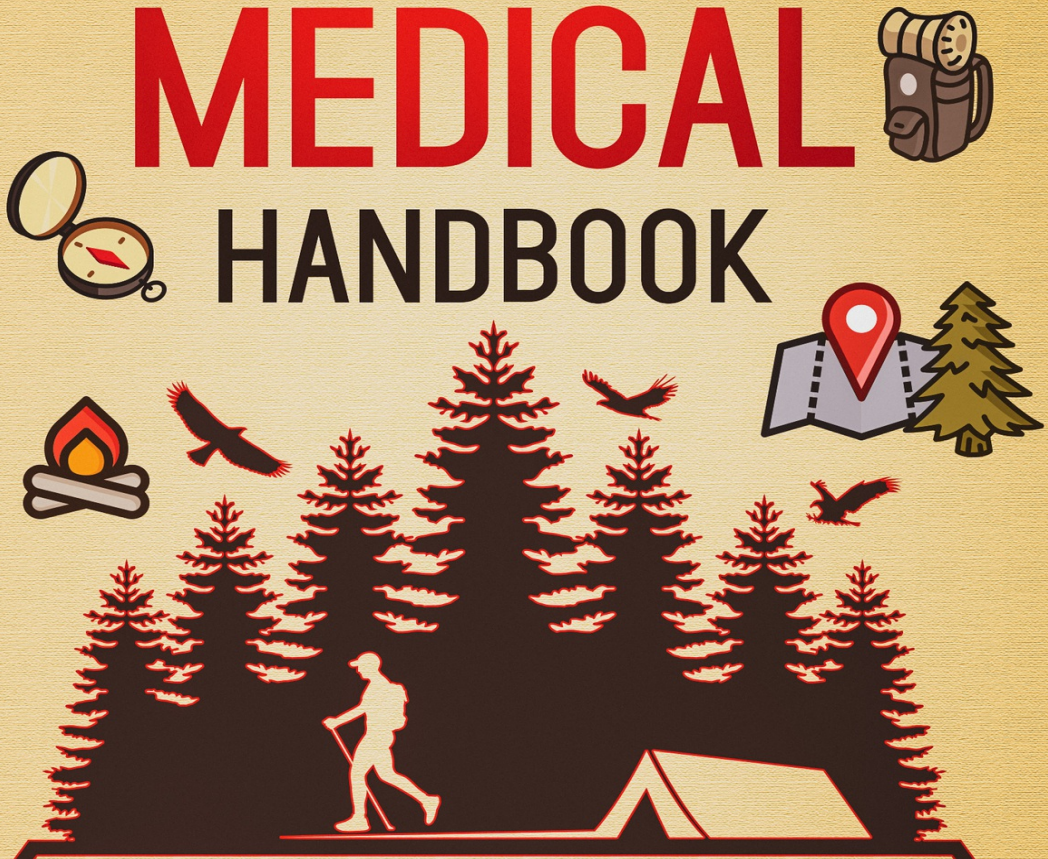
PREPPER'S MEDICAL HANDBOOK



Prepper's Long-Term Survival Guide For Beginners with Step-by-Step Guide to Self-Sufficient Sustainable Living, Food, Water, Off-Grid Shelter, and Survival Strategies

EMMA NORA

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Emma Nora

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INTRODUCTION

"Efficiency is the foundation for survival.

Effectiveness is the foundation for success."
JOHN C. MAXWELL

The world as we know it is ever-changing. The population is booming, technology is advancing, and there is the ever-present possibility of disaster striking. Despite technology improving every year, it can't keep up with the issues that continue to grow every year. Problems such as overpopulation, food shortages, and disease run rampant worldwide, and seem to worsen. Many people assume that these concerns are only for countries not classed as first-world, but they'd be wrong. Think back to the first announcement of Covid-19. What was the reaction of many people when the various lockdowns were announced? Pure panic. People rushed to stores to buy food, water, and other necessities, taking far more items

than necessary. This forced shops to implement limits on what people may buy and even have special days for senior citizens to buy what they need unharassed. This panic buying resulted in many necessities becoming scarce and allowing people to take advantage of the situation by inflating prices of what was available.

And this was only one disease. What will happen with the next one? Or the one after that? If Covid-19 has taught us anything, it's that people are woefully unprepared for any kind of disaster. Diseases aren't the only factor that should worry you. The world is precariously balancing on edge, which could determine whether humans can survive the disasters that they have manufactured. We assume that farmers will always be able to produce food to fill our supermarkets. Yet, we forget that they rely on the weather to play along to produce the quantities of food that can sustain a population of people that don't even know how to grow their food. If a farmer fails, we all fail.

So, how can you prevent a downward spiral

of our planet caused by rampant disease, overpopulation, and a lack of water and food? By being prepared. Many people were able to ride out the various Covid-19 lockdowns in comfort. Why? Because they were always prepared. Now I am not talking about people who have hidden bunks with years worth of food. I am talking about people who knew how to plan, prepare, and survive out in the wild. Wilderness prepper are people who not only live off of the land but manage to prosper because they know what to expect from nature.

Why does Prepper Survival Matter?

Many places throughout the world are yet to be fully explored. These areas will end up becoming asylums when disaster strikes and civilization starts to come crashing around our backyards. You may not think this is possible in your generation, but if you look closer at how the world manages problems, you will see that the cracks are forming. Whether you decide to fully emerge yourself in the prepper lifestyle or learn a few survival skills, it is something worth having. Especially with the state of the entire world as it is.

Our ancestors didn't need everything we have today to survive in an unforgiving environment, and neither do you. By learning some basic survival skills, you become invaluable when you get lost, during an emergency, dealing with an accident, or anything else that is unforeseen (Naturalist Ventures, n.d.). Some of these invaluable

skills include:

- Building a shelter for you and others.
- Creating stone or wooden weapons to hunt with
- Collecting and cleaning water
- Create fire through the use of friction
- Learn to forage and prepare food
- Learn how to cook without any tools
- First aid
- Make cordage
- Etc.

Each one of these skills means the difference between life or death at that moment.

Creating a Survival Mindset

Anyone can learn to become a prepper and survivalist. However, you must develop a certain mindset as this will separate those that want to survive versus those that don't.

You need to be tenacious (MacWelch, 2020). This is the ability never to give up, even when things are looking grim. It gives you the mental strength to overcome any physical weaknesses you may have.

You must have some creativity. How else will you create items of necessity from things that are around you? This is a skill that needs to be practiced and refined with new skills as often as possible.

Being adaptable allows you to face an emergency and change your views and actions according to what you see. This provides you with a cool, calculating head. However, stubborn people may struggle to master this trait. Learn to give others a chance to speak up, especially if they have

valuable skills to share.

Acceptance plays a significant role in being able to survive an emergency situation. It allows you to realize that you or someone may be in trouble and take the necessary steps to handle the situation clearly and concisely. Being in denial about an emergency could cost someone their life.

This brings us to bravery. Not everyone can be brave, but being able to step up and take charge of a situation is likely the bravest thing someone can ever do. Learn to identify your fears and master them.

Although many people go through stressful situations, they don't always manage to keep a positive outlook about their situation. This is a trait that is vital to keeping yourself going in a survival situation. Disasters are terrible things, but you need to be able to overcome this to keep you and maybe others going long enough until you can get them to safety. Learn to celebrate every victory while analyzing any setbacks so that you can turn them into success.

And lastly, motivation. This is likely the most difficult of traits to have to learn. It comes with practice and determination. This is what makes you get up and try again when everything around you is collapsing. It is what keeps you going when everyone else wants to give up. Motivation is what will get a group home safely instead of sitting and whining about the situation.

By mastering these skills, you will master the prepper lifestyle and survive while others crumble with a society that can no longer support them.

Understanding the Readers Problems

There are many pros and cons to living a prepper lifestyle, but one of the most serious cons is not being prepared for an emergency that can turn deadly. As a survival expert I'm aware of the issues you may face.

- You may not always be ready for an emergency, but you should always be prepared for them. This is why this book will be invaluable to you as someone who wants to continue comfortably living off the grid.
- Being so far away from the comforts of the city, you will have to develop a calm nature to deal with any life-threatening situations. By learning basic first aid skills, you will improve your chances of surviving far away from immediate help.
- Focusing on these skills will allow

you to develop into a resourceful individual that you will use to stay safe during a survival situation.

- If you live in an area where there is always the possibility of tackling an emergency with no professional help, then this book will provide you with step-by-step guidance on how to handle those situations.

Perhaps you are not a prepper but simply want to be able to enjoy the wilderness. Even then, disaster can strike, and if you do not know what you need to do, there is a chance that you will not survive until help can arrive. This is why the knowledge in this book is so vital to you.

How can I help?

I have been living off the grid with my husband and two children since 2011, and let me tell you, we have experienced our fair share of bumps and bruises along the way. I had to become a wilderness survival expert to keep my family self-reliant, safe, and healthy. By having a great wealth of knowledge of medical emergencies, you will even be able to handle most of the situations that nature can throw at you.

My knowledge comes from the accumulation of years of the financial and emotional cost of living off of the grid, away from luxuries that most people take for granted. Although it was difficult, I wouldn't change a thing that I did in the past. It made me a stronger and more resilient woman that now wants to share what I have learned during my time on my homestead. Why make all the mistakes I made in the past when you can learn from what I did and avoid it altogether? By picking up this book, you are taking another step

towards being completely independent of the grid and keeping yourself thriving. I spent years of personal sacrifice to protect and prepare my family while enjoying the prepper lifestyle. We are still living this way, and now, so can you!

Who is this book for?

This book aims to help you deal with any emergency more efficiently and safely so that you can continue to live the way that you want to. In addition,

- You will no longer have to rush to the emergency room for every sniffle or scrape as you will learn how to handle it yourself.
- As you complete each chapter, you will learn survival skills and how to perform basic first aid for various injuries, understand when a situation is beyond you, and know what follow-up steps you will need to take.
- That isn't all! You may not have access to all the medications you had in the city. Still, with some foraging or cultivating, you can identify and grow medically significant plants that can aid in some treatments.

- You will learn how to use your environment to your advantage when it comes to replacing parts of your first aid kit or deterring nuisance animals that could cause problems for you and your livestock.

By completing this book, you will realize your dream of living off the grid or travel the wilderness without fearing an emergency. Why fear something when you are fully prepared? With this step-by-step guide, not only will you be able to help yourself in case of an emergency, but you will be able to help others in their hour of need. By growing your medical knowledge and practicing it, you will never have to fear living too far away from treatment centers ever again.

If you are aiming to live a mostly comfortable prepper lifestyle, then this book is for you. Continue to page through this book to learn how to keep you and your family from spending thousands of dollars for emergency room visits when you can deal with the

situation yourself by being fully prepared, fully stocked, and trained to do so.

CHAPTER 1
Learning First Aid Skill

While you are preparing to start your life as a person living off the grid, it is paramount that you get yourself certified in first aid. This skill is vital as it allows you to treat non-serious wounds and stabilize a person who may be injured. However, the courses to complete the various levels of first aid isn't just about treating the wounds of others but also mentally prepares you to deal with the situation that you find yourself in. You will be no help to anyone if you are the one panicking.

First Aid

When it comes to first aid, practice what you have learned. Never allow yourself to get rusty. Pull the whole family into a game of "What if…?" This way, you can break out the first aid kit and practice various lifesaving techniques on each other. Keep a first aid book handy just in case you forget how to do something. Refer to it often to keep your skills sharp.

The key to the successful treatment of an injury or an emergency is by having the right equipment. No matter how well you are educated to handle a situation, it will fall apart if you do not have the necessary equipment. You will need a fully stocked first aid kit to help you deal with any injuries that can occur on your homestead during the year.

First Aid Kit

With no shops close by, it is a good idea to ensure that your kit is built before you leave to live on your homestead permanently or when you are away from professional medical help. You will need to design your own and have enough equipment to handle different kinds of emergencies. Whatever is in your kit should be enough to treat your whole family.

Your first aid will need to be able to handle cuts, burns, breaks, trauma, shock, infection, vomiting, poisoning (bites, stings, plants, etc.), hypothermia, hyperthermia, and dehydration at the very least. Everyone in the household needs to know how to use the kit and take responsibility for it. If an item is used, it cannot be used again. It needs to be replaced as soon as possible. It is a good idea to keep a checklist in the first aid kit. This way, you know what is needed and whether anything has a use-by date. Expired items shouldn’t be used and should be replaced as

soon as possible. You do not always need to buy new equipment, as you can use what you find on your homestead as a stand-in for several items. There is no need to purchase splints when they can be fashioned from wood. You can even make your homemade pain killer by using the inner bark of a willow tree.

The problem with building a first aid kit is that there is an assumption that you have to be prepared for every possible emergency that can occur. Although this is true in theory, you do not have to buy all the equipment needed to manage these emergencies. As long as you have the essentials, you should be able to manage with what you have.

Building a Kit

The first few items you will need to purchase and keep up to date with are any chronic medication needed by your family. Items such as insulin, EpiPens (epinephrine auto-injector), and inhalers for asthma are a must, as there are no possible stand-ins for these items. These items will need to be purchased

regularly. There are several ways that you can injure yourself on your homestead. The list below is to get you started on building your own unique first aid kit.

To deal with cuts, you will need the following equipment:

- Gauze pads or cotton wool
- Band-aids and steri strips (hypoallergenic if possible)
- Petroleum jelly or Vaseline
- Antibiotic cream
- Tweezers (to remove any debris, good for splinters too)
- Regular and pressure bandages (different kinds to hold the gauze in place if the wound is large)
- A tourniquet or paracord (only to be used if you cannot stop the bleeding)
- Suture kit or skin stapler (if you have the training)
- Alcohol wipes, rubbing alcohol, antiseptic wash, or disinfectant spray.

Infections need to be prevented as much as possible, but sometimes even the cleanest wounds can get infected. The infection needs to be treated as quickly as possible to prevent sepsis. Be sure to change dressings and keep them clean to prevent infection. To prevent you from spreading bacteria from yourself to others, add gloves and masks to your kit.

You will also need to manage all manner of conditions that are associated with injury and illness. Because of this, you may need to stock up on a variety of medications such as:

- Benadryl (or similar medication to deal with allergies)
- Imodium (prevention of diarrhea)
- Ibuprofen (or preferred pain relief)
- Hydrocortisone cream (for irritated, itchy skin)
- Miconazole topical cream (for fungal infections such as ringworm)
- Aloe vera cream (deals with sunburn)
- Antibiotics

To deal with blisters, you may need some extra equipment beyond what has already been discussed.

- Moleskin
- Duct tape (keep the moleskin in place, especially if hiking)
- Sterile needles or safety pins.

Burns can turn very serious if you do not handle them carefully from the moment that they occur.

- Burn dressings of various sizes

Other miscellaneous items that may come in handy includes:

- Syringes to irrigate wounds
- Triangular bandages to create a sling
- A strong pair of scissors
- Thermometer
- SAM splint (malleable splint)
- Emergency blanket (keeps patient warm in case of shock)

- Rehydration sachets (helps with replacing essential salts after dehydration)
- Snakebite kit
- CPR masks (prevent the spread of disease and possible vomit from affecting the person giving first aid.)
- Cervical collar (helps to stabilize the neck)

This list is not the be-all or end-all of first aid kits, and you should be continually adapting your kit to match the environment you find yourself in.

Dealing With Emergencies

Even with all the training you may have, dealing with a real emergency can cause many people to freeze and forget everything they learned. First aid works on the principle that you are preserving the life of the patient before you. To do this, you must be able to protect them and yourself from anything that can be a risk (St John Ambulance, n.d.). After

you complete this step, you will then be able to assist in the patient's recovery. To help you focus on the task at hand, you will need to remember the three H's (hazards, hello, help), and if a person is unresponsive, you should know the ABC's (airway, breathing, circulation) (Mediclinic Infohub, 2008).

When an emergency happens, and you get to the patient’s side, assess your surroundings for potential hazards that could present a danger to everyone in the area. Take careful note of spilled water, broken glass, or live wires. The next step is to ascertain whether your patient is conscious or not. With adults, you can tap on their shoulders and get their attention by loudly saying, “Hello.” If you have an infant patient, tap on the bottom of their feet to get a reaction. This is to assess if the patient is conscious and getting enough oxygen to their brain. You will have to remain calm to keep a patient calm and relaxed. Always start treatment of the more serious injuries before moving on to lesser ones. Assess all injuries carefully.

If the patient is unresponsive, move on to the

ABCs. Check their airway to ensure that you can see no obstructions. Remove the item if you can reach it. Next, look for any signs of breathing. Lower your field of vision to the chest and look for movement. Listen at the mouth and nose, or hold your hand an inch away to feel for the movement of air. You can even hold a mirror up to their face to see if their breath fogs up the surface. If the patient takes about 12 breaths a minute, move them into a recovery position, assuming they have no spinal injuries. With no sign of breathing, you will need to take over this function and start CPR breathing. When you breathe into the patient, look for any movement in the chest. A moving chest means that air is getting into the lungs, while no chest movement can mean an obstruction further down the throat that was not noticed. In this case, treat the person as someone who is choking.

Be sure to check for a pulse to determine if the patient has a heartbeat. No heartbeat means that the brain isn’t getting the oxygenated blood needed to keep the body

alive. You can take over this function by starting CPR compressions. Compressions can be done if there is a heartbeat as it is better safe than sorry, especially in the case of a heart attack. It is best to continue breathing for the patient until they are resuscitated or when emergency services arrive.

Doing CPR is tiring. So, if you have someone that can help you, make use of the two-person technique. The compressions and breathing pattern will differ depending on whether a single person is doing CPR or if two are.

Know When First Aid Isn’t Enough

With the information you have gathered from the scene, you should be able to conclude whether you can or can't handle the situation at hand. If you can continue, then do so. However, if you feel for one minute that you are out of your depth, contact the necessary emergency number to get the help you need. This is not to say you should leave the person injured. You should do everything within your power to stabilize them while instructing

someone else to contact help. If you are on your own, stabilize the person before you call for help.

When living in a household with many people, ensure that everyone knows the emergency numbers and the numbers of your closest neighbors. This is especially true for children who may not have a high enough first aid level to deal with an injury an adult has sustained. Everyone should remain calm when communicating the problem and follow any instructions that may be given to them by emergency services. Never wing it when it comes to first aid. If you don't know what you are doing, let someone else take over.

First aid is meant to be a one-time treatment of a patient with only one follow-up to observe if the patient is making a recovery (Legal Information Institute, n.d.). This treatment isn’t meant to keep a person alive for several weeks if they are seriously injured. So unless you are a doctor with medical training and all the necessary equipment, there will be a time that you will have to turn to emergency services to help

you.

Although first aid can help with many situations, there are some that you simply cannot manage. If any of the following were to occur, it is a better idea to stabilize the person and then get help:

- Sutures needed (unless trained to do so).
- Broken large bones (arms, legs, skull, etc.).
- Suspected spinal injury.
- Concussion.
- Internal bleeding.
- Fevers that don’t break.
- Second or third-degree burns that cover a large area.
- Impalement.
- Accidental amputations.
- Animal attacks.
- Wounds where debris cannot be removed.
- Any injury that requires surgery.

At the end of the day, you should rely on

your own judgment to make a call about whether you can or can’t handle an injury. With your life and the lives of your family, know when you shouldn’t be stubborn and ask for help.

Key Points

To remain independent from the grid, you must keep yourself and your family alive during an emergency. To be able to do this, there are several things you need to do.

