The "HOW TO PREPARE FOR CAMPING&EMERGENCY"Survival Guide, TIPS, PLANS & CHECK LISTS

Dear Valued Customer,We just want to say thanks again for your purchase and hope you would enjoy and can use this ebook to help and Be Prepared For water storage with our tips and instructions.

Whether you intend to purchase them now for enjoyment such as outdoor camping, or just being prepared and having them on hand for an emergency, you' ve made a smart choice! We would love to hear all your creative suggestions and feedbacks when you use our ITRAZ water containers! Visit our Facebook page to share your experience with our water containers.

We created ITRAZ water containers with two main goals in mind:

To make alert. Not only for its fun and convenient uses, but also for an emergency preparation. As we know, water is the necessity to survive for our daily life, it is one of the hardest things to find clean drinking water during and after a natural disaster, such as a hurricane or earthquake. We always need to be prepared for daily water storage or for emergent occasions in the future.

We suppose that our water containers will be the best (durable, reliable, convenient, affordable) and most useful water storage container that people will love and continue to find new way for future use.

If you have any questions or problems, please contact us at **WWW.ITRAZSPORTS.COM** and we will do everything we can to assist you.

Wishing You would have a happy time when you use our water containers PS: Be sure to print a copy of this ebook so you can easily refer to it when needed. Keep a copy of it in your Emergency Supply Kit! If you don't have one and live in an area where you have the potential for hurricanes or other natural disasters, then please be sure to read this ebook!

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1.1 CHOOSE PLACES TO CAMP

Choosing where to camp and knowing how to be a good shelter are essential skills. A wide variety of housing construction methods using available materials are described, from the simplest windbreaks to housing suitable for long-term residence.

You need to start a fire and choose the right fireproof structure. Fire is needed for general heating and cooking purposes. Guidance on food preparation, cooking and preservation will ensure food safety, not waste. Camp organization and hygiene are as important to the health and morale of individual survivors as they are to the health and morale of a large group of survivors.

Making tools, camp equipment, clothes, ropes and nets will improve survival, and knotting techniques will be useful.

Shelter from the wind and rain, warmth, tents and tents are essential. Sleep and adequate rest are necessary, and the time and energy you spend in making your residence comfortable will make them more accessible. If you are the victim of a plane crash or vehicles, let you down, it is the traditional dwelling or material could be built - but the threat of a tank if there is a fire or explosion, until it burned before fishing if you are no ability to the victims of the accident, is be unexpected fog or by nightfall on terrain is unsafe, or tired or hurt make you go further, you might have to do with the night, or until you can more fully assess the situation. In this case, almost any protection from wind, rain and cold will be protected. If moving down the slope seems risky, a short walk along the contour line might keep you out of the wind. If there are no holes or gaps to cover, use any gaps on the ground. Increase its height by heaping stones if possible - but make sure any structure is stable, using the leeward plate before landing on the downwind side if you have a backpack.

If there's still light to see, and you're not harmed in any way to hold you back, nor isolated by the inability to negotiate cliffs or other obstacles, it's worth looking for a better place nearby. Long camp you should find a safe place for easy access to your main needs, if you are in a high exposed area of the camp to find a shelter, but on a low, wet ground you need to safely climb higher and find a place to do it. Look for a shelter from the wind, on high ground where there is no danger of flooding, and away from

rock falls or avalanches.

1.2 BAD PLACES TO CAMP

1 The top of a hill exposed to the wind (move down, looking for shelter on the leeward side).

2 The bottom of the valley and deep pit - may be damp, especially when skies are clear, and more prone to frost at night.

3 Hillside terraces where the ground remains moist.

4 Spurs which are on a game trail

Hot air rises and cold air sinks, so the valley bottoms will often contain some wetter air in cold weather, susceptible to frost and moist fog. In rain-flooded areas, terraces on slopes often act as a disincentive on and below steep ground, where rainwater accumulates before flowing further down.

Ideally, you should be near water, where there is a plentiful supply of wood. Too close to water, which can get you in trouble, insects, and the sound of running water can hide other noises that may indicate danger, or search or rescue party sounds, look for high water marks on riverbanks: in mountain waterways can become seeds in minutes, rising as high as 5 meters (17 feet) in an hour! Even on the plain, stay away from old waterways, no matter how dry they are. Heavy rainfall in the surrounding mountains can easily send floodwaters down hillsides.

In flash floods, there is little warning. Choose relatively flat, rocky ground, and make sure you have enough space to deploy the signal that you can easily be spotted by rescuers.

Check the nests of bees or wasps over your head, as well as dead wood on trees that could collapse in the next storm or gale. Stay away from isolated trees that attract lightning, and approach the edge of the forest area where you can see what's going on around you. Don't camp on the road unless you want to be treated as an unwelcome guest by the marauding animals, and also want to find your campground flattened by a herd of animals on the way to a puddle, but close to any visible human footprint.

1.3 SURVIVAL TIPS:

Use Watch As a Compass

A watch calibrated to standard time can be used as a compass on a clear day. Put the watch on a flat surface with the hour hand pointing at the sun. Draw a point between the hour hand and twelve. The line passing through the mark from the center of the dial will point south.

Hang a Tarp Without Using Grommets

Monkey fist lets you tie a cord to a tarpaulin or boat cover when the eye is torn or missing. To do monkey boxing, squeeze a golf ball -- the "size of a stone" -- into a tarp at the junction. Wrap the rope around the squeeze point on the tarpaulin twice, hold the rock in place, then tie the loose end of the rope to the anchor point and tighten.

Make DEET-Free Bug Spray at Home

If DEET-based repellents irritate your skin, you can still use this safe homemade formula to get rid of black flies. Mix four servings of vegetable oil with two servings of aloe vera gel and one serving of citronella, cedar or sassafras oil (available at pharmacies). Apply insect repellent heavily on your face, hands, and hairline, and wear light-colored clothing. Black flies especially like dark blue, brown and black.

A Faster Way to Cut Firewood With a Chain Saw

Cut wood with a chainsaw, put a layer of logs on the ground, then put another layer on top and go in the opposite direction. Stack several alternating layers. This enables all logs to be supported, so they will not bind to the saw when you start cutting. Start with the logs closest to you, cross the deck, and as you cross the logs, clear the logs.

Freeze Pre-Made Car Camping Meals in Zip-Loc Bags

Prepare separate pre-cooked meals at home and freeze them in airtight plastic bags to simplify campfire meals before traveling. Label for easy identification. Frozen foods not only help keep other foods cool, but also the packaging thaws easily. Just put the bag in warm water.

