packages to keep temperatures below freezing. Allow 2.5 to three pounds of dry ice per cubic foot of space. More will be needed in an upright freezer, because dry ice should be placed on each shelf. Dry ice can cause burns; don't handle dry ice with bare hands.

Save liquids from canned vegetables to substitute for water in cooked dishes.

Juices from canned fruits can be used as salad dressing or as a beverage.

If you can't reach the county Extension office, you can get up-to-date information on food safety from the USDA Meat and Poultry Hotline, (800) 535-4555, from 10 a.m. to 4:00 p.m. Eastern, Monday through Friday.

## **Dehydration**

To avoid becoming dehydrated it is important to drink plenty of fluids, especially water, even if you don't feel thirsty. This is particularly true on days when temperatures reach 90 degrees Fahrenheit (F) and higher. Depending upon your physical activity and heat exposure, it's a good idea to drink more water. Persons who have medical conditions that require a fluid restrictive diet or who have a problem with fluid retention should consult a physician before increasing their consumption.

**Babies from birth – 6 months:** healthy infants normally do not need extra water. On a hot day, a small amount of water may be needed, but check with your physician on how much to give.

**Babies from 6-12 months:** Breast or formula fed babies that are receiving solid foods should also be receiving water.

**Children 12 months and older:** should be reminded to drink fluids, preferably water throughout the day. They should be encouraged to drink more on hot days.

**Adults:** When exposed to temperatures reaching 90 F and higher, depending on physical activity level and heat exposure, adults should drink even more water.

Help to avoid becoming dehydrated by staying out of the direct sun, wearing light colored loose fitting clothing, limited physical activity and using fans when available.

## **Heat Exhaustion**

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluid. Those most prone to heat exhaustion are elderly people, people with high blood pressure and people working or exercising in a hot environment.

### Warning Signs of Heat Exhaustion May Vary But May Include the Following:

- Heavy Sweating
- Paleness
- Muscle Cramping
- Tiredness
- Weakness
- Dizziness
- Headache
- Nausea or Vomiting
- Fainting
- Skin: may be cool and moist
- Pulse rate: fast and weak
- Breathing: fast and shallow

If heat exhaustion is untreated, it may progress to heat stroke. Seek medical attention immediately if any of the following occurs:

- Symptoms are severe
- The victim has heart problems or high blood pressure

### What to do if heat exhaustion is suspected:

Cooling measures that may be effective include the following:

- Drinking cool, non-alcoholic beverages, as directed by your physician
- Resting in an air-conditioned environment
- Taking a cool shower, bath or sponge bath
- Wearing lightweight clothing
- Preventing sun burn, which damages the skin's ability to dissipate heat. Prevent burning by wearing sunscreen of 30 SPF or greater.

## **Heart Attack Symptoms**

While some heart attacks are sudden and intense, many start slowly, with mild pain or discomfort. If you or someone you are with begins to have chest discomfort, especially with one or more of the other signs of a heart attack, call 911 immediately.

Warning Signs of a heart attack include the following:

- **Chest Discomfort:** Most attacks involve discomfort in the center of the chest that lasts more than a few minutes or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness of pain.
- **Discomfort in other areas of the upper body:** Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- **Shortness of breath:** May occur before, with or without chest discomforts.
- **Other Signs:** Breaking out in a cold sweat, nausea or light-headedness.

If someone you're with shows one or more of these signs, don't ignore them. Call 911 immediately. Don't wait longer than a few minutes to call. Learn the symptoms so you can diagnose and call for assistance quickly.

## **Electrical Safety after a Disaster**

- Beware of outdoor hazards. Watch out for loose or dangling power lines, and report them immediately to proper authorities. It is not unusual in a disaster such as this for more people to be killed by carelessness in the aftermath than were killed by the event itself.
- When in doubt stay away from any wire that might be live.
- If residential service wire is intact from feeder line on road it must be considered live and dangerous at the box.
- Be sure all electric and gas services are turned off before entering buildings for the first time.
- Disconnect main switch and all circuits.
- Watch for electrical shorts or live wires. Don't turn on any lights or appliances until an electrician has checked the system for short circuits.
- Electric motors in appliances that have been flooded should be thoroughly cleaned and reconditioned before they are put back into service.

## **Proper Sewage Clean-Up Procedures**

Heavy rainfall from hurricanes may result in flood waters that are contaminated with sewage. Proper cleaning and disinfecting procedures are recommended to prevent illness.