- You and your family need to become certified in first aid. The higher the level, the better.
- A fully stocked, well-prepared first aid kit will allow you to react to any emergency without floundering around looking for the necessary equipment.
- Remaining calm is the most vital task when it comes to first aid.
- To treat your patients more efficiently, you need to remember the three Hs and the ABCs.
- Know when you are out of your league. With a level three in first aid, you should be able to handle a wide variety of injuries. However, there are some that you cannot, and

> you need to be prepared to stand aside for those that are more professional.

In the next chapter, we will look at some of the most common injuries that can occur and how to treat them.

CHAPTER 2
Survival First Aid

When living off of the grid and remaining self-sufficient, there are many kinds of unique injuries that you will experience. Injuries that are not often seen when just going about everyday life. Likely you are sourcing your own firewood, building animal enclosures, or preserving your own food. Each comes with its dangers if you lose concentration for only a second. Below you'll find the most common injuries and incidents that could occur while in the wilderness.

Blisters

Blisters are a nuisance that can make walking or work unbearable. They are caused by friction, which creates a hot spot (red, sensitive area on the skin). If this friction continues, this spot will develop into a blister. Generally, blisters should remain unpopped. However, if the blister is causing excessive pain or prevents you from doing any work, you should pop it.

Feet

When you have blisters on your feet, pop them as soon as it gets too difficult to move (Higuera, 2019). This is because they are going to get worse if you do not deal with them. If they are still small and manageable, a section of moleskin—cut to resemble a donut—can be placed over the unpopped blister. This will protect it from the friction created by socks and shoes. Wrap the moleskin in some duct tape to keep it in place before replacing socks and shoes.

- When popping a blister on your feet, ensure that your hands and the affected area are thoroughly washed with an antiseptic solution.
- Wear gloves.
- Using a sterile needle, insert the point at the lowest section of the blister.
- Drain the buildup of fluid through this hole slowly. You do not want to create a large hole through which bacteria can enter.
- Once all the liquid has been drained away, add a thin layer of antibacterial cream to the whole blister.
- Apply a band-aid to the affected area.
- Continue to clean the affected area and change the band-aid once a day until the blister is fully healed.
- Never remove the top of the blister, as this will create a larger surface area through which bacteria can enter your body.

Hands

When working without gloves, you stand a chance to develop blisters on your fingers and the palm of your hand. Unlike blisters on your feet, you want to avoid popping blisters on your hands (Kibet, 2021). This is because you use your hands on surfaces more than your feet, exposing you to more bacteria. Only pop if they hamper your ability to work. Follow the same procedure as with blisters on the feet.

- To treat without popping, start by cleaning the affected area.
- Apply some petroleum jelly or vaseline to the affected area.
- Add some gauze, then hold it in place with some bandages.

As with many injuries, prevention is better than treatment. Avoid working in ill-fitting shoes, wet socks, or with no gloves, as this can cause hotspots to develop. If you notice a hotspot, treat it with some vaseline and give it time to recover before continuing.

Generally, you will not need professional intervention with a blister. However, if the blister becomes filled with pus, or if you develop a fever accompanied by chills, fever, or nausea, then it is time to seek medical attention. This can be prevented by keeping the injury site clean and changing the bandages daily or when they become dirty.

Burns

Everyday scolds and burns can be easily treated at home. However, the burn's severity, location, and size may require you to seek professional help. You will have to be cautious when deciding to treat a burn by yourself.

Seek medical attention if the burn is larger than three inches and is located on the face, covers the hands or feet, at major joints (elbows or knees), or in the groin or buttocks area (Mayo Clinic Staff, 2018). If the burn wound shows signs of charring, discoloration (white, brown, or black), or is deep, you may be dealing with a second or even third-degree burn which a burn unit should handle.

- To treat a minor burn (less than three inches in size), start by running cool water over the wound until the pain subsides. This stops the burning process.
- The burn may or may not have

blisters present, depending on the severity. Do not pop these. If one does pop, gently wash it with mild soap and lukewarm water.

- Apply a lotion such as an aloe vera to keep the wound moisturized. Never allow a burn to dry out as the wound can crack, creating crevices in which bacteria enter the body.
- Add some sterile gauze or a burn dressing to the wound, then wrap in a bandage loosely to prevent too much pain from the swelling.
- Pain relief should be managed with over-the-counter medication. If you require something stronger, you may need to see a doctor.
- Dressings should be checked after 24 hours to ensure there isn't too much seepage from the wound. If there is a lot, change the dressings. If not, change after 48 hours and reassess the injury.
- Clean again if necessary but be gentle as the skin may be loose.
- Continue to check the wound for

> three to five days to monitor any leakage or if the dressings start to smell.

There are specific burn dressings that will aid in the healing process. Make sure to keep these handy and replace them after they are used. If the wound shows little healing after two weeks, it is best to see a burn specialist (Hudspith & Rayatt, 2004). Keep an eye on signs of infection in the wound and deal with it when it occurs.

DEGREE OF SKIN BURNS

I II III IV

✓ DO

Cool the burn

Apply aloe vera

Bandage the burn

Take a pain reliever

✗ DON'T

Don't use oils

Don't use egg

Don't pop blisters

Don't use ice

Cuts

This type of injury can be as insignificant as a scratch or as severe as a gash that spurts blood. Most cuts can easily be treated from home, especially if you have learned how to apply stitches. However, you may need a medical professional to help you if the wound is spurting blood, is located on the face, or you cannot stop the bleeding after ten minutes (WebMD, 2020b). Other deciding factors include how deep the cut is, whether the edges are smooth or ragged, or if the area around the wound has no feeling. Once you have assessed the severity of the wound, you can get started on treating it.

- Ensure that you are wearing gloves or that your hands are clean.
- With some sterile gauze, press down on the wound with moderate pressure (Mayo Clinic Staff, 2019).
- If the wound is on an extremity, raise the limb above the heart level.
- Once the wound has stopped

bleeding, rinse and wash around the affected area.

- Check the inside of the wound for any debris (splinters, glass, etc.) and use a tweezer to get it out. Any dirt can gently be patted away with a sterile, damp cloth.
- Add some antiseptic cream to the outer edges of the wound.
- Depending on the size of the cut, you can use band-aids or a large plaster to keep the wound covered. You can also add some gauze and then wrap a bandage around it to keep it in place. Smaller cuts can remain open.
- The dressing should be changed daily and the wound assessed.
- A tetanus vaccine shot is advisable if you have not had one in the last five years. This will prevent a possible lockjaw infection.
- When changing the dressings, ensure that you see no signs of infection.

When you try to stop the bleeding; and the gauze gets soaked through, don't remove it. Instead, add more gauze on top of what you already have and maintain as much pressure as possible. A tourniquet should only be placed on limbs and only when you cannot control the bleeding after 10 minutes. Be wary when using iodine or hydrogen peroxide in a cut wound, as this can damage the living tissue, making it more difficult to heal. If there is any debris you cannot remove, you will need to see a doctor or get someone else to try. A wound that is closed with debris will cause the wound to become infected.

Infection

No matter how cleanly you work, there is always the possibility that infection can set in a wound. This is not something that can be ignored and should be treated as soon as it is noticed. The earlier an infection is noticed, the quicker you can treat it before any adverse side effects occur.

The first signs of infection in a wound are swelling, has redness around it, and is warmer than the surrounding tissue (Leonard, 2019). However, this can escalate to pus and drainage, resulting in a foul smell, enlarged lymph nodes, chills, fevers, aches and pains, and even nausea and vomiting. There is even the chance of lymphangitis, an infection of the lymph system characterized by red streaks emanating away from the wound (WebMD, 2020). These are serious side effects that can result in infections such as cellulitis, sepsis, osteomyelitis, or even necrotizing fasciitis. Luckily, if you have been monitoring any wounds, you would have noticed the first

signs and can take steps to stop the infection from spreading.

- Firstly, you must ensure that all equipment you will be using is thoroughly disinfected.
- Ensure you are wearing gloves; after washing your hands with hot water and soap, and wear a mask.
- Check the wound for any possible debris left behind. You may need to open healing cuts to be sure.
- Remove any debris found and wash away bodily secretions such as pus to ensure the cleanliness of the injury.
- Add a thin layer of antiseptic cream to the wound.
- Allow the skin to be completely dry before applying gauze and wrapping it in place with a bandage.
- Change bandages frequently if there is a lot of wound leakage. If there is no leakage, change the bandages once a day. Clean the wound before

applying fresh dressings.

- If there is no improvement after two days or you notice more pus or red streaks moving away from the wound, go see a doctor immediately.

Some people will be more prone to infections than others. Keep a close eye on family members who have diabetes, high blood pressure, or a weakened immune system (PhysicianOne Urgent Care, 2014).

Sprains and Strains

These injuries are common in people who tend to do repetitive motions while doing their daily chores. Sometimes, they can even result from an accident such as a fall. Although similar, these injuries affect different parts of the body. A strain is caused when muscle fibers tear; or the ligaments (tissues that connect muscle to bone) are damaged (Mayo Clinic Staff, 2018a). A sprain affects tendons—which are tissues that connect bones to other bones. Regardless of which injury you incur, the symptoms, treatment, and recovery are similar.

These injuries can vary in severity, from tearing some fibers, to a partial tear, or even a complete detachment of muscles, tendons, or ligaments (Mayo Clinic Staff, 2020a). The latter may result in surgery and can only be determined by a doctor. The general symptoms include localized pain accompanied by swelling of the area. You may even find that the range of motion is

hindered. Sometimes, when an accident that causes a sprain or strain occurs, you may even hear a pop or crack.

Mostly sprains and strains can be handled with some rest before using the affected limb again. However, if the area around the injury becomes numb, or there is pain over the bones surrounding the area, or no weight can be placed on the limb, it is best to see a doctor. In severe cases (where surgery and physiotherapy may be needed), early treatment can help to prevent permanent loss of stability or chronic pain.

Common areas affected by these injuries include ankles, thumbs, wrists, and knees, especially in terms of sprains. These are likely caused by twisting, landing on, or over-extending the affected joint. To treat these injuries, start with the standard RICE method.

- Remove any constricting clothing items (gloves, jackets, boots, etc.) and allow the person to rest the affected limb by getting off of it or stop using it.

- Ice the affected area for 10–20 minutes four to eight times a day. Keep doing this for the first 48 hours, then reassess the injury.
- Wrap the ankle in compression bandages to control the swelling and add extra support to the limb. Ensure that the bandages are not too tight, as you do not want to constrict blood flow.
- Elevate the affected limb (ankle on a pillow or wrist in a sling). This will help with preventing too much swelling.
- Avoid putting full weight on the limb for 48–72 hours. Use crutches if the injury is along the leg.
- Sprains can take some time to heal, but most swelling and pain should subside within two to three days. Take painkillers as needed.
- There may be some bruising around the affected area; this is normal. However, if the area becomes red or shows red streaks, there is a chance of infection, and antibiotics will be

needed.

If you feel there is no improvement in the swelling or the pain becomes severe, see a doctor.

Bruises

This sort of injury can result from being hit by something or taking a fall. Blood vessels burst then blood pools under the skin. This sort of injury is generally not too much of a concern unless the patient has a history of either bleeding or clotting disorders (Mayo Clinic Staff, 2020d). A doctor will only be needed if the pain from the injury worsens, doesn't improve after three days (even though the injury didn't seem serious), or there is a lot of swelling. Another reason to call a doctor is when a hematoma (an area with coagulated blood) forms over the bruised area. This will need to be drained to get rid of the excess blood.

- To treat a bruise, follow the RICE method while keeping an eye out for any signs of possible infection.
- If a bruise has an open wound, treat it the same way you would with a cut. Clean the injury and dress it appropriately before commencing

the RICE technique.

Choking

With most injuries and incidents that require first aid, you have a few minutes to gather your thoughts before jumping into action. However, when it comes to choking, the quicker you react, the better chance your patient has to survive their ordeal.

Choking is caused when a foreign object becomes lodged in a patient's throat, wholly or partially obstructing the airflow into the lungs. You may have experienced this yourself in the past. Generally, a person can clear the object with a few coughs, but this is not always the case. The brain needs oxygen, and it only takes 30–180 seconds before a person can lapse into unconsciousness if they can’t breathe (Spinal Cord Team, 2021). The longer the brain remains without oxygen, the higher the chance of severe brain damage or even death. Permanent brain damage can start from about four minutes without oxygen.

Someone who is choking will usually have difficulty breathing, or their breaths will

come out squeaky or noisy (Mayo Clinic Staff, 2020c). Some may try to cough to dislodge the obstruction, but they may not always be able to draw enough breath. The longer the person is without oxygen, their skin will steadily pale before changing blue. This will also be noticed in the lips and nails. If too much time passes, they can lapse into unconsciousness. This is one case where waiting for a doctor to help you will result in certain death for the patient. You must return normal breath function to your patient as quickly as possible. If someone is choking in a room where no one is available to help, they must remove the obstruction by themselves. Most choking victims will be unable to talk or make any sound. This is why you should know how to help yourself and someone else in a choking case.

There are two techniques you can use to help dislodge a foreign object from your patient's throat. The first is back blows, and the second is the Heimlich maneuver. You can also combine the two for a more effective technique.

Choking Alone

You can’t perform the back blows if you are by yourself. You will have to try a modified form of the Heimlich maneuver. Time is of the essence, as once you pass out, there may not be anyone else available to help you.

- Hold a fist to the spot above your belly button and wrap your other hand around it.
- Bend yourself over a counter or chair and use it to drive your fist inward and upward into your diaphragm.
- Continue to do this until you can expel the object.
- If you can cough, cough to help with the dislodging process.

Choking Patient

Back Blows

- Get the patient to bend over at the waist until their body is parallel

with the ground.

- Stand next to them and support their chest with one of your arms.
- With your other hand, strike the area between the patient's shoulder blades with the heel of the palm.
- Do this five times.
- If this method doesn't dislodge the object, move onto the Heimlich maneuver.

Heimlich Maneuver

This technique is also known as abdominal thrusts and requires some strength to do. If doing this technique on a young child, be sure to start this technique on your knees instead of standing your full height.

- Stand behind the person and tip them slightly forward.
- Wrap your arms around their middle. Create a fist with one hand and wrap the other around it.
- Place the fist above the belly button.
- Thrust the fist upwards into the

diaphragm in a quick motion with almost enough strength to lift the patient.

- Repeat this motion 5–10 times until the object is dislodged.

A combination of the back blows and the Heimlich maneuver can be used. Start with five back blows, then five abdominal thrusts until the object is dislodged.

There is always the chance that your patient may lapse into unconsciousness before you can dislodge the obstruction. If this occurs, lay them on the ground and open their mouth

to see if you can spot the foreign object. When you notice it, remove it with your fingers or tweezers. Do not feel blindly for it! There is a chance that you can push it further down the throat, making it much more difficult to dislodge.

If the object is removed but the person is not breathing or has no pulse, then it is time to begin CPR with chest compressions.

CPR

This is the most important skill you will learn in first aid. There are many ways to do this technique, as it will vary depending on whether you are doing it alone or with someone. This also depends on whether you are working on an adult, child, or even a baby. It is a good idea to learn how to do all the techniques, as this will fully prepare you for all possible emergencies. Before starting CPR, remember to check your ABCs (airway, breathing, circulation) (NHS Choices, 2021).

CPR by Yourself

- Lie the person flat on their back and kneel next to them.
- Check for vital signs, such as pulse or breathing.
- Place the heel of one hand in the center of the patient’s chest.
- Place your second hand over this one and lock your fingers.

- Press down with enough force to compress the chest 2–2.5 inches.
- Aim for about 100–120 compressions per minute.
- Do 30 compressions followed by two rescue breaths.
- When giving rescue breaths, gently tilt the patient’s head by lifting the chin with two fingers.
- Pinch the nose closed before covering their mouth with yours. Make sure that you create a good seal between the two.
- Steadily breathe into their lungs for about a second. Ensure that the chest is moving with each breath you give.
- Take a fresh breath away from the patient and repeat for the second

rescue breath.

- Continue to do the 30 compressions to two rescue breaths until the person recovers.

If you are concerned about catching something infectious, use a CPR mask to protect yourself.

The main difference between performing CPR on an adult versus a child is giving five initial breaths before starting CPR on a child. This is also true for babies under a year old. When performing CPR on a baby, use no more than a single hand (or even just two fingers) to do the compressions. You will not be able to pinch their nose closed to give emergency breaths. Because of this, you will need to create a seal around their mouth and nose when you breathe into them.

CPR With a Partner

Performing CPR is exhausting. This is why after two minutes, you should be switching with someone else to take over. This is why it is best to work with a partner, as this will allow you to switch between giving compressions or giving breaths, giving you some time to recover.

- Kneel on either side of the patient.
- One person is in charge of doing the compressions while the other is in

charge of giving the breaths.

- There should be 15 compressions to every one to two breaths.
- Count aloud so that your partner knows then they need to give a breath.
- Switch after two minutes. Stay where you are, but then concentrate on the opposite task that you were doing.

Many people say that to keep the rhythm of compressions going, they count to the song Stayin' Alive (Mayo Clinic Staff, 2021). If you find a song that helps you achieve the same rhythm, then use it. Once a patient has been resuscitated, you will need to monitor them to make sure they continue to keep breathing. If you become concerned, contact emergency services to get more instructions on what you should do further.

Fractures

Generally, there is very little you can do about broken bones, especially when it is a severe break of the long bones, such as those in the legs or arms. This is because various types of fractures can occur, and you are likely not to know which one your patient is suffering from without an x-ray machine. Some of the more common breaks include stable fractures (when the broken ends line up perfectly), comminuted fracture (bone is shattered into multiple pieces), or an open or compound fracture (when the bone has pierced the skin and created a wound), the bone may or may not still be visible while you stabilize the patient (OrthoInfo, 2021).

General symptoms of a broken bone include the limb appearing deformed (or having a puncture wound), severe bruising around the break, with swelling and pain in the affected area when moving. Although it is best for medical professionals to handle a fracture to the larger bones, you can stabilize the patient

before getting help. You should be able to split smaller bones, such as the fingers or toes, without too much of a problem or pain.

Stabilizing

- If you suspect a broken bone, don't allow the person to move (Mayo Clinic Staff, 2020b).
- Any wounds should be treated before moving on to stabilizing the broken bone.
- Under no circumstances should you try to realign the bones.
- Apply the splint to keep the break stable. Ensure that the splint extends above and below the break site. Pad splints to help reduce the pain of adding them to the affected limb.
- Add some ice to the swollen area but keep it from directly touching the skin.
- You may have to treat the patient for shock.

Applying a Splint

How you apply a splint will depend on where the injury is and whether you have the necessary tools available to you.

- Locate the area where the fracture is (Ministry of Health, 2019a).
- If possible, once any injuries have been treated, lay the splints on either side of the affected limb.

    - For the lower arm, you want the splint to extend from the wrist to the elbow.
    - For the upper arm, it should extend from the elbow to the shoulder.
    - The lower leg should have the splint from the ankle to the knee.
    - And the upper leg should have a splint from the knee to the hip.
    - Fingers should be bound so that they cannot bend.

- Splints need to be tied tightly to the

affected limb to prevent the break from moving. The joints should be completely immobilized, preventing the muscles from pulling at the break.

- If splints are not readily available, sturdy branches can be used. Alternatively, bind the affected leg to the other one. This method can also be used for fingers or toes. An arm can be placed in a sling which is then bound to the chest.

Only once the patient is stabilized should you leave their side to contact emergency services. The pictures below provide various types of fractures and a visual representation of where the bandage (or splints) should be applied.