Build a Better Woodshed for Drying Firewood

When you build a wooden shed, open both ends and cover only the roof and side walls. The air circulates, dries faster, and you have quick access to the best wood. At the end of the heating season, refill the newly emptied shed. Next year, start using the stack on the other end. You're always burning the driest wood, letting the newest wood grow old.

Prevent Camp Road Erosion With a Better Water Bar

You may damage your suspension system because your car is running on a water column, a wooden or metal barrier to prevent erosion on the camp road. Better yet: clip a 12 - to 16-inch wide belt of rubber between two pressurized 2x6 slabs (found at

loggers, quarries or farms). Bolt all materials together to expose only rubber during installation. It pulls rain off the road, but gives way to tires.

The Proper Way to Thaw Vacuum-Sealed Meat

Vacuum sealed bags are a great way to store frozen games and fish, but only if you know how to defrost them. You must poke a few small holes in the package first. This breaks the vacuum and allows for normal thawing. If you don't release the seal, the juice will be sucked out of the food and the fish or meat will dry out.

Store Your Pack Lists For Camping, Hunting, and Fishing Trips

Reader's tip: after a big hunting or fishing trip, I make a list of all the things I took with me, the things I could have left behind, and the things I wanted to take with me. I also wrote a short summary of the trip, including the weather conditions. When all my stuff is opened, cleaned and ready to go, I also stuff my list into the box. That way, the next time I plan a similar trip, I'll know what to pack, even after a year. "-- Steve Cannon, Sacramento, calif.

Make A Table For Your Camp Site

Give a 2x4-foot piece of plywood 1/2 inch high two layers of polyurethane coating and take it camping. At the construction site, cut strong table legs from driftwood or log. The 8-inch deep plywood is lowered into the ground to keep it steady, and then nails are driven through each corner of the plywood and into the top of a leg. Throw them away at the end of your trip and cut out new ones next time. You'll find this table very convenient, and finally you'll be able to do a few.

Keep Your Axe Head From Falling Off (and Rust Free)

Pour a quart of used engine oil into a bucket of clean sand and store it in a shed. Every time you use the axe, push its head into the oily sand and rub it back and forth. This will clean the blade of dirt and debris, prevent it from rusting, and keep the shaft expanding tight to the axe head. To keep your hands dry, use linseed oil every year.

Campfire Cooking: How to Tell When Your Oil is Hot

Reader Tip: When you heat oil over a campfire to fry fish, place an unlit wooden match in the pan to determine when it's ready. Once the oil reaches 350 degrees--the optimum temperature--the match head will ignite and then fizzle. Scoop out the match and throw in the fish.

How to Make An Emergency Rain Shelter Using a Tarp

A tarp makes an ideal shelter against unexpected rain. Stake one corner of the tarp facing the wind. Prop a pole under the opposite corner, then fasten a line from the top of the pole to a ground stake or tree. Now pull the remaining two corners tight and stake them to the ground. The resulting half-pyramid shape provides excellent drainage and stands up well to high winds.

How to Split Big Logs with an Axe

Never try to split a large-diameter log down the center with an axe. (You'll get the axe stuck or, worse, damage the handle.) Instead, whack slabs off the sides until you have reduced the remaining core to a manageable size. To split the core, strike the top of the upright log midway between the center and the edge nearest you, so that the axe handle follows the open split.

How to Store Ropes and Cords Without Tangling

Camping ropes, anchor ropes, and electric wires wind neatly and easily around v-plates. Cut a piece of wood 20 inches by 1 by 6 inches. Drill a 1-inch diameter hole 6 inches from the center of each end. Draw lines from the hole to the nearest corner of the board and sawn out the resulting wedge. Wind the rope into the groove. A longer plate can accommodate a larger length.

Why a Wok Makes the Best Camp Cooking Pan

Chinese POTS are the most versatile cookers for camping trips. It can be used to fry, fry, boil large amounts of water, make soups or salads, mix dough, cook pasta, wash dishes or small clothes. When you travel, put fragile items that need protection in a hard iron pot.

Predict Approaching Rain Using Moon and Sun Halos

Rings around the sun or moon are formed when light is refracted by ice crystals in high cirrus clouds. Its appearance suggests a low pressure is approaching and rain or snow is expected within 24 to 36 hours. If the halo is broken, the open side indicates which direction the storm will come from and signals that rain may fall soon.

Pour Stove and Lantern Fuel Without Spilling

When pouring fuel or oil from a tank with a nozzle at one end, place the nozzle on top of the container. This allows air to flow smoothly through the openings, allowing the liquid to flow out in a steady, consistent flow. If the spout is at the bottom, the air enters the cup, creating an unstable flow that cannot be directed unless it overflows.

Find Your Bearings When Lost Without a Compass

To determine direction without the aid of a compass, stick a 3-foot-long stick into the ground in a sunny spot and place a stone at the tip of the shadow. Wait 20 minutes, then place another stone where the shadow moves. The first mark represents the western end of the line between the two points; The second marks the east.

Keep Fireplace and Woodstove Smoke In Your Chimney

If smoke comes into the room from a fireplace or wood stove, light a newspaper and lift it up the chimney. A strong heat burst can reverse the flow of air and cause the smoke to rise. When you make a fire in a cold fireplace or woodstove, you can make sure the chimney is well ventilated by using a small amount of crumpled newspaper and thin strips of dry wood. Do not add heavy wood until the smoke rises quickly from the chimney rather than into the cabin.

Use Duct Tape to Keep Your Boots Tied When Hunting in Brush

As you walk through thorns and climbing vines, tie a tight square knot at the back of the boot once around the top of the boot to prevent the LACES from snagging or loosening. When you're hunting in a particularly hairy area, fold the top of the sock, cover the knot, and tape it with duct tape.

Use Bullet Box Dividers to Organize Tools

Is your tool not working properly? Here's a solution. High-power rifle bullets are packed in separate plastic compartments, making them the best holders for small workshop items. Install projectors on the walls of the workshop for pencils, screwdrivers, small chisels, files, awls, and drills.

Dry Wet Digital Cameras, GPS and Other Electronics Using Rice

If your handheld GPS, digital camera, radio or other electronic device is accidentally soaked, try putting it in a sealed bag filled with dried raw rice and soaking for 24 hours. These particles absorb water without heating, which can cause parts to warp. Normally, your precious gear will resume working conditions after this treatment.