**How to clean up sewage contaminated items and sewage spills inside the home:**

- Wear protective clothing such as rubber boots and waterproof gloves.
- Clean walls, hard-surfaced floors, and other household surfaces with soap and water and disinfect with a solution of 1/4 cup of bleach in one gallon of water.

Once cleanup is finished completely dry out all affected items to prevent the growth of mold.

- Do not mix ammonia cleansers with bleach as toxic vapors will form.
- Wash all linens and clothing in hot water or dry-clean them.
- Discard Items that cannot be washed or dry cleaned, such as mattresses, carpeting, wall coverings and upholstered furniture.

**Follow proper hygiene procedures to prevent illness:**

- Keep hands and fingers away from the nose, mouth, eyes, and ears.
- Wash hands with soap and water immediately after cleanup efforts as well as before eating or drinking.
- Keep fingernails short and clean. Use a stiff brush to remove dirt and foreign materials.
- Do not store fresh work clothes with used work clothes.
- Shower after each work day.

**Hygiene**

- Always wash your hands with soap and water that has been boiled or disinfected and cooled.
- **Wash hands:** Before preparing or eating food, after using the bathroom or changing a diaper, after handling uncooked food, after handling garbage, after tending to someone who is sick or injured, after participating in flood cleanup activities, and after handling articles contaminated with flood water or sewage
- If you have cuts or open sores keep them as clean and dry as possible to avoid infection from contaminated materials. Apply antibiotic ointment to reduce the risk of infection.

**Mosquitoes**

- Heavy rains and flooding can lead to an increase in mosquitoes due to increased breeding area of water. Mosquitoes are most active at sunrise and sunset. Public health authorities will work actively to control the spread of any diseases transmitted by mosquitoes.
- To protect against mosquitoes you should follow the “5 D’s” for prevention and protection:
- Dusk and Dawn – Avoid being indoors when mosquitoes are seeking blood, for many species this is during dusk and dawn.
- Dress – Wear clothing that covers most of your skin.
- DEET – Use repellants containing DEET (N, N-diethyl-meta-tolamide, or N, N-diethyl-3-methylbenzamide). Picaridin and oil lemon eucalyptuses are other repellent options. DEET is not recommended on children under 2 months of age.

- DEET is a powerful chemical substance that will dissolve plastics and other like materials.
- Infants should be kept indoors or mosquito netting should be used when over carriers when mosquitoes are present.

### **Carbon Monoxide**

Carbon monoxide is an invisible, odorless, tasteless gas, and is highly poisonous. CO may cause fatigue, weakness, and chest pains for those with heart disease, shortness of breath upon exertion, nausea, vomiting, headaches, confusion, lack of coordination, impaired vision, loss of consciousness, and in severe cases death.

- Never use a generator indoors, including in homes, garages, basements, crawl spaces, and other enclosed or partially enclosed areas, even with ventilation. Opening doors and windows or using fans will not prevent CO build-up in homes.
- ALWAYS locate the generator unit outdoors, on a dry surface, away from anything that will allow CO to come indoors.
- If you start to feel sick, dizzy, or weak while using a generator, get to fresh air right away.
- If you have a poisoning emergency, call your the Florida Poison Information Center at 1-800-222-1222. If the victim has collapsed or is not breathing, call 911 immediately.

### **Chainsaw Safety**

Chain saws can be great labor saving tools. But if not operated properly and with respect, they can quickly cause severe injury and death. This leaflet cannot address every potential hazard you may encounter while using a chain saw. If you are not familiar with techniques of sawing, saw operation, or maintenance, read your owner's manual, consult a more detailed publication, or ask a dealer for more information.

#### **Do You Need to Use a Chain Saw?**

If you have only small branches (four inches or less), use a hand saw or axe. Chain saws are not suited for cutting such small branches.

Read the owner's manual before operating a chain saw for the first time. Note the safety practices. Note how to check and adjust the chain tension. It's important for safe operation.

#### **Personal Protective Equipment**

One of the best safeguards against injury is wearing the proper protective equipment.

This includes:

- safety glasses or goggles
- heavy-duty, non-slip gloves

sturdy non-slip shoes  
hearing protection  
trim fitting clothes (not loose or ragged)  
long-sleeve shirt and pants (chaps if you have them)  
hardhat

### **Transporting the Saw**

Put the chain guard on the saw when not in use. Always carry the saw at your side with the cutting bar and chain to the rear and to the outside. Never carry a chain saw in the passenger area of a vehicle.

Use the fuel mix recommended by the manufacturer. Never fuel a hot chain saw; let it cool first. Always fuel in a clear area away from debris. If your fuel can has no spout, use a funnel. Wipe the saw clean of any spilled fuel after fueling. Never smoke while fueling.

