BUSHCRAFT HYGIENE & WILDERNESS FIRST AID

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About this booklet
This student field book has been designed to accompany the online and on-site course available at www.survivalmastery.co
This booklet will provide a great deal of insight regarding bushcraft hygiene and wilderness first aid, and how they can make your outdoor adventures safer and more meaningful, as well as instill greater confidence in your ability to endure when the worst conditions are against you.

To the woodsmen and wanderers who tread the wild paths, may this fieldbook be your steady companion, guiding you to face the untamed with skill, courage, and a clean pair of socks. For my family, whose love keeps me grounded, and the trailblazers who taught me to smooth it in the backwoods—thank you.

CHAPTER 1

Intro to WFA

MODULE ONE

What is Wilderness First Aid?

Wilderness First Aid (WFA) is the immediate, hands-on care provided to an injured or suddenly ill person in a remote environment, where professional medical help could be hours, days, or even a helicopter ride away. Picture this: a hiker slips on a muddy trail in the Appalachians, fracturing their ankle, with no cell signal and a storm rolling in—WFA trains you to step in, stabilize that injury with a branch and some cordage, and keep them alive until help arrives.

Unlike urban settings, where ambulances screech up in minutes, WFA demands you think on your feet, managing care under adverse conditions—freezing snow, scorching sun, or torrential rain. It's not just about slapping on a bandage; it's about prolonged intervention, often with nothing but what's in your pack or the surrounding wilderness. This

course prepares you for that reality, blending medical basics with survival ingenuity to bridge the gap between injury and rescue.

WFA vs. Standard First Aid

Standard First Aid is built for city life—think of a kid scraping their knee at a playground, where you apply a Band-Aid and wait five minutes for EMS to roll up with lights flashing. It's quick, clean, and assumes a stocked kit and a hospital nearby.

Wilderness First Aid flips that script entirely: imagine you're deep in a canyon, a climber's taken a 15-foot fall, and the nearest road is a day's hike out—you're the ambulance now. WFA trains you to handle field care, improvising splints from sticks or tourniquets from belts, because help isn't coming soon. Where Standard First Aid hands off to paramedics fast, WFA keeps you in the game, managing shock or bleeding for hours with minimal gear. The mindset shifts from temporary patch-up to sustained survival, making it a different beast that thrives on resourcefulness over reliance on civilization. With this said, it is equally essential to realize what Wilderness First Aid is not. It is not prolonged field care when no help is expected. It is not a substitute for definitive medical care or hospitals. "Aid" refers to assistance rendered, not medical treatment or invasive medical intervention. Therefore, we will not teach you how to amputate limbs, cauterize wounds, or perform field surgery.

What Makes This Course Unique?

Most WFA courses load you up with fancy gear—SAM splints, sterile burn sheets, pre-made tourniquets—but let's be real: the average hiker isn't lugging a trauma kit up a mountain. Our course focuses on the Emergent C's, a system that turns everyday outdoor items into life-saving tools. That 5-inch knife in your pack? It's not just for whittling—it's for cutting splints or fabric for bandages. Your metal water bottle? Boil water or warm a hypothermic patient. We strip away the reliance on specialized equipment and teach you to work with what's already on your back—a paracord, a bandana, or even a stick from the ground. This practical, minimalist approach mirrors real wilderness scenarios, ensuring you're ready when the nearest store-bought solution is a hundred miles away. It's survival-first aid, not textbook medicine.

Legal & Ethical Considerations

Stepping into a wilderness emergency carries legal and ethical weight you can't ignore. As a civilian, you've got no "Duty to Act"—unlike a paid EMT, you're not legally bound to help a stranger, though morality might tug otherwise. The golden rule is "Do No Harm," but if your splint slips and worsens a break, a patient could sue—rare, but possible. Good Samaritan Laws offer a shield: if you act reasonably (no wild heroics) and don't abandon them mid-care, you're usually protected. Ethically, get Informed Consent from a conscious patient ("Can I help you?"), and follow the Reasonable Man Doctrine—act as a prudent person would. Safety's non-negotiable: don't risk your neck crossing a raging river to reach

them. Balancing aid with self-preservation is the tightrope you walk out there.

Psychological & Emotional Issues

A wilderness crisis isn't just physical—it's a mental minefield. Blood pooling under a broken leg, screams echoing off cliffs, and no ambulance in sight can spike anxiety for the patient, bystanders, and you. Your job is to anchor that chaos: stay calm, and you'll cut their stress, which eases pain and shock. Try this—say, "I'm here, we'll get through this," and mean it; explain every move ("I'm checking your pulse now") to kill the unknown. If they're spiraling, guide them to breathe: "In for 4, hold 4, out 4." A climber freaking out after a fall might calm if you listen without judgment—psychology's half the battle. In isolation, fear amplifies; your steady voice can be the lifeline that keeps them fighting.

Infectious Disease Precautions

Every drop of blood, sweat, or spit in the wild could carry a hidden threat—Hepatitis B, MRSA, even HIV—and a cut on your hand's an open door. Body Substance Isolation (BSI) assumes all fluids are infectious, so you've got to protect yourself while helping. In a clinic, you'd grab gloves and a mask; out here, improvise—wrap a plastic bag over your hand as a glove, tie a bandana across your face as a barrier. These Universal Precautions block pathogens like TB or meningitis, which thrive in close contact. Say a hiker's gushing blood from a gash—you don't know their history, so treat it like a biohaz-

ard. It's not paranoia; it's survival. Clean up after with water and whatever sanitizer you've got—your health's as critical as theirs.