Use a Tool Belt to Organize Your Camp's Cooking Site

When camping, tie a carpenter's apron with many pockets to a tree trunk at eye level so you can cook at your place. Fill your pockets with kitchen utensils and a pair of long pliers to handle hot POTS and pans. Apron pockets provide a way to organize your cutlery so that you know where it is and can keep it handy when you need it.

Dry Wet Feet With Baby Powder Before Putting On Socks

Wet, sandy feet can be a nuisance to people outdoors -- "it's hard to dry and almost impossible to pull socks over." However, small amounts of baby powder will immediately absorb water and allow you to brush the sand away. Socks are easier to wear on powdered feet, and dry feet are essential to prevent fungus.

How to Plank-Grill Salmon, Bluefish, Mackerel, and Shad

Oily fish like salmon, blue or mackerel taste better when grilled flat. Marinade slices of fish with soy sauce and lemon juice. Place it face down on a board 1/2 inch thick and you've soaked it in water. Place the wet wood on a gas or charcoal grill, cover and cook for 12 to 15 minutes. The board will evaporate and give off just enough smoke to flavor the fish.

Keep Track of Time When Hiking or Hunting

Make sure you write down the time before you go hunting or hiking in a distant country. Knowing how long you've been walking will tell you how much time you have to set aside to rewind your route if waterways, rough terrain, or other obstacles prevent you from taking the compaq shortcut. So you can get out of the forest on time.

Test Image Alignment Before Buying Binoculars

Cheap binoculars sometimes produce misaligned images, making it impossible to get a perfect focus. Before you buy, try focusing on distant horizontal lines, such as roofs. Slowly move them away from your face, still through your eyes, until your field of vision splits into separate images. If the line stays straight, the glass will align properly. But if one side is higher, the prism has a problem.

Keep Your Glasses from Fogging Up

To prevent fogging, please rinse the lenses thoroughly with water. When they are still wet, put two drops of detergent in front and back. Dry with a clean lens cloth. Polish the lens until all the streaks disappear.

2.HOW TO PREPARE FOR HURRICANE?

The 2018 hurricane season begin in August and extends until the end of November. It's time to think about how to protect yourself and your loved ones properly during the passage of a devastating storm.

If a hurricane is approaching and you can't move to a safer place, follow these tips from the state offices of AARP Florida and Texas.

- ✓ Make plans to secure your property. Cover your Windows with permanent louvers or 5/8 inches plywood. Bring all outdoor furniture, decorations, trash cans and anything else that is not fixed. You don't want those things to fly in the wind and hit your house. Make sure the trees and shrubs around your home are well pruned so that they are more wind-resistant and clear any drains or drains that may be blocked by rain.
- ✓ Designate a room in your home as a safe zone to wait in while riding out a storm. Or consider building a safe room. A safe room is a storm or invading fortification. Since this may be expensive, the choice is to simply determine the safest room in the home. Ideally, this room has no windows and too much furniture.
- ✓ Be prepared to be self-sufficient for at least three days. Although government rescuers will work hard to deal with major disasters, it will take time to deliver relief supplies. You should at least manage for yourself three days. A week will be better.
- ✓ Think about whether your health could be at risk if you lose air-conditioning, fresh water, sewage service or other services. Although many older people can cope well without electricity, the health of others may limit their ability to withstand heat, especially when they have to struggle to climb stairs or carry heavy objects.

- ✓ If you decide to relocate before or immediately after a storm, remember that it's often easier to go only as far as needed to reach an area where services are still operating normally. Often this is only 100 or 150 miles from home.
- ✓ Make a plan for your pets. Because many of us consider pets to be family members, we can hesitate to evacuate when necessary for fear of leaving our animals at risk.
- ✓ If you need assistance during and after a storm, register with a special-needs shelter in your area. To register, call your county emergency operations center. The phone number can be found in the blue pages of your phone book.

In the case of evacuation before and after a hurricane, make sure you have a reliable evacuation tool, which should include all the following:

- ➢ Photocopy of ID card or driver's license of all family members
- ➢ Copy of birth certificate
- ➢ Clothes
- ➢ Food and water (at least three days)
- ➢ Cash or traveler's check
- ➢ Your evacuation routes, alternative routes, and routes to the local shelters.
- ➢ An extra set of car keys, together with a box of gasoline.
- ➢ At least one flashlight with spare batteries.
- ➢ First aid box
- ➢ Medicine you may need (at least three days)
- ➢ Extra glasses or contact lenses

3. HOW TO COMMUNICATE DURING A HURRICANE?

3.1 Getting ready for the Hurricane.

✓ Download news and emergency applications. If you have a smart device, you can download professional applications that connect you to emergency services or give you the latest news about hurricanes. In addition to television and radio broadcasts, these programs will help you stay well informed during the storm. Some applications include: [1] the Red Cross Hurricane Program. A storm tracking software called "Underground Weather" (Weather Underground). Waze is a traffic and road closure application. FEMA Emergency Preparedness Application.

✓ Get a spare battery and car charger for your phone and car.

In a major storm, you'll want to keep your phone plugged in. To make sure this happens, buy a spare battery in case your phone runs out of power, and keep a car charger in your car in case your car runs out of power.

- ✓ Remember Numbers for important phone Numbers or make a written list. You won't have much time to look up personal phone Numbers during a hurricane. So, type in any number you need on your phone beforehand. Put important phone Numbers on paper, too, in case your phone goes dead or dies during a storm.To make communication as quick and easy as possible, adjust the speed of your phone so that each number connects to an important contact.If possible, stack your written list so it doesn't get washed away by rain or flooding.
- ✓ Select people outside the danger area as the central contact. And in a storm, it's impossible to examine everyone yourself. Therefore, establish an emergency contact in advance that lives outside the affected area. This ensures that everyone has a safe human face. [4] report and get updates.To ensure that everyone has up-to-date information, contact your central contact regularly.
- ✓ Keep a cheap spare phone in the first aid kit. This will be an extra lifeline for you in case your main phone signal is interrupted, lost, or becomes unusable. Store this spare phone in a safe, waterproof container and make sure there's a charger, SIM card and anything else the device needs to operate.Look for cheap emergency calls at a used electronics store.

By law, all phones must be able to call 911, whether you pay for a wireless subscription or not.Consider buying a prepaid or cellular SIM card so you can call family and friends in an emergency, without paying the monthly service fee.