Injury of Collarbone
Elevation Sling
Fracture of Arm
Arm Sling
Injury of Upper Arm
Collar and Cuff Sling
Fracture of Rib
Rib Bandage
Fracture of Jaw
Jaw Bandage
Injury of Hip
Hip Bandage
Injury of Elbow
Elbow Bandage
Injury of Ankle
Ankle Bandage
Injury of Finger
Finger Bandage
Injury of Knee
Knee Bandage
Accident
Fracture of Leg
Dressing the Wound
Splint
Elevate the Leg

Shock

This is caused when a patient suddenly experiences a drop in blood flow due to trauma. This can result from blood loss, infections, burns, and a variety of other reasons. The symptoms are easily recognized and should be acted on quickly as shock can kill people very quickly. When a person is injured, expect them to experience some degree of shock and know how to treat them.

The first sign of shock is rapid breathing or pulse. The patient may even have pale, clammy skin with blue or gray tinged lips and nails. They may complain of feeling dizzy or have nausea accompanied by vomiting. They may even start acting strange, showing high anxiety levels, or even becoming agitated or aggressive. They may even have dilated pupils (Mayo Clinic Staff, 2021a).

- Treat the cause of the shock first. This could be an injury or an allergic reaction, so be sure to

assess them carefully.

- Ensure that the patient is lying down and then elevate their feet about 12 inches up (WebMD, 2020a). By doing this, you are allowing the blood flow to return to the brain more efficiently.

    - Do not do this if you suspect a back or leg injury or if a snake has bitten them.

- Make the patient comfortable by loosening any restrictive clothing and covering them with a blanket.
- Do not allow them to eat or drink anything in case surgery may be required for their injury.
- If the patient starts to vomit or is bleeding from the mouth, you should roll them into recovery.
- If the patient's breathing starts to weaken, you may have to start CPR.
- Monitor breathing, pulse, and skin color to see if the patient is recovering.

- Never leave a patient alone who is suffering from shock. They can go from being stable to critical quickly if not monitored (Healthy WA, n.d.).
- Call for emergency services if the patient doesn't show signs of recovering.

Head Injury

Everyone bumps their head from time to time and mostly gets away with a small bump and maybe a bruise. However, sometimes head injuries can be severe, leading to bleeding in the brain. This can have severe repercussions if the person isn't transported to the hospital as soon as possible. When treating a patient with a head injury, you must assess the symptoms accurately to determine whether they need nothing more than an ice pack or have to be rushed to the hospital.

Symptoms of a severe head injury include any bleeding wound in the face or anywhere on the head, leaking of fluid or blood from the nose or ears, and bruises under the eyes and the pupils are unequal (Mayo Clinic Staff, 2020e). With some injuries, the person may have seizures, a concussion, or lapse into unconsciousness. If a patient is not unconscious, they may complain that they have a headache or their limbs feel weak and may even vomit. They may appear confused

or agitated and speak with a slur. They may even stop breathing. In the case of young children, you may be unable to get them to stop crying or eat anything. Infants may have a swollen bulge in the region of the soft spot of their skull.

Stabilize

- In the case of a severe head injury, all you can do is call for help and stabilize the patient as quickly as possible.
- Keep the patient still, especially if you suspect a neck injury, and try to calm them.
- If there is an external injury, stop the bleeding as best as possible. Avoid putting too much pressure on the wound as there may be a possibility of a cracked skull.
- Monitor breathing and heart rate, and start CPR if either stops.

Dehydration

This can sneak up on anyone if they are not concentrating on their fluid level throughout the day. It doesn’t even need to be a hot day for someone to become dehydrated. Dehydration is when the body loses too much water and electrolytes (essential salts). The symptoms are subtle at first but will progressively get worse when ignored. Dehydration can progress into heat exhaustion and finally into heatstroke (hyperthermia), which is deadly if not treated.

The best way to treat dehydration is to prevent it from happening in the first place. Avoid working during the hottest parts of the day, and take frequent water breaks. Remember that water isn't good enough to replace what you lose. Your sweat contains many essential salts which need to be replaced. To do this, consume a rehydration drink or add a small pinch of salt to the water.

Mild to moderate forms of dehydration can be treated by first aid. The first signs of

dehydration are a headache, followed by lightheadedness, and feeling faint. There will be an increase in thirst, while urine output will be lower. The patient will complain of a dry mouth and muscle cramps (due to electrolyte depletion), and their skin will feel dry to the touch. There will be a steady increase in their heart rate (with possible palpitations), and their temperature will start to rise (Drip Drop ORS, n.d.).

- Move the patient to a place that is cooler or place them in a shaded area.
- Remove tight-fitting or extra clothes, including shoes and socks.
- Get them to sip cool water until you can make or get a rehydration drink ready.

    - To make your hydration drink, stir in six teaspoons of sugar and half a teaspoon of salt into a liter of water, and shake until the solids are dissolved. Allow the patient to slowly drink about 6–7

ounces (Rehydration Project, 2014).

- To help cool the patient, add some ice packs to their groin, neck, and armpits.
- Carefully monitor vitals (breathing, heart rate, and temperature) to ensure the patient is recovering. These vitals should decrease back to normal after some time.

Severe dehydration will require the patient to go to the hospital to get fluids intravenously. The symptoms will become more extreme. Urination will stop (or none will be present for several hours), and the patient may collapse in a faint (and may remain unconscious). If conscious, the patient may be agitated and confused.

Hypothermia

This is the opposite of heatstroke but can be just as deadly. Hypothermia occurs when the internal temperature of the body falls. This will mostly occur during the colder parts of the year. Patients who suffer from hypothermia can either have mild to moderate or severe forms.

When suffering from mild to moderate form, the patient will often shiver, seem confused, need to urinate but can't, have poor coordination, and feel cold to the touch. An infant’s skin will appear flushed and will act lethargic (Skintight, n.d.).

- The first thing to do is remove the patient from the cold environment and bring them to a place of warmth.
- Remove wet and tight clothes, replacing them with loose, dry clothing.
- If the patient struggles to warm up,

you can wrap them in a space blanket or use your body heat to help.

- Warm compresses can be added to the neck, groin, or chest.
- Allow the patient to sip a sweetened, warm drink. Do not give any drink that contains alcohol.

If a patient is suffering from severe hypothermia, their symptoms will include feeling cold to the touch but not shivering, will be weak, drowsy, and act confused. They may act irrationally and uncooperative with slurred speech. They may even complain about having blurred vision. If this condition isn't treated, there is a chance that the patient can lapse into unconsciousness with all their muscle stiffening. With severe hypothermia comes the risk of frostbite, which should only be treated at a hospital. Stabilize the patient as you would with a mild to moderate case of hypothermia, then contact emergency services.

Drowning

This can happen to anyone who falls into a river or lake, then breathes in the water. You may need some extra training in helping a drowning victim as they are likely to fight you when you swim out to help them.

- Get the person out of the water safely (Ministry of Health, 2019b). This applies to your safety as well.
- Place them on their back and check for any possible injuries.
- Try to get them to respond to you. Be careful with shaking if you suspect a head or spinal injury.
- If conscious and uninjured, get them to change into dry clothes. You may have to treat the patient for hypothermia.
- If the patient is unconscious, check their breathing.
- Once you have established that they are breathing and uninjured, remove wet clothing and replace it with dry

clothing or a space blanket.

- Place the patient in a recovery position and continue to monitor.
- If the patient isn't breathing, move on to CPR until they regain consciousness. Only once they are breathing on their own do you change them into dry clothing.

Getting a drowning patient to land can be a difficult chore. Make an effort to get training in how to retrieve victims from water and keep yourself safe.

Key Points

- Despite all your training, there will be times in the wilderness that you will have to call an emergency number.
- Recognize the times that the injury is too severe to be treated with first aid. Move onto stabilizing the patient and only then call for help.
- Protect yourself from harm first before working on the injured person.
- Each injury comes with its own symptoms, and you will need to assess those symptoms to determine what is wrong with the injured person and how you should treat them.
- Some injuries may be difficult to communicate (choking, head injury, etc.), so work with your family on an effective way to communicate a

problem, both verbally or by indicating.

- Speed is of the essence. The quicker you react, the quicker you can treat the person without getting emergency services involved.
- Know how to find and monitor vitals, and keep track of everything you do in case you need to communicate this to someone else.

In the next chapter, we will look at how to combat disease without getting a doctor involved.

CHAPTER 3
Handling Disease

Now that you are living further away from other people, you will find that the chance of you picking up the cold doing is a lot less. However, that won't mean that you will be exempt from ever catching an illness. Although diseases are spread more readily when there are more people, they are still caused by bacteria, viruses, and parasites, all of which you can still encounter even though fewer people are around you.

The best way to handle diseases is by making yourself more resistant to them. By eating a healthier diet, you will be preventing chronic diseases such as diabetes, high blood pressure, and even obesity (Wellness Team, 2020). Before moving out to your homestead, be sure to have your blood pressure, cholesterol, and blood sugar tested. This way,

you can make sure whether you'll need to take any chronic medication with you. A great way to make your body more resistant to the things that cause disease is to exercise. Start small and strengthen yourself over time. And lastly, lower your dependence on items such as cigarettes and alcohol, which come with their own negatives.

Hygiene

Even if you have a strong enough body to resist disease, there is always a chance you can get ill by not practicing good hygiene. Hygiene is vital to keeping you and your family healthy. Something as simple as food hygiene will hold back the possibility of food poisoning (San Francisco Department of Public Health Disease Prevention and Control, n.d.). Keep cold foods cold and warm foods warm to avoid any microorganisms from infecting you. Never place cooked food in the same area as where you prepared raw food. This can cause cross-contamination. Remember to wash all the fruits and vegetables that you harvest or forage before eating or preparing. When cooking food, especially chicken, make sure all food is fully cooked before serving it to your family.

Keep all surfaces that will have food on them spotless. They should be cleaned before and after you work on them. They should be

cleaned with hot water and soap or any other detergent that will be friendly to your wastewater system. Your hands should also be spotlessly clean. Ensure that you wash them before and after every chore that you complete. This will prevent you from spreading germs around the property.

Avoid touching wild animals, alive or dead, as they have their own diseases and parasites that could affect you, your family, or life stock. If you are bitten by a wild animal, seek medical attention immediately.

Lastly, if someone in the household is ill, do not allow them to prepare any food. Try to limit their contact with the rest of the family. Allow them to use one particular bathroom (if you have one to spare) to minimize potential contamination (Intermountain Healthcare, 2020). Treat the illness as best as possible and allow them to rest. If a child is sick, ensure that you are wearing a mask; and washing your hands each time you look in on them. This way, you limit your chance of catching what they have and spreading it to the rest of your family.

Cold and Flus

Before you start taking antibiotic pills, stop. A cold or flu is caused by a virus, and no amount of antibiotics will cure you. All you can do when you catch a cold or flu is to treat and manage the symptoms that come with it (WebMD, 2021). Luckily, there are many ways to help alleviate the symptoms.

- The first thing you will need to do is rest. Your body is fighting a virus and needs all the help it can get.
- Don’t sniff back the mucus if it is running. Blow your nose, discard the tissues, and clean your hands.
- When coughing or sneezing, aim to do it into a tissue or the crook of your arm. Always keep your hands clean.
- You can treat a sore or irritated throat in many ways.
    - You can gargle a salt solution,

lukewarm tea, or some warm water with a touch of lemon and honey.

- You can use throat lozenges. Make your own using Echinacea or fruits that are high in vitamin C.

- Hot drinks containing chamomile and honey can help with congestion and prevent dehydration. Alternatively, adding honey to tea instead of sugar can help alleviate the sore throat as it has antiviral and antibacterial properties.
- Stay hydrated.
- If you find that your congestion is too painful, use steam to help you.

    - Stir a teaspoon of a methanol rub (Vicks) into a large bowl of water. Then throw a towel over your head, covering the bowl, and breathe in the vapors. Make sure you do not get burned doing

this.

- Alternatively, if you have eucalyptus on hand, you can take a few branches and add them to your shower head. As the water heats up and creates steam in the shower, the essential oils are released, and you can breathe them in.

- You can also place compresses (hot or cold) to your sinuses to deal with the pain.

- You can add an extra (flatter) pillow to angle your head to help with the draining of the sinuses.

With most colds and cases of flu, you will have to ride it out until the symptoms come to an end. However, if the symptoms have not abated after ten days, you are likely suffering from a bacterial infection (Piedmont Health, n.d.). This can be confirmed with the symptoms such as chills, fevers, a phlegm-

producing cough, and yellow phlegm. If this is the case, you may need to see a doctor to get antibiotics.

Allergies

There can be any number of reasons someone suffers from allergies. This is caused when your body has a reaction to something you have breathed in, consumed, or touched (Burke, 2021). You may be aware of some allergies, while others may be unknown until you come into contact with something that triggers it. There are many kinds of allergies which include food types (milk, peanuts, shellfish, etc.), animal dander (cats, dogs, horses, etc.), pollen, mold, and insect stings.

Most allergic reactions are mild to moderate. Symptoms start with hives (small, itchy, red bumps) and rashes accompanied by a scratchy throat, watery eyes, sneezing, or a stuffy nose. However, these symptoms should not be ignored as they can build in severity over time. In this case, treat this with an antihistamine such as Benadryl, and monitor their symptoms. Try to ascertain what caused the allergy and practice avoidance of it.

Allergy Caused by Poisonous Plant

Many plants have a chemical called urushiol which causes reactions to people's skins (Pietrangelo, 2020). These reactions can vary from a red, sensitive area to severely painful blisters. Well-known plants that cause these

reactions include poison ivy and poison oak.

- If you notice this reaction on yourself, avoid touching any other part of your body as much as possible.
- Remove any possible contaminated clothes and wash separately from others.
- Wash the area of contact with lukewarm water and soap for about 5 minutes. Be gentle if there are blisters.
- Bathing the area in cool water afterward will help with the pain.
- Use creams that ease itching (calamine) directly on the affected area. Reapply when needed or directed by the lotion.
- You can cover the rash with sterile gauze and a loose-fitting bandage. This will allow the injury to still get oxygen.

Allergy Caused by Stings

Many kinds of animals can sting, such as scorpions, wasps, bees, and fire ants. Some of these will leave the sting in you, while others will retain their sting and may continue stinging you.

- When stung and the stinger is left behind (in the case of bees), scrape it away with a straight-edged object (Pietrangelo, 2020).
- Wash the area with an antiseptic wash.
- Apply either calamine or hydrocortisone cream to the affected area.
- Add a band-aid to keep the injury clean.
- Add a cold compress if the injury starts to swell.
- Use a painkiller if the pain is more than expected.

Severe cases of allergies usually come from medications, insect stings, and food. Symptoms will include vomiting and diarrhea, accompanied by stomach or

intestinal cramps. The throat will also start to swell, resulting in wheezing and having difficulty breathing or swallowing. The face, eyes, and tongue may become flushed and swollen, adding to breathing difficulty. The person may experience anxiety and fear. There is even a chance that they will collapse into unconsciousness due to their limited ability to breathe.

Another type of severe allergy that happens within seconds is anaphylaxis. This causes a sudden drop in blood pressure and swelling of the airway, which prevents breathing. If this occurs, the affected person will need immediate medical attention, or otherwise, an epinephrine auto-injector (like an EpiPen) will need to be used. This will allow the blood pressure to start rising and open up the airways. Once administered, treat for shock. This method can also be used on someone who is suffering from a severe allergic reaction.

- If a person is unconscious or not breathing, loosen any tight clothing.

- If there is no pulse, start CPR while someone else gets the Epipen.
- Inject the Epipen’s contents and continue CPR until they can start to breathe by themselves.

Upset Stomach

The first thing you need to determine is whether an upset stomach is from a stomach bug or food poisoning. Regardless of which one you may have, you will need to ensure that you practice good hygiene to prevent it from spreading (Marcin, 2019).

Food Poisoning

Food poisoning is caused by viruses, bacteria, or parasites that can contaminate the food you eat. The first symptoms start within 2–6 hours upon eating the contaminated food. You will begin to feel ill before getting diarrhea and vomiting. This will result in becoming dehydrated, feeling thirsty, and weak. You may develop head and muscle aches accompanied by sweating and fever. If food poisoning results from botulism (which can result from poorly canned goods), your eyes may become swollen and have difficulty breathing. Food poisoning should resolve within two days.

The treatment for food poisoning, in a mild case, can be treated by yourself. The main issue you will need to treat is dehydration, so drink a lot of fluids (water, rehydration drinks, broth, etc.). You should get as much rest as possible, and if a fever is present, take medication for it.

You will have to see a doctor if you show symptoms of botulism (blurred vision, droopy eyelids, and slurred speech.) Other extreme food poisoning symptoms may include blood or pus-filled stool, diarrhea that lasts for more than three days, or a fever over 101°F.

Stomach Bug

A stomach bug (also known as viral gastroenteritis) results from a highly contagious viral infection that comes from viruses such as the rotavirus, norovirus, or adenovirus). This infection is generally picked up from another infected person. The first of the symptoms will occur within 24–72 hours after infection. A stomach bug has similar symptoms to that of food poisoning, but with some differences. You may have

diarrhea or constipation. There will be nausea, followed by vomiting, stomach, and intestinal cramps. You may also complain about having stiff joints. This illness can last up to ten days, resulting in losing weight during this time.

As with food poisoning, dehydration will be your biggest concern. Fluids that contain electrolytes are best to drink. If you are too nauseous to drink, sip at a rehydration drink every 30 minutes. You may not want to eat much, so choose foods that are easy to digest and are gentle on the stomach. Tricia Kinman (2020) suggests bananas, rice, applesauce, and toast (BRAT). The rice and bread should be of the white variety, as this will be more easily digested by the stomach and have less fiber. Banana and applesauce have sugars and essential salts which replace those you may have lost during the illness.

To help calm nausea, have either ginger or peppermint tea. This can be made with fresh or dried ginger or peppermint. You should get as much rest as possible and maintain high hygiene levels until the disease has run its

course. Go see a doctor if similar severe symptoms as with food poisoning become prevalent.

Rashes

A rash can result from many causes, such as viruses, bacteria, medicines, heat, allergies, friction, etc. (Connecticut Children's, 2018). Some may be nothing more than minor inconveniences (diaper rash), but others may be an indication of a severe condition (scarlet fever). The general symptoms start with a red patch of skin that may or may not be itchy. There may be red spots on the skin, or the skin may become scaly, swollen, appear bumpy, or pimples and blisters may form.

To treat the rash more efficiently, you will need to identify where it came from if possible. Once the cause of the rash is determined, it can be treated accordingly. Rashes are generally more uncomfortable than painful. To treat this discomfort, after washing and cleaning the area of the initial contaminant, you can take an oatmeal bath. When washing the affected area, it is vital to do so gently, especially if blisters are present. Don't scrub too hard, and don't scratch at the

skin. When drying the affected area, pat dry or even allow it to air dry. Allow a rash to air dry if possible. If the rash becomes too itchy, add some cortisol cream to manage it.

Unless a rash has been identified as a disease (scarlet fever, spotted mountain fever, etc.), it is rare to get a doctor involved. However, if you have a fever and continue to feel unwell, develop a bruise under the rash that isn't related to an injury, or show no improvement after a week, it is time to see a doctor. Another symptom that should alert you to getting a doctor involved is if you have red spots that have no feeling and don't fade when you place any pressure on them.

Be warned; some rashes are highly contagious. So, if you are treating yourself with an unknown rash, be sure to wear gloves at all times while treating. Dispose of these gloves correctly to prevent any diseases from spreading.

Key Points

There are many kinds of debilitating diseases that you can manage by yourself.