The 12 C's of Survival

Our survival backbone is The 12 C's, a prioritized list of gear you likely already carry, reimagined for emergencies. Start with 1) Cutting Tools—a 5-inch carbon-steel knife slices fabric for bandages or carves splints; 2) Combustion Devices—a ferro rod sparks fire for warmth or signals; 3) Cover Elements—clothing layers shield from wind or pad a stretcher; 4) Containers—a metal bottle boils water or heats rocks; 5) Cordages—100ft of paracord ties splints or builds shelters. Then 6-12) Comfort Items: cotton for dressings, a compass for navigation, candling (flashlight) for night checks, a canvas needle for sewing wounds, cargo tape for securing, cerate (balm) for burns, and circumvention tools (IFAK) for extras. These aren't luxuries—they're your toolkit when the world's gone quiet.

Importance of Adaptability in WFA

Adaptability is the heartbeat of WFA—rigid plans crumble when a trail floods or your kit's lost in a river. Say a storm traps you with an injured kayaker: no stretcher? Lash logs with paracord. No bandages? Rip your shirt. Wilderness doesn't care about your checklist—it demands you pivot fast, using what's around you. This course drills that flexibility: you'll learn to splint with a stick one day and a rolled magazine the next because gear fails, but ingenuity doesn't.

CHAPTER 2

The Emergency Scene

MODULE TWO

Approaching the Patient

When you spot an injured person in the wild, your first move sets the tone—start with a clear, calm "Do you need help?" to gauge their state and consent. Picture a scenario: a backpacker sprawled on a rocky slope after a fall, dazed and bleeding from the head. Approach slowly, hands visible, to avoid spooking them—panic can make them lash out or bolt, worsening injuries. Announce your intent: "I'm here to check you out, okay?" while scanning for hazards like loose rocks or a nearby bear. Their emergency isn't yours yet—keep your head on a swivel and your voice steady. If they're unresponsive, shout louder and tap their shoulder; no reaction means you're jumping straight to life-saving steps. This initial contact isn't just polite—it's your entry into their crisis, striking a balance between empathy and control to get the job done right.

Scene Survey

A scene survey is your 10-second shield—before you touch anyone, assess for danger, because a dead rescuer helps no one. Imagine you're at a riverbank: a kayaker is pinned under a flipped boat, water rushing fast. Look up—widowmaker branches overhead? Around slippery rocks or rising flood? Hazards like weather (lightning brewing), animals (snake tracks), or terrain (unstable cliffs) can turn you from savior to victim. It's dynamic, too—recheck every few minutes; that calm stream might swell, or a storm could roll in. Use your senses: hear creaking trees, smell smoke, feel the ground's stability. If it's unsafe—say, a wildfire's closing in—back off, signal for help, and prep from a distance. Safety is not optional; it's the foundation that lets you act without becoming part of the problem.

Mechanism of Injury (MOI)

Mechanism of Injury (MOI) is your detective work—what caused the hurt tells you what's broken. Take a climber tumbling 20 feet onto granite: the height and hard landing scream potential spinal damage or internal bleeding, not just a twisted ankle. Or a hunter speared by a branch—think puncture wounds, maybe a pierced lung. MOI clues you in: speed (fast fall vs. slow slip), force (blunt rock vs. sharp stick), and body parts hit (head vs. leg). Ask witnesses—"How far? What did they land on?"—and scan the scene: bent branches, blood splatter, skid marks. It's not guesswork; it predicts severity and guides your exam: high fall, check the neck; stabbing, feel the

chest. Knowing MOI turns chaos into a plan, saving time and lives when every second matters.

Rescue Considerations

Rescue's a calculated risk—don't dive in unless you can get out alive. Say a hiker's trapped under a fallen log in a blizzard: can you lift it without it crushing you, or will snow blind you mid-effort? If the answer's no, you're not a hero but a liability. Assess your strength, tools (that knife or cordage?), and the environment—raging water, fire, or crumbling rock can kill you both. If it's too dicey, stay back, stabilize them where they are (shout encouragement, toss a blanket), and signal for pros. Only move in when it's safe—like pulling a kid from shallow water, not a riptide. Your life's not expendable; WFA's about smart help, not reckless sacrifice. Weigh the odds, and act when they tip in your favor.

Moving a Patient

Moving a patient's body into a neutral position—get them to a flat, arms-down position for comfort and evacuation, or a side-lying position for airway safety if there are no major injuries. Picture a skier down in powder snow; leg bent wrong: emergency moves (clothes drag by the jacket) pull them from avalanche risk fast; urgent moves (blanket drag) shift them if shock's setting in; non-urgent (one-person assist) wait till they're stable. Techniques vary—drag by clothes on flat ground, cradle-carry a kid downhill, or roll a log off with a partner. Don't jerk or twist; a spinal injury could paralyze them. Practice matters: try dragging a friend in a field to feel

the weight. Every move's planned—safety, speed, and survival hinge on your hands.

Helicopter Evacuation

When ground evacuation is unsuccessful, helicopters are a lifesaver—but they require space and clear signals. You're in a clearing with a climber bleeding out: find a 100' x 100' flat spot with no wires, trees, or slopes—check by pacing it out if you can. Signaling is key: smoke is king—white (green wood) pops in the dark forest, black (plastics/debris), on snow. No fire? Wave a bright shirt or flash a mirror at the sun. Prep the patient—secure wounds, keep them warm—because once that bird lands, it's a fast load-and-go. Mark the time; medics need it.

CHAPTER 3

The Patient Assessment

MODULE THREE

Primary Survey

The Primary Survey is your rapid-fire check for life-or-death issues. It uses the A-V-P-U scale to quickly assess brain function.

Alert—they're talking, eyes open.
Verbal—they groan to "Hey, are you okay?
Pain—they flinch when you pinch a finger
Unresponsive—no reaction, out cold.

ABCs:

Airway—tilt the head back gently (unless spine is suspected), clear vomit with a finger sweep if trained;

Breathing—watch the chest, assist with breaths if it's shallow or stopped (mouth-to-mouth if you're game);

Circulation—feel the wrist pulse (or neck if faint), apply pressure to stop gushing blood. Imagine a biker down after a crash, silent: no response (U), airway's open but breathing's weak—start rescue breaths, then press that chest wound. It's a 60-second drill to catch killers—blocked air kills in 3 minutes, bleeding in 2. Master this, and you're their lifeline.