3.2 Staying Connected during the Bad Whether(Storm)

- ✓ Use text messages instead of phone calls whenever possible. In most hurricanes and similar emergencies, cellphone towers are bombarded with calls. This causes network congestion, which means your phone may not be connected. However, text messages take up far less data and are much more likely to be sent correctly.
- ✓ Call in an emergency. While text messages are the best choice for keeping in touch with people during a storm, they're not appropriate for use in an emergency. If you need emergency assistance from a hospital, fire department, police department, rescue team or crisis relief organization, call 911 or a professional hotline immediately.Even if your region offers text-based 911 services, don't rely on it during a storm.
- ✓ If the call fails, wait at least 10 seconds between calls. Because of the volume of calls, your phone may need several attempts to get through successfully. However, redialing immediately after a failed call can place a greater burden on the network

and reduce your chances of getting through. To avoid this, wait at least 10 seconds between each attempt.

- ✓ Call at rest to prevent dropping calls. Cell towers can be hard to track your phone during hurricanes and similar emergencies. Avoid talking on the phone while walking or in the car in order to reduce the chance of disconnecting.
- ✓ If your phone and text messages don't work, communicate via the Internet. If you can't get any mobile service during a hurricane, or if the Internet is too crowded to use, see if you can still get online. If you can, try using social media apps like Facebook or specialized messaging apps like Skype to stay in touch with people.
- ✓ Spend time with your family and friends in case communication breaks. Power, cellular and Internet outages during particularly severe hurricanes could prevent any form of remote communication. If that happens, try staying with close friends or family all the time and reduce the number of people you need to connect with.

4. Hurricane survival list.

The hurricane season did not end until November 30th. When we pay attention to the coming storm, it is important to consider what to prepare. We have even compiled this practical guide to guide practical steps taken before or during evacuation. Even if you're not on the direct path of a storm, it's worth carrying along a survival kit for tornadoes, hurricanes or floods. A set of emergency preparedness tools can really save lives and is conducive to peace of mind. For this reason, we consulted the National Hurricane Center to see what basic survival tools they recommended.

Here's what they recommend you keep on hand:

Water: one gallon of water per person per day for at least three days, for drinking and sanitation

Food: at least a three-day supply of non-perishable items

Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both

Flashlight and extra batteries

Whistle to signal for help

Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place

Moist towelettes, garbage bags, and plastic ties for personal sanitation

Wrench or pliers to turn off utilities

Can opener for food (if your kit contains canned food)

Local maps

Once you've got these basics in order, FEMA recommends considering adding the following items:

Prescription medications and glasses

Infant formula and diapers
Pet food and extra water for your pet
Cash or traveler's checks and change
Important family documents such as copies of insurance policies, identification, and bank account records in a waterproof, portable container. You can use the Emergency Financial First Aid Kit - EFFAK
Sleeping bag or warm blanket for each person. Consider additional bedding if you live in a cold-weather climate.
Complete change of clothing including a long sleeved shirt, long pants, and sturdy shoes. Consider additional clothing if you live in a cold-weather climate.
Household chlorine bleach and medicine dropper. When diluted (nine parts water to one part bleach) bleach can be used as a disinfectant. Or in an emergency, it can be used to treat water (16 drops of regular household liquid bleach per gallon of water). Do not use scented, color safe, or bleaches with added cleaners.
Fire extinguisher
Matches in a waterproof container
Feminine supplies and personal hygiene items
Mess kits, paper cups, plates, paper towels, and plastic utensils
Paper and pencil
Books, games, puzzles, or other activities for children
Finally, a first-aid kit should be one of your first preparedness purchases. You'll want to make sure to stock it well. We like these guidelines from the American Red Cross. Find more information at the FEMA site. And please stay safe.

5. How to prepare for Tornado

5.1 What's Tornado?

Tornadoes are violent storms associated with low atmospheric pressure and whirling

winds. They apparently develop when air at the surface has been warmed and a column of air descends from the base of cumulonimbus storm clouds above. Air rushing into the low pressure area begins to rotate fiercely Tornadoes are the most violent of atmospheric phenomena and the most destructive over a small area. Wind speeds have been estimated at 620kph (385mph).

The diameter of the ' twister' at ground level is usually only 25-50m (80-160ft) but, within it, the destruction is enormous. Everything in its path except the most solid structures is sucked up into the air. The difference in pressure outside and inside a building is often the cause of collapse-or explosion'. Tornadoes can sound like a spinning top or engine and have been heard up to 4okm (25 miles) away. They travel at 50-65kph (30-40mph).

Water tornadoes are produced at sea tornadoes. Although tornadoes occur in other places, but tornadoes in the United States - Missouri prairie, Mississippi Valley and Australia are the most common. They can form in hurricanes.

5.2 Tornado Precautions.

Tornado precautions Take shelter in the most solid structure available-reinforced concrete or steel-framed if possible, but preferably in a storm cellar or cave. In a cellar stay close to an outside wall, or in a specially reinforced section. If there is no basement, go to the center of the lowest floor, into a small room or shelter under sturdy furniture-but not where there is heavy furniture on the floor above. Keep well away from windows.

Close all doors and windows on the side facing the whirlwind and open the other side. This will prevent the wind from entering and will lift it near the roof to balance the pressure of "explosion" of the house.

Don't stay in caravans or cars. They may be tempting.

In the open air, you are vulnerable to splashing debris and raised lightning. The release of the accumulated charge in the clouds is particularly dangerous when you are at the height or when you are the tallest object. In the lightning storm, stay away from the top of the mountain, away from tall trees and solitary boulders. Lie low and flat.

If you can't leave tall objects, but there are dry materials that can provide insulation, sit on them. Rubber soles may help insulate you, but they do not guarantee you are safe. The dry coil of climbing rope is a good insulator. Don't sit on anything wet. Keep your head down, knees close to your chest, feet off the ground, limbs extended. Don't touch the ground with your hand, there will be contact to guide the lightning. If

you don't have anything that separates you from the ground, lie as flat as possible.

Stay low You can sometimes sense that a lightning strike is imminent by a tingling in the skin and the sensation of the hair standing on end. If you are standing, immediately fall to the ground, first to the knee, touch the ground with both hands. If you are hit, it may reach the Earth in the simplest way through your arms-losing your torso and possibly saving you from heart failure or asphyxiation. Quickly lie flat.

When there is lightning around, do not hold metal objects, away from metal structures and fences. However, if you are going to lose your gear completely, don't throw it away (for example, while climbing). There may be sparks at the tips of a dry wooden handle axe, but the insulation is good. Close to large metadata. Even without contact, objects can be dangerous, because when lightning passes through, the shock wave created by heating the air can harm the lungs.