- Hygiene is the most important part of keeping all diseases at bay.
- Food should be prepared correctly, cooked, and raw food should remain separated, and all surfaces should be cleaned before and after preparing meals.
- Colds and cases of flu are highly contagious. This is why the affected person should be separated from others until such time they are no longer contagious.
- By treating the symptoms with over-the-counter medications and homebrews, you should improve over time.
- Allergies can be caused by things you smell, eat or touch. The effects of the allergen can be mild (sneezing) or can be severe

(anaphylaxis).

- If someone has a known allergy, ensure that they keep their EpiPen (or similar medication) with them at all times.
- An upset stomach saps strength quickly, regardless of whether it is from food poisoning or a stomach bug. As long as you can treat nausea and dehydration, the person will recover with few side effects.
- Rashes can be due to allergies, heat, or possible disease. Being able to identify the source of the rash will allow you to treat it more effectively.

In the next chapter, we will change gears from looking after the well-being of yourself and the people in your group, to surviving out in the wilderness with little to no water.

CHAPTER 4
Finding, Gathering and Cleaning Water

Water is one of the essentials of human life, and it is one that many people take for granted. Many people fail to drink enough water when it is readily available, resulting in different kinds of symptoms. However, when one is lost in the wilderness, not drinking water can result in your death within three days (Lin, 2017). Even if you go on a planned hike, there is always a chance that you get turned around and can't find your way back. Although you may have packed enough water for your planned hike, likely, it will not last long. This is why it is so important to know where to find, gather, and clean water to drink.

Finding Water

If you have planned your hike perfectly, you will know where the large catchments of water are (lakes, rivers, etc.). However, you should never drink directly from these sources, as you do not know what microorganisms or pollution may be present. To avoid some dangers, only collect water from fast-flowing water sources found at a higher elevation. This will result in water that has a lower chance of runoff contaminants. Avoid water sources that have an oily sheen as these may contain chemicals that cannot be filtered out or boiled to remove contaminants. It is vital to read your environment. If no plants grow around a water source, or if you note many animal bones, this could indicate pollution. Also, note if there are any mineral deposits around the water's edge. This may indicate highly alkaline-content water, which you shouldn't drink from.

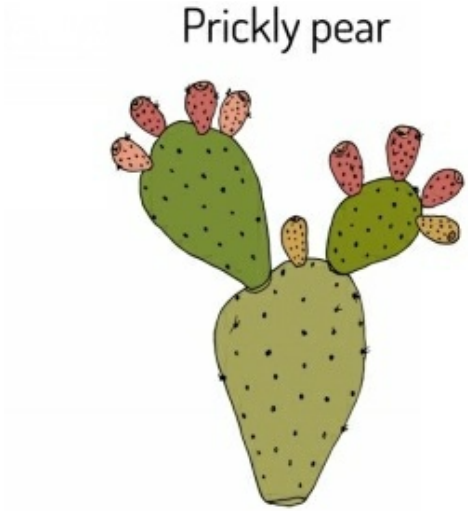
It is also possible to gather water from puddles, especially after it has rained.

However, these puddles need to be free from algae and any animal living in it. It will require you to filter and boil it before you can drink it.

Be observant. Plants and animals will also give you clues as to where you can find water. Many herbivorous animals travel along well-established game trails to get to a water supply. You can follow fresh tracks to find their water source. Alternatively, if you stumble across a dry stream, look to where plants such as bulrushes (cattails) grow. They are an indicator of there still being water. You can dig a hole at the base of their roots then wait until the liquid starts to pool before you collect it.

Cattails

Another way to get hydration is to look out for fruit and certain plants known to store water. Cacti, such as prickly pear, have fruit that has high water content. Not only that, but they have fleshy stems with pulp that is edible and have a high content of consumable liquid. However, it's strongly advised that you identify a plant 100% accurately to take advantage of this.



Finding Water in the Desert

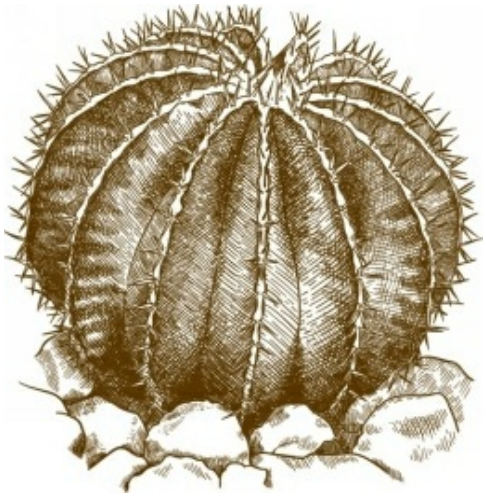
There is a much lower chance of finding water in the desert than in jungles and forests. However, that is not to say that you cannot find water if you know what you are looking for. When planning a hike in a desert-like area, you must map out the areas that have known water holes so that you can replenish your water stores as you travel. By knowing the area well, you will also be able to discern where water may gather after it has rained (Protin & Stuart, 2021).

Water will always gather at the lowest point. So if you are looking for water, look in areas at the base of mountains or even in canyons. However, be careful going down into canyons as there is always a risk of flash floods. There is a chance that an area that used to have a river no longer has one, but that doesn't mean that you can't still find water. Areas that appear damp yet have no standing water, places with tall trees or lots of vegetation, and dry river beds are the perfect places to look for water. Start by digging a one-foot by one-foot hole (Bryant, 2021). If the soil remains dry, dig in a different location until you find moist soil (Walter, n.d.). The deeper you dig (either with sticks or a camping spade), the more water will start to fill in the hole. You may have to support the hole's walls to prevent them from collapsing and filling in the hole. The water retrieved from this hole will be dirty with silt, soil, and anything else washed out of the dirt. It will need to be filtered before you drink it. However, if you are desperate for a drink, you can strain the liquid through a shirt to get most of the solid contaminants out of it.

Although some animals are hardier in the desert, they also need to have a drink of water eventually. Know which large animals frequent the area so that you can follow their tracks and find possibly hidden caches of water. Avoid doing this during the hottest parts of the day, as this will only result in you becoming dehydrated and getting sunburned. Even the animals have enough sense only to travel as the weather starts to cool. Insects, such as bees, do not stray far from water. By spotting a swarm of them, you should track where they are getting their water from. Birds are another animal you can follow for water, as they tend to circle over water before getting a drink themselves.

Many people like to assume that you can consume any cactus to get the watery pulp on the inside to quench your thirst. This is a very dangerous assumption. Although most cacti species harbor a large volume of water, they also contain several defenses, such as having a bitter taste or causing stomach issues. Of most of the cacti found in the desert, only the fishhook barrel cactus (Ferocactus wislizeni)

is remotely edible with far fewer side effects than other cacti when consumed. And even then, this will not be the most appetizing way to get water. You should drink this in very small amounts.



When all else fails, you can rely on the dew every morning to keep you going until you can find a larger volume of water. To collect the morning dew, you can set out several pieces of cloth over cacti, sticks you have staked into the ground, over rocks, or over trees. The cloth will absorb the water, and you can wring it out before it gets a chance to

evaporate with the sun. This cloth can also be used to wipe up any dew which collects on large cacti between the thorns.

Avoid drinking urine at all costs. This is a waste product of your body, and it is being excreted for a reason. It is better to use your urine in combination with a solar still to generate more moisture.

Finding Water in Jungles or Forests

Similarly, as with the desert, you may not find water standing around for you to consume even though there is a lot of greenery. It is because of this greenery that you will be able to collect dew more efficiently. You can lay several pieces of cloth (or t-shirts) to soak up the moisture overnight, and then in the morning, it can be wrung out into a container. Alternatively, when traveling early in the morning, you can tie extra cloth to your legs as you walk through dew-drenched grass to soak up the liquid. However, you need to be sure of the plants you are walking through. The last thing you want to do is drink water that is

contaminated with poison ivy.

If you are in an area where bamboo grows freely, you will be able to collect water while you sleep. You will need to bend the bamboo over in an arch, then tie it in place so that the end is about a foot above the ground. Once secured, cut a few inches off the top of it before placing a container under it. The plant will start to leak clear fluid and will continue to do so overnight (Bryant, 2021). Alternatively, you can cut a small hole on the bigger bamboo trees and extract water through a small pipe. This can also be done with plants such as coconut, nipa, and buri palm trees (DNews, 2011a).

Unlike the desert, you are likely to find more fruits and plants to provide you with the liquid you need to prevent dehydration. All the fruits and vegetables that we get in the stores today started from one growing in the wild. Those wild cultivars still exist today, and if you know what you are looking for, you will always have access to not only water but vitamins and minerals.

For this to be successful, you must become well versed in identifying beneficial plants such as wild melons (sometimes known as citrons), squashes, dandelions, wild berries (blueberries, blackberries, raspberries, etc.), aloe (very bitter but edible), and wild mint. You can even use vines that grow among the branches of the trees (Survival Frog, 2016). Be careful when eating too many fruits as this can harm your body, resulting in diarrhea. Green coconuts have a large volume of liquid stored inside of them. However, if you have too much of this, you can give yourself diarrhea, which will add to your dehydration. Unfortunately, not all plant matter is edible, and you will need to do a taste test to see if you can consume what you have found.

If you find a vine, the first thing you must do is make a small cut in it to observe the color of its sap. Any plant that secretes a milky or discolored sap that smells off should be avoided. If the vine has a clear fluid that flows freely, it is likely safe to consume. However, many vines have chemicals on their outer cover, so avoid putting them into

your mouth to suck at the moisture. The best way to retrieve this liquid is to first cut the vine free from higher in the tree (about 24 inches up) and then cut away the lower part. By cutting the vine higher upon its length, you prevent the water from pulling away from the cut at the lower end through capillary action. Do not gulp the liquid from a vine! Just because it is considered safer, that doesn't mean that it is completely safe. Allow some of the liquid to rest in your mouth for a few minutes to see if you have any reaction (burning or tasting soapy) before swallowing. If you are overly concerned about a possible allergic reaction, add some of the fluid to the inside of your arm to see if you have any allergic reactions to it.

The roots of plants (ones you know to not be poisonous) also store high volumes of water. You can dig these up and remove a 12-inch section. You can then remove the bark and suck the fluid from it (DNews, 2011a). Alternatively, you can make fine shavings of the root and squeeze the fluid from it. The easiest way to do this is to take a fistful of the

shavings, bring it above your head, point your thumb down toward your mouth, and squeeze. This way, the liquid runs down your thumb directly into your mouth.

Gathering Water

Sometimes, there are visible or even liquid sources of water where you are. When this occurs, you will have to find another way to gather water. When hiking during winter, you will have access to snow and ice. It is never suggested to consume these, as it will lower your body temperature to dangerous levels. You can build a fire which you can use to melt the solid water. If you cannot start a fire, you can collect it in a bottle, which you can place inside your jacket (but not against your skin) to melt it while you continue to look for shelter.

In your hiking kit, you should have some plastic bags, a poncho, or even a tarp, which you can use to collect water. This plastic sheet can be used to collect rainwater or even dew. You can achieve this by tying the corners of your collection material to trees (or having the corners held in place by sturdy rocks (Anderberg, 2021). Add a rock in the center of the collection material to allow the

water to gather around it. You will need containers to retrieve the water afterward.

You will not always be lucky enough to have a rainstorm come your way. However, this is not a problem, as you can create your own clean drinking water. Although the water doesn't need to be boiled with this method, it is a good idea to filter it because there is a chance of some solid contaminants getting into the water during the collection. There are two ways that you can "create" your own freshwater.

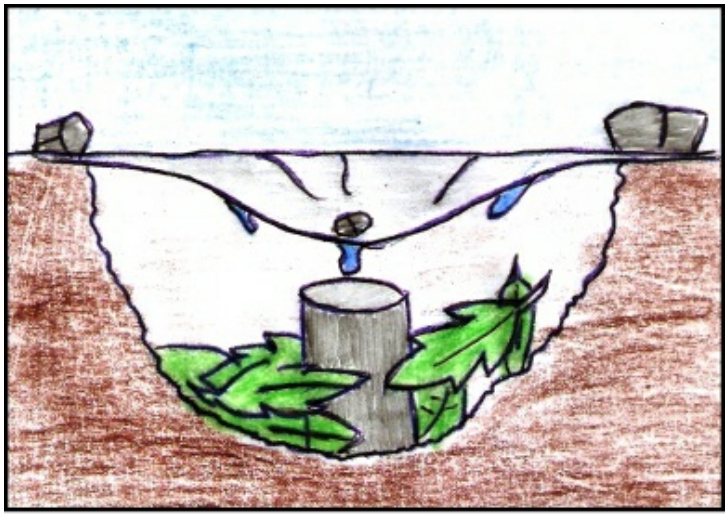
Method 1

The first is how to get fresh water from

saltwater. You can collect saltwater in a pan and bring it to a boil. Once the stream starts to appear, you can add a cloth (or a spare shirt) over the pan. The steam won't contain any of the salt and will condense on the cloth. This cloth can then be wrung out into a container, resulting in fresh, drinkable water (Lin, 2017).

Method 2

Alternatively, you can create a solar still. To make this, you will need a sheet of plastic (six by six feet or make do with what you have), a container to collect water in, several stones and sand, and a lot of green vegetation (Castelo, 2021).



a) Start by digging a hole, preferably four feet by three feet down, though this may be dependent on the soil and the size of the plastic sheeting you have available to you.
b) In the center of the hole, add the water collection container. Around this container, add the vegetation, use as many leaves as possible, and don't allow them to be in the container. This vegetation is what will create the moisture in your still.
c) Next, add the sheet over the hole and place rocks around the edge, keeping

the sheet in place. Don't allow the sheet to be taut at this point.

d) Add another rock in the center of the sheet, allowing the edges to slope down at a 45° angle.

e) Now seal the edges with sand of the plastic sheet to prevent any moisture generated from escaping. Ensure that the plastic sheeting will not be disturbed in any way or still will not work. A still works on the principles of evaporation and condensation.

This method works best on sunny and hot days as this will allow the vegetation to produce more water vapor inside the solar still. This vapor will condense against the plastic sheeting. With the sheet angled downward toward the container, the condensation droplets will build before rolling down to collect at the lowest point of the sheet. Once enough has been collected, moisture will drip into the container. Stills should remain sealed for up to 24 hours if you want to get a substantial amount of drinkable water. Alternatively, you can keep

a solar still sealed during the day, collect what water was created at night, then reset it for the next day. To collect enough water for your daily needs, you may need to make several solar stills.

This isn't your only way to get fresh water from plants and the sun. Through transpiration, you can use a living tree to generate water for yourself.

- Take several plastic bags that can be sealed, with a small, clean stone inside of them, and tie each one over the end of a branch of a tree. Be sure to use a tree that you know is safe.
- During the day, the plant undergoes transpiration, creating water vapor inside of the plastic bag. The stone inside the bag helps to make a low point that allows the water to gather in.
- When enough liquid has been gathered, remove the plastic bag from the tree and pour its contents

into a waiting container.

- As long as the plant is not poisonous, you can drink this water as is, though it is suggested that you filter and boil it just to be safe.

Cleaning Water

No water supply you come across is going to be completely clean. This is why you should filter and boil any water that you want to drink. Filtering allows you to remove any solid contaminants (Cowan, 2020). Then you will need to boil the water as this will kill the most dangerous microorganisms, such as viruses, bacteria, and parasites (United States Environmental Protection Agency, 2018).

A prepared hiking kit should contain a potable filter or water purification tablets. However, there is always a chance that you may find yourself either lacking these or you may have lost them. Luckily, you can purify drinking water without them.

The first step to cleaning your water is to filter it.

- This is generally easier if you have at least two bottles you can use. When you first collect water, and it seems a little cloudy, set the water

aside to allow the sediment to settle first.

- Scoop any floating debris out and when decanting the liquid, avoid pouring out any sediment that may be resting at the bottom of the container.
- While you are waiting for the sediment to settle, start creating your filtration system.
- You can create the container out of a large soda bottle with its bottom cut away.
- Add some material on the inside of the bottle, such as grass or fine leaves, and insert these closest to the neck. This will prevent the rest of your filtration pieces from falling out of the bottle.
- Next, add a layer of charcoal powder. This will help with the removal of many contaminants, fine sediment and will improve the taste. You can create charcoal powder by crushing up charcoal resulting from a fire you have made. You can get

away with not using charcoal if you have very fine sand, but it is preferred.

- On top of the charcoal powder, add a layer of fine sand, then a layer of coarse sand, followed by small pebbles or gravel. You can even add a layer of grass between the sand and the pebbles if available.
- Now you can pour the water you collected through the filtration device. You will need to continually run the same water through the filter until it comes out perfectly clear.
- The water may have to pass through the filter several times until this happens. If you do not have any bottles, don’t fret.

- You can use hollowed-out logs or plants such as bamboo to carry and store your water. Make sure that these have been thoroughly rinsed before they are used.
- The next step is to get rid of any microorganisms that may still be in the water. To do this, you need to boil the filtered water at a rolling boil for no less than one minute. If

you are at an elevation of 5,000 feet or more, you will need to boil the water at this level for at least three minutes.

- After boiling the water, allow it to cool naturally before storing it in a clean container that can be sealed or, at the very least, covered.

Key Points

Without water, a person will die of dehydration within three days. If you do not have enough of it, you will need to find more before you become incapacitated from dehydration.

- Know the area that you are in. This will allow you to know where you can find water sources.
- If you cannot locate a body of water, there are other ways to find water. Follow animal trails, insect swarms, bird flocks, or look for plants known to grow in areas with water.
- With a well-prepared hiking kit, you will have all the tools to gather water if you cannot find a water source.
- A plastic sheet can be used to collect rainwater or dew. Alternatively, it can be used to create a solar still, which can make

large volumes of water if left sealed on a hot day.

- Know how to find or gather water regardless of the environment that you find yourself in. A human cannot last long without having water.
- Knowing the plants in your environment will allow you to decide on how you will collect water.
- You cannot drink water from any source of water in the wilderness. There is a chance of contaminants and microorganisms which can cause many types of diseases.
- Although there are many filters and purification tablets on the market, it is good to know how to filter and purify water without these helpful tools.
- When filtering water, build a layer of cloth, charcoal, sand (fine layer, then a coarse layer), followed by pebbles within a bottle. Run collected water through it several

times until it emerges clear.

- Don’t assume filtered water is safe to drink! After filtration, you will need to boil the water for one to three minutes before most microorganisms have been killed.

In the next chapter, we will look at how you can find food through foraging and how to protect yourself from potentially dangerous animals.

CHAPTER 5
Food and Hunting Animals

Food is another essential item to your survival. However, unlike water, you can last up to three weeks without food, as long as you have water and shelter (Backcountry Chronicles, n.d.). If you are well versed in identifying plants, setting survival snares, and fishing, you are likely going to be fine. However, one of the biggest issues is surviving long enough not to be something else's meal.

Dangerous Animals in North America and How to Handle Them

Many people tend to forget that we do not rank very high on the food chain without our technology, and wild animals will take advantage of that. However, it isn't just predatory animals that can concern someone who is hiking alone or has gotten separated from their group. Some of the most dangerous animals in North America include wolves, coyotes, bears, cougars, snakes, and a menagerie of biting and stinging arthropods (Stinchcombe, 2020).

Wolves

Attacks on humans by wolves are rare, and generally, these animals are skittish. They will likely avoid human contact unless they feel threatened or are protecting a den. Wolves are easy to notice when you know what you are looking for. Their tracks are generally larger than that of a dog with four

toe pads and a heel pad. Depending on the soil you find the tracks in, you may or may not see the nail imprints (Carnivora Dinarica, n.d.-b). Their prints measure about five inches long and four inches wide, depending on the species (Washington Department of Fish & Wildlife, n.d.). These are very vocal animals and will communicate with howls when hunting or warning rival wolf packs. They will choose areas with natural shelters, such as rocky outcrops or thick vegetation covering holes close to water to make their dens. This is where the pups will remain until they are ready to join the hunting party. Wolf scat is similar to that of dogs but will contain bone fragments and fur from their prey.