Vital Signs

Vital signs are your patient's dashboard—Level of Responsiveness (LOR via A-V-P-U), heart rate (50-100 bpm adult, count 15 sec x 4), respiratory rate (12-20 breaths/min, chest rise), capillary refill (press nail, pink in <2 sec), skin (warm/dry vs. cold/clammy).

Check a hiker post-fall: pulse racing at 120, breathing 30, skin pale—they're in shock. Stable individuals get rechecked every 15 minutes—use a watch; unstable individuals get rechecked every 5 minutes—set a rhythm. A child's pulse might naturally reach 180, so be aware of age norms. Cold hands or a slow refill (>2 seconds) indicate poor circulation—act fast.

Physical Exam

The physical exam's your head-to-toe hunt for damage, guided by DCAP-BTLS: Deformity (bent limbs), Contusion (bruises), Abrasions (scrapes), Punctures (holes), Burns (red/

char), Tenderness (pain on press), Lacerations (cuts), Swelling (puffiness).

Start at the head—feel for skull dents, blood in hair; neck—stiff or tender?; chest—ribs crunch?; abdomen—hard or soft?; pelvis—press gently, wincing?; limbs—twist or bulge? A camper stabbed by a branch: chest tender, breathing short? A puncture is likely. Use both hands, compare sides, and ask "Does this hurt?"—they'll guide you. Don't poke hard; a spinal tweak could paralyze. I've found hidden fractures this way—slow, thorough beats, rushed guesses every time. It's your map to what's broken under the skin.

SAMPLE History

SAMPLE's your interview—

Signs/Symptoms ("What hurts? Fever?"),
Allergies ("Bees? Nuts?"),
Medications ("Aspirin? Insulin?"),
Past History ("Heart attack? Surgery?"),
Last Intake ("Ate at noon? Water?"),
Events ("Fell? Felt dizzy first?").

A hiker clutching their chest post-climb: "Crushing pain, aspirin daily, heart stent last year, ate breakfast, started after the ascent"—boom, cardiac red flag. Ask open-ended—"Tell me more"—not yes/no; they might hide stuff otherwise. No talkers? Check pockets for meds or tags and arms for diabeteic or heart related tatoos.

CHAPTER 4

Bleeding, Burns, and Wounds

MODULE FOUR

Treating Bleeding, Burns, and Wounds

The 5 B's of Bushcraft First Aid is a concept that was developed during my time at The Pathfinder School and is outlined in the book Bushcraft First Aid in greater detail. We wanted a system to address the five most common issues facing woodsmen and ways of treating these issues from our survival kit.

The 5 B's are:

1. Bleeding
2. Breaks
3. Burns
4. Blisters
5. Bites & Stings

Should you become injured, understanding how your survival kit can be used as a self-aid kit is an important safety

component. Understanding how to care for yourself and others in each "B" Category is a vital component of good woodsmanship.

We will tackle each category throughout the remainder of this booklet, and, in the process, fulfill the requirements for the initial course (16hr) in Wilderness First Aid and the nationally recognized Stop the Bleed course. This text, along with the required video learning content and teach-backs submitted through your training, will enable you to attain these additional qualifications.

Bleeding Trauma

"*Uncontrolled bleeding is the number one cause of preventable death from trauma.*" ~ American College of Surgeons

Before offering any help, ensure your safety. If you become injured, you will be unable to assist the injured person. Provide care to the injured person if the scene is safe for you to do so. If your safety is threatened at any time, attempt to remove yourself (and the injured, if possible) from danger and find a safe location. Protect yourself from blood-borne infections by wearing or improvising gloves or a blood barrier, if possible. Stop the Bleed has provided the following content, which has enabled us to incorporate the complete Stop the Bleed course into the Bushcraft Hygiene and Wilderness First Aid curriculum. You, as the learner, will be required to complete the hands-on training as part of your examination. You will receive an official Stop the Bleed course completion certificate upon successful completion.

Uncontrolled bleeding is the number one cause of preventable death from trauma. The greater the number of people who know how to control bleeding in an injured patient, the greater the chances of surviving that injury. You can help save a life by learning how to stop bleeding if someone, including yourself, is injured.

PRIMARY PRINCIPLES OF TRAUMA CARE RESPONSE

- Ensure your own safety
- The ABCs of Bleeding
- A – Alert – call 9-1-1
- B – Bleeding – find the bleeding injury
- C – Compress – apply pressure to stop the bleeding by: 1. Covering the wound with a clean cloth and applying pressure by pushing directly on it with both hands, OR 2. Using a tourniquet, OR 3. Packing (stuffing) the wound with gauze or a clean cloth and then applying pressure with both hands. We will go over each of these points as we go through this booklet.

ENSURE YOUR OWN SAFETY

Before offering any help, ensure your own safety.

- If you become injured, you will not be able to help the victim
- Provide care to the injured person if the scene is safe for you to do so
- If, at any time, your safety is threatened, attempt to remove yourself (and the victim if possible) from danger and find a

safe location

- Protect yourself from blood-borne infections by wearing gloves, if available

A- ALERT

- Get help
- Call 9-1-1 yourself, OR
- Tell someone to call 9-1-1
- This will notify emergency medical responders and, depending on the situation, police officers to respond to the scene

B- BLEEDING CONTROL

Find the source of bleeding, open or remove the clothing over the wound so you can clearly see it, and look for and identify "life-threatening" bleeding.

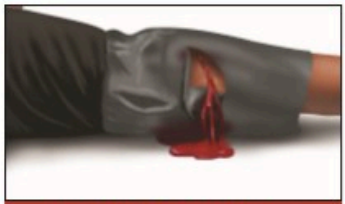
Life-threatening bleeding is classified as bleeding that is spurting from, or that will not stop coming from, a wound; bleeding that pools on the ground; bleeding that soaks through bandages or clothing; and bleeding that has caused the injured to become confused or lose consciousness.