Shelter One of the best places to shelter in a lightning storm is at least 1 m (3ft) inside a deep cave with a minimum of 1 m (3ft) space on either side of you.

In the mountains country, do not hide under the mouth of the cave or under the rocks. Lightning can spark between gaps. Small openings on rocks are often the ends of cracks, and are also hidden paths and automatic lightning channels.

7.How to prepare for Drought?

7.1 What's Drought?

DROUGHT, triggered by continuous dry weather or insufficient rainfall, results in desert in areas where it is a permanent condition. But in some places, drought may be a common seasonal feature for part of the year and predictable year after year. But to some extent, there always come along with the rainy season, thus people could stores water for the rest the dry months. The underground stone-cut or concrete-built cisterns of ancient and modern Mediterranean civilizations collect the rainfall of the wet season for the long dry summer.

In temperate regions, if rainfall drops far below the normal, periodic drought may lead to insufficient water for vegetation to balance the absorbing water and the lost water in the air. In such cases, there is insufficient moisture to provide for plants grow. If the drought becomes severe, dead and dying animals may even pollute the water supplies that still remain.

Meanwhile, the drought may cause Fire risks, Each year fires rage in southern France and California, without water to check the flames, they spread rapidly. If there is a fire, dig down to bare earth and keep the fire small and attended at all times Hygiene In houses, lack of water for washing and sanitation can bring the risk of infection. If the water level in a water closet no longer seals the S-bend, disease may spread from the sewers and personal hygiene may suffer from lack of washing. Do not use the WC but leave sufficient water for drinking. Make an outdoor latrine to use instead.

Sweating will help to keep pores open and free of dirt, but, even when you need all available water for drinking, try to clean hands after defecation and before preparing food Store and conserve water. Under the circumstances, you need to take precautions by storing as much water as possible and using it wisely. Keep it covered and shaded to avoid evaporation. How to avoid evaporating? Dig a pit for a storage puddle in a shady spot, avoiding tree roots. Line it with a polythene sheet or with cement if available (but don't f it up until the cement has had a chance to thoroughly dry). If you live in a clay area, dig a pit and line it with clay. If you build the concrete or clay up into a partial dome, it will help to keep the contents cool and leave a smaller opening to keep covered.

NEVER waste water. Water used for cooking can later be used for washing. Boil all water before drinking. If a well runs dry you may gain more water by digging deeper, but the further you dig, the further the water will run away into the earth.

SURVIVAL ADVICE

If drought lasts, especially over more than a year, desert conditions may begin to worsen. Evacuation may be the only solution if water supplies cannot be brought in.

In the cold nights especially in the cold weather and areas, the drop in temperature may condense the moisture in the air. Use the techniques to hold it.

However, greater variation will be shown in High ground between day and night temperatures and will offer better chance of dew to collect in the early morning. cool breezes will be also the advantages.

Drought can strike anywhere. Even in areas of heavy rainfall, such as Assam, there has been drought when the monsoon has failed

WARNING

-In conditions of severe drought be especially careful of water pollution. Disease from dead animals may be rampant. However thirsty you are, boil all water before drinking.

-Flies may be a serious problem at first-ensure that all foodstuffs are covered. Protect from dust.

-When nature is disturbed in this way, animals act abnormally. Crazed by thirst, normally meek creatures may attack you.

8. How to prepare for Earthquake?

8.1 What's Earthquake

EARTHQUAKE Earthquakes can be the most horrendous of disasters because they occur suddenly without warning. Unlike other natural disasters such as floods and fires, we can barely cope with them. They range from the slightest tremor of the earth, which can only be detected by sophisticated measuring instruments, to the vast upheaval that tore apart entire mountains.

Slight quakes can happen anywhere, but big ones are always in earthquake zones, where buildings can be planned to withstand earthquakes, and if they collapse, they don't cause much damage - just like traditional buildings in Japan. Modern cities

seldom take this into account.

With seismologists constantly monitoring, big earthquakes can be predicted and some evacuations are possible. The animals became very alert and nervous and ready to run.

Seismic zones are located on the edge of semi-rigid plates that form the earth's crust. The deepest earthquakes occurred along the trench, forming and destroying volcanic islands. The most violent earthquakes tend to occur when one plate dives under another, such as the west coast of North America, where the SAN andreas fault is a particularly vulnerable area.

A series of foreshocks, or foreshocks, typically occur after a seismic lull, usually before a major earthquake, and they can actually trigger a major earthquake. These initial tremors may not be obvious.

If you have early warning of a possible earthquake, domestic earthquake prevention measures can be updated with reports and recommendations through local radio stations. Turn off gas, electricity and water if recommended. Remove large, heavy objects from high shelves and they may fall on you. Keep bottles, glass, China and other fragile items in low cabinets. The shelves should have a lip shape or lower baffle to keep things from slipping off. Cabinet doors should have positive fasteners - not just magnetic hooks. Fix or remove hanging objects, such as large lighting and hanging flower bowls.

Be prepared for emergencies: fresh water, emergency food, flashlights, first aid supplies and fire extinguishers.

8.2 SAFETY PRECAUTIONS

KEEP AWAY FROM ANYTHING THAT MIGHT EALL ON YOU:Outdoor trees, because they might be uprooted: building houses in towns, preferably evacuating to open areas, but if that's impossible - you may not have time - it's safer to be indoors. On the street, ruptures of gas pipes and cables can add to the danger. People going in and out is the most dangerous because the bricks and stones on the interior buildings collapse. If you are indoors when an earthquake occurs, stay there. Put out fires. Stay away from glass, including mirrors, especially large Windows.

-The interior corner of the house, or a well-supported interior department, is a good shelter.

- lower floors or cellars may offer the best chance of survival. If you're upstairs,

you might fall. Make sure there are enough outlets.

- hide under tables or other furniture to provide both protection and space.

In shops, stay away from large displays of goods that may collapse.

- the top office stays the same. Never take the elevator.

Stairs may attract panicky people. Get under the table in your car and park as quickly and safely as possible, but stay in the car. It will provide some protection against falling objects. Crouch below the seat height and you will be further protected if anything falls on the vehicle. When the earthquake stops, be wary of any obstacles and dangers: broken cables, damaged roads or Bridges may collapse.

Outdoor - lie flat on the ground outside. Don't try to run. You'll be tossed around and probably swallowed by the crack.

-Keep away from tall buildings.

-Do not go deliberately underground or into a tunnel where you could be trapped by blockage or collapse.

-If you have managed to get to an open space do not move ack into buildings for if minor tremors follow they could collapse any structure left unstable by the first quake.

