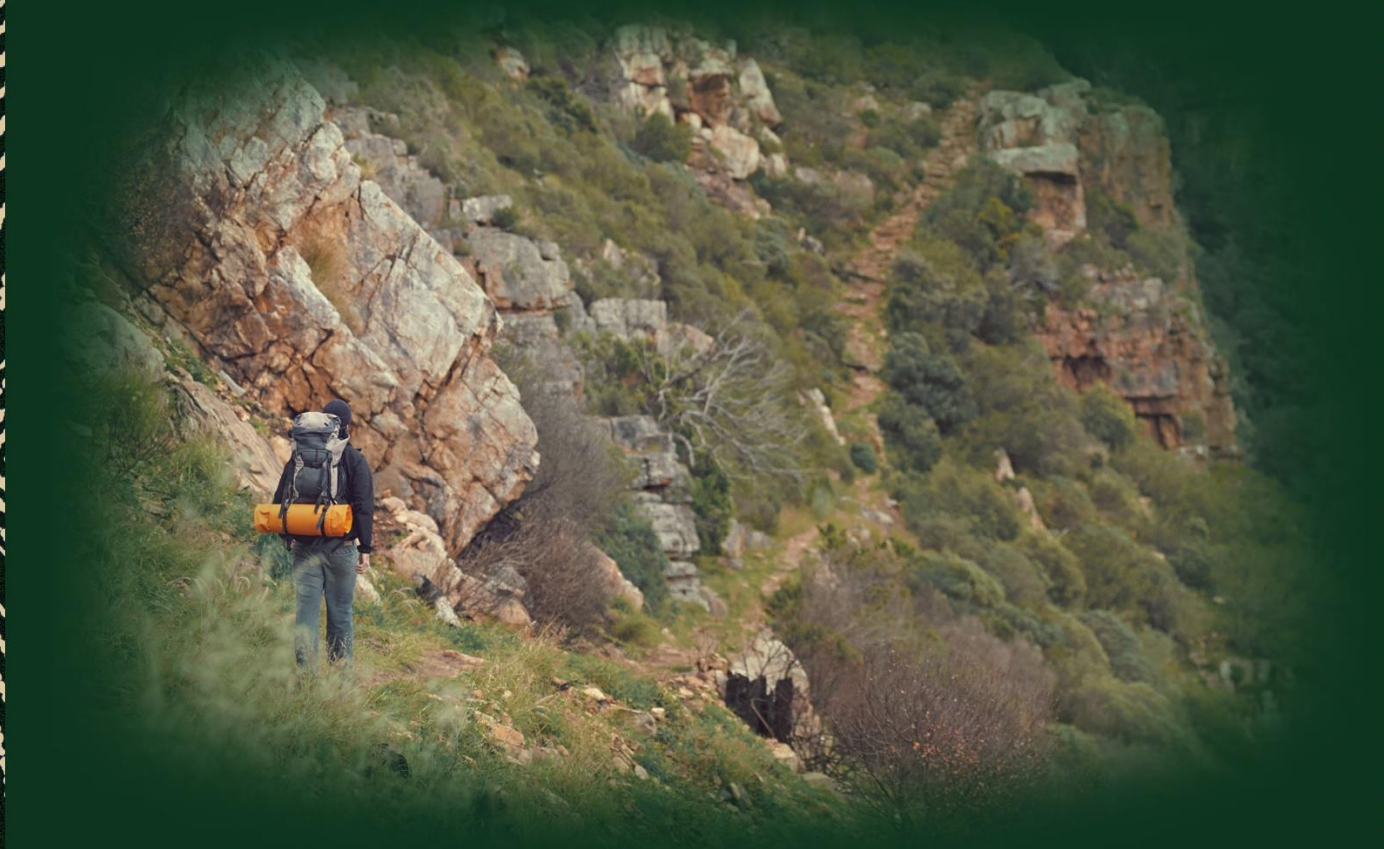
Medical Guide for Wilderness Survival



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THE TOP THREE BASIC NEEDS TO KEEP YOU HEALTHY

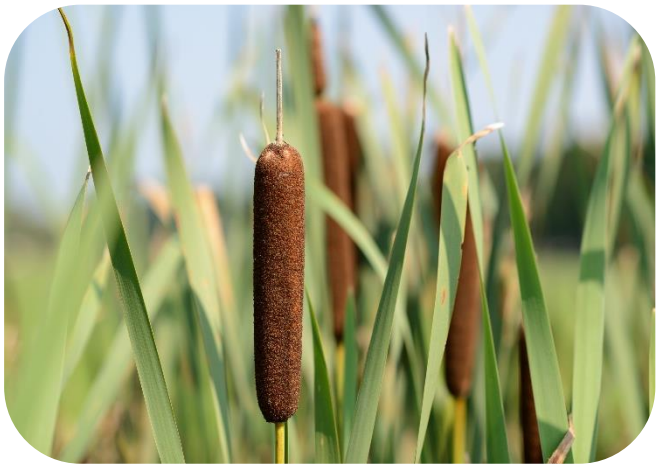
Any survival expert will tell you that the top three most important things you can have to ensure survival include food, water, and shelter. This first chapter will elaborate on these three factors so you can live your best life when you are off-grid.

Food: Common Wilderness Edibles For Maximum Nutrition

Food gives us the vitamins, minerals, and nutrition we need to stay healthy. And most importantly, if you are in a survival situation, it can provide you with energy. This energy will be vital if you want to retain the ability to hunt, forage, build a shelter, and treat potential injuries. Proper nutrition will also give you the mental clarity you need to make quick decisions in a place where the line between life and death can be quite thin at times.

Cattails

Cattails are a very common plant. You will usually find them growing in marshy areas. Many parts of this plant are edible, including the roots, young shoots, and pollen heads. The roots can be used to make a nutritional flour source. They can be hard to pull up- you may find that they stick deeply down into the mud and muck.



Your best bet for easy removal is to first loosen up the rhizomes by feeling down the base all the way down until you touch a rhizome. Grab it and push/pull it back and forth until it feels loose. Now you are ready to pull it completely out of the mud without too much of a struggle (remember, energy conservation is important). Once you have done this, collect as many cattail rhizomes as you can. It never hurts to

have a good stockpile. Fully separate the rhizomes from the stalk and then wash them well. Remove the corms (small nubs at the base of the rhizome). Peel the rhizomes with a sharp knife or potato peeler. You are now ready to get the starch from the rhizomes.

There are several ways to do this, but one of the easiest ways is to break apart the rhizomes while they are sitting in a bowl of water. Work it in your hands while it is underwater and you will notice white starch start to float inside the bowl. Let the bowl set for a few hours and then carefully skim off the water to reveal all the starch settled at the bottom. Let this thoroughly dry.

When the starch is dry, you can grind it in a mortar and pestle. If you don't have one, you may be able to do what Native Americans did and find a rock with a small indent to sit the starch and another rock to smash and grind the starch. Store this in a cool dry place until you are ready to use it.

You can identify cattails by looking for long stalks with what looks like a "corn dog" on top. When they are in bloom, they are a medium to dark brown color and fuzzy. When you split open the top, out will flow a fuzzy substance. Cattails can get quite tall, with some reaching ten feet in height.