Keypoint: There are a number of methods that can be used to stop bleeding and they all have one thing in common – compressing a bleeding blood vessel to stop the bleeding.

What is "life-threatening" bleeding?

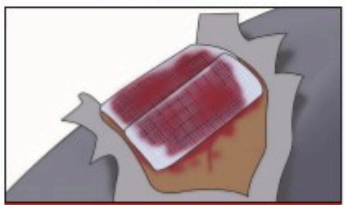
Blood that is spurting out of the wound.

Blood that won't stop coming out of the wound



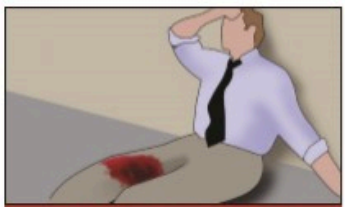
Blood that is pooling on the ground

Clothing that is soaked with blood



Bandages that are soaked with blood

Loss of all or part of an arm or leg



Bleeding in a victim who is now confused or unconscious

C- COMPRESS

If you don't have a trauma first aid kit:

Apply Direct Pressure on the wound, cover the wound with a clean cloth, and apply pressure by pushing directly on it with both hands.

1. Take any clean cloth (e.g. shirt) and cover the wound.
2. If the wound is large and deep, try to "stuff" the cloth down into the wound.
3. Apply continuous pressure with both hands directly on top of the bleeding wound.
4. Push down as hard as you can.
5. Hold pressure to stop bleeding. Continue pressure until you are relieved by emergency medical responders.

Direct Compression using Freezer Bag

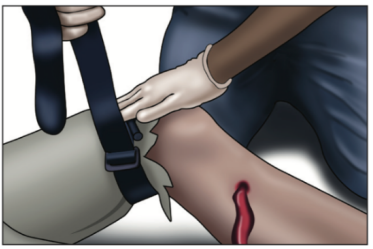
If you have a trauma first aid kit, apply a Tourniquet:

For life-threatening bleeding from an arm or leg and a tourniquet is available:

Wrap the tourniquet around the bleeding arm or leg about 2

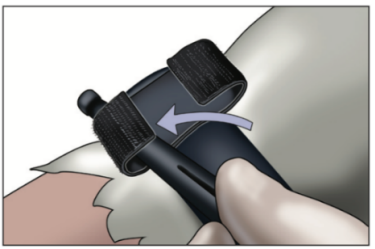
to 3 inches above the bleeding site (be sure NOT to place the tourniquet onto a joint - go above the joint if necessary)

Pull the free end of the tourniquet to make it as tight as possible and secure the free end.

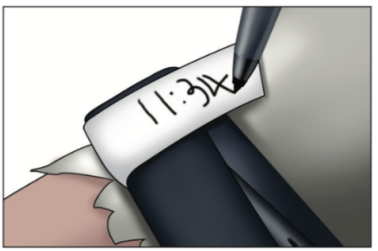


Twist or wind the windlass (rod) until bleeding stops.

Secure the windlass (rod) to maintain a tight tourniquet.



Note the time the tourniquet was applied.

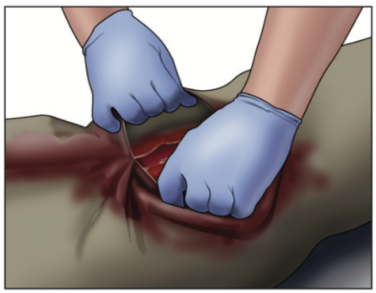


Special Note: A tourniquet will cause pain, but it is necessary to stop life-threatening bleeding.

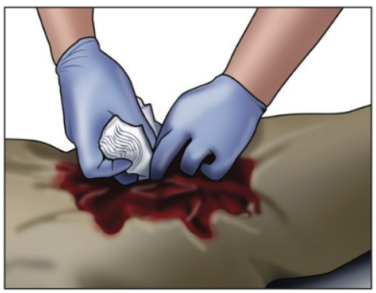
How to Pack a Wound

For life-threatening bleeding from an arm or leg and a tourniquet is NOT available OR For life-threatening bleeding from the knee, shoulder or groin: Pack (stuff) the wound with bleeding control gauze (also called hemostatic gauze), plain gauze, or a clean cloth and then apply pressure with both hands.

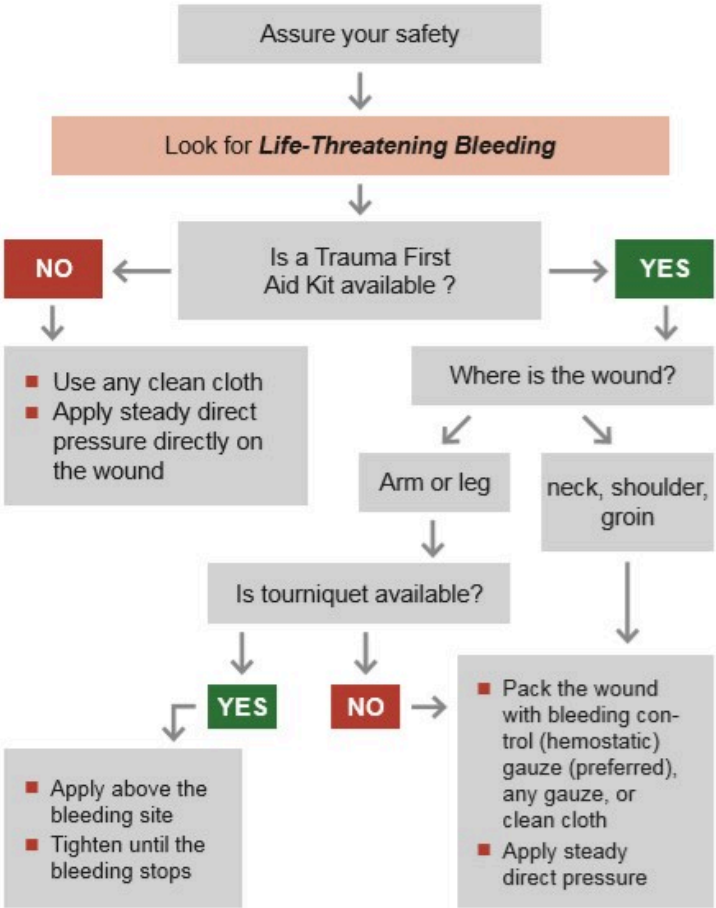
Open the clothing over the bleeding wound. Wipe away any pooled blood.