-On a hillside it is safer to get to the top. Slopes are liable to landslide and there would be little chance of survival for anyone caught in the thousands of tons of earth and rock that could move with terrifying speed. People have been known to survive by rolling into a tight ball on the ground.

Post-disaster preventive measures the disruption of sewage systems, water pollution and the hazards of bodies trapped in rubble can make the risk of disease as deadly as the earthquake itself. Bury all the dead, animals and humans.

Pay special attention to hygiene and personal hygiene.

Filter and boil all the water.

- Do not strike matches or lighters or use electrical appliances in case of gas leakage. A spark ignites a gas.

- Check if sewage treatment facilities are intact before using the toilet.

Open the cabinets carefully, and there may be things to dig out in preparation for aftershocks.

Stay calm! Think fast!

If an earthquake occurs, speed is essential. Little time to organize others. Use force to bring them to safety or pull them to the ground if necessary.

9. How to prepare for Volcano?

9.1 What's Volcano?

VOLCANO active volcanoes are located in the most earthquake-prone area in the world - the area with the most frequent activity below the surface. Evidence of ancient extinct volcanoes and ancient volcanic activity can be found elsewhere, such as the seat of Arthur in Edinburgh, Scotland, where pressure forces lava (magma) to reach the surface through faults, forming a pathway. This passage is usually the main outlet for further eruption of volcanoes, but other craters may also occur. A large eruption might blow away the entire mountain top. When lava reaches the surface, there may be two types of lava commonly called lava: one is granite lava, which is sticky and moving slowly; the other is basalt lava, which flows faster at 8-speed.

16 km (5-10mph). Granite lava blockages the volcano's outlet and is eventually cleared by an explosion as the pressure at the bottom increases - debris from the lava and mountains accumulate over a long period of time and cause fires.

9.2 Eruption Hazards

Although lavas can go out or run faster than most basalt lava flows, they will continue relentlessly until they reach the bottom of the valley or eventually cool down. Lava flows may be the least dangerous to life from volcanic eruptions, because healthy people can avoid them. Other dangers are not so easy to avoid.

Missile volcanic missiles, ranging from pebble-sized debris to massive rocks and boiling lava "bombs", can be dispersed far away. A volcanic ash shower may fall over a larger area, and some dust is carried to very high altitudes, scattered around the world, affecting weather conditions.

If evacuated from nearby volcanoes, hard helmets like those worn by construction workers, motorcyclists or riders provide some protection. On a larger scale, where evacuation may not be necessary, protective devices should be worn to prevent the impact of volcanic ash and any rain that may follow.

Pozzolanic ash is not volcanic ash at all, but a powdery rock formed by steam and gas. Abrasives, irritating and heavy, their weight can cause the roof to collapse. It can asphyxiate crops, block transportation routes and waterways, and combine with toxic gases, which can cause lung damage to infants, the elderly and people with respiratory problems. Only when the volcano erupts near, will there be enough gas to pollute healthy people. However, when sulfur dioxide in ash clouds combines with rainwater, sulfuric acid (and sometimes other) concentrations can burn skin, eyes and mucous membranes.

Wear goggles (ski goggles or diving masks to protect your eyes, not sunglasses). Cover your mouth and nose with damp cloth, or use industrial dust mask. When arriving at the shelter, take off your clothes, thoroughly clean the exposed skin, and wash your eyes with clean water balloons. The phenomenon of scientists is red hot and moves too fast to escape. Unless there is a solid underground bunker nearby, the only chance to survive is to dive underwater and hold your breath for about half a minute or so it will take to pass.

9.3 Mudflows

Volcanoes may melt ice and snow, causing glacial floods or - Forming a mud flow with the earth is called "La ha". As happened in Colombia in 1985, this could lead to a devastating effect of up to 100kph (60mph). In a narrow valley, the lahar desert can reach up to 30 meters (8 feet). For a long time after the eruption, they are dangerous. Even if the volcano is dormant, if it generates enough heat to produce the melting water retained by the ice barrier, heavy rains may cause it to break through the ice.

9.4 WARNING

Volcanoes are usually active before large eruptions, accompanied by rumbling sounds and the escape of steam and gas. The smell of sulphur from local rivers, pungent acid rain, roar or steam from volcanoes are warning signs. When driving to evacuate, remember that volcanic ash may make roads slippery even though it will not block highway m. Avoid Valley routes, because Valley routes may become the only way for La ha.

10.How to prepare for Fire?

10.1 What's fire?

Fire requires heat, fuel and oxygen, and produces smoke, heat and toxic gases. It can be transmitted by heating its surroundings through direct contact (conduction), rising gas and smoke (convection) or heat rays (radiation). Convection is usually the most severe of these heat transfer forms.

Fire prevention is the best protection. Carelessness over lighted cigarettes and

burning matches is the cause of many fires, and sunlight shining through a discarded bottle or a piece of broken glass can cause a fire in a dry season.

Fire can strike anywhere at any time. Preventive measures should always be taken. Vehicles and buildings should always be equipped with fire extinguishers. The managed forest farm is divided into wide roads to be used as fireproof passageways. Equipment to extinguish the flames should be found in many places. You should know how to use it. Forest Fire if you have a fire in a forest, wasteland, or prairie (or campfire spread accidentally), your first action should be to suffocate it. The first sign of impending forest fires is the smell of smoke. Then you may hear the sound of the flame before you see it.

You may notice unusual animal behavior. Before you realize the cause of the escape route, if you are trapped in an area where a fire is raging, when it is too late to put it out yourself, do not flee immediately-unless the fire is too close and you have no choice.

While you may feel that clothing is interfering with your movement, don't discard it, as it will protect you from the full effects of radiant heat.

The smoke will indicate the direction of the wind - the flame will move in that direction as fast as it can. If the wind is blowing away from you, move to the fire. Look for any natural fire escape, such as a circle through the woods where the flames should be prevented. A river is the best break-even - even if the flame can jump over it, you're pretty safe in the water. In forestry plantations, finding roads and fire lines doesn't go crazy. Choose your escape route. Check the surrounding terrain and wind direction to assess the extent of the fire's possible spread.

If the wind is blowing toward you, the flame might move faster - the flame would jump over a bigger notch. The fire goes faster up the hill, so don't go to higher ground. Try circling the fire if you can - but some forest fires are burning a few kilometres across the front line. If you can't bypass or exceed the distance, the flames take refuge in the large clearing of z, deep canyons, waterways or ditches.