To prevent wolves from coming to you when camping, ensure that you remove all traces of food which can attract wolves to your location. If you come across a lone wolf, as with most large predators, you must remain calm and not run. Running will trigger the wolf's instinct to chase you down. Make yourself noticed by talking calmly and slowly backing away from the vicinity while maintaining eye contact (Carnivora Dinarica, n.d.-a). Under no circumstances should you ever approach a wild animal, especially a predator. Avoid places that are perfect for dens.

If the wolf shows signs of aggression (a tail that is held high, raised hackles, bared fangs, followed by barking or howling), then raise your voice, make yourself appear larger than you are (by opening your jacket), throw items around the animal, and continue to back away (Western Wildlife Outreach, 2012). If the aggressive animal comes toward you, don't be afraid to make use of either bear or pepper spray. Even with all these precautions, there is a chance that you may still be attacked. When this happens, fight back as hard as you can, protecting your throat. You want to make yourself appear as dangerous as possible and not worth the trouble.

Bears

Depending on where you are, you may never see bears, while in other areas, they come strolling right up to your doorstep. They are more common in the backcountry and generally will not bother a human. However, this can change depending on the species and time of the year. It is best to avoid this apex predator as much as possible, so if you plan

to be in an area where these animals are, take precautions to keep yourself safe.

A bear has two different-sized tracks. The forefoot track is broader, while the hindfoot looks very similar to a human's shape (Carnivora Dinarica, n.d.-c). Each foot contains five toes with all claws visible. You will know that a bear is in the region by its droppings and indications of rubbing on trees. The dropping can reach up to three-inch-sized piles that appear segmented. The contents of the dropping can include vegetative matter as well as fur and bones. This will depend on what is readily available to the bear during the season. Feeding areas that have been marked out as the territory of a bear will contain trees that have been used to rub against or be chewed on. Sometimes these trees may also contain fur, which you can use to identify the type of bear species in the area.

The size of the bear's paw prints can help you determine the type of beer in the region and its size (Wildlife Illinois, n.d.). A black bear will have a foreprint of 4–6.3 inches in length by 3.8–5.5 inches in width. The hind print is

6–7 inches in length and 3.5–5.5 inches in width. Brown bears, also known as grizzlies, have fore paw prints of roughly 5.4 inches in width and 5.1 inches in length, while their hind paw prints are 5.4 inches in width and 9.8 inches in length (Hinterland Who's Who, n.d.). Occasionally, a heel print can be found behind the forepaw, showing a large gap between the two pads.

Avoidance is your best bet when it comes to bears. By walking and making noise, such as talking or hitting a stick against the ground, is enough to make most bears wary of your presence. Another safety measure you can

take is to remain on the trails and only hike during the day. This makes it easier to see any bears in the region. As with a wolf, if you notice a bear, back away slowly while calmly talking so that you can make the animal aware of your presence and not be startled. A bear may approach out of curiosity. If this occurs, make loud noises, stand taller, and make yourself intimidating. Do not run! Use bear spray if the animal gets too close. These sprays can be up to 90% effective in deterring bears (Miller, 2020).

There is always a chance that the bear feels threatened enough to charge you. When this happens, you need to be sure which bear you are facing, as this can directly impact your survival. If a brown bear were to charge you, it is best to lie down, protecting your head and stomach. The bear will be curious but will likely not continue an attack, leaving you where you lie. You will have to remain lying in this position for 10–20 minutes after the bear leaves to ensure your safety. However, this will not help you if a black bear attacks you. When charged by a black bear, you

should do your best to fight back with your walking poles, sticks, or stones lying close by. Continue to be loud in an attempt to scare the animal away. Fighting is the last resort, so be sure never to get yourself into a situation where a bear may charge you (coming between a mama bear and her cubs).

Coyotes

This shy canid is rarely known to attack adult humans but will not turn its nose up at young children or family pets. You are likely to hear coyotes before you see them. They communicate with various vocalizations from barking, yipping, whining, and howling (Urban Coyote Research, n.d.). Their dropping is similar to a dog's but tends to be more rope-like due to the hair and bone fragments that remain. This dropping is also used to mark territory and communicate with other members in the pack. Their tracks are similar to that of dogs, but their four toes tend to point more inward. These tracks are often seen heading in a straight line, whereas a dog's will meader. Their tracks measure two

and a half inches long by two inches wide (Washington Department of Fish & Wildlife, n.d.).

Although rarely a threat to adults as they are shy canids, they will not miss an opportunity to take a pet or an unattended young child. The first thing you want to do is avoid baiting these creatures to your camp, so practice camp hygiene. Keep your pet or child close to you. A coyote will try to put itself between you and its prey, preventing you from coming to its rescue (Ackert, 2011). Don't allow this to occur. Pets should always be kept on a leash that doesn't extend beyond six feet, and children should remain at your side at all times. Follow all other large predator rules

when you come across a coyote, and remember never to run!

Cougars

Likely you won't even know a cougar is stalking you until it has decided to attack you. They are very stealthy and prefer not to be seen. Although they rarely attack humans, attacks have been known to happen. Cougar tracks are very similar to wolf tracks, especially if you cannot see any claws present as this large cat can retract them. To discern which track belongs to which animal, you will need to look at the heel pad and the toes carefully. The heel pad is divided into three parts, while the toes are teardrop-shaped, with the second toe being the lead toe (Wilderness Arena, 2019). Their prints are roughly 3.5 inches in width and three inches long (Western Wildlife Outreach, n.d.). Similar to bears, this large cat also rubs against trees. However, you are more likely to see scratches on the ground accompanied by sprayed urine. This is to mark the animal's territory. The dropping is made up of blunted segments that

are smooth, with a strong odor.

If you manage to startle a cougar, don’t approach it any further and follow all the other large predator safety precautions (Path Projects, 2020). If it takes an interest in you, appear threatening by raising your arms above your head and making a lot of noise. You may even have to throw sticks and stones to prevent it from mock charging you. Even if the animal seems to retreat, keep an eye on your surroundings as they are ambush predators. Once they decide to hunt you, it may be difficult to get rid of them. Use a bear

spray to dissuade them from coming close to you if necessary. If a mock charge turns into an attack, defend yourself by aiming for its head as much as possible. Protect your throat and head while you do this to prevent either its teeth or claws from sinking into you.

Snakes

Not all snakes are venomous, but they should be respected, especially if you can't tell them apart. Snakes will never go out of their way to attack a human. Most snake bites occur because a person wasn't paying attention to where they were going or listening for the warning signs that snakes give them. The venom produced is a costly resource for snakes. Therefore, wasting it on an item that it cannot eat could mean the difference between a potential meal or the snake going hungry. There are different snakes in different regions, so be sure to research what is in your area. This way, you can identify and avoid any potentially dangerous snakes.

Different snakes have different ways to move, and you will only be able to notice

their tracks in soft soils, sands, mud, or dirt. The most common snake tracks that you will come across are side-winding, concertina, rectilinear, and lateral undulation (Wildlife Removal, 2019). The size of their droppings can also hint towards the size of the snake you may come across. This oblong-shaped dropping tends to be squishy and dark brown when fresh but becomes chalky as it ages. It may also be surrounded by a white puddle of urine, as the same opening excretes both waste products.

Depending on the species, most snakes will warn you of their presence long before you are near them. They will hiss or rattle. This is why it is important to be attentive, especially when collecting firewood or walking around in an area where snakes are most active (UC Davis Health, 2018). Usually, when a snake is encountered, you can stand still, and after some time, the animal will leave the scene. The best way to avoid the dangers of a snake bite is to have the appropriate clothing to protect you from a surprised snake attempting to bite you. This includes sturdy walking

shoes or boots, as well as long pants. It is best to remain on the well-traveled trails as you are least likely to encounter a surprised snake.

Never handle a snake that you can't positively identify as non-dangerous, even when the snake appears dead. Playing Dead is a survival instinct for some snakes. However, if they are touched, they will defend themselves with a painful bite that may or may not have poison (a dry bite versus a regular bite). This is why it is important never to wander off alone. By remaining in pair, if something were to happen, you have someone who can give you immediate first aid. If you are by yourself, continue to make as much noise as possible as you move, as this will also alert any snakes to your presence. This will cause them to avoid you.

Ticks

If there are animals, there will be ticks. There are various species of these parasites that cause many different kinds of disease. Some of which will require treatment you will not be able to get while out in the wilderness. The

best way to prevent yourself from getting bit by ticks is to use bug repellent and wear the appropriate clothing. As with all parasites, you won't know where the ticks are until you have one on you already. The best way to avoid these critters is to practice prevention.

Always wear socks, shoes, and long pants when hiking, as this will prevent ticks from climbing onto your skin (Ontario Hiking, 2021). To prevent them from crawling up your pants, tuck the pants legs into your socks. For added protection, you can add insect repellants to the cuffs. By wearing light-colored clothing, you should more

easily see ticks crawling on you and thus be able to remove them before they get a chance to bite. Ticks generally like to hide in tall grass and foliage, where their hosts like to walk through. Remain on the trail to avoid picking up extra passengers. To avoid ticks completely, as well as mosquitoes, hike during the colder parts of the year. When a tick does manage to latch itself to you, remove them carefully so as not to leave the head behind, as this can cause infection to occur.

Other Stinging and Biting Arthropods

Throughout most regions of the world, you will find different kinds of scorpions, spiders, bees, wasps, hornets, and others, which can make your hike unpleasant. Except for accidentally stumbling across an arthropod that bites or stings, you will generally remain safe from these animals as they tend to avoid humans. It is a good idea to avoid these creatures when you encounter them. Especially bees that will sting you as a swarm

when you disturb the hive.

It is unlikely that you will manage to avoid all insects and other biting and stinging arthropods. Your best bet is to add insect repellent (20–30 % DEET) to your hiking arsenal and cover up the most exposed skin (Densmore, n.d.). This should deal with most blood-feeding insects. Alternatively, if you are settling for the night, aim to burn some cedar or redwood, which has natural insect repellent properties. Avoid areas that have blooming flowers or rotten fruit as this will attract insects such as bees and wasps. When eating any fruit that you forage, be sure to wash your hands to prevent the attraction of insects that like sugary treats. Bright-colored clothing may also turn you into a bulls eye for bees that are looking for flowers. If this does occur, do not hit the bee because this will just cause it to sting. When coming across a hive of stinging insects, slowly back away and don't kill any of the insects that are on you. This can cause you to become marked, and the rest of the hive will come for you.

Some General Rules

These are hardly the only animals that can hurt you. If you want to survive in the wilderness, here are some more general rules that will keep you safe from wild animals.

- Avoid using deodorants or toothpaste with a strong scent, which will attract animals (Kairis, 2017).
- Know which animals will pose the biggest threat if you plan to hike in a specific area, and prepare appropriately.
- Where possible, travel in a group, making as much noise as possible.
- Do not cut your sense of hearing by wearing a headset when hiking (Pennings, 2019).
- Also, use your sense of smell. If something doesn't smell right (animal's natural musk or a rotting carcass), move away from the area.
- Don't hike at night, dusk, or dawn,

as this is when predators are on the prowl for prey.

- Stick to walking during the day and camping with a fire at night to keep yourself safe.

Edible Animals

Even though there are animals that would use you like food, there are many others you can use for food. Foraging, trapping, and hunting for animals like a food source can be difficult to do physically and mentally. Many of us have never had to kill an animal for food, but this will be necessary when you are in a survival situation. As long as you can lessen the hunted animal's suffering, the better. Another aspect of hunting for protein is that you may have to resort to a protein you may be disgusted by (such as maggots). Making it not only difficult to handle but also to swallow.

Birds

This is likely not a protein source you will easily catch on your own unless you can identify roosting spots. Depending on the season, you may find birds such as ducks and geese that sit in nests full of eggs (Hunter, 2020). Even if you can't catch the bird, you

can use the eggs as a protein and fat replacement. There are many kinds of grouse, quail, partridge, and other large birds that you can attempt to hunt throughout America.

Rodents

Rodents such as mice, rats, squirrels, and chipmunks are usually scarce during daylight, but they move around from dusk to dawn. Although they do not have a lot of meat on them, they are edible after being skinned, gutted, and roasted. These creatures are generally fast, and it may be difficult to catch them by hand. You will need to use traps or snares to catch them.

Rabbits and Hares

These animals are found through most states and in varying concentrations during the year. They contain more meat than what is on the smaller rodents and can be cooked similarly. They tend to be more active during dusk to dawn, with rabbits remaining close to their warrens and hares looking for food close to places where they can run and hide. Snares

are your best bet when trying to catch these fleet-footed creatures.

Aquatic Life

Regardless of being close to saltwater or fresh, you will find something to eat either through fishing or foraging around. Although catching fish may be difficult without a rod and hook (although you can make these yourself), there are many ways to catch these animals. Even bullfrogs and snapping turtles are edible if you can catch them by hand. Bullfrogs pose no real threat when caught by hand. However, be careful when catching snapping turtles, as their beaks can easily take a finger or two if you get too close.

Although it is possible to consume salamanders, it is best not to as many species tend to secrete irritating substances through their skin. These creatures also exhibit aposematism, which is a form of protection. Unlike camouflage which causes the animal to remain hidden, aposematism tells predators that the animal exhibits colors such as white, red, orange, black, or yellow that may be

poisonous when eaten (Potochny, 2020).

Other aquatic life that you can use as a food source, especially if you find yourself along a coastal area, are crustaceans and shellfish. These creatures can easily be collected in a quantity that keeps you from getting hungry. However, you will need a knife to be able to get most shellfish, such as limpets off the rocks they are on.

Creepy Crawlies

There are 1.1 million insect species currently identified, of which 1,700 are edible (Potochny, 2020). And before you turn your nose up at eating insects, many cultures around the world make use of this high-protein, low-fat food source. Although many creepy crawlies (insects, snails, scorpions, etc.) do not look appetizing, they are edible once cooked. As with the salamanders, insects with warning colors are best avoided. Stick to eating insects that are green or brown. Some insects secrete chemicals to protect themselves from predators, so it is best to avoid them if an insect has a strong

odor.

You are spoiled for choice when it comes to choosing what insects to eat. If you have a space, you can dig into termite and ants nests (not fire ants) where you can collect masses of clean protein. If you know-how, you can also smoke out bees from a hive, allowing you to get to the energy-rich grubs (larva) and honey. Large water beetles and June bugs are also edible once thoroughly cooked. Even grasshoppers, crickets, and locusts (if you can catch them) are edible and can be found throughout most of summer and spring. You do not even need to go after the faster creepy crawlies. Turn over rotten logs or rocks to find slugs, cockroaches, centipedes, scorpions, and earwigs. When collecting scorpions, be sure to pin down the tail to prevent the animal from stinging you.

Any creepy crawly you find should never be eaten raw. These creatures may be covered in bacteria or have internal parasites that could make your already dangerous situation more deadly. Either roast or boil what you find before consuming anything, and remember to

remove the legs to prevent them from getting stuck in your throat.

Larger prey

The chance of you taking down a deer or moose without a weapon is a fantasy. However, that is not to say that you cannot use this source if you come across it. You may find scraps left behind by predators that you can use. However, taking from a carcass may put you in danger of running into a predator or scavenger. Be sure that the coast is clear before gathering what you need either as food or bait for your traps.

Traps and Snares

Unless you go exploring with a gun or similar weapon with you, you may find that hunting can become difficult as prey is significantly faster than you. However, that is not to say that you will starve. A well-kitted hiking bag should contain all you need to make traps and snares that can provide some source of food if you get lucky. Even if you don't have everything handy, you should fashion the resources you may need. The advantage of setting a trap is that you lower the amount of energy expended by looking for food (McCarthy, 2017). The disadvantage is that they do not always work. Most states do not allow snaring of animals when it comes to hunting. However, if in a survival situation, and it is the only way to get food, you have to use it. That said, make sure that you check your traps and snares at least two to three times a day to ensure the animal you have caught isn't needlessly suffering.

Fish Traps

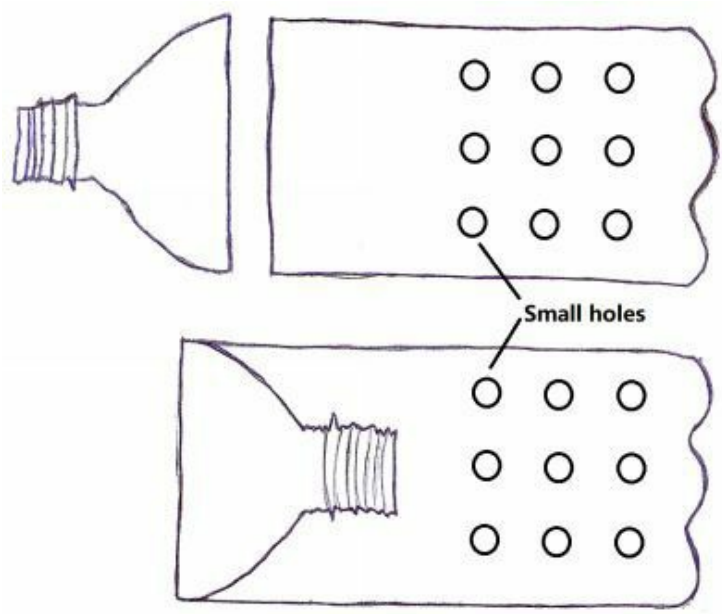
Unless you are an expert, you may find it difficult to catch fish with your bare hands. Your other options can include fashioning a fishing rod or a spear; even then, these do not guarantee your success, especially if you do not have a bait (Practical Primate, 2018). Two of the easiest fish traps to make are the bottle trap and the funnel trap.

Bottle Trap

To make the bottle trap, you will need one large soda bottles. You will also need some rope or dental floss to keep the bottle sections together.

- Start by cutting the top end of bottle (see image).
- Cut some small holes in the side. These holes will allow water to flow through the trap once it is set.
- Remove the cap from the bottle.
- Slide the cut section of the bottle into the first part so that you can thread the cordage, rope, or dental floss through to keep the bottle sections together.

- Add a small piece of bait through the opening of the funnel, so that it is lying in the space between the two bottles.
- Tie the anchoring line to a sturdy branch that overhangs the slow-flowing river or tie it to a branch that has been hammered into the mud of the river bank. This will prevent your trap from being carried downstream.
- You can also stake the trap in place with some sticks. This way, the wider opening of the trap allows the flow of the river through it.
- If the trap floats too much, add a small rock to join the bait to help it sink down.
- Leave the trap for a few hours.



This trap is designed to catch smaller fish which you can use for bait or a quick snack. The fish you catch with this method will not be enough to make a full meal.

M-Shaped Funnel Fish Trap

The second trap, the funnel trap, is also known as the M-shaped funnel fish trap (Survival Skills Guide, 2017), and only requires natural resources that you should be

able to find in your general vicinity.

- Start with getting many long sticks which you will use to construct the legs of the M-shaped funnel. Start from the shore and place them close together until the water reaches a depth of halfway up your shin.
- Ensure that the sticks stand above the water to prevent fish from jumping over and out of the trap.
- Next, build the two shorter legs, which make up the final point in the M-shape, but do not complete it. Leave a small part of the funnel open to allow the preferred-sized fish into the trap.
- Inside the trap, add water plants found in the area so that the fish have a place to hide and be shaded from aerial predators.
- Add bait to the pool and wait for the fish to swim into the trap.