Pack (stuff) the wound with bleeding control gauze (preferred), plain gauze, or clean cloth.



Apply steady pressure with both hands directly on top of the bleeding wound. Push down as hard as you can. Continue pressure until relieved by medical responders.


Assure your safety
Look for Life-Threatening Bleeding
Is a Trauma First Aid Kit available ?
NO
YES
Use any clean cloth
Apply steady direct pressure directly on the wound
Where is the wound?
Arm or leg
neck, shoulder, groin
Is tourniquet available?
YES
NO
Apply above the bleeding site
Tighten until the bleeding stops
Pack the wound with bleeding control (hemostatic) gauze (preferred), any gauze, or clean cloth
Apply steady direct pressure

Bushcraft Tip: Homemade Sugardyne

Over 4,000 years ago, on the battlefields of ancient Egypt, honey and animal fats were used to treat the wounded with excellent results. With the advent of modern sugar technologies, which replaced honey due to its wider availability and ease of transportation, and the modern availability of oils for cooking, honey and fat have been primarily relegated to the primitive past. The combination of sugar and oil has been repeatedly proven adequate for healing battlefield wounds, ulcers (bed sores), gunshot wounds, and burns. Sugar was later added to povidone-iodine and marketed as Sugardyne during both world wars.

The addition of povidone-iodine was found completely unnecessary, and physicians again started testing the power of sugar. They discovered that powdered confectioners' sugar and standard cooking oil provided the most effective and cost-effective treatment.

To make, mix 3 parts confectioners' sugar with 1 part cooking oil of choice (olive or coconut is ideal). Mix until uniformly smooth and store in an airtight jar. The mixture will last several years unless exposed to the elements.

Caution! All bleeding must be controlled before Sugardyne can be used on a fresh wound. Because sugars bind with calcium, adding Sugardyne before bleeding has stopped will prevent the formation of blood clots, which can worsen bleeding.

Therefore, it is best practice to wait 24-48 hours, depending on the severity of the wound, before applying Sugardyne. A copious amount (¼ to ½ inch thick layer) of Sugardyne is applied to cover or fill the wound, which is then covered with dry gauze. Deeper wounds are packed full of Sugardyne.

Dressings are changed once daily and continue until the wound is fully healed. Significant Pain usually stops quickly when treating a burn, and the burn will self-debride. Cover the burn with Sugardyne, again using ¼ to ½ inches and cov-

ering it all with a gauze dressing. Again, change the dressing once daily; no skin grafts will usually be required.

Wound Care

Other common wounds include:

- Abrasions (scrapes, road rash and rug burns) result from a partial loss of the skin's surface layer. They generally produce little bleeding, but can be quite painful.
- Lacerations are cuts into the skin with jagged edges. They can cause major bleeding and involve structures under the skins surface such as ligaments, tendons, nerves and large blood vessels.
- Incisions, those typically received by a simple knife cut, for example, are smooth-edged.
- Puncture wounds are produced by objects that leave small entry wounds, such as sticks, nails, or pipes. They may extend deep into the body and may increase the risk of infection of other internal damage.
- Avulsions are tearing wounds that create a flap of skin and tissue still attached by a bridge of skin.
- Amputations result when a body part is separated from the body.

To field treat common wounds:

1. Clean it thoroughly. Although this process may restart bleeding, it is essential for removing foreign matter that may

carry bacteria. Use soap if available or, at a minimum, flush with potable water.

2. For a shallow wound, wash inside and around the area.
3. For a deep wound, follow wound packing procedures.
4. Cover the wound with a sterile or clean dressing and bandage in place.

Treatment of Burns

A burn can range from a mild injury from touching a hot pan to a major trauma that occurs because your clothes catch on fire. Your immediate priority is to stop any burning that is still ongoing. If someone's clothes are on fire, roll them on the ground to put out the flames or use water.

If someone scalds themselves, remove the pieces of clothing covering the scald as soon as possible; they are trapping the heat next to the burn and making it worse. If burned clothing sticks to the skin, don't try to remove it but instead reduce the heat with cool water. Next, you need to cool the burn itself. If water is available, use that. Of course, it's best to use clean water, but this is a time-dependent emergency; use the cleanest water available. If you're not near a water source, use cool soil, wet leaves or moss, or other natural means to cool the wound.

Before you place these on the wound, cover it with plastic. That you carry such as an emergency tarp, drum liner or rain coat would work well. If the burn is severe (10 percent of the body or more), don't try to cool the burn using water as this

could shock the body into hypothermia. Instead, focus on dressing the burn and getting immediate help.

- Here are some essential burn guidelines:
  - When treating superficial burns (first degree), leave them dry. These burns typically require the least intervention unless they are located in a painful area, such as the face, neck, or other sensitive areas.
  - In partial-thickness or full-thickness burn cases (second and third degree), you may apply moist dressings to soothe and manage pain, so long as they are not used on more than 10 percent of the body. Your arm is about 9 percent of the surface area of your body, so keep that in mind as a handy reference. Anything more than this covered with a moist dressing could undoubtedly lead to hypothermia because of the body's inability to regulate temperature.