Sometimes the best escape route may be through the flames. This is not possible if they are very intense and the actual covered fire area is great. On large vacant lots or heath.

However, it is possible to take refuge through less intensive fires in lands that have already been burned. Cover as much exposed skin as possible, and if you have water available, pour some on your skin to wet clothes, hair and any skin you can't cover. Wet

a cloth over your nose and mouth.

Dense vegetation can burn violently and slow you down-so choose your break point carefully. Make up your mind. Don't procrastinate. Take a deep breath. Cover your nose and mouth to prevent smoke from escaping. In areas with forest plantations, on the main road, you should see rows of fire extinguishers. This is a bundle of branches (usually birches) tied with a broom and a shovel batter with a rubber blade. They can effectively put out a fire. Don't beat with them too fast, even if it's called "-it will only fuel the flames and spread the sparks." The aim is to put out the fire by pulling the blender onto the fire and extinguishing it. Flat blades are especially effective in extinguishing fires that begin with leaves and bushes if no equipment is available. If you don't have the equipment, you can stifle the fire with a jacket or blanket, cut off the oxygen in the flame-or put it out with a leafy branch.

STAYINA VEHICLE If you encounter a forest fire in a car, stay in the car and keep the Windows is closed tightly. Close the ventilation system. The car will give you some protection against radiation. Stay away from the fire if you can, but stay put if you can't move.

People stayed in their cars until the glass began to melt and the fire overtook them. If they hit the fire, they will die.

There is a risk of an explosion in the gas tank, but if the fire is hot around you, you are much more likely to explode than you are outside.

Fight fire with fire

If there is no way out of the path of the flame or through it, it is possible to create protection with the fire itself, but it still has a distance.The technique is to burn a small plot of land before the main fire arrives. Nothing can be ignited, the flame cannot go forward, giving you a sanctuary. The main fire must be far enough so that your fire cannot jump before it arrives.Tap your own fire on a line as wide as possible - at least 1om(33 feet) wide, but 100 meters (330 feet) would be better. It will burn in the same direction as the main fire, creating a void you can enter. Make sure you've got the wind right.

WARNING

The wind could spin and the flame would generate its own airstream, so you might still need to sprint in your own flame. The main fire must be far enough away for your own fire to burn and pass through. Don't underestimate how fast flames move - they can run faster than you. Don't light another fire unless you're desperate and pretty sure

about the outcome.

11 Survival Skills: 8 Ways to Purify Water

One of the top survival priorities in an emergency is to find and disinfect enough drinking water to supply your needs. Whether your crisis situation is unfolding in the desert after becoming lost or in your own home after a natural disaster, the human body can only last three days without any drinking water at all.

Good thing there are abundant water sources across most of the globe, and multiple ways to disinfect the water. Which method of water processing is right for different situations? Follow along here and find out.

Finding a Water Source

Before you can disinfect the water, you have to find it. Depending on your location and situation, water can be abundant or virtually non-existent. Water can come from freshwater surface sources like streams, creeks, ponds, and lakes. If you are able to distill the water, you can even use brackish or salty water as a source.

Let's not forget precipitation as an emergency water supply. Rain, snow, sleet, hail, ice, and dew can be collected for water. Fresh rain that didn't fall through a jungle or forest canopy should be safe enough to drink as is. New snow can be melted for drinking without processing as well.

Water issuing from springs and other underground sources can also be safe in most areas. Water coming from tapped trees like maple and birch can be safe to drink and abundant in late winter. But most other water sources should be considered "dirty" and must be disinfected with one of the following methods.

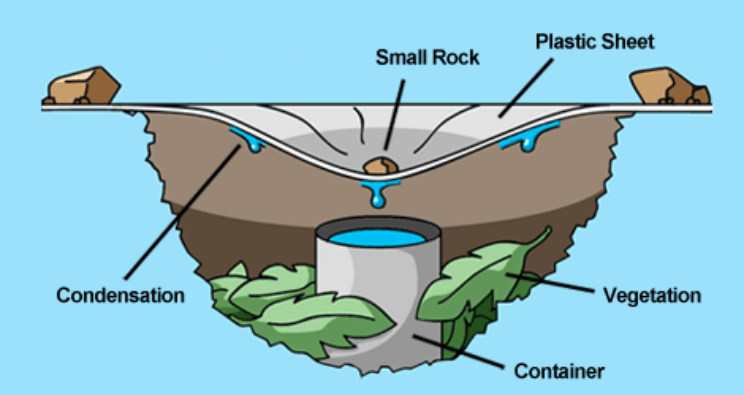
11.1 Boiling

In order to kill the parasites, bacteria,and other pathogens in water, the most reliable thing to do is boil the water. Boiling will not evaporate all forms of chemical pollution, but it is still one of the safest methods of disinfection. Five minutes of a rolling boil will kill most organisms, but ten minutes is safer. Elevations high enough to effect boiling and cooking times will require slightly more time over the flame.

Boiling can be done over a campfire or stove in a metal, ceramic, or glass container. If no fireproof container is available, heat rocks for 30 minutes in the fire and place them into your container of water. This container could be a rock depression, a bowl burned out of wood, a folded bark container, a hide, or an animal stomach. Don't use quartz or any river rocks as these can explode when heated.

11.2 Distillation

Radiation, lead, salt, heavy metals, and many other contaminants can taint your water supply after a disaster, and trying to filter them out will only ruin your expensive water filter.



In a scenario where the only water available is dangerous water, there aren't many options. The safest solution is water distillation. Water can be heated into steam, and the steam can then be captured to create relatively clean water, despite its prior forms of contamination—including radioactive fallout. Distillation won't remove all possible contaminants, like volatile oils and certain organic compounds, but most heavy particles will stay behind. For home-based disaster survival situations, a quick way to make a steam distiller is with a pressure canner and some small-diameter copper tubing. The best part of this operation (aside from safe water) is that the canner stays intact. This allows you to shift gears from water distillation to food preservation very easily (providing you are not dealing with radiation). The only tricky part is getting the copper line fitted to the steam vent on the canner's lid.

If in the field, try your luck with a solar still, a simple invention that collects and distills water in a hole in the ground. To build one, place a square of clear or milky plastic (5x5 or 6x6 feet) over a three-feet-deep hole with a clean container centered in the bottom. (Run a drinking tube from the container so that you can drink your gathered water without taking apart the whole still.) Place dirt around the edge of the plastic at the rim of the hole to seal off the still. Place a rock in the middle of the plastic to create a roughly 45-degree cone over the container. Dig the still in a sunny location and in the dampest dirt or sand available. Add green vegetation and even urine to the hole to

increase its water production. A transpiration bag is a smaller and less productive version of this set-up, involving a clear plastic bag tied around live vegetation.