Acorns

You might consider acorns "deer and turkey food," but these common seeds from the oak tree are another useful flour source. They do need to be prepared a certain way to avoid issues from the tannic acid, but it is entirely possible to process these for human consumption.

When looking to collect acorns, find an oak tree and check out the ground below. When you find an acorn, look it over good. The worms get to some acorns first, ruining them. You will know if a worm has entered the acorn when you see a small hole. Collect as many good acorns as you can. When you have a suitable amount, shell each acorn, removing the somewhat tough outer layer and the cap (if it is still on there).

Next, you will need to grind them as much as possible. Some people do this in a food processor, while others do it by hand. If you do happen to use a food processor, add water to make a "smoothie-like"

consistency. Adding water will not hurt the process, as you will be adding plenty of water for this process anyway. Once you have them ground, soak them in two to three changes of water.

There are several ways to wash them to remove tannic acid, but if you are in the wilderness and have access to running water, you can place the meal (in an appropriate container that allows water to pass through while keeping the mash) in a stream for a day to wash. You may also boil the mash for six to seven hours, changing the water every 45 minutes.

Finally, you will need to dry out your washed mash by spreading it on a screen or dry, flat surface in a place with good air flow until it is fully dried. When it is fully dried, you can further grind it if you choose.

Acorns can be identified by their appearance. They are seeds with a smooth, hard outer shell and often have a "cap" on top. They range in color, but are usually a shade of brown. They will have a tiny, pointed tip or nipple at the opposite end of the cap. Sometimes the cap has fallen off, so be aware that not all acorns will have one. Acorns are often abundant in the fall.

Conifer Trees

The inner bark of nearly all conifer trees can be a very useful and nutritional source of survival food. The inner bark of conifer trees is full of sugars, starches, and a fair amount of calories. Collect the inner bark and process it by scraping out the fibers and cooking them a while to make them more palatable and digestible.

A conifer tree is a tree that produces cones. The only type of conifer tree that is not safe for human consumption is the yew tree, which can be identified by its red berries.

The needles of some conifer trees are also a great source of vitamins A and C, as well as antioxidants. It is said that the needle tea was once drank to treat scurvy. Look for pine trees and collect a small amount of the needles. Place them in a cup and pour hot water over them. Let this infuse for a few minutes before drinking. Trees like the Douglass fir, White Pine, and Eastern White Cedar are all perfectly safe to use.

Wild Carrot/Queen Anne's Lace

This common, widespread, and often invasive plant is in fact a type of carrot and may have been used extensively by indigenous people, both as a source of food and medicine. The roots of the plant do not look like your typical, cultivated carrot.

Most of the time, they are white to cream in color. Dig up the roots (save the flower heads because they are edible too) and clean them well before cooking. The roots are starchy and make a good food for energy and nutrition. The flower heads can be fried (you can make fritters) and have a faint carrot-like flavor as well. Use a few of the seeds to flavor soups and broths as well.

Wild carrots can be identified by their white, often circular, flower head that appears in the summer. Sometimes, you may notice one or a few dark purple to red flowers in the very center. The leaves look very much like carrot leaves. The root will smell like a carrot.

Jerusalem Artichoke

Did you know that this common roadside plant has a very thick, tuberous root? It is edible, and can be prepared much like you would a potato. This tall plant with yellow flowers is in fact a type of sunflower. The tuber is a source of protein, as well as a carbohydrate called inulin.

The Jerusalem artichoke is a common plant throughout North America. It can be identified by its tall (up to nine feet in height) stalk, yellow flowers with capitate flower heads, and large leaves with a rough, hairy texture. The leaves are larger near the bottom of the plant. Oftentimes, there may be more than one flower growing atop the plant.

Lambs Quarters

Lambsquarter is a lot like a wild form of spinach, both in flavor and nutrition benefits. This plant is utterly packed with nutrients. It should be cooked in some way before consumption, as this is a great way to significantly reduce the oxalates that may cause issues. Many plants (including cultivated spinach) contain oxalates. Simply blanch, steam, or stir fry the leaves before consuming them.

To identify lambs quarters, look for toothed leaves that are green with a whitish-gray powdery coating that is comprised of a crystalline, wax-like substance which is perfectly safe to eat. The whole plant can grow from three to five feet in height.

Watercress

If you are somewhere where there is a fresh source of spring water, not only are you very fortunate, but there's a good chance you can collect all the watercress you could want. Watercress is a highly nutritious wild edible, packed with nearly every beneficial vitamin and mineral you need. It is also a source of antioxidants, protein, carbohydrates, and fiber.

Look for watercress around fresh springs. It prefers the shallower areas in the running water. It is a bright green plant that tends to grow right in the water. The leaves are small, round, and glossy in appearance. Sometimes, small, white flowers emerge in clusters above the plant. Harvest the green leaves, wash them well, and eat them raw in a salad.

Dandelion

Dandelions can be found in regions all over the world. The leaves are extremely nutritious, and contain enormous levels of vitamin K. They also contain vitamins A, C, and B. They are a source of dietary fiber, manganese, iron, and calcium. Harvest the leaves, wash them well, and eat them in a salad. The yellow flowers are also edible and can be fried to make fritters or even made into jelly. The roots have been used as a medicine (usually drank infused in hot water) for liver and kidney health.

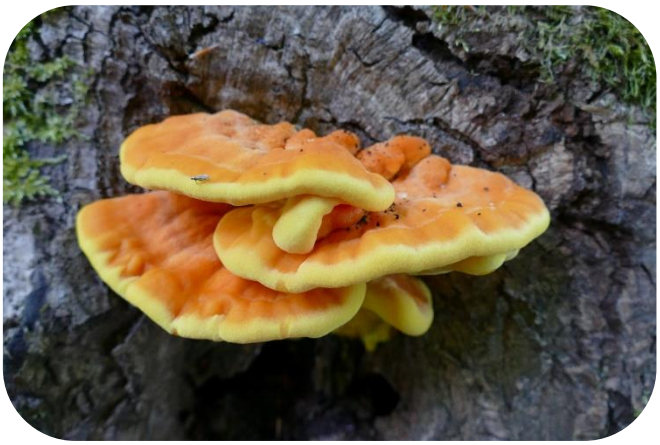
To identify dandelions, look for the bright yellow, furry flower heads. They usually emerge in spring and stick around until winter. In some climates, they are around all year. The leaves are spade-shaped, with notches or deep grooves all the way up. The root is a taproot. Be sure to harvest dandelions in an area you know has not been sprayed with any pesticide, etc.

Wild Mushrooms

Mushroom identification can be daunting for some, but if you are confident in your identification skills, mushrooms are an excellent source of nutrition when you are off-grid.

Some easy-to-identify mushrooms that are packed with nutrients include lion's mane (white with small, hair-like projections. It grows in a large, round mass), morels (emerge in the spring.

They are hollow with porous, hole-filled caps), chicken of the woods (yellow to orange in color, growing in a fan-shape), hen of the woods (also called maitake – brown to gray in appearance.



Chicken of The Woods Mushroom

This mushroom is often found in a large cluster), black trumpets (easy to identify with little dangerous lookalikes. They are dark grey to black in color and trumpet-shaped. They are small, and grow in mossy areas), and pheasant-back mushrooms (also known as dryad saddle mushrooms. They have a distinctive cream color with brown markings that look like a pheasant). Oyster mushrooms are another edible mushroom that can even be found in the winter months. Always thoroughly cook mushrooms before consuming them. It is highly recommended that you bring a mushroom identification guide with you before you go into the wilderness.