As with all traps, this process takes time and may not always be successful. Because of this, don't hedge all your bets on a single trap working. The more you set out, the larger your chance is of catching something.

Animal Traps

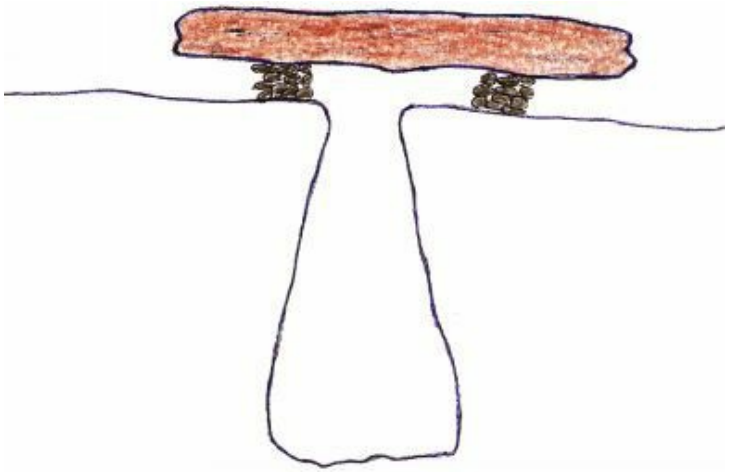
Holes

This is one of the most primitive traps and can work well if the construction prevents the prey item from getting out (McCarthy, 2017). These sorts of traps are great for catching smaller animals such as lizards and rodents.

- Start by digging a hole that is about

18 inches deep.

- Construct the walls so that they lean inward and not outward. This will make it more difficult for the animal to escape from the hole.
- Create a shelter over the hole. By doing this, you create a sheltered spot for a small animal looking for food or trying to escape a predator.
- A shelter can be constructed with a large, flat piece of wood or slate, which is placed on top of four small stones or mounds of soil. This will create a gap between the ground and the shelter.
- You can add some bait to the hole to entice the prey as well.



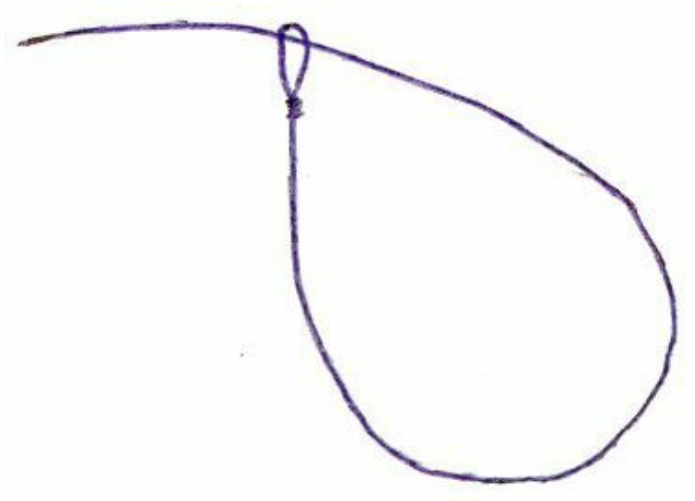
This trap may not always work as the animal may be able to scramble out or jump. If you have a bucket, you can bury it in the hole. With its smooth sides, the prey will struggle to get out.

Snares

When walking around, keep an eye on your surroundings. You may be able to find tracks of rats, squirrels, rabbits, or hares. All of these animals you can catch through the use of snares. The two main forms of snares you can use are the drag or noose snare and the twitch-up snare (McCarthy, 2017).

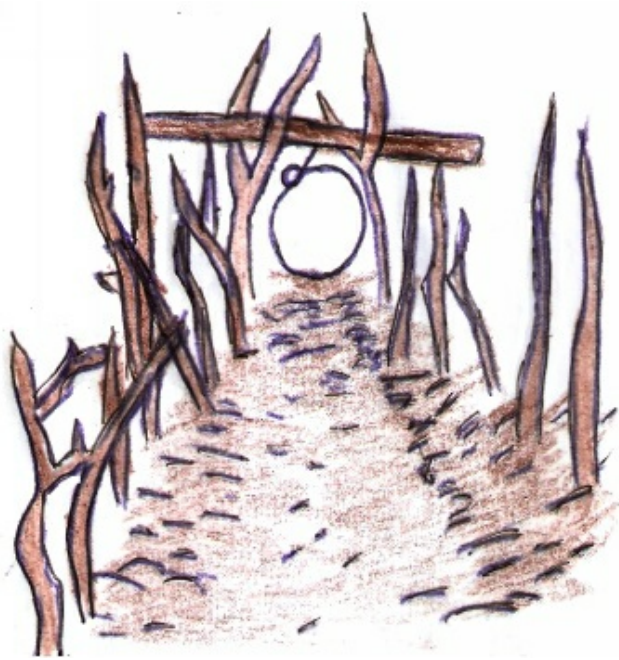
When making any snare, it is vital that the hole created is big enough to have the prey's head to go through for it to work. Snares can be made with sturdy, thin wire (as with picture frame wire) or malleable cordage that can withstand a struggling animal. You will need about three to four feet of the wire or cordage to make a snare to catch smaller animals.

To create a snare, make a loop at the end of the wire or cordage, and twist or tie it in place. Then thread the other end of the snare through the loop to create a cinch. This is what will tighten as the animal struggles to get out. You can create several snares and carry them with you until you find the perfect place to set them.



Animals are very particular in the trails they like to travel. Once you find such a trail, determine in which direction the animal was traveling. Then start on creating a funnel. By lining part of the animal's route with closely packed sticks, you can channel it to the area where the snare will be. If a sturdy branch goes horizontally over the funnel you have created, you can tie the snare onto it. Afterward, you can lay the snare across the path the animal is likely to take. Ensure that the snare is firmly tied in place, as you do not want the animal to break the snare loose, only to die later, far away from where you are. If

this branch is not available, you can construct one.



Take two sturdy branches that end in a V-shape. Hammer these into the ground so that they cannot be uprooted easily. Then set another branch in the two crooks of the stand before tying the snare to it and setting it. To prevent this horizontal branch from being dislodged, you can also tie it in place. The

size of the snare should be roughly the size of your prey's head. Any smaller, it won't catch your intended target, as they will move it out of their way. If the loop is too large, the animal will simply hop through it. These traps can be baited with food that the prey has been eating. Snares need to be checked every couple of hours as dead prey will be snapped up by any predators in the region.

Twitch-up Snare

To avoid a predator from getting to your prey and prevent it from getting away before the snare has a chance to tighten properly, you can make the twitch-up snare.

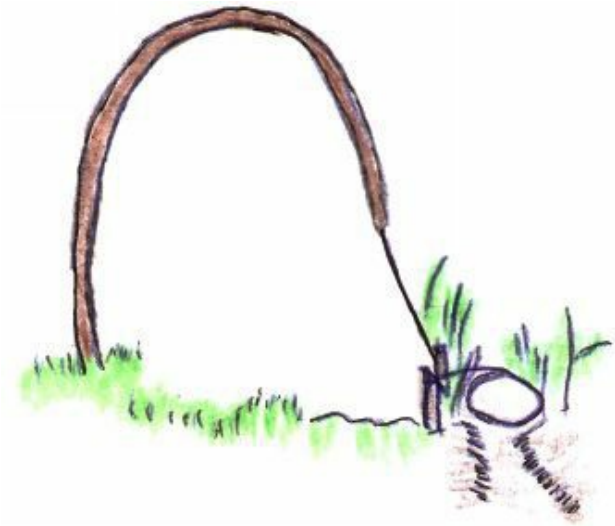
For this to work, there needs to be sapling close enough to be bent down and kept under tension without breaking.

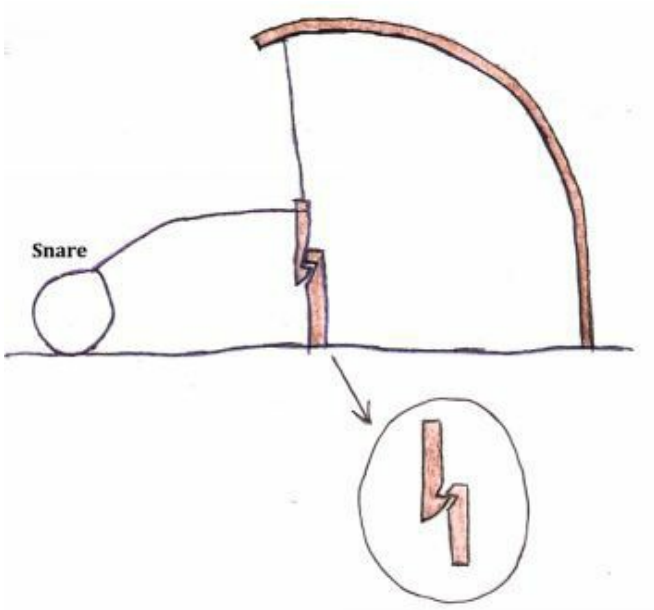
- Next, you will need two pieces of wood, one of which will be the anchor for the trap, and the other will connect into this to keep the sapling under tension.
- Create the funnel as previously

described. Then create the anchor piece of wood. This should have a notch near the top that matches the notch in the second piece of wood.

- Hammer this into the ground close to where you want to set up the snare. Ensure that it cannot be pulled from the ground with ease.
- You can also hammer the second piece of wood next to this to create a wedge that ensures it stays firmly in the ground.
- The second piece of wood will contain both the snare's wire and another wire or rope which will be tied to the tree.
- Add the snare wire close to the notch that connects to the anchor. You can carve a divot around the top of it where the second wire will be tied to prevent it from slipping when the tree shoots up.
- Bend the sapling over, tie the line to it, then set the trap by connecting the two notches.
- Ensure that the snare covers the

hole in the funnel so that the animal will be caught in it.





When this trap is sprung, the animal will be pulled into the air. This causes the cinch to tighten and keep the prey out of land-dwelling predators' maws.

Key Points

Gathering food is a must if you are lost in the wilderness. However, while you are hunting, so are other animals.

- Predatory animals are dangerous and should be avoided where possible.
- As long as you make a noise while moving, most animals will avoid you.
- If you come across a dangerous predator, keep your voice low, keep your eyes on the animals, and slowly back away.
- Most predators will not attack you, but if they become inquisitive, become louder, make yourself appear bigger than you are, and throw items.
- If an animal becomes aggressive, do not run! This will trigger their hunting instinct, resulting in you becoming prey and not a threat.

- When attacked, defend yourself appropriately, depending on the animal attacking you.
- Avoidance is better, don't go after an animal you do not intend to hunt and eat.
- There are many edible animals in the wild, as long as you aren’t too squeamish.
- Most insects are easily caught. However, mammals, birds, and fish are more difficult to catch and will require different strategies to obtain them.
- Some animals are easier to catch if you use traps or snares, so be sure to keep the necessary equipment on hand.
- When using traps or snares, remember to remove or break them down when you leave the area. If you are not hunting the area, there is no reason for it to be left behind to kill needlessly.

In the next chapter, we will discuss the

importance of having shelter. We will discuss which shelter is better to use in which situation; and how to do it with or without tools and equipment.

CHAPTER 6
Building a Shelter

Shelter is one of the three essentials you will need for your survival. According to the rule of threes, in harsh weather, you will only have three hours in which to find shelter before losing your life (Backcountry Chronicles, n.d.). However, the worse the weather, the less time you will have. How and what kind of shelter you decide to build will depend on shelter size and material used. It also depends if you want to have a shelter that is for long-term survival. The type of shelter you build also needs to reflect the environment that you find yourself in. Some shelters may need some equipment to build, while others can be done with only the resources you have on hand. Review the situation you are in and what is at your disposal to make an educated conclusion on what you need at that moment.

Building Shelter Basics

Regardless of where you are, there are some basic shelter rules to follow. The first thing you need to consider is where you will build your shelter (Vuković, 2020). Look for natural sheltered areas that have a wall of trees or rocks around them. These will add extra protection against wind and driving snow or rain. The area you want to build a shelter in needs to be dry and flat. Don’t camp too close to water, especially if it has been raining, as the water level can rise, resulting in your camp getting flooded. You do not want to get wet, as this can compromise your survival. Be wary of anything that could land on your shelter after you build it. This can include dead trees or branches or even rocks if you are close to the bottom of a cliff.

Clear the area of any debris before lining where you will be sleeping, as there could be insects or other nasty crawlers lurking within the debris. Prepare the area with fresh leaves,

pine needles, or loose leaves. This will create an insulating layer that will protect you from heat and cold. You will also need to clear an area where you want to build a fire, as you do not want to start a forest fire accidentally. Then lastly, if you are aiming to have someone spot you, you must tie something colorful to your natural shelter. Most built natural shelters tend to camouflage well, making it difficult to spot if rescuers are looking for you. A fluttering piece of bright material attached to or close to your shelter will be eye-catching enough for most people.

Desert Shelter

When in a desert or the area you are hiking in is experiencing a heatwave, the first thing you want to do is find a shaded area. This may be a group of cacti, a rocky outcrop, or, if lucky, some trees. When you find some shade, drink some water before moving on to building your shelter. Some equipment you may need includes a tarp, emergency blanket, poncho (any protective layer), some walking sticks or branches, and something to act as a weight (DNews, 2011b).

- Dig a trench, long enough to lie down in. This should be about a foot to two feet in depth. Don't exhaust yourself too much if possible. Create a slope into the trench to make it easier to get in and out of it.
- Using branches, walking poles, or even surrounding rock outcrops, lay or tie the protective layer over the

top of the trench by about afoot.

- If you have enough material left, create a second layer about a foot above the first layer. When using an emergency blanket, turn it so that the silver side is facing out. This makes you more visible and reflects the heat away from you.
- By creating these two layers, you can lower the temperature in your trench by 20–40°F.

Although a trench does help to lower your temperature, if the heat is too high, it is best to set up your shelter and wait until it is cooler to dig. Deserts become freezing at night. Because of this, you may have to deconstruct your shelter and wrap it around yourself in a burrito fashion to keep warm in your trench.

If you have many people in your party when lost in the desert, each person will need to construct their own trench shelter. Alternatively, if there are trees and leaves, the group can construct a wickiup (wigwam) or

dome shelter. However, this may require more tools and resources that are available to you at the moment.

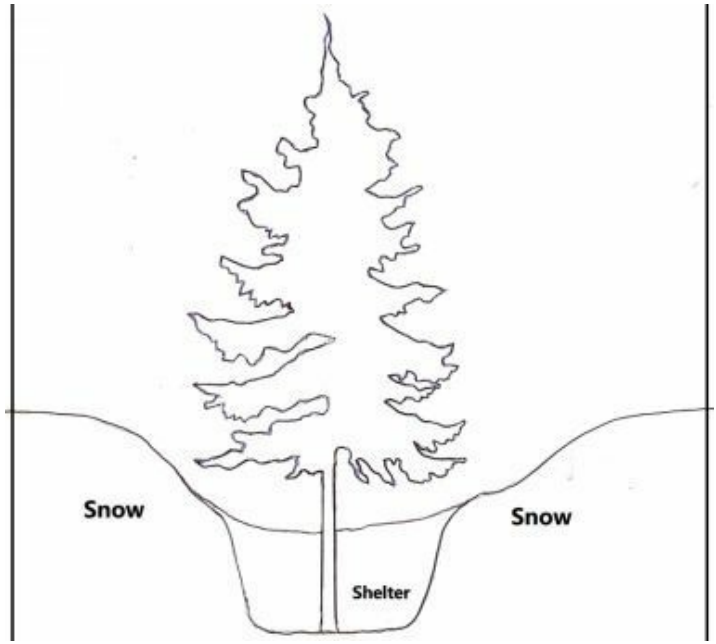
Snow Shelter

Not everyone expects to run into a sudden snowstorm. If this happens to you and you need to find shelter with no time to build anything, you can construct a tree pit shelter (Sullivan, 2019).

- Look for a tree with a dense canopy of branches and dig down at the area around the trunk. This is known as a tree well or a spruce trap.
- Be wary of this tree well, as the snow that does get in there is generally not as densely packed as that around it. This can cause you to fall into it and struggle to get out.
- Continue to dig down until you manage to reach the ground. While you do this, support and pack the walls around you to prevent them from collapsing inward.
- Take some of the branches that you can reach and lay down a layer on

the ground. This should be about six inches thick to protect you from the cold.

- Some more branches can be added over the top of the shelter to protect you from the wind.



This shelter can only be built if there is a deep layer of snow. However, it can be dug to support several people sitting.

If you have more time to build a shelter, consider building a lean-to with a fire reflector or an A-frame shelter if you cannot build a fire (MacWelch, 2020b). It is best to build your shelter within the tree well of an evergreen tree as this area is more sheltered from the snow. Look to see if there are any trees you can use to assist you in building the shelter. If you have two trees close to each other or a rock face, you can build a lean-to. If you have a single tree with a V-shape wedge, you can construct an A-frame.

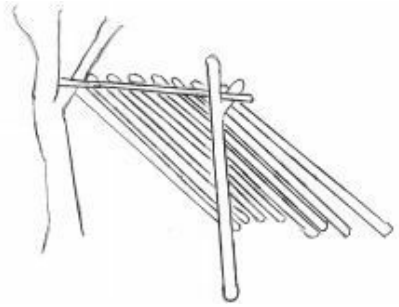
Regardless of which you decide to build, start by creating a bough bed. Clear the area of as much snow as possible. Add two long logs or boughs that will make up the two sides of the bed. Aim to have these as long as you or make do with what you have. In the space between the boughs, add smaller boughs with leaves. You want the leaves to be as dry as possible as you will be lying on this under your shelter. Build the thickness up to be about six inches.

Lean-To

Before building your lean-to, consider which direction the snowfall and wind are coming from. You want to construct your wall so that it takes most of the brunt of the weather.

- Start with two study branches that have V-shaped notches in them. These branches will be keeping your horizontal ridgeline in place against the trees. You can knock in wooden stakes to keep these branches in place.
- Now you have your frame. Get branches to cover one side of the wall. Pack them as tightly together as possible.
- Continue to add branches with leaves to add another layer to the wall. Continue to do this until you can’t see through to the other side.
- Move onto constructing walls to cover the gaps formed between the frame and the tree. Follow the same instructions as you did with the main wall.
- The only gap that should remain

open is the entrance of your shelter.



To increase the warmth of the area, build a fire between your shelter and a fire reflector. Alternatively, if you couldn't find dry material for your bough bed, add your emergency blanket. You can fold it double and sleep inside the silver lining. Aim to build the frame long enough for you to rest as comfortable as possible.

A-Frame

This shelter is perfect for keeping you warm if you have no fire. This shelter is generally only big enough for one but can be constructed for two. The smaller the shelter, the easier it will be to keep it warm (McGroarty, 2013).

- Find a sturdy branch that is a little longer than what you are. This will be your ridgeline.
- Wedge this into the V-shape of a tree and make sure that it cannot be moved. If your ridgeline comes down, so will your entire shelter. Alternatively, you can place one point of the ridgeline between two branches that end in a V-shape. These branches will support the ridgeline and must be buried into the ground to ensure they remain stable.
- Once the ridgeline is stable, start by constructing the walls on either side of it. Start by leaning branches from the lowest point of the frame to the highest. Construct walls that are only a little longer than what you are. Don’t waste your energy on making something too big to keep warm.
- Once these branches are closely packed to each other, start on the next layer.

- Collect branches with leaves and create several layers until you can no longer see the inside of the shelter.
- Add several layers of leaves or pine needles to add another insulating layer.
- Have some spare boughs with dense leaves at the entrance, which you can use to create a door to keep the heat in. Do not seal completely.
- If you are concerned about being smothered, omit to seal the bottom of the A-Frame. This way, you still get fresh air if you close the entrance of the shelter.