### **Starting the Chain Saw**

There is only one safe way to start a chain saw:

1. Move 10 feet or more away from the fueling area.
2. Place the saw in a clear, debris-free area.
3. Hold the saw firmly on the ground by putting your foot through the rear handle (if possible) and by holding it down with one hand on the top handle. Pull the starter cord with the other hand. The chain should not be moving while the saw is idling.
4. Never start the saw while holding it off the ground, or by "drop starting" it.

### **Preparing to Cut**

Clear away anything that has a chance of interfering with the operation. Remove debris that could cause you to slip or lose your balance or accidentally contact the chain. Keep both hands firmly on the saw when cutting.

### **Avoiding Kickback**

Kickback occurs when the saw rotates back, or "kicks back" at the operator, due to the nose of the saw contacting an object or obstruction. To prevent kickback:

1. Use a saw equipped with chain brake or kickback guard.
2. Hold the saw firmly with both hands. Grip the top handle by putting the thumb around it.
3. Watch for twigs that can snag the chain.
4. Don't pinch the chain while cutting the log.
5. Saw with the lower part of the bar close to the bumper, not on the top near the nose.
6. Maintain high saw speed when entering or leaving a cut.

7. Keep the chain sharp.
8. Do not reach above your shoulder to cut. The chain is too close to your face in this position.
9. Never cut damaged trees from a ladder.
10. Maintain a balanced stance. Never over-reach to cut, stop and reposition feet for a better stance.

## **Fatigue**

Many injuries occur because the operator got tired or withstood long periods of saw vibration. Take frequent breaks and stay hydrated.

## **Felling, Limbing, and Bucking**

Cutting down large trees is not simple and should be left to experienced operators who have felled trees before. Limbing requires proper position and consideration of kickback potential, the springing back of branches, and the chance the log will roll. Bucking (cutting a log into lengths) requires knowing how to block the log to prevent binding, kickback, and rolling. If you are not familiar with these operations, get more information from your owner's manual, a saw dealer, a book or video, or from an experienced operator.

## **Roofing Safety**

Basic roof safety can reduce risk and provide a safer workspace. There are a few important tips provided by American Plywood Association (APA).

- Tie-Off – On a steeply pitched roof, be sure to wear a safety harness that is securely tied off to a fall resistant device
- Avoid slippery roofs – When the roof is slippery from rain or dew the best precaution is to wait until the roof surface is dry.
- Keep it clean – Make sure someone keeps the roof clean by frequently sweeping up sawdust, wood, shingle particles and other kinds of dirt.
- Wear rubber-soled shoes or boots – Rubber-soled boots typically provide better traction than leather-soled boots.
- Install temporary wood cleats for toe-holds – Nail 2''x 4'' wood cleats or adjustable roof jacks to the roof to provide temporary toe-holds. Remove the cleats or roof jacks as roofing is finished.
- Constantly inspect the roof and immediately remove any possibly tripping hazards. Tools, electric cords and other loose items can all pose hazards and should be removed from the roof.

## **Ladder Safety**

- Never over-reach to either side while on a ladder. A good rule to follow is to keep your belt buckle between the rails.

- Inspect your ladder every time it is set up for use. Check for any visible defects or wear and that it is correctly anchored and properly positioned.
- To achieve the proper ladder angle the bottom position should be one-quarter the height of the wall away from the wall.
- Do not use a ladder, regardless of material, in the vicinity of power lines or electrical hazards.
- The best material for a ladder is fiber glass. Wood deteriorates when used outdoors.
- When purchasing a ladder consider getting the highest rating of 1A or 300lbs limit.

## **Snake Safety**

Many snakes, like other residents in the path of a major storm, have been displaced and left homeless. As a result, it is common to find these animals seeking shelter and food in areas close to people. Some of these areas include the inside of houses, storage sheds, barns, and other buildings. Damaged structures have a higher probability of attracting snakes due to the many accessible entrances. In addition, displaced snakes may also be found under debris scattered by the storm or in debris piles created during the cleanup effort.

In the South there are much more species of nonpoisonous snakes than poisonous snakes. It's important to realize that both poisonous and nonpoisonous snakes are beneficial to people through keeping rodent populations down. Since rodents are also displaced by storms, this is especially important.