Wild Game and other Sources of Protein

Meat will give you much needed protein for energy when you are in a survival situation. Many wild animals are edible, if you're brave and skilled enough to catch them. Squirrels, wild turkey, deer, quail, pheasant, and wild boar are all popular sources of wild meat. However, there are other animals you can eat that you may not have considered.

These include raccoons, opossums, frogs (frog legs are said to taste like chicken), alligator, rats, turtles, nutria (a type of rodent), badgers, groundhogs, and river otters. By far, the easiest way to harvest these animals will be with a firearm, but you can also use a crossbow or compound bow. If you don't have any of these things, your best bet will be to lean to set traps and snares in hopes of catching an animal.

Set them along areas that look to be trodden by animals. You may notice faint paths in the woods where animals travel. This is a great place to try and set a trap or snare. Learning how to clean and properly butcher an animal is a valuable skill to have as well. Always cook the animals well to avoid getting sick. Make sure you are aware of the hunting laws in the area you are staying.

Don't forget that there is an abundance of food in the water. Not only can you find fish in water, but you can catch crawfish, frogs, mussels, clams, and snakes as well. If you don't have any luck catching a land or water creature, you can also eat many insects. Some edible insects include crickets, grasshoppers, ants (stay away from fire ants though), locusts, June bugs, grubs, scorpions, termites, snails, and centipedes. These can provide you with a quick and easy source of protein in a survival situation.

Water: Sources And Tools For Safe, Clean Drinking Water

Water is essential for life. The human body can go without food much longer than it can go without water. Make this your number one priority before looking for food. When staying in the wilderness, locate an area as close to a water source as possible (but not too close- you don't want your camp to be washed away by flash flooding). If possible, a fresh source of running water is preferred, although most water can be boiled to kill any bacteria that could cause illness. In this section, you will learn how to locate and use water to ensure your survival.

Tap Trees

Many trees produce sap that is mostly water, and quite nutritional. Sap collection is a great way to get water if you are in a place with no other water source. If you can find a hollow tool to hammer into a tree, you might be able to collect some sap. Sap flows best when the temperature gets above freezing during the daytime and below freezing at night. If you happen to be in a climate like this, there is a good chance you can get all the sap you need to drink. You can drink it straight from the tree. However, if you happen to collect a lot of sap, you will need to keep it cool, as it can spoil if you leave it sitting out too long. Make sure the materials you have to collect the sap (like your collections bucket) are as sterile as possible if you intend on drinking from the tree. Sap isn't just nutritious and hydrating, in some places it is considered medicinal. Sap tapped from birch trees is especially medicinal and some people drink it as a tonic for their health. Filter the sap before consuming it. Below is a list of trees you can tap for sap:

All maple trees – sugar maples are the most popular because they have a higher sugar content (making the syrup pretty tasty) but other species work just as well for sap collection.

Birch – as previously mentioned, birch trees produce sap that is hydrating and possibly medicinal.

Boxelder – The sugar content of this sap is much lower than a maple, but these trees do produce sap.

Walnut – The syrup made with sap from this tree has a slight nutty flavor, so the sap will likely have a faint nutty flavor as well.

Sycamore – Sycamores produce sap, but don't expect them to produce a lot. The syrup made from the sap of this tree is delicious.

Dig a Pit

If you are having a hard time finding water, look for areas that appear wet and have a lot of green vegetation. These are ideal for digging to reach water. Dig as much as you can, at least three feet. You should start noticing water creeping in. Other places to dig include low areas like at the foot of a cliff and a dry river bed. Any water collected from these pits will be muddy and will need filtered and boiled before you drink it.

Collect Rainwater

Don't let the rainwater go to waste if you need water. Try to collect as much as you can by sitting as many containers as you have around to catch it. Another efficient way to collect rainwater is to tie a tarp a few feet off the ground and place a rock in the center to make it funnel downward. This will catch a good amount of rain. The great thing about rainwater is that you don't have to boil it before drinking it. It is a fresh and clean source of water.

Collect Morning Dew

The early morning is the perfect time to go out looking for heavy dew that falls on plants. One easy way to collect this is to tie absorbent cloths around your ankles and take a morning walk through heavily dewed areas. When you are finished, wring the cloth out to get the water. Avoid walking through any potentially poisonous plants.

Plans with High Water Content

Some plants contain more water than others, making them potentially helpful if you need hydration. Look for cacti (they often contain a high amount of water because they are accustomed to storing it for survival), fruits, vegetables, and coconuts. Coconuts are an especially handy source of hydration, as they contain a decent amount of water. For fruits, vegetables, or any other plants that appear pulpy, mash them in a container until they have liquefied and drink the water. You are not likely to get a lot of water from these plants, but if you are in a survival situation, it can help.

Dig a Well on the Beach

If you are in a tropical location with only seawater, you can try digging a well on the beach at least 100 feet away from the salt water. Dig this well up to five feet deep. Place rocks at the bottom and line it with driftwood to keep it from collapsing. It should fill up with fresh water that has been filtered by the sand. If it tastes salty, move back from the water even farther and dig another pit.

Melt Snow or Ice

If you live in a climate with lots of snow or ice, you can melt this to drink. Avoid eating snow or ice while it is still frozen, as this can lower your body temperature (which can

result in dehydration). If the region where you are staying has only salt water but is freezing, you can collect some of the salt water and sit it somewhere to freeze. Fresh water freezes first. What remains is salt water "slush." Simply discard the slush and heat the frozen fresh water before drinking.

Plant Transpiration

The underside of the leaves on a tree receives moisture from the roots. Usually, this moisture vaporizes into the air and we never see it. You can collect this moisture by wrapping a tree branch in a tarp or bag and making sure it is tightly gathered and tied around the branch. Place a small rock at the bottom to collect the water.

Shelter: Building A Place To Keep Warm And Dry

Having a shelter is in the top three most important things you can have in the wilderness if you want to survive and stay healthy. A shelter keeps you from being exposed to dangerous elements that can lower your body temperature in cold weather or give you heat stroke in very hot weather. Build your shelter near water if at all possible. In a hot climate, make sure you have a well-ventilated place to get out of the sun. In a cold climate, make sure you have a place that is as insulated as possible to avoid cold winds. In any climate, make sure you have a good roof to keep from being exposed to precipitation that could lower your body temperature. If you are somewhere with bugs that bite and sting, you may want to make sure your shelter is elevated a bit off the ground.

Basic String and Tarp

One simple shelter design is taking a string and tying it from one tree to another several feet away. Next, you would drape a tarp over the string. This gives you two sides of protection from wind and a roof to keep you from getting rained on. If you don't have a tarp, secure sticks to the string on either side and cover them with the biggest leaves you can find. You may have to do layers to keep your place sufficiently dry. Instead of sleeping on the ground, make an elevated floor area with logs and lined with soft moss or non-poisonous foliage to keep you warm.