Be wary of sealing the entrance completely, as there is a chance of more snowfall. This can block the fresh air from entering the bottom of the shelter.

There are various ways to construct these two shelters to make them more weather-friendly, especially if it rains.

Rain Shelter

Getting wet is a danger when you are lost in the woods. This can contribute to you getting hypothermia rapidly. Although the A-frame and lean-to shelters can protect you from rain if you add enough layers, there is always a chance that you can still get wet. If you want to avoid this happening, you can use a waterproof tarp or your emergency blanket as your first layer that goes over or against the ridgeline before adding the branches and twigs (Survival Lily, 2020 & Vuković, 2020). Even if your shelter starts to drip, it will run off of the protective layer.

Pleasant Weather Shelter

Even if the weather isn't extreme, it is a good idea to ensure you have some kind of shelter. Not only will this protect you, but it will also make you feel a little safer, especially if you have a fire going. You can’t remain awake constantly and will need to get some sleep at some point. Although there are many single-man shelters that you can put together, only a few of them require next to no equipment. This includes the lean-to made with an emergency blanket or the debris hut (also known as the cocoon form) (Sullivan, 2019).

Debris Hut

No equipment is needed for this shelter. However, this shelter can only insulate you up to a point and will not keep you waterproof.

- Clear an area where you want to rest.
- Add a layer of branches with leaves to keep you off of the ground.

- Start to pile on as many dry leaves as possible. You want to build a mound of about 24–36 inches high and a little longer than what you are.
- When you are ready to rest, just wriggle inside.

Although easy to construct, this shelter shouldn't be made too close to a fire, as it is dangerous to catch life. There is also a chance of the leaf litter containing biting creepy crawlies. However, it is the perfect shelter to make when you have run out of daylight to construct a better shelter.

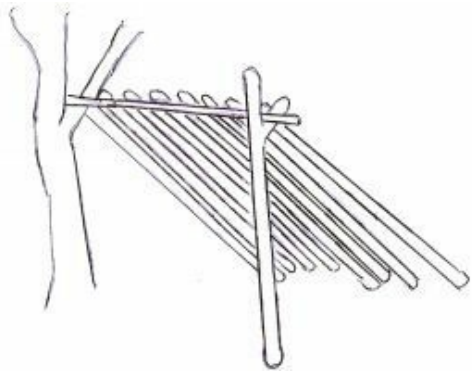
Lean-To With an Emergency Blanket

This shelter will not keep you dry, but it will keep you comfortable and warm, especially if combined with a fire reflector.

- Using your paracord, create a ridgeline between two trees. Alternatively, use the frame design

pointed out with the standard lean-to.

- Add some insulating material under the ridgeline.
- Lay half the emergency blanket over the material (silver side facing inwards), then fold the second half up toward the ridgeline.
- Depending on how high you set the ridgeline, you can create an open lean-to or one that can partially close.
- Tie-down the emergency blanket so that it cannot be blown away by the wind.
- Construct a fire a few feet in front of the shelter.



This is a perfect shelter if you want to sleep under the stars. However, be sure to apply some bug repellent or add some cedar wood to the fire to keep any biting insects away from you during the night.

Shelter for Multiple People

Most of the shelters discussed so far are perfect for one to two people, but what happens if a group of people is lost and there are not enough tents? Luckily, two main shelters can be constructed to house several people.

Wickiup

Also known as the tee-pee shelter, this shelter can be difficult to construct if you haven't had enough practice.

- The best place to start with this design is to create the frame, which consists of a free-standing tripod (MacWelch, 2020b). This needs to be made from long, sturdy branches.
- Once the frame is standing, you can give extra support by burying the ends into the ground. To keep them in place, hammer in sharpened wooden stakes.

- Once the frame is stable, add long branches with leaves around the sides. Leave part of the wall uncovered to act as a door. Continue to do this until you cannot see out of the shelter if you stand on the inside.
- Leave the top of the shelter open if you want to build a fire inside. Alternatively, seal the top and use alternative ways to heat the inside.

Instead of sealing the entrance, use any bags that you may have to block off any breezes that may come through. Don’t forget to cover the ground with insulating material. If using a fire in the shelter, make sure that it is constructed with green wood and leaves to prevent a fire.

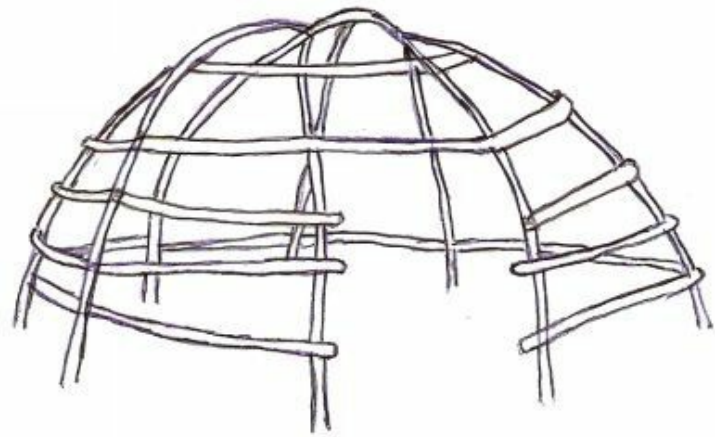
Dome-Shaped Shelter

A tripod stand is not something everyone can construct. A dome-shaped shelter is a little easier to construct. However, you will need rope or cordage to help keep it together. Depending on the number of people that you may have with you, you can make this shelter as big or small as you wish. The size limit will depend on the sturdiness of the branches that you use to construct the frame. Don’t construct a dome too high that you cannot seal the top effectively.

- Similar to a tent frame, you will need two long saplings that you can bend over each other to form a dome or long enough branches to achieve this (Survival Lily, 2020).

- If the branches are not long enough for the desired dome size, you can combine them with a rope to obtain the correct length.
- Whether you are using trees or branches, the ends need to be anchored well to keep the frame sturdy. Dig deep enough holes that the end which is buried cannot jump out of the hole. Add sharpened stakes to ensure this.
- Once the outer frame is constructed, get several long sticks to tie along the sides of the frame. This will help strengthen the frame and give you the surface area to work the walls into place.
- Tie enough branches horizontally so that there is no more than a foot apart between each section.
- Once the wall frames have been constructed, collect branches with leaves to weave between the horizontal branches. Continue to do this until the walls are densely sealed except for the door section.

- Add the insulating layer.



This is a difficult shelter to construct by oneself, so use teamwork to get all the necessary components and actions.

Key Points

Even on the most pleasant of days, it is important to construct a shelter.

- The worse the elements, the direr the need for shelter. You can lose your life very quickly in extreme situations.
- Practice safety when choosing the place to build your shelter. Think of rising water levels and falling branches.
- Ensure that the ground is dry and clear before laying down a layer of insulating material, regardless of the weather.
- The weather, resources, and number of people will play a role in the type of shelter you will have to construct.
- Ensure that your hiking kit has essentials such as a tarp, knife, and paracord (or know how to make cordage) so that you can construct

most shelters.

In the next chapter, we will look at the importance of keeping yourself warm and the various ways that you can achieve this.

CHAPTER 7
Staying Warm

According to Bushcraft Buddy (2019), the more extreme the weather conditions, the quicker you will succumb to them. If you were caught in zero-degree weather with no wind, it would take you roughly two days to die. This can be cut to 24 hours if you fall asleep. Even lower temperatures or the addition of wind can drop that to a few hours. This is why you cannot go on a hike in regular clothing without knowing how to construct a shelter, fire, or other ways to remain warm.

Ways to Stay Warm

One of the first skills you should learn as a prepper is the ability to make fire. This is a tool that can not only warm you but can cook food, sterilize water, and can keep predators away from your camp (McGroarty, 2013). However, it's not always possible to make a fire at any given moment, and that is why you may have to resort to other measures.

By creating a shelter for yourself, you can keep warm and help to retain your temperature while you sleep. However, you cannot think of a shelter as a singular thing. It doesn't help that you keep the cold out while you sleep on the cold ground. Insulating yourself from the ground prevents you from overheating, freezing, or getting wet. The material should always be as dry as possible to maintain your temperature. The placement of your shelter is also very important. By building in an area that has a natural shelter, you will be able to prevent some of the elements from affecting you if they come

from that direction. You can also build a shelter in such a way that it can be warmed by the rising sun or be sheltered by shade.

The equipment you have with you also plays a vital role in your survival if temperatures dip too low. An emergency blanket doesn't take up much space and can be turned into a makeshift shelter if needs be. Keeping the reflective side inward lets you maintain your body temperature even if you don't have a cover over you (McLean, 2017). The correct clothing for the environment will also prevent you from succumbing to the elements.

When the weather gets cold, don't stop to rest, as it will become difficult to start again if you do. However, don't overexert yourself, as this will result in you sweating too much. This will cause your clothes to get wet, which in turn will cool against your skin, lowering your temperature. If you are cold and struggling to warm up, you can huddle with someone or do a little light exercise. You must not go to sleep cold as it will take too much energy to warm yourself. You can increase your internal heat by eating or

drinking something warm before you go to sleep. As your body metabolizes the food, it creates heat which will keep you warm as you sleep.

With so many ways to keep warm, you will need to weigh your options depending on the situation that you find yourself in. You may even need to combine a few of these methods to keep yourself warm enough to either find your way back to civilization or until help arrives.

Fire

When controlled, fire is your best friend when lost in the wilderness. Even if you have the correct shelter and clothing, nothing beats having a roaring fire. However, making fire isn't easy if you do not have a lighter or matches. For a fire to exist, you need three things: fuel, oxygen, and an ember (McLean, 2017).

Fuel

What you feed and in what order you give it to the fire will determine your success in creating flames. Before you can start making your fire, you should have all the fuel prepared and waiting. Once a fire starts, you will need to feed it continually; or it will die back to embers very quickly. There are three types of fuel for your fire: tinder, kindling, and firewood.

Tinder is what you will use to grow the ember into a flame. This material must be dry, or it will not allow the ember to grow.

There are many kinds of materials you can use as tinder. Petroleum jelly-soaked cotton balls are something that you can carry in your tinder kit and are very easy to make at home (Conaway, 2017). While in the wilderness, look for dried leaves, twigs, shaved bark, and even pine needles to help you start a fire. If you can find dry grass, you can use this to create a tinder nest that can be folded around other tinder types to protect the glowing ember. When selecting tinder, ensure twigs are no thicker than your smallest finger and no longer than the space between your thumb and pinkie when your hand is outstretched. You will need to collect enough of the tinder type you want to use to fill the space created when you join your hands at your fingertips.

Kindling is made up of branches that are no thicker than your thumb and as long as your forearm. This fuel must be completely dry. To test the dryness snap the branches. It needs to crack loudly and not splinter apart. You can also use bark as kindling. Collect enough kindling to fill the space created when you join your hands in front of you.

Firewood is what will be used to feed a fully grown fire. This wood should be coming from fallen and dead trees where possible. It shouldn't be thicker than your wrist (as it will not burn away completely) and should be as long as your entire arm. You will need to create at least one pile of firewood that stands as tall as your knees.

If you are in a situation where most of the wood you have collected is wet, turn to downed trees. You can strip the outer bark layer of dead trees to find that the inner layers are drier. You can strengthen your fire by building it up with this bark before feeding it damp twigs and sticks (Eureka!, 2015).

Oxygen

As the fire burns, it will need a constant stream of oxygen to keep it going. A fire that becomes smothered will eventually burn itself out. To prevent this from happening, you will have to build your fire so that oxygen is flowing in at a constant rate to fuel it. It may be easier in most cases to have your firewood structure built before you start to

make an ember. This way, you are fully prepared when you have a lit ember in your hands.

There are many ways you can build up your fire before adding the burning tinder nest to it. The first, and most commonly used, is the teepee shape (McLean, 2017). First, create a typical teepee shape using firewood, leaving an opening. Through the opening of the teepee, add the kindling with some tinder mixed in. The burning ember in a nest of tinder can be added to the top of this.

Alternatively, you can create a criss-cross or log cabin design. To do this, start with a pair of large pieces of firewood. Then take two smaller pieces of firewood and lay them on top of this layer to make a second, crisscrossing layer. Continue to do this with smaller pieces of firewood until you have about four layers. The inside should contain a mixture of mostly kindling with some tinder. Top with the lit tinder nest and feed as needed.

If you have a large stump and an ax, you can create a Swedish torch fire. This structure is perfect for cooking on. Start by almost splitting the wood so that it has a deeply marked X-shape. Stuff the center with kindling and tinder before lighting it. Any pots or pans can be balanced on this while the fire burns. Alternatively, tie several smaller logs together around a bundle of kindling and tinder to create the same effect.

If you are stranded with no tools and large pieces of firewood, consider setting up a star pattern fire. Set the branches out to mimic the spokes of a bicycle but leave the center open. In the center, build a tinder and kindling pile before setting it alight. You may need to add more kindling to support the fire before the

firewood starts to burn. As the firewood burns, nudge the branches closer to the flames, feeding it from outside.

Build a lean-to-fire structure to protect your growing fire from the rain or wind (Mossy Oak, 2019). Start by taking a large piece of

firewood and placing it to block off the rain or wind. Next, add several smaller pieces of firewood against this to create a lean-to. In the sheltered bottom area, add a mixture of kindling and tinder. Light it and continue to feed it until it starts to consume the lean-to. By the time it does this, it should be strong enough to withstand the rain and wind. If not, continue to add another layer to the lean-to, ensuring that oxygen can still freely move through the structure.

Ember

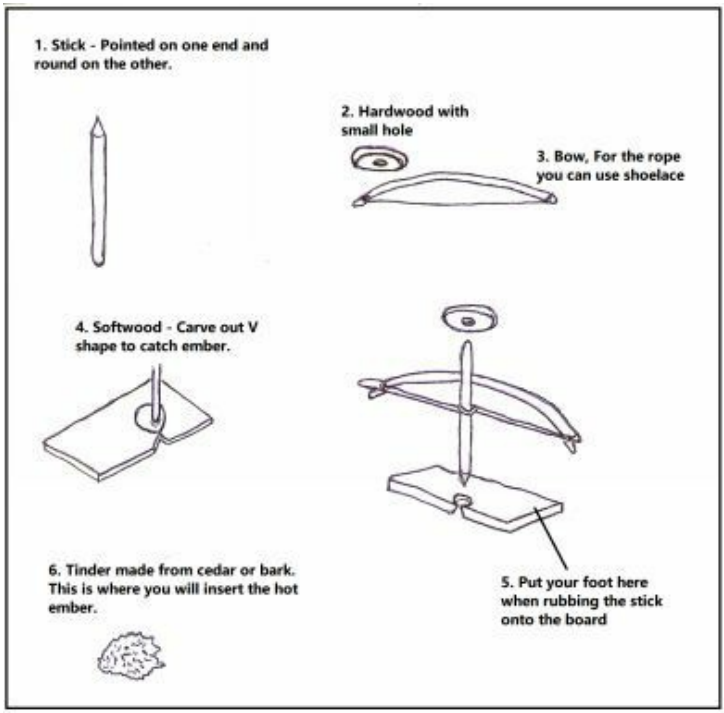
While most good hiking kits should contain at least some waterproof matches, lighter, or tinder kit, it is also a good idea to have some

flint and steel as this will not easily be damaged (Eureka!, 2015). Most modern-day flint and steel are made of a ferrocerium rod (Ferro rods) and a steel scraper. By rubbing the steel scraper along the rod, you will create sparks. To create a burning ember, you will need to have some tinder ready. This is so that it can catch the sparks as they are created. Once a spark glows into an ember, blow gently until the tinder starts to smoke before it bursts into flame.

Another method to start a fire is using a curved surface to magnify the lights to a singular point. Have a tinder nest ready, then use a magnifying glass, a curved glass bottle, a mirror, or the polished bottom of a can (using chocolate or toothpaste) to create a pinprick of white light. Hold it steady until you see smoke starting to rise. Blow gently to ignite the ember and feed more tinder to keep it going until you can feed it kindling. Alternatively, if you have a clear plastic bag, you can partially fill it with water (TKOR, 2016). Then twist the bag (but don’t pop it) until the bag bulges to create a spherical

corner. This can also be used to concentrate light rays.

Another method that can be used is friction. However, this takes some practice getting used to and may take some time to generate the necessary ember. The most well-known friction fire starters are the hand drill (also known as the spindle and board method) and the bow drill. The only difference between these two methods is that a bow and a piece of wood to use as a handhold are added to the spindle to create more consistent movement and pressure.



- This method starts with a board that has a hole that matches the width of the spindle.
- There needs to be a small V-notch cut into the hole closest to the edge of the board.
- This will allow the charcoal dust to build up and fall onto some non-flammable material (such as foil or

thick paper). Within this dust, the ember will be born.

- The spindle (a long piece of slender, rounded wood) is placed in the hole; then, it is vigorously rubbed back and forth between the palms of your hands. You can also create a bow and use a rope or shoelace string to tie the ends together.
- It is important to apply steady pressure downward on the spindle as you twist it back and forth.
- If you don't want to use the palm to rub the stick, you can create a bow tied to a string to rub the spindle on the board.
- Continue to do this until you see the charcoal dust pile is starting to smoke. Gently blow on it to see if an ember has formed.
- Once the ember has formed, transfer it to a tinder nest and continue to gently blow on it until flames are noticed.

Fire Safety

Before thinking of starting a fire, clear the area where you will be building your fire. There should be no dry material that can catch alight if the fire were to throw an ember. Sweep the area with a branch filled with leaves to clear the area. Collect several rocks and set them in a ring to create a fire pit. You can also dig down a little in the dirt before doing this. Putting this ring around the fire pit will prevent logs from rolling away from the fire if your structure were to collapse. Once this structure is built, collect water or sand (Mossy Oak, 2020). You will use this to put your fire out when you are ready to or in case of an emergency.

Once you are ready to leave the area, you need to put your fire out, as this will prevent a potential forest fire from being added to your list of problems. You can either use water or sand to achieve this. However, don’t assume only one round of this is ever good enough. Dousing or smothering the flames is only step one. Once the flames are out, scratch the coal open and douse them again. If using sand, don’t add too thick a layer as this can cause coals to continue burning under the sand. Continue to scratch open and smoother or douse until the coals are completely cold and dead.

Heating Shelters

Not all shelters can have fires built inside of them. No matter how careful you are, if you use dry material in your shelter, the fire will light it up when you least expect it. Possibly causing not only damage to your shelter but also you. Luckily, there are other ways to keep you warm in your shelter without having to have a fire right next to you.

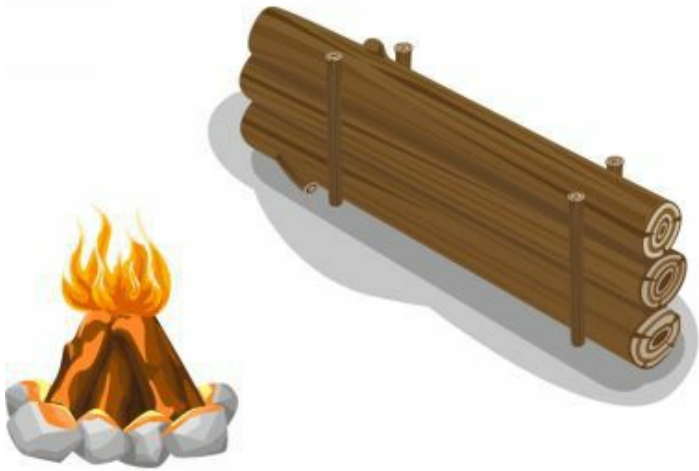
Fire Reflector

As long as you have a wall behind you (either a natural structure or your shelter), a fire reflector will aid in keeping the warmth around you. For this method to work, you need to construct your shelter first and have a designated area for your fire. Once the fire area is decided, build the fire reflector opposite it. The fire should be between it and your shelter.