- Try to relieve as much pain as possible through proper wound care (using an appropriate burn dressing) and keeping the injured person calm. You can offer ibuprofen or similar pain relievers. Burns, especially severe ones, cause your body to lose fluid. Electrolytes should be administered to address this, although only at half-strength. Don't let the injured person become dehydrated.
- The slime in cattail shoots is similar to aloe vera; it works as a topical anesthetic and anti-inflammatory agent, making it great for minor burns, including sunburn.

Bushcraft Tip: Burn Field Care

Not all burns require immediate medical attention. Any area with a total burn surface area of 5% or less may be field-treated for up to a few days before seeking more definitive care. This does not include burns to the hands, face, groin, or feet, however.

Step 1: Wash the wound thoroughly with soap and potable water.

Step 2: Remove loose debris and peel dead skin (which may be painful). Alternatively, trim dead skin back with some scissors.

Step 3: Drain fluid-filled blisters if present to prevent closed-space infection.

Step 4: Apply an anti-biotic ointment or soothing salve to the burn or to the burn dressing. This will prevent the dressing

from sticking while promoting healing.
Step 5: Use a cotton sock to bandage over the burn dressing. When possible, cut the end of the sock off to create a circumferential wrap.
Step 6: Change the wound dressing once daily; however, a wet or sticky dressing or one that has been saturated should be changed more often as needed until dry.

Vitamin E and Aloe greatly aid in healing. They should be applied to wounds that have begun healing to hydrate newly formed skin.

Cotton Sock used as a Burn Bandage

Treatment of Blisters

Blisters are something that all woods-roamers have had to con-

tend with at one point or another. Whether on the hands, feet, or due to a burn, blistered skin is not only troublesome, but if left untreated, it can become a site for localized infection. Blistering generally occurs due to friction or burning. Sunburns and other types of burns can create blisters that may appear anywhere on the skin that has been burned. These blister types will be treated along with the burned area and, therefore, will not require an additional protocol.

Friction blisters, however, are the most common type we encounter. These occur when the layers of the skin rub against one another due to an external factor such as a rake handle rubbing against the same area repeatedly, which causes the body to force fluid to the area to cool it, thus creating a fluid and air pocket between the outermost layers of the skin. Areas at the heel and bottoms of the feet, at the base of the thumb, and the web of the hand are common areas for blisters related to outdoor activities, be it during construction work, gardening, bushcraft, or hiking. These blisters can and should be mitigated by pre-planning. If you're prone to blisters in these areas, wearing gloves or properly fitting footwear will most often resolve the problem.

However, once a blister has formed, it must be treated. The best method is to maintain the integrity of the blister by relieving pressure to and around the tissue of the affected area. Moleskin, a soft, padded material used for blister treatment, provides this relief. When moleskin is not available, you might consider allowing the blister to drain. To create a blister drain,

you will need a needle and thread, which should be a part of your survival kit anyhow.

First, clean the affected area with soap or hand sanitizer, at least water or fresh wood ash. Sterilize your needle with a lighter or hand sanitizer, and if possible, run the thread through sanitizer or an alcohol wipe. Thread the needle, then pierce the needle through the blister near the base. Go through both sides so the thread carries through the blister from one side to the other.

A Threaded Blister

Leave the thread in the blister, remove the needle, and dress the blister. The idea is that any fluid within the blister will drain out via the thread, thereby minimizing further dis-

comfort. This does not work for everyone, but is reported to work well for many.

Another option is to Lance the blister. Once again, clean the area, sanitize a needle and pierce the blister again near the base, this time only on one side. Apply pressure to drain any fluid from the blister while maintaining the skin of the blister so that it does not come off. Press the skin back onto the affected area, then dress and bandage like any other wound.
In those instances where the skin is worn or torn away from the blister, you're left with an open wound. Preventing infection is your priority, with proper healing a close second. Clean your hands and the affected area with soap and water. Now, disinfect the blister with an antiseptic (alcohol, betadine) or antibiotic (triple antibiotic ointment) before covering the area with a clean dressing.

An island dressing is best. This provides padding in the center, which will protect the blister. Think of a very thick band-aid—that's the idea. Once cleaned and covered, you'll switch gears to reduce friction against the blister and keep pressure off it. If you're forced to hike out after a bad blister, ensure proper treatment protocol and do your best to change the dressing as often as needed until you can rest.

Personal Experience:
Once during a 16-mile ruck, and less than halfway through, I had a blister that took up the entire front ball of my foot. At

first, I treated it with nothing but duct tape- I covered the area and kept trekking. A few miles later, I took time to cool down my feet and lance the developed blisters. I followed proper protocol, but still had 6 miles to go before reaching my vehicle- I had to continue. The result was a 3-week ordeal of post-treatment until I healed up. Proper footwear, extra socks, liner socks, gloves, and a simple blister treatment kit can prevent a mountain of suffering in an actual survival situation. ~ Jason

Bushcraft Tip: Survival Blister Kit

Looking at the items within our 12-piece survival kit- here are some ways we can treat blisters.

1) Repair needle: We can easily sterilize our needle with a lighter and then use it to lance a blister for draining.

2) Water bottle: We can use the water bottle as a cold pack to cool down the blistered area and of course to aid in cleaning the area by pouring water over it. If you carry a water filter such as a Sawyer Squeeze, you can generate enough pressure to perform forceful irrigation if needed.

3) Cotton material: You can use your cotton material to create dressings- once coupled with your Duct Tape, you can create effective Island dressings.

4) Cerate: This is your antibiotic ointment. Obviously learning to make your own salves will enable you to create a wide variety of applications.

Do not apply duct tape directly onto a blister once it has formed, as it will simply make the blister worse. At best, you can use it as a precaution in areas where you generally get blis-

ters, but it must be done before work begins to be marginally effective. If you apply tape directly over the hot spots in your feet, you may end up with a larger blister as the tape will still move; thus, the blister will be as large as the tape you use to cover the hot spot.