Snow Cave

There are limited areas to build if you are stuck out in the snow. The best thing you can do for survival if you are caught in blizzard-like conditions is to dig a quick cave in the snow. You should dig enough to be able to fit inside. Snow is a good insulator and the inside of your cave will warm up and be several degrees warmer than the outside due to your body heat.

Teepee

If you have the right cordage, building a basic teepee-shaped design with sticks can help keep you out of the elements. Use more cordage to cover the sticks with thick boughs of cedar, pine, or whatever you find. Make yourself a small entrance. A mat to sleep on inside can help to keep you warm, rather than sleeping directly on the ground. If your shelter is big enough to have a small fire inside, make sure you have an area for the smoke to escape on the roof. Be mindful if you are building a fire in a shelter, as the chances of burning it down are great.

Predator Protection

If you wish to protect yourself from predators while you are sleeping in your shelter at night, this can be done by foraging for thorny bushes and briars. Carefully and mindfully cut these out and place them in a wide circle around your shelter. This can create a barrier to keep unwanted things out. Having a fire outside your shelter (far enough away that it will not catch your shelter or anything else in the area on fire) at night may also help.

Once you have a source of food, water, and shelter, the odds of you staying healthy and avoiding any medical emergency while in the wilderness are greatly reduced. Food will give you energy and nutrition to keep surviving, water will give you hydration and provide life to all the tissues of your body, and shelter will keep you warm and safe. This is why it is so important to take care of these basic needs first. In the next section of this book you will learn how to treat medical issues that may arise when you are off-grid.

TREATING WOUNDS: FROM DISINFECTING TO HEALING

As soon as someone has a wound, the first thing that should be done is an assessment of the wound. Can the bleeding be stopped? If no, apply pressure to the wound with a clean cloth and hold it for a few minutes before reassessing. It pays to bring a simple first-aid kit with you when you travel anywhere so you can manage these situations. Below are plants you can use to stop bleeding, disinfect, and treat wounds.

Yarrow for Bleeding and Wound Cleansing

Yarrow got its Latin name (*Achillea millefolium*) because legend says Achilles used the plant to treat soldiers on the battlefield. It has a strong reputation as a wound healer and styptic.

Sometimes you may need to get the bleeding a little more under control before you can assess the wound. You can take clean yarrow leaves, mash them up, and apply them to the area for a few minutes. Not only can this stop the bleeding, but it can also disinfect the wound.

You can make a tea with yarrow leaves to further wash and disinfect the area. Just make sure to let the tea cool first.

Yarrow has also been reported to stop internal bleeding and has been drank in decoctions, teas, and taken in tincture form to manage heavy menstrual periods and other bleeding issues. This valuable plant can be identified by its fern-like leaves which have a medicinal aroma. It has small, white flowers in clusters atop the stalk.

Self-Heal/Woundwort for Cleansing and Treating a Wound

Self-Heal is a member of the mint family that emerges in early summer. It is small, with little lance-shaped leaves and purple flowers in a whirled cluster. Its astringent properties make it excellent for wound cleansing.

It has been used for centuries to treat both external and internal issues. It has been utilized in an eye wash for sore eyes, and can be used in a wash to cleanse many kinds of wounds. It has antiviral properties, making it useful for treating cold sores and other strains of the herpes virus. It can be infused in oil (like coconut or olive oil) and combined with beeswax to make a skin-healing salve.

Plantain for Field Dressing

There are two types of plantain that grow abundantly in North America. The most popular is broadleaf plantain, which has wide, circular leaves and little green stalks that shoot upward from the center of the rosette.

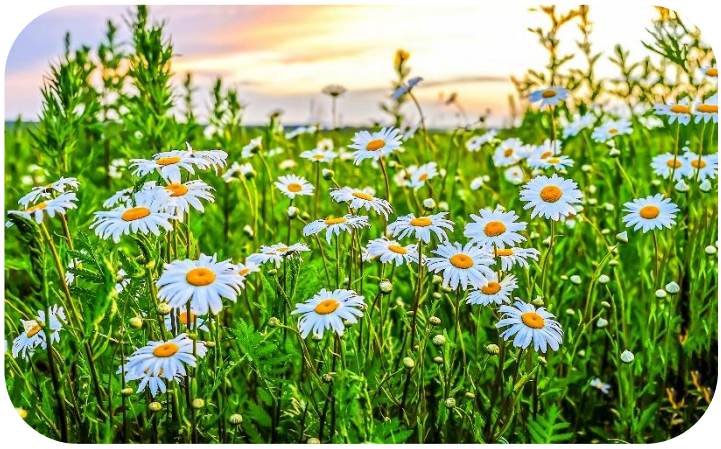
The second type of plantain is narrow leaf plantain. The leaves have the same kind of lines as the broadleaf, but they are narrow. The stalks that shoot from the middle have little brown, fuzzy buds. The leaves of both these plants can be applied to wounds after they are treated and cleansed if you don't have bandages available.

Even if you do have bandages, you can still apply the plantain leaves (mashed into a poultice) and then cover it with a bandage.

Chamomile and Related Plants for Reducing Wound Inflammation

Chamomile makes an excellent treatment for wounds, both in a wash (add the aforementioned plants as well for an especially powerful wound wash) and as a poultice. It is anti-inflammatory, soothing, and cooling to a wound.

You may think that chamomile isn't that common growing wild, but there are other plants in the same family that share an astounding amount of wound healing powers. One such plant is called "wild chamomile" or pineapple weed.



One of the main differences between common chamomile and pineapple weed is the absence of petals on pineapple weed. It is just a round, yellow bud on a short stalk with leaves that resemble chamomile. It will smell strongly of pineapple. Mash the buds into a poultice and apply to the wound, or infuse them in water to make a healing and cleansing wash.

Pineapple weed is very common in North America and can be found in rocky soil during the spring and summer months.

Calendula for Healing Wounds

Calendula flower heads contain wound healing and anti-inflammatory properties. They are excellent for helping to repair damaged skin, rashes, and wounds. A great way to use calendula for healing is to infuse the wilted or dried flower heads (bract and all) in oil as a base to make a salve. Fill a glass jar with the flower heads and then cover the plant material fully with melted coconut oil. To infuse faster, you can sit this jar in a pan of hot water on the stovetop (set on medium to low heat) and let this sit and infuse for two hours. Keep an eye on your water level and don't let it

evaporate. After two hours, strain it out and let it sit to harden. When it is hardening, you may choose to whip it for a few minutes to give it a creamy texture. Although coconut oil is solid at room temperature, it has a low melting point. If your salve melts, it is not going to harm it. Make this salve to bring with you for first aid in the wilderness.

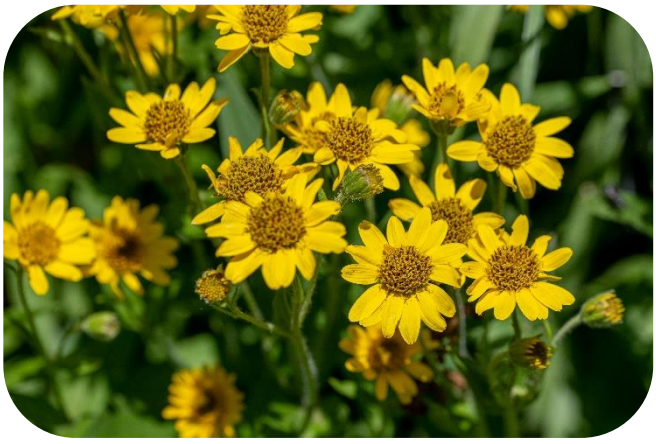
If possible, find the plants mentioned above before you are planning to head into the wilderness. This way, you will already have them with you and on-hand if you need to treat any wounds. You can pre-make the salves so you don't have to find the materials when you are off-grid. Any plants you wish to use for cleansing teas and poultices can be dried and stored in jars to take along. Create your own herbal first-aid kit so you will be prepared to treat wounds naturally whenever the situation arises.