11.3 Survival Straws

One of the smallest, lightest of water disinfecting tools to hit the marketplace lately is the straw style of water filter. Newer models can be used as you would a drinking straw and can also connect to the drain valve on a water heater to clean up the water you might find in a water heater after a disaster. They can also fit onto a garden hose to filter the water running through it. Don't expect it to filter out every single virus or bacteria that could be growing in there, though—especially a hose that's been laying in the sun, or a water heater full of tepid water after a prolonged power outage. Most of these filters contain an activated carbon filter element, which not only filters out larger bacteria and pathogens, but also removes odd flavors and odors from the water.

11.4 Water Filters

The two main types of water filters in use today are pump-action filters and drip/suction filters. The former utilize a pump to force raw water through a filter cartridge. The latter are filter cartridges that use a gravity drip action (like an IV bag) or are placed in line on hydration bladder hoses. When used on a hydration bladder, the user simply sucks water through the filter as needed. My favorite (for years now) is the Katadxx Pocket filter. It has a ceramic cartridge with silver imbedded inside. The ceramic filters out the larger pathogens, and the silver kills or disables smaller

organisms like viruses. Most filters like this will pump about a quart per minute. If time isn't an issue, you might opt for a gravity-fed system like the one shown here.

11.5 Solar water disinfection

Solar water disinfection (SODIS for short) is a water treatment method that uses the sun's energy for disinfection. The most common technique is to expose plastic bottles full of contaminated water to the sun for a minimum of one day. The sun's abundant UV light kills or damages almost all biological hazards in the water. The advantages to this way of treating water are plentiful. It's easy to use; it's inexpensive or free; and it offers good (but not complete or guaranteed) bacterial and viral disinfection. Furthermore, the method uses no dangerous chemicals, and it does not require constant attention.

But there are some problems with the method. You need sunny weather or two days of overcast sky to reach the maximum effectiveness. You cannot use it in rain; it offers no residual disinfection; it may be less effective against bacterial spores and cyst stages of some parasites; the water and the bottle need to be clear; and the bottle shouldn't be glass. If that wasn't bad enough, this method does nothing to help with chemical contamination, and only small bottles (2 liters, max) can be processed.

11.6 Disinfecting Tablets

Two of the most common and popular water disinfection tablets are Kataxxx's Micropur tablets and Potable Aqua's iodine tablets. They can both work very effectively, but there are some differences. If you're stocking a cabin, cave, or BOB with purification tablets, you certainly want to consider the life span of the product. The iodine tablets from Potable Aqua have a one-year shelf life. That's not bad, but Kataxxx's Micropurify tablets last for two years or more. While these two products are using different chemicals, they both seem to be better than 99-percent effective against water-borne pathogens.

Potable Aqua is the clear winner when it comes to speed. Water treated with those tablets is ready to drink 35 minutes after treatment begins. The Micropurify tablets take a full four hours to achieve their maximum disinfecting action. One final thought to consider are the side effects.

The toxicity and flavor of iodine can be a little problematic. The iodine tablets are generally not a good choice for pregnant women or anyone with thyroid issues or shellfish allergies. Picky children are also notorious for failing to drink the iodine-infused water, which could lead to dehydration and other serious repercussions in an already dicey emergency. The Kataxxx product is chlorine based, most of which dissipates over the allotted four-hour waiting period, so that product is widely tolerated and tastes much better.

To summarize, the Kataxxx Micropurify tablets cost more and take longer to work, but they last longer and are widely tolerated. Potable Axxx's iodine tablets are cheaper and work faster, but taste worse and don't store as long.

11.7 Household Chemicals

Either bleach or iodine can be carefully used to disinfect water with good results. Generally speaking, the amount of the chemical you use will depends on the water quality and temperature. Cold or murky water needs a little more disinfectant (four drops per quart) than warm or clear water (two drops). After adding the chemical, put the lid back on your water container and shake it for a minute. Then turn the bottle upside down, and unscrew the cap a turn, or two. Let a small amount of water flow out to clean the bottle threads and cap. Screw the lid back on tight, and wipe the exterior of the bottle to get the chlorine on all surfaces. Set the bottle in a dark place, or at least in the shade, and let it sit for 30 minutes if the water is clear and at room temperature. When you open the bottle after the allotted time, it should smell like chlorine. If not, add another drop or two and wait another 30 minutes. Don't take chances or shortcuts with water safety. The last thing you need in an emergency is dysentery.

You can also use the two common forms of iodine to disinfect your water. Iodine is a more harmful substance than bleach in most people's bodies, but it is an option. To use iodine, it is critical to identify which type you are using. Tincture of iodine 2% is actually much stronger than 10% povidone-iodine solution. Use 5 to 10 drops of tincture of iodine 2% in one quart of water and allow it to sit in the shade for 30 minutes. Again, flush the threads and wipe down the bottle. Use 5 drops for clear or warm water, and up to 10 for cold or cloudy water. Since 10% povidone-iodine solution is weaker, you'll need 8 to 16 drops per quart of water. Again, use fewer drops for nice looking water and 16 drops for swamp water. Clean the bottle and wait. An added benefit to iodine products is that you can use them for wound disinfections too. Chlorine does not

serve double duty like this, and you should never put bleach on any wounds. Never blend iodine and chorine for water disinfection.

11.8 Build Your Own Filter

We've all seen the survival books displaying a water filter made from charcoal-filled pants hanging from a tripod. Sorry to burst your bubble, but that is not a reliable system. It will screen out larger particles, but don't expect bacteria-free and virus-free water to shoot from this contraption. What could work, however, is a filter made from some flexible hose, glue, and a chunk of pine sapwood. The sapwood's structure already performs a filtering action in the living wood, screening out air bubbles from the tree sap. Unchecked, these air bubbles would lead to tissue damage.

This type of filter has some humanitarians looking hard at conifer wood as a readily available material for water filtration devices in developing nations. Researchers have successfully used a one-cubic-inch block of pine sapwood as a water filter. (Click here to see their research article.) This chunk of wood was attached to a water supply by using a PVC pipe and some epoxy to prevent water from bypassing the wood filter. Flow rates of several quarts a day were reached in their trials, and E. coli was eliminated by 99.9 percent. These are the same numbers you'll see from straw-style water filters. Though the wood might allow viruses to pass through (since they are much smaller than bacteria), some water filtration is better than none.