CHAPTER 5

Creating Dressings & Bandages

MODULE FIVE

Dressings vs Bandaging

Dressings, such as cotton or a torn T-shirt, are placed directly on the wound to soak up blood and shield it from dirt; bandages, including tape, cordage, or a scarf, secure that dressing in place and support the area. Say a climber gashes their arm on a ledge: a sock's your dressing, pressed into the cut to stop bleeding; paracord's your bandage, wrapped snug to hold it. Dressings are the frontline—absorbing and protecting; bandages are the backup—securing and stabilizing. Please don't mix them up: a loose dressing flops uselessly without a bandage, and a bandage alone won't staunch flow. In the wild, it's a tag team—know their roles and use what's around.

Application & Removal

Applying a dressing starts with clean hands—wipe with alcohol or stream water if soap is unavailable—then lay it gently.

A hiker's shin scrape gets a bandana, pressed even to avoid clots from tearing. Band it firm but not tight—use tape strips or cordage, overlapping for grip; loose slips, too tight chokes. Removal's trickier: stuck dressings (dried blood's glue) need dampening—drip water from a bottle, wait 30 seconds, peel slowly. A camper's arm I treated had gauze fused to a burn—wet it, lifted easily, no new bleeding. Rip it off-dry, and you're restarting the wound clock—patience pays. Practice on a friend: wrap a fake cut, peel it back—feel the tension. It's art and science—steady hands keep them healing.

Signs of Improper Bandaging

Bad bandaging shows fast—blue nails or skin, means circulation's cut; a hiker's ankle wrap too tight turned toes purple—loosen it pronto. Cold below the bandage, numbness, or pain past it screams the same—blood's not flowing. Soaked dressings signal unchecked bleeding—add more, press harder; a hunter's leg kept oozing and needed a second layer. Too loose, and it slides off—useless. Check every 10 minutes: feel the pulse below, ask, "Feel this?"—no answer's bad news. Fix it quick—tighten, loosen, or re-layer—because a bandage done wrong's worse than none. It's your guardrail; keep it on track.

CHAPTER 6

Bone & Joint Injuries

MODULE SIX

Broken bones come in all shapes and sizes. The most serious kind of break is a fracture, in which the bone has been broken to the extent that the ends of the break have separated.

There are two kinds of fractures: open and closed.

• Open fracture: The broken end of the bone has penetrated the skin from the inside and pushed through it.

• Closed fracture: The broken ends of the bone have separated but are still beneath the skin. In such a fracture, you may notice a bulge where one of the broken ends is pushing up against the skin but hasn't penetrated it. This is called tenting.

Both kinds of fractures are severe, and if an open wound is present near a fracture, bacteria can infect the body.

Beginning to immobilize a suspected break

Do what's necessary to slow and stop the bleeding (pressure points, pressure dressing and bandage). Pressure here is tricky because of the fracture; rather than use direct pressure, employ pressure points, those pulse points between the injury and the heart that can be pressed to control bleeding.

A pressure point is a place where the main artery to the injured part lies near the skin surface and over a bone. They can easily be located in the arm under the bicep, in the groin, behind the knee and in the base of the foot under the ankle bone.

Once you've controlled and halted the bleeding (or if the wound isn't bleeding much in the first place), clean the area with disinfected water and put a dressing and bandage on it. At this point you can address the fracture itself. Gently put a splint on it, sensitive to the patient's pain. There will be no exterior open wound in some closed fractures, so take care not to aggravate any bruising as you treat the fracture.

When splinting a fracture, it's very important to consider bleeding, particularly the arteries, since a severed artery can cause the patient to bleed out. To guard against this, make padding and pack it around the splint wherever it seems loose.

Use the acronym B.U.F.F. as a reminder for splinting:

- Big- the splint should be large enough to go above and below the suspected break.
- Ugly- it will look like crap as it will be improvised of whatever is on hand including sleeping bags, coats, shirts and socks and possibly debris.
- Firm- it should be secured firmly around the injured area so it does not move around.

- Fluffy—It should provide ample protection from further injury in the way of padding. This will aid rescuers or the patient attempting self-rescue in bumping into or jostling the injured area without fear of further injury or aggravation.

RICE—Rest, Immobilize, Cold, Elevate

This is your playbook for bone and joint woes.

Rest: stop use: a sprained ankle hiker sits, no weight—walking tears more.

Immobilize: locks it: wrap a wrist strain with a shirt, keep it still—motion's the enemy.

Cold: cuts swelling: soak a cloth in a cold stream and lay it on a bruised knee for 15 minutes—ice works too, but water is generally available.

Elevate: drains fluid: prop a twisted foot on a log above heart level—gravity helps.

Bushcraft Tip: Salve Around Breaks

"Is there no salve in Gilead? Is there no physician there? Why is there no healing for the wounds of my people?" ~ Jeremiah 8:22

After any bleeding has been controlled, you can apply a medicated ointment called Cerate (Sair-ate), also called salve (pronounced: sah-v), to a wound or around a suspected break to aid in healing and pain management.

To create a salve, simply select your herb of choice. For this, we will say Yarrow (ACHILLEA MILLEFOLIUM), which is known for its ability to stop bleeding.

Simmer your yarrow (or other herbs) in an oil such as olive oil, coconut oil, or even animal fat (I have used racoon fat!) for at least thirty minutes, although some prefer several hours. While the oil is hot, begin to add flakes of beeswax. Do not add too much, or you will just have a block of wax, which we'll get to in a moment.

Allow the mixture to cool until it reaches the desired consistency. You want it to be consistent with petroleum jelly or perhaps a little firmer in warmer climates. That's it! You can pack wounds with this, significantly aiding in bleeding control and healing.

I would also recommend making a medicated wax block with this method. It's just a hard salve, and you can use this

block as a dental wax should you lose or injure a tooth. It can also be applied to all your tools to protect them from rusting and be used on your boots or fabrics to waterproof them.