TREATING SPRAINS, CONTUSIONS, AND INFLAMMATION

A sprain can slow anyone down, and this is not good if you are in the wilderness and need to be able to move. Not to mention, sprains are very painful. Bruising and inflammation usually follow sprains, a sign of damage to capillaries under the skin at the site of the injury. If you roll an ankle or sprain a wrist, the first thing you should do is avoid using the affected area. You don't want to make the damage to the joint worse. A general rule of thumb is the RICE method. This stands for rest, ice, compression, and elevation. If you brought a first-aid kit along with you, look for something to wrap the area (compression). If you have access to an ice pack, apply it to the area for a few minutes and leave it off a few minutes as well. Keep repeating this to reduce inflammation. Finally, elevate the area. Below are common plants used to treat sprains and contusions that you may find helpful:

Arnica

Arnica is a member of the sunflower family. Its natural habitat is the montane and subalpine areas of North America. Its appearance is not unlike a sunflower, with a tall stalk and bright yellow flowers. The flowers of the arnica plant are much smaller than a sunflower and are solid yellow, even in the center. The flowers have been used traditionally (and are still widely used today) for relief and healing from contusions and sprains. They have pain-relieving properties as well.

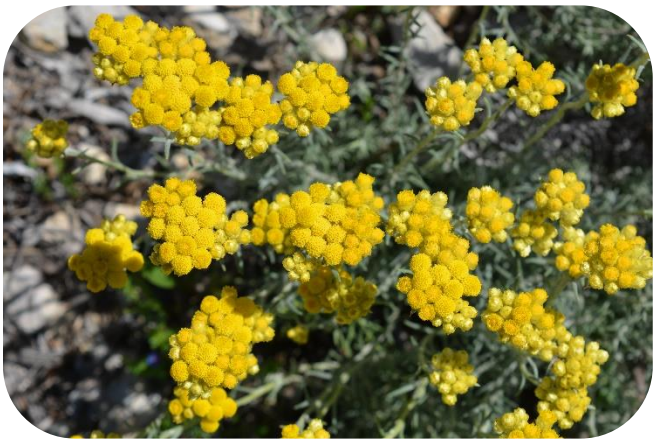


Arnica is most often prepared in a salve or oil-infusion for treatment. You can infuse the wilted or dry flowers in melted coconut oil on the stovetop by filling a jar with arnica flowers and then covering the flowers with melted coconut oil. Sit the jar in a bath of water on low to medium heat for two hours. Make sure the water doesn't evaporate as you infuse

the oil. Apply this infused oil to areas that are inflamed, bruised, or painful. Do not use arnica salve on areas with open wounds. Arnica can be toxic if allowed to get into the bloodstream.

Helichrysum

This plant is not often found growing wild in North America; however, it can be cultivated. For this reason, it is best to have this remedy on hand before heading into the wilderness.



Helichrysum is very effective at reducing inflammation, healing contusions, and bringing relief to injured areas. All green parts of the plant can be used to make a healing salve. Follow the coconut oil salve making method in the above recipe. You can also buy helichrysum essential oil at most health stores. This would make a very handy addition to a natural first-aid kit.

Comfrey

The leaves of the comfrey plant have been used for centuries to help heal sprains. Comfrey is not native to North America, but due to widespread cultivation for hundreds of years, it can be found in many regions of North America today.

Look for comfrey in abandoned gardens, along streams, and in fields. It can be identified by its often large, lance-shaped leaves and beautiful purple flowers that droop from a bending stalk. There are two types of comfrey: common comfrey (*Symphytum officinale*) and wild comfrey (*Cynoglossum virginianum*). They can be used in the same way. Wild comfrey has a long stalk coming from the lower leaves with little white flowers on top. Apply the leaves to the sprain and wrap the area well with a cloth, compression, or saran wrap. Reapply daily for best results.

White Willow

Pain comes with sprains, and you can help relieve this with the bark from a white willow tree. Other species of willow may work as well, but white willow contains higher amounts of the medicinal compound, salicin. This compound is used to create the popular over-the-counter pain reliever called Aspirin. In a pinch, you can chew the inner bark of the tree to release the pain-relieving compounds. You can also infuse it in hot water and drink as a tea for pain relief.

TREATING DIARRHEA AND OTHER STOMACH ISSUES

Diarrhea can quickly lead to dehydration, which is something that you cannot risk when you are in the wilderness. Oftentimes, diarrhea can be caused by stress, certain foods, or a parasite when you are in a survival situation.

Avoid getting a parasite by making sure the water you drink is always boiled. Avoid too many fruits, as they can induce diarrhea. Stay as hydrated as possible at all times, but especially when you have diarrhea. The remedies below can be used in the wilderness to settle the stomach and curb diarrhea before it leads to serious trouble.

Agrimony

The root of the agrimony plant was used by Indigenous people to treat stomach issues like diarrhea. Plus, it is known to be a gentle plant that can be given to adults and children safely.

It is native to almost all regions of North America, and you will likely find it easily in the summer months. It prefers growing at the wood's edge. Look for large, toothed bottom leaves, with the leaves getting smaller as they go up the stalk.

The flowers are bright yellow and cluster around a spike at the top. Dig up the root (the whole plant can be used, but the root is more powerful) and clean it well.

Boil it in hot water for a few minutes and let the liquid cool before drinking. Sip on this periodically until the diarrhea has subsided.

Mints

Many members of the mint family contain medicinal compounds that can settle the stomach and even curb nausea. There are too many members of the mint family to name, but a few popular ones that can be found throughout North America include peppermint, spearmint, lemon balm, downy wood mint, bee balm, catnip, and horehound.

Look for a square stem, as most members of the mint family have square stems. Avoid germander, as this plant is toxic. It can be identified by its pink or white flowers on stalks near the top of the plant. It grows up to 18 inches tall and has leaves that are lance-shaped.

Slippery Elm

When boiled, the inner bark from the slippery elm tree creates a thick, mucilage liquid that is soothing to the digestive system. It has been used to calm gastric upset and reduce inflammation in the digestive tract.

Boil the inner bark in water until it creates a thickened liquid and drink this liquid for relief from diarrhea and other digestive issues. You can also use the inner bark topically in a poultice with water to soothe skin irritation.

Slippery elm has also been used to soothe sore throats, coughs, and various wounds. This tree is often medium-sized, with broad, toothed leaves that come to a point. It prefers rocky areas.

Black or Red Raspberry Leaf

Both black and red raspberry leaves have been used to treat diarrhea, as well as provide nutrients to a body in need. They have also been used to treat menstrual cramping and canker sores.