### **Outdoors:**

- Watch where you put your hands and feet when removing or cleaning debris. If possible, don't put your fingers under debris you intend to move.
- Wear snake-proof boots at least 10 inches high and/or snake leggings in heavy debris areas where snakes are likely to be found.
- Never step over logs or other obstacles unless you can see the other side.
- Watch for snakes sunning on fallen trees, limbs, and other debris.
- If you encounter a snake, step back and allow the animal to proceed on its way. Snakes are usually not fast-moving animals and a person can easily retreat from the snake's path.

### **Indoors:**

If you find a snake in your house, try to isolate the snake within a small area of the house.

- Nonpoisonous snakes can be captured by pinning the snake down with a long stick or pole, preferably forked at one end, and then removed by scooping up with a snow shovel or flat-blade shovel.

- If you are uncomfortable about removing the snake yourself, seek someone within the community who has experience handling snakes who could do an effective job for you. A good starting point is your local wildlife conservation officer or sheriff's department.
- As a last resort, you may need to kill a poisonous snake. Club it with a long stick, rod, or other tool. Never attempt to kill a poisonous snake with an instrument that brings you within the snake's striking range (usually estimated at less than one-half the total length of the snake).
- All openings around the house 1/4 inch and larger should be sealed to exclude snakes. Check areas such as corners of doors and windows, around water pipes, and electrical service entrances. Holes in masonry foundations should be sealed with mortar to exclude snakes. Holes in wooden buildings can be sealed with fine 1/8-inch mesh hardware cloth and/or sheet metal.
- Remove debris from around the house as soon as possible. The debris attracts rodents that snakes feed on and also provides shelter for the snakes. Vegetation around the house should be kept closely mowed.
- No legal toxicants or fumigants kill snakes. Repellents and traps work with limited success.
- If you are bitten by a poisonous snake, don't try to treat the bite yourself. Go to the nearest hospital for treatment immediately. Try to make a mental note of the appearance of the snake for identification and treatment purposes.
- Learn to identify nonpoisonous and poisonous snakes. Information on snake identification can be obtained from your county Extension office or from your state's wildlife department.

## **Coping With Stress**

A natural disaster not only leaves a trail of property destruction in its wake, many times it leaves thousands of its victims with a damaged sense of balance. In addition to restoring buildings and replacing material possessions, during the recovery period, victims may need to devote time to restoring their own emotional equilibrium. This can be especially important for children who do not have years of life experience to guide them.

### **Tips**

- Be extra patient.
- Determine what's really important, keeping in mind that your spouse's viewpoint on what should be considered top priority may be different from yours.
- Don't expect things to instantly restore themselves. Accept that restoration (both physical and emotional) takes time.
- Realize that disaster victims have suffered losses and it's natural for them to express disbelief, anger, sadness, anxiety, and depression afterwards.
- Realize that the emotions of victims will roller-coaster and moods can change unexpectedly.

- Don't overlook the feelings of children as you deal with the situation. They need to feel that they can count on you for the extra attention, love and support needed to get through.
- Reassure them, making sure they understand they are not responsible for the problems you face.
- Try to keep your family diet as nourishing as possible under the circumstances.
- Refocusing on the big picture, instead of the little details and the little problems, will give you a sense of competency.
- Talk with friends, family, counselors or members of the clergy. In crisis situations, a supportive network is essential.
- Be aware of the tendency to resort to bad habits when you are under stress.

### **Important Numbers:**

Florida Emergency Information Line: 1-800-342-3557

Public Information Emergency Support Function: 850-921-0384

To Volunteer and Donate Goods: 1-800-FL-Help1 (354-3571)

### **Important Websites:**

Florida Department of Health: [www.doh.state.fl.us](http://www.doh.state.fl.us).

Florida Disaster Information: [www.Floridadisaster.org](http://www.Floridadisaster.org).

Safety Information on Dennis: [http://www.doh.state.fl.us/Hurricane/dennis\\_index.html](http://www.doh.state.fl.us/Hurricane/dennis_index.html).

### **References:**

Virginia Cooperation Extension. "After a Disaster: Series of Publications." Virginia Polytechnic and State Institute. Virginia State University.  
<http://www.ext.vt.edu/pubs/disaster/disaster.html>

National Park Service. (1987). Is the water safe? Read this before you drink. Washington, DC.

Parrott, K., Ross, B., Roberts, T., Wilson, A., & Woodard, J. (1998). Buying Bottled Water (356-486). Virginia Cooperative Extension.

Vernier, V. G. (May/June, 1994). Walking well. Appalachian Trailways News, 55 (2).

Woodard, J., Ross, B., & Parrott, K. (1998). Bacteria and Other Microorganisms in Household Water (356-487). Virginia Cooperative Extension