- Start with four long, sturdy branches. Hammer them into the ground so that you have two sets

that are about 2.5–3 feet apart, with about a five-inch gap between the pairs in each set (Survival Lily, 2020).

- Then fill the gap to create a wall of branches or wood logs. You can strengthen this wall by packing them down with mud if available (Gonzalez, 2017).
- To prevent the frame from collapsing from the weight of the wall, tie the paired branches together.



This structure maintains the heat in the front and inside your shelter and causes the smoke to deflect upward.

Heating Rocks

To heat the inside of your shelter, especially like the A-frame shelter, you can heat rocks. This method is excellent if you have a shelter that comprises only dry material (Woods, 2016).

- Gather rocks that are a little bigger than your fist.
- Add them to a large fire and allow them to heat up.
- Do not touch these rocks when you want to add them to your shelter. Not even with gloves.
- Use a branched stick to move it to where you want it in your shelter.
- Alternatively, you can place several flexible branches in a radial shape where the middles meet. Then maneuver the rock into it. By grabbing the ends of the branches to meet above the rock, you have

created a carrying bag that you can use to hold the heated rock(s).

This can be a dangerous task if you are not careful. River rocks or rocks that contain water can explode when added to the fire. If you plan to do this method, add the rocks to the fire and walk away. This way, if they do shatter, you will not be injured. There is also a danger of you rolling onto the rock while you sleep. Be sure to create cordoned-off sections in your shelter where the rocks can be placed without you (or your equipment) accidentally coming into contact with them. This method can raise the temperature of your shelter upward of 20°F; and can be increased, depending on the size and quantity of rocks you use.

Clothing

Shelter and fire will mean very little if you do not have the correct clothing when the weather is terrible. Everyday clothes are not good enough to take a hike in when the weather starts to turn. You need to layer correctly and with the right type of clothes if you are going to survive. These layers should never be tight-fitting but rather loose, as you want to trap warm air to your skin (Walter, n.d.-b). Clothes that are too tight cause your body to come into contact with cold air.

Layers and Accessories

The only difference between your summer and winter wear is the insulating layer (sometimes worn in the summer) and the weatherproof layer. The first layer is the base layer and is the most important of the layers (Bor, 2021). This layer lies against your skin and is in charge of preventing moisture from accumulating and causing you to lose vital heat. This layer should be made of synthetic

fabrics or wool, as these fibers do not absorb liquid but rather wick it away from the skin. The thickness of these layers will depend on the temperature you want to hike in. Base layers include underwear, socks, lightweight to medium-weight shirts, and long john-style pants. If the weather is frigid, the layers around the legs can be doubled.

Over this, you need to wear an insulating layer. This doesn't necessarily need to be a thick jacket. However, it needs to aid in maintaining your temperature by trapping heated air to your body. Jackets made with synthetic down or fleece are perfect. This layer can come with or without a hood attachment.

Over this comes the weatherproof layer. This needs to be a breathable layer that can be taken off and packed away easily when not required. It needs to resist all elements to keep you not only warm but also dry. Jackets must contain a hood to prevent snow from collecting in the collar and melting down the wearer's back. Some designs for weatherproof jackets and pants have zipper

vents in the thighs or armpits. This allows the wearer to open them and allow themselves to cool down without forcing them to remove this layer.

Many accessories can be added to these layers to ensure that you remain dry, warm and prevent possible frostbite. Winter boots should always be waterproof with thicker socks. Gloves should be worn to protect fingers. Buffs are perfect for protecting your neck and ears, as it creates a layer between your mouth and nose. This allows you to warm the air before breathing it into your lungs. Lastly, it is vital to wear a beanie, even if you have a hood on your jacket. Most of your heat will quickly escape if you keep your head uncovered.

Key Points

No one wants to be caught out in the cold without a jacket. However, doing so while in the wilderness will result in death very quickly. This is why it is vital to be prepared.

- There are many ways to stay warm if the weather were to change suddenly. Read the weather to determine which should be your best action.
- Clothing should be layered correctly according to the weather you are going out in.
- Base layers should always be synthetic to prevent the absorption of sweat, which can lead to hypothermia.
- Fire needs fuel, oxygen, and an ember to get started. Ensure that you have all the fuel types necessary and stacked against the elements before you get an ember

going.

- Just because you are lost in the wilderness doesn’t mean that you should forgo fire safety.
- Some shelters cannot have a fire built into them. Learn to heat rocks and make fire reflectors to ensure your camp and shelter stay warm in the worst of conditions.

In the next chapter, we will look at some edible and medically important plants. These are plants that you can forage to keep your belly full and diseases at bay.

CHAPTER 8
Foraging for Edible and Medically Important Plants

Thousands of plant species can be used by a person lost in the wild either as a food source or as a treatment for illnesses. However, to utilize this resource, you need to identify the plant with certainty before touching it. This book only contains a fraction of some of the plants that you can find and use. It is wise to purchase some field guides about plants in your local area and to take courses to help you identify them correctly. If you have any doubts about the plant before you, don’t pick it. This is especially true for mushrooms that have many species that are deadly to people.

Taste Test

Despite how hungry you may be, you must do a taste test on any food that you are trying for the first time. There is always a chance of an allergy that you may be unaware of. This counts for animals, creepy crawlies, and plants. When doing a taste test for an animal, you should hold a piece of it to your lips to see if it causes any reaction (swelling, tingling, burning, etc.) (Potochny, 2020). With plants, this is a little different.

Plants should be divided into their various components before you can start the taste test. Before picking a plant, ensure that it is undamaged, as many species may have a chemical defense that protects it from being consumed. Once picked carefully, separate the flowers, stems, leaves, fruit, seeds, and roots. Each part will have to pass the taste test for you to be able to eat it (Whalen, 2020). Pick a part to start with and crush it to a paste. Apply it to a patch of skin in a sensitive area such as your inner arm. If you

develop hives, red marks, or a tingling sensation, avoid that part of the plant.

If no reaction occurs within an hour, you can hold the paste to your lips for about three minutes. If there is no reaction, continue onto the next step. Take a piece of the plant part you were working with and place it in your mouth. Hold it there without chewing for about 15 minutes. If a reaction occurs, spit it out immediately and rinse your mouth with fresh water. When no reaction occurs, start to chew for another 15 minutes. Only swallow if you have no reaction.

Now you will have to wait for several hours to see how your digestive tract will react. Possible side effects could be nausea, stomach cramps, or diarrhea. Even if you have no negative effects from the test, don’t overdo it, as there is a chance your stomach may not approve. Repeat all these steps for each part of the plant.

Do not use animals as a reference for whether a plant is edible or not. They have developed with these plants for many centuries and have

adapted to avoid their poisonous effects, and you have not.

Plant to Look Out For

Although there are many plants you can use, my top ten favorite plants are easy to identify and use.

Dandelion

Other Common Name: Lion's tooth

Latin Name: *Taraxacum officinale*

Parts Used: The whole plant.

Uses: Aids in digestion and nutrient absorption, mild laxative, and high in Vitamin C. The leaves can be enjoyed in a salad raw or cooked as a vegetable (Neally, 2020).

Description: A singular radial flower head per singular, hollow stem that contains petals that are tooth-tipped. Large oblanceolate (rounded tip with tapered base), deeply toothed leaves grow from the base of the plant. Once fertilized, the flower changes into a white puffball with seeds that are dispersed by the wind (North Carolina Extension Gardener Plant Toolbox, n.d.-i 1)

Warnings: Avoid if you are allergic to latex, as this plant secretes it. The plant acts as a diuretic if too much is consumed.

Spruce

Other Common Names: Many species such

as the Norway spruce, the Pumila Norway spruce, and Maxwell spruce.

Latin Name: Genus *Picea*

Parts Used: Tips of the branches.

Uses: Has anti-microbial, anti-inflammatory, and antiseptic properties (Harbour, 2021). Boil in some water to make a wash to clean scrapes and cuts. These tips can also be used fresh or dried in a tea to help with congestion. The fresh tips can be mixed into a salad to give you a boost in vitamin C.

Description: Characteristics of *Picea abies*. This plant can grow into a typical Christmas tree shape or into a shrub. The bark tends to

be grey but toward the branches turns more orange. The leaves are needle-like, growing in whirls around the stem. These needles can vary in color from blue, green, and even orange. Although this plant doesn't develop flowers, it does develop long, loose hanging cones. These cones start out green before drying to a coppery-brown and splitting open to reveal the pine nut-like seeds (North Carolina Extension Gardener Plant Toolbox, n.d.-d).

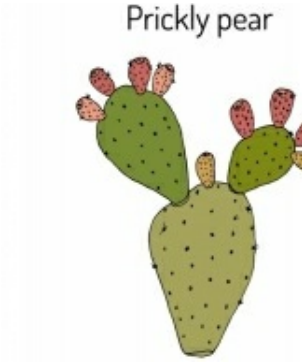
Prickly Pear

Other Common Names: Rabbit ear cactus or tree cactus.

Latin Name: Genus *Opuntia*

Parts Used: Fruit and paddle-like stems (cladodes).

Uses: Fruit and cladodes can be skinned then eaten either raw or cooked (Hofford, 2019).



Description: This plant has large modified stems called cladodes stacked on top of each other (North Carolina Extension Gardener Plant Toolbox, n.d.-c). The thorns that appear throughout the cladodes are highly modified leaves. The funnel-like flowers appear solitary along the edge of the paddle-like stem. The flowers come in vibrant colors such as yellow, orange, and pink. It is from these flowers that the pink to red fruit develops.

Warnings: Although the cladodes are edible, there is a low-level poison severity that can cause an upset stomach.

Fire Weed

Other Common Names: Willowherb, blooming Sally, or great willowherb.

Latin Name: *Epilobium angustifolium*, previously known as *Chamerion angustifolium*.

Parts Used: All parts that grow above ground.

Uses: This plant has anti-inflammatory, anti-microbial, and antiseptic properties. It can also be used as a gentle laxative. The spring shoots taste like asparagus once cooked (Harbour, 2021).

Description: This plant's striking feature is its purple (sometimes pink) flowers that grow in a cluster (raceme) along the stem (North

Carolina Extension Gardener Plant Toolbox, n.d.-b). Each flower will contain about 4–5 petals, giving it a saucer-like appearance. The stem is green but can sometimes be red, with lanceolate (oval-shaped, with both ends tapered) leaves arranged alternately along the stems. Once the flowers are pollinated, they will turn into a seedpod which contains many seeds with fine hairs. This allows them to be dispersed by the wind.

Plantain

Other Common Names: Snake-plant, broad-leaved plantain, 0r whiteman's foot.

Latin Name: *Plantago major*

Parts Used: The leaves.

Uses: The leaves can be crushed and used as a poultice on bug bites and stings (Neally, 2020). This will help to lower the inflammation and pain. The leaves can also be boiled to make tea to help with the inflammation caused by a persistent cough. Leaves can also be eaten as they are high in calcium and vitamins A, C, and K.

Description: The leaves of this plant grow at its base in a rosulate pattern (rose-like) (North Carolina Extension Gardener Plant Toolbox, n.d.-e). They can either be lanceolate or ovate to elliptical (egg to oval shape) in shape. The round stem will only carry a single spike of white or green flowers at its tip. These tiny flowers have 4–5 petals in a radial shape. Once fertilized, capsuled copperish-brown fruit develops in this spike.

Warnings: Do not consume too many seeds, as this can cause your blood pressure to fall.

Stinging Nettle

Other Common Name: Common nettle

Latin Name: *Urtica dioica*

Parts Used: The leaves.

Uses: You can create a wash to treat irritated skin caused by eczema. Alternatively, use the leaves in tea to help against allergies caused by pollen and anemia (Neally, 2020).

Description: This plant is known for its stinging hairs that can be found on its leaves and stem (North Carolina Extension Gardener Plant Toolbox, n.d.-j). The serrated, hairy leaves are green, ovate, and are positioned in pairs along the stem. The tiny, green, or white

flowers grow in several spikes found at the stem tips or in the leaf axils and are pollinated by the wind. Once fertilized, this spike will contain many yellow to cream-colored fruits that contain many seeds.

Warnings: The stinging hairs on the leaves and stems will cause contact dermatitis. Wear gloves when collecting.

Selfheal

Other Common Name: Heal all

Latin Name: *Prunella vulgaris*

Parts Used: Flowers and leaves.

Uses: Contains anti-inflammatory properties that can help the healing process of open wounds when made into a wash (Neally, 2020).

Description: The eye-catching flowers can grow in many colors varying from blue, purple, white, or green (North Carolina Extension Gardener Plant Toolbox, n.d.-f). These tube-shaped flowers form a hood over the top of it, allowing bees to fertilize them easier. From these spikes, small oval seeds will develop. Hairy, oblong to elliptical leaves vary from green to grey and are slightly serrated along their edges. Pairs of leaves grow opposite each other on the square, un-branched, upright stem.

Willow

Other Common Name: Weeping willow, golden weeping willow, or white willow.

Latin Name: *Salix alba*

Parts Used: Bark and leaves.

Uses: These parts contain salicin which is considered nature's aspirin. The parts can be boiled to make a tea or wash to aid in breaking a fever or easing pain (Neally, 2020).

Description: This plant is recognized by its characteristically drooping branches. These branches host alternate connecting slightly serrated lanceolate leaves (North Carolina Extension Gardener Plant Toolbox, n.d.-h). These leaves will start out green to grey. However, as the season gets colder, the colors

will change to yellow. The bark on the stem is furrowed and generally a dark brown. When the tiny flowers develop, they look like catkins and are green. From there, the small, green two-valved seed capsules will develop.

Warnings: Do not use it if you have a sensitivity to aspirin.

Yarrow

Other Common Names: Common yarrow, dog daisy, or soldier's woundwort.

Latin Name: *Achillea millefolium*

Parts Used: Leaves, flowers, and roots.

Uses: A tea can be made to help with the treatment of diarrhea. A poultice made of the crushed-up plant will help stem the blood from a wound (Neally, 2020).

Description: This plant is easily recognized by its flowers and its leaves. The leaves are green to silvery-grey and are fern-like (North Carolina Extension Gardener Plant Toolbox, n.d.-a). The individual leaves are lance-shaped and hairy. They can either be arranged alternately or in a rosulate form. The 4–5 petalled flowers can be a variety of colors such as yellow, orange, red, pink, purple, or white. These will grow together in clusters that form umbrella-like shapes.

Warnings: The flowers and leaves can cause contact dermatitis. If you are pregnant, avoid using too much.

Blackberry

Other Common Name: Common blackberry, Allegheny blackberry, dewberry, or Grave's blackberry.

Latin Name: *Rubus allegheniensis*

Parts Used: Leaves, berries, and bark.

Uses: The berries can be eaten when ripe. The bark and the leaves can be boiled together to create a tea which can help with relieving irritation in the mouth and throat, help with inflammation and diarrhea (Neally, 2020). You can also chew on the leaves and the bark to relieve irritation in the mouth.

Description: This plant is known for its thimble-shaped aggregate fruit that can vary from red to black (North Carolina Extension Gardener Plant Toolbox, n.d.-g). These develop from the white flowers that grow in clusters of usually about 12. Be wary of the reddish bark, as it contains multiple prickles. The hairy leaves (in groups of three or five) are ovate and are found alternating along the stem. During spring and summer, the leaves are a vibrant green. However, they will turn orange, purple, or red during the colder seasons.

Key Points

When lost in the woods, your food supply will quickly deplete. Be sure to keep a sharp eye out for potentially edible or medically important plants.

- Never assume a plant is edible, even if an animal eats it.
- Break a plant down into its various components to do the taste test to ensure safety.
- Go on courses to help you learn about what can be foraged safely in the region you are from.
- Purchase a few field guides that you can keep with you if you wander around. This will help you to recognize plants easier.

Now you know the basics of surviving out in the wilderness. Let’s recap what you have learned.

CONCLUSION

Regardless of where you live in the world, you must learn how to take care of yourself. I don’t just mean financially. I am talking about remaining safe and secure when the rest of the world is collapsing. Although we learned a lot from the Covid-19 pandemic, it is unlikely to be the least of our worries as time goes by. With a global population growing unhindered every year, it is only a matter of time before food and water shortages become a yearly concern. Possibly even a daily problem in areas with a high number of people. This may seem all doom and gloom, but it is possible to avoid this if you take the time to prepare yourself.

By living a lifestyle where you are always prepared for the worst possible outcome, you will ensure you and your family's safety. And even if the world doesn't collapse around your ears, what do you have to lose by learning new skills that could save a life? The prepper lifestyle can be tough to get used to, but you will have the ability to survive far

better than those that assume everything will work out in the end.

The first step to being a prepper is ensuring your safety and health. A well-designed first aid kit in your home is a necessity. One that needs to be built up over time and revamped whenever a new emergency arises. However, a first aid kit means nothing if you do not know how to use it. By investing a little time and money in taking all the courses, you can become a high-level first aider. This achievement will allow you to handle everything from a scrape to emergency birth. A first aider is trained to remain calm, even in the face of the most horrific accidents. This cool head will allow you to assess the situation you are in — allowing you to make those life-changing decisions for those who are affected by the emergency. By completing this training, you will know what you can treat and when you should allow a medical professional to step in and help. Yet, it isn't just injuries that you may suffer. Sometimes it is various diseases. By practicing good hygiene and removing

yourself from areas where infections are rampant, you will prevent yourself from becoming infected. Not only that, but you will also slow down the infection rates!

What if you decide to live out in the wilderness to escape the hustle and bustle of the city? Humans are creatures of comfort; who don't like to be far away from their necessities of water, food, and shelter. However, if you take the time to become familiar with the area you are in, you will survive. Even if you happen to get lost in the wilderness, if you have the correct clothing and minimal equipment with you, you can easily survive the situation. Regardless of how harsh the environment is, if you know where to find those necessities, you will remain alive long enough to find your way back or for help to find you.

However, you cannot always rely on others to save you. This is why you should know how to clean your water, set basic traps to hunt, and build a shelter against the elements. Even knowing how to start a fire with what is available to you is an important skill to have.

Start practicing today to start a fire without the use of matches or lighters. It is as simple as having a beer can or a piece of rounded glass.

Never look a gift horse in the mouth. Nature is full of food if you know what you are looking for. Whether you are lost in the desert, jungle, or forest, plenty of food is around you. Instead of just walking past a plant, never bothering to learn what it is, take the time to take photos and learn what it is. You would be surprised by the number of plants in your garden right now that are not only edible but could help with a variety of ailments you may be suffering from. This requires a little more work to master, as you will need to be 100% sure of the plant you are identifying before you consume it. Many botanical look-alikes may have devastating consequences. When unsure, then walk away, or complete the taste test for each part in the plant. Take a few courses and get some field guides about your area to see what is native to your part of the world. There is no need to starve when your environment is offering you

everything you need.

All in all, the prepper lifestyle may be a difficult one. However, can you afford to not be prepared for disasters? Even if you never find yourself lost in the wilds, knowing basic first aid could mean the difference between life and death. So why wait until an emergency strikes you to learn first aid. Get ahead of the disaster and take charge of the situation and your life. Ensure you understand and re-read this book to learn the basics of creating shelter and hunting for food. Become a prepper today, and always be prepared.

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