They are thought to work because they are a rich source of tannins, a natural astringent. Although it is not uncommon to find red raspberry leaves in the wild, it is much more common to come across wild black raspberry leaves.

They can easily be identified by their whitish vines. Look for leaves in groups of three that are green on top but silvery-green to white underneath. Infuse the leaves in water to drink as often as you need to curb diarrhea and provide the body with essential nutrients.

Goldenseal

Goldenseal contains berberines. These compounds are thought to help kill harmful bacteria in areas of the body. Sometimes, these bacteria can be responsible for causing stomach issues like diarrhea. Infuse the roots and leaf in hot water for several minutes until the liquid reaches a nice, yellow color. Remove the plant material from the water and drink a cup of this twice a day until the diarrhea has subsided. This can also help to heal gastric issues such as stomach ulcers.

Goldenseal usually grows from a small stalk and has one or two large, maple-shaped leaves on top. Sometimes, in between the leaves you may notice a small, wispy white bloom (in spring) or a raspberry-like seed cluster (in summer). You will know you have goldenseal when you dig the roots up and they are yellow. In some areas goldenseal is endangered or protected, so be aware of this and do not overharvest.

TREATING AND PREVENTING RASHES FROM POISONOUS PLANTS

There are many plants in the wilderness that can cause a severe skin reaction when they are touched. Some examples of poisonous plants to avoid include poison ivy, poison oak, and poison sumac. The best rule of thumb to avoid exposure to these in the first place is to make sure your body is covered well if you are going out in the brush. Identification of these plants can also make it easier to avoid them. Poison ivy has pointed leaves in groups of three. There is an old saying, "Leaves of three, leave them be. Leaves of five let them thrive." Plants like Virginia creeper are often confused with poison ivy, but Virginia creeper has five leaves and is usually not toxic to touch (there are a few cases of this plant causing dermatitis, but these are rare). Poison sumac is a small tree that can cause dermatitis if it touches the skin. It has white berries with red leaves in the fall and odd-shaped green berries in the summer. There are five to thirteen smooth-edged leaflets per stem. Poison oak leaves are in clusters of three like poison ivy. It can grow in shrub or vine form. It has leaves that are distantly similar in appearance to the oak tree, but smaller. Below are ways to prevent, as well as treat, problems with these plants:

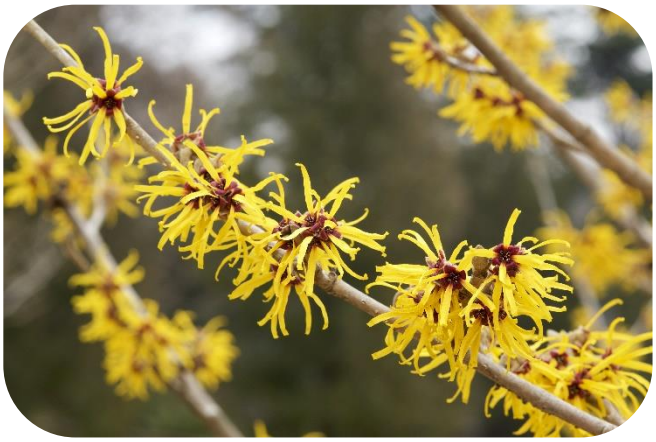
Jewelweed/Spotted Touch-me-Not

Jewelweed is probably the most popular natural remedy for poison ivy and other plants. However, this plant isn't just a treatment, it can be a preventative. Break open the juicy stalks and rub the juice all over exposed skin before heading out into the woods. This can help to cover the surface of the skin and break down any urushiol (the toxic oil) that gets on the skin before it can do damage.

Jewelweed can be used as a treatment for poison ivy by boiling it in water and creating a nourishing and soothing spray/wash to treat rashes. It has also been infused in a carrier oil to rub on the skin to both prevent and treat poison ivy rashes. Jewelweed can be found in the summer months and prefers wet areas like along creeks, springs, and lowlands. It can be identified by its unique orange/red flowers that appear trumpet-like. They hang down like a "jewel" off the stems. The plant has a high water content, and you will notice the stalks emit juice when broke or squeezed. There is another variety that can be used the same way. The only major difference between spotted touch me not and this variety (called pale touch me not) is that the flowers are yellow.

Witch Hazel

Witch hazel trees are small trees that can be found throughout the forests of North America. One of their biggest distinguishing features is their yellow, ribbon-like flowers. The bark and twigs of this tree have soothing and astringent properties, making it perfect for treating poison ivy rashes. It can help to reduce redness and inflammation while soothing the irritated skin. It may help to dry up the rash. Make a tea with the twigs or bark of the tree and wash the rash as often as you need relief.



Other Effective Strategies

If you happen to have alcohol, apple cider vinegar, or lemon juice, these things can also help to dry up the irritated, weepy rash that can accompany atopic dermatitis. Wash the area in one of these liquids as often as you can to dry it up fast.

Another strategy to completely avoid poison plant rashes is to make sure you clean and scrub yourself well after coming in from a walk in the woods. This breaks down the harmful oil before it gets a chance to do damage to your skin. It is a great idea to bring dish soap (or lye soap) with you if you are going to be going out in the wilderness. When you get in from the woods, wash your body with water thoroughly, using a wash cloth and soap to scrub all exposed areas. Repeat more than once if you are concerned that you came into contact with a poison plant or are highly allergic.

TREATING AND PREVENTING INSECT BITES AND STINGS

Insects are a troublesome reality if you are in the wilderness. Biting insects like mosquitoes and ticks not only cause itchy, inflamed bumps, but they can transmit dangerous illnesses to humans like Zika, malaria, and Lyme disease. The best defense is a good offense when it comes to dealing with these pests. One great way to get ahead of the game is to burn bug repelling plants around your campsite. Below, you will learn about different plants bugs avoid, as well as plants to use to treat bug bites and stings:

Yarrow

Most people who work with yarrow notice that this plant often has no bugs crawling around on it. This is because it emits a strong odor that many bugs do not like. It makes an excellent bug repellant, but it is also a great plant for the treatment of bug bites and stings.

You can burn fresh yarrow (it will cause more smoke, which is good) around your camp to ward off insects, as well as infuse it in oil to rub on your body as a natural bug repellant.

Crush up some of the leaves and make a poultice to rub on bites and stings. This may relieve itching and irritation. It has white flowers clustered on top of the stalk and fern-like leaves. Look for it in open fields and meadows.

Pennyroyal

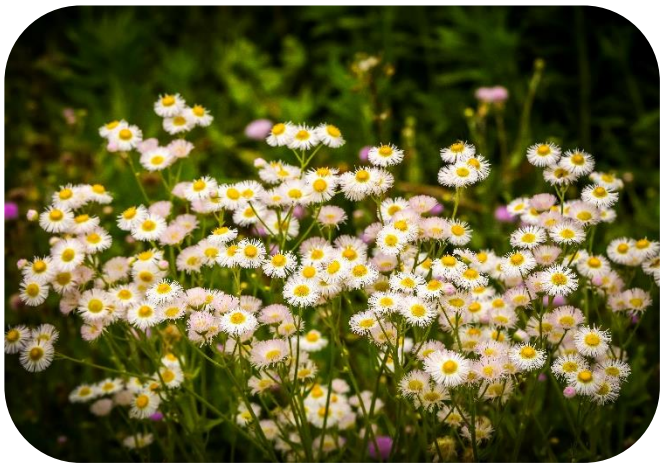
Pennyroyal may be one of the strongest smelling plants out there. This is one major reason bugs hate it. Pennyroyal is a great flea, tick, and mosquito repellant. This member of the mint family can be infused in carrier oil to rub on the body as a bug repellant or burned at

the campsite to repel bugs. It prefers growing on rocky slopes. It has a woody stem and small, green leaves. The flowers are tiny, and range from violet to whitish-pink in color.

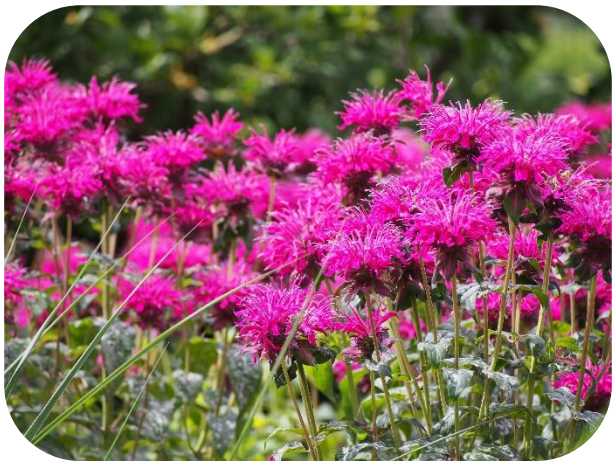
The aroma is an easy way to identify this plant, as it is strong and somewhat minty. Pennyroyal contains compounds that are toxic, but most of the incidents involving this plant are due to improper use of the essential oil, which is much stronger and more concentrated than just using the plant itself. Never ingest this plant.

Fleabane

Fleabane is a very common field plant in North America. It can grow over three feet tall and have multiple, daisy-like flowers on top.



The white petals will be very thin and string-like. This plant is thought to get its name because of its ability to repel fleas and other insects. It emits an odor that is undesirable to bugs, especially when it is burned fresh.



Bee Balm

Also referred to as wild bergamot, this plant likely got its name for its ability to treat insect stings. This is another member of the mint family, and because it too emits a strong odor, it may be a viable option for repelling mosquitoes as well.

Mash up the leaves into a poultice and apply this to an insect sting to relieve pain and soothe the area. The flowers are full of medicinal compounds, and can be used in the same way the leaves are used.

Plantain

Plantain leaves are excellent for treating insect bites and stings when you are out in the wilderness. Mash up the leaves into a poultice and apply this directly to the sting. Plantain has soothing and skin-calming properties and can help to reduce inflammation and irritation in the area. Reapply as often as needed to treat a bite or sting.

Lavender

This highly versatile plant can both treat and prevent insect bites and stings. While its soothing aroma is usually adored by humans, bugs do not like it. Lavender is often planted around houses to repel fleas and other bugs. This plant is famous for soothing the skin, so it is no wonder it is great for treating bites and stings.

Lavender and tea tree both contain antihistamine compounds, making them useful for treating or preventing a localized reaction. Lavender essential oil is a must-have for any natural first-aid kit. Dilute two to three drops in one teaspoon of a carrier oil and rub this on the skin to repel bugs. This can also be applied to bites and stings to help with itching.

Catnip

Cats love catnip because of a compound called nepetalactone. However, this same compound repels bugs. Catnip is a popular member of the mint family, and can be identified by its pale pink to violet flowers atop a stalk that reaches one foot to eighteen inches in height.

The leaves are a silvery green and pointed. Although catnip is very effective at repelling insects, many members of the mint family make great repellants. Lemon balm and peppermint are effective substitutions.

PREVENTING AND TREATING SUNBURN

Take all the necessary precautions to avoid getting a sunburn while you are out in the wilderness. Sometimes, it can be easy to forget that you need to protect your skin while you are busy thinking about what you are going to eat, build, etc.

However, your skin will quickly remind you that it is not to be taken for granted if you expose it to ultraviolet rays for too long. A sunburn can range from mild to severe. A mild sunburn may cause the skin to appear pink and become itchy. A severe sunburn can blister and ooze, putting a person at an increased risk of contracting a severe infection. It is also a well-known fact that sunburns can put you at an increased risk for developing skin cancer.

Make sure to wear long sleeves, and clothing that covers as much skin as possible. There are more ways you can avoid a sunburn, as well as plants you can use to treat a burn below:

Mud/clay to Avoid Burning

If you find yourself in a situation where you are exposed to the unrelenting rays of the sun, you can help protect exposed areas of your skin by covering them in a layer of mud or clay. This can act as a natural SPF. Make sure to cover your face, the tips of your ears, back of your neck, and any other areas prone to sun exposure and burning. An added bonus is that this may also help prevent insect bites.

Wear or Weave a Hat

The top of your head and scalp can easily become sunburned if you are out in the sun too long. Protecting your head with a hat can also help to shade your face and the back of your neck. It pays to bring a sun hat along with you if you are going to a place with a lot of sun. If you don't have a hat, you may be able to find sturdy grasses that you can weave into an apparatus to wear on your head.

Stay in the Shade during Peak Hours

The rays of the sun are the strongest between the hours of 10am and 4pm. During this time, you are much more likely to get a sunburn. You can avoid any issues by staying in your shelter or in a shaded area during this time.

Aloe Vera

Aloe vera is probably one of the most popular natural remedies for a sunburn. Its thick, juicy leaves can be sliced open to collect the healing gel inside. Apply this gel directly to the sunburn, making sure to reapply as often as possible to repair damage, speed up healing, and soothe the area.

Aloe can be found growing in tropical, semi-tropical, and arid climates around the world. Its leaves have spines around the edges, to use caution when harvesting them.

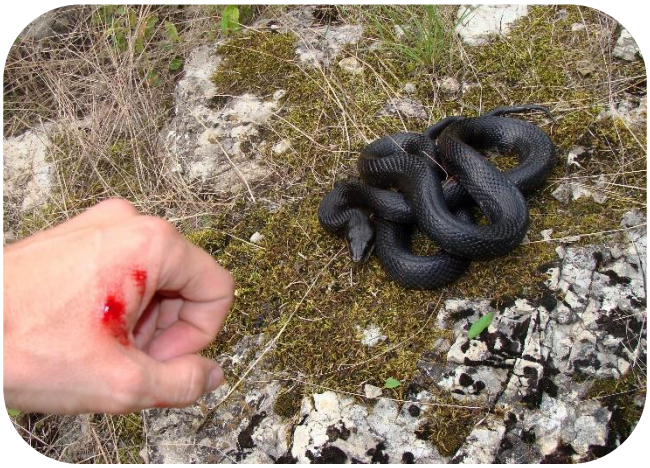
Cool Compress with Healing Plants

Treating sunburns with cool compresses not only helps the pain, it can help provide healing. There are many plants growing around North America that can be infused in water to create an effective compress to treat sunburn. Some of these plants include plantain (broadleaf or narrowleaf), self-heal, yarrow, chickweed, lavender, jewelweed, and chamomile. Boil water in a pot, remove it from heat, and add the plants, letting this steep for as long as you wish to allow the medicinal properties in the plants to infuse in the water. When the water has cooled completely, dip a cloth into it and apply it to the sunburn. Let this sit on the affected area until the cloth has dried and reapply as needed.

SNAKE BITE FIRST AID

It is certainly common to come across snakes if you are in the wilderness. Most of the time, snakes will leave humans alone. However, many of the situations that result in a snake bite happen because someone came upon a snake and was unaware it was there. This is when a snake will defend itself and strike. It is very important to be aware of your surroundings when you are in the wilderness and be on the lookout for snakes on the forest floor. Many snakes blend in well, so they can be hard to see. Wear shoes that are thick and snake bite proof, if possible.

Most incidents where snakes bite humans happen on exposed areas of the feet. There is some good news when it comes to snake bites: although you may think that a snake bite is deadly, the chance of anyone dying from a snake bite is very slim. Even snakes like the infamous North American "copperhead" don't usually cause death. Australia holds the title of being home to the most venomous snakes but averages only one fatal bite per year.



Children are at an increased risk for serious complications from snake bites due to their small size. However, there are other factors that may increase the seriousness of a snake bite. These include any preexisting conditions you may have (like heart disease) and the area on the body where the snake bit. If the area where the snake bites you is in close proximity to a major blood vessel, this can cause issues.

It is important to stay calm and get medical help as soon as you can if you are bitten by a venomous snake. Remember that most snake bites are not fatal. Below are other things you can do to help:

Try not to Move

Moving just increases blood flow throughout the body and can move the venom with it. If you are bitten, stay calm and do not move. If multiple people are with you, let one of them go out and get help. Have someone stay with you as well, if possible. If you are alone, try to

fashion a splint or use a sling on the bitten limb to restrict movement so you can calmly go get help. Keep the bitten area at body level if possible to prevent causing venom to travel through the blood faster.

Remove Constricting Objects

Most snake bites are going to cause a local reaction that may include swelling. If you are bitten on the hand or fingers, remove all rings. If you are bitten on the arm, remove all watches or bracelets. Loosen tight clothing to prevent issues from the swelling.

Pressure Bandage and Tracing the Area

Apply a pressure bandage to the area. Use firm pressure on the area, but make sure not to restrict chest movement so the person can breathe easily. Before applying a bandage, look at the area to see the extent of the swelling and redness. If you happen to have a marker or pen, trace a circle around this to help you keep track of the progression.

Avoid

Avoid taking anything that may thin the blood, such as aspirin or pain relievers, do not try to suck the venom out, do not apply a tourniquet to the area, do not apply ice or any cold compresses, try not to raise the wound above the heart, do not wash the area (doctors may be able to find traces of venom from the bite to identify the snake and find the proper antidote), and do not try and capture the snake.

Although it is not a good idea to capture the snake that bit you, you can do your best to take mental notes of what it looks like. Pay attention to the snake's size, shape, eyes (on top of head or sides, pupil shape), and head shape.

WILDERNESS INJURY: ABCDE METHOD AND PATIENT EXAMINATION

Below are some techniques to practice if you find yourself in the wilderness with someone who is injured. These techniques can help you access the situation, as well as care for the injured person properly. Always treat a person within your scope of experience:

ABCDE Method

The ABCDE method is an easy way to memorize how to identify and possibly fix any threats to a person's life. This is an acronym for Airway, Breathing, Circulation, Disability, and Expose. First, airway: make sure that the patient's airway is not obstructed and they can breathe. Second, breathing: listen and look at the person breathing. Are they having trouble breathing? Third, circulation: check for a pulse and any signs of serious bleeding. Disability: if you did not see the incident, assume the person's spine needs protection. Make a decision if spine protection is needed or not. Expose: examine the person thoroughly to see if there are any obvious issues, major injuries, etc. This is a time to take action to control bleeding.

Patient Examination

First of all, try to remain calm to help keep the patient calm. Do not move a patient, as you could cause further injury to the body. Check the scene to make sure it is safe to perform an assessment. You should wear gloves to protect both yourself and the patient during an examination. Eye protection and a face mask are also suggested. Check to make sure your patient is conscious by tapping them on the shoulder and asking them if they are okay. If they are conscious, check them for any life-threatening injuries or conditions like bleeding and trouble breathing. Call 911 for help as soon as possible. Assess airway, breathing, and circulation. Open the airway by tilting the head back and the chin facing up. Do not tilt the head in cases where there is a possible spinal injury. Check breathing by placing your ear over the person's mouth and nose and listening. Watch the chest to see if it is moving up and down. Do this for five to ten seconds. Give the person two slow breaths by placing

your mouth over theirs and checking to see if the chest rises for each breath. If it does, the airway is likely clear. Check the person's pulse and vital signs. Can they blink their eyes? How is their complexion? To check the pulse, place your fingers over the carotid artery on the neck. For infants, check for the pulse on the brachial artery, which is located on the arm, between the shoulder and elbow.

Handy Supplies

There are some supplies that it pays to have on hand if you are going to be in the wilderness. Some are obvious, while others may not be. Below are handy supplies to bring along if you know you will be spending some time off-grid:

Fire Starters: You need several fire starting methods, such as matches, flint, and a lighter. You should also have a good amount of tinder.

Flashlights: both handheld and ones that secure to your head. Bring extra batteries.

Knives and hatchets: Bring more than one fixed-blade knife and hatchets for chopping wood.

Compass: either base plate or a lensatic compass and a map of the area.

Water: Water purification tablets, life straws, a pump filter, and other filtering equipment. Bring a pot to boil water and a canteen to store it.

Keeping dry: Bring plenty of warm clothing to change if you get wet. Bring a rain poncho to protect yourself in case you are stuck out in the elements. Bring wool clothing to keep warm. Don't forget wool hats and socks.

Shelter: Bring a tarp, poly cord rope (more is best), a sleeping bag, and an emergency blanket. Bring wool blankets as well.

First Aid: Bring a large first aid kit and add natural remedies like lavender essential oil, helichrysum essential oil, arnica-infused oil, and herbal tinctures for various issues (white willow tincture for pain, yarrow tincture for fever, and skullcap tincture for anxiety). Bring salves like jewelweed salve for poison ivy, self-heal salve for wounds, and calendula or chickweed salve for rashes and skin issues. You may want to bring liquid bandage glue in the event someone needs stitches. You can glue the area together after cleaning it well.

Fishing: Bring lures and fishing line in case you get a chance to catch fish to eat.

Communication: Bring a cell phone or another way to call for help if needed. Bring an emergency whistle to help communicate with team members nearby.

Cooking material: Bring small pots and pans to cook with, as well as cups and utensils.

Survival food: In addition to the wild edibles mentioned in this book for nourishment, you can purchase field rations called MREs (Meal, Ready to Eat). These individual portions can help sustain you for a long time, depending on how many you bring. They are lightweight and perfect for wilderness survival situations.

Field Guides: Bring books on how to identify and use wild plants and mushrooms.

Tools: Bring small tools for digging and tools for hunting wild game.

All of this may be difficult to pack around, so make sure you have practiced carrying your tools in a pack on your back before making the trek with them into the wilderness. Try to choose items that are small and perfect for packing in a bag or backpack. If you have the time to plan ahead and practice how you plan on surviving, you can help ensure your time in the wilderness is comfortable and safe.