CHAPTER 7

Circulatory Issues

MODULE SEVEN

Shock

Shock is when organs starve for blood—hypovolemic (bleeding out), neurogenic (spine shock), cardiogenic (heart failure), anaphylactic (allergy), or septic (infection). Signs hit hard: weak, rapid pulse, clammy skin, dizziness—a hiker gashed deep goes pale, pulse 120, sweating buckets. Treat fast: guard airway (tilt head if safe), warm them (blanket, body heat), elevate legs 8-12" if alert—boosts heart flow. Oxygen's rare out here, but breathe for them if you're stopped. Don't wait for full collapse—anticipate it with big injuries. Shock kills silent and swift; your warmth and calm can stall it long enough for rescue.

Internal Bleeding

Internal bleeding hides—rigid abdomen, shock signs (fast pulse, cold skin), bruising hint at it; a biker slammed into a

tree, belly hard, moaning—liver or spleen's likely torn. Monitor ABCs—breathing shallow? Pulse weak?—it's worsening. Elevate legs if conscious, prep for vomiting (recovery position if out), and evac stat—blood inside is a ticking bomb. Pelvis or thigh fractures bleed bad, too—stabilize, don't jostle. It's invisible chaos—trust the signs, not their smile.

Chest Pain

Chest pain—crushing, radiating to jaw or arm—screams heart trouble: coronary artery disease (clogged pipes) or angina (short supply). A camper mid-hike grabs his chest, sweaty, short breath—give aspirin (325mg, chew it), rest them flat, evac if over 15 minutes—heart attacks don't wait. No relief means true emergency; angina eases with rest. I've seen a hunter's pain fade with willow tea (natural aspirin), but persistent crushing got him airlifted. Ask SAMPLE—history of heart issues? Meds?—it's your clue. No food, just clear sips—vomiting is common. It's a race against cardiac arrest; your calm call keeps them ticking till pros take over.

CHAPTER 8

Breathing Issues

MODULE EIGHT

Chest Injuries

Chest injuries, such as pneumothorax, tension pneumothorax, and open pneumothorax, can arise from penetrating trauma like stabs or blunt force like falls, disrupting standard breathing patterns. A pneumothorax occurs when air enters the chest cavity, potentially collapsing a lung, and presents with symptoms like shortness of breath and chest pain.

Tension pneumothorax develops when air becomes trapped, increasing pressure and causing visible distension of the neck veins and absent breath sounds on one side; this requires immediate evacuation, as no field treatment fully resolves it. An open pneumothorax, often called a sucking chest wound, happens when a hole in the chest wall allows air to rush in with each breath—apply a chest seal, such as a piece of plastic or a commercial dressing, taped on three sides to cre-

ate a one-way valve, allowing air to exit but not enter. Another condition, flail chest, results from multiple rib fractures, causing a segment of the chest wall to move independently; stabilize it by applying gentle pressure with a hand or padding and arrange rapid transport. These injuries compromise the airway and breathing, necessitating prompt recognition and action to maintain oxygenation until professional care is available.

Asthma

Asthma is a chronic condition in which the airways narrow in response to triggers such as pollen, smoke, or cold air, leading to coughing, wheezing, and difficulty breathing—challenges that intensify in remote settings without immediate access to medical facilities. If someone experiences an asthma attack in the wilderness, help them sit in a position that feels comfortable, often leaning slightly forward to ease lung pressure. Encourage the use of their prescribed inhaler, typically delivering two puffs with a five-minute wait between doses. If no inhaler is available, offer small sips of clear water to keep them hydrated, avoiding solids that could complicate breathing. Monitor their condition closely; if symptoms persist or worsen after 15 minutes—such as increased wheezing or distress—prepare for evacuation, as severe attacks can lead to life-threatening airway closure. Inquire about their history, asking questions like, "Do you have medication with you?" or "What usually triggers this?" to tailor your response. Asthma management in the wild relies on calmness, basic support, and readiness to escalate care if breathing does not improve.

Hyperventilation

Hyperventilation involves rapid, shallow breathing, often triggered by anxiety, such as after a frightening near-miss on a trail, though it can also stem from altitude or underlying medical issues. To address it, focus on calming the individual by speaking in a soothing tone, saying something like, "Let's slow this down together," and guiding them to breathe deliberately: inhale for four seconds, hold for four seconds, exhale for four seconds, repeating until the pattern stabilizes. Some suggest breathing into cupped hands or a paper bag to rebalance carbon dioxide levels, but this is optional and should not be forced if they resist. Consider a scenario where someone panics after slipping near a cliff; your steady presence and clear instructions can normalize their breathing within minutes. If hyperventilation persists or is accompanied by chest pain or confusion, it may indicate a more serious condition like altitude sickness, requiring a broader assessment. The goal is to restore control gently, ensuring they feel supported while you monitor for other signs that might necessitate further action.

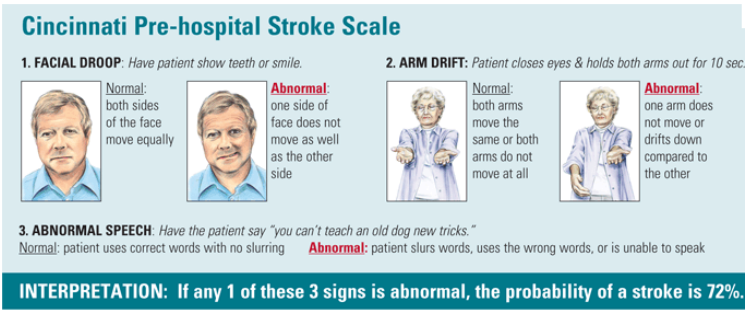
CHAPTER 9

Neurological Issues

MODULE NINE

Stroke

A stroke occurs when blood flow to the brain is interrupted, either by a clot or a rupture, leading to symptoms that can be identified using the Cincinnati Prehospital Stroke Scale: facial droop (one side of the face sags when smiling), arm drift (one arm falls when raised), and abnormal speech (slurring or difficulty forming words). If someone on a trail exhibits these signs—perhaps struggling to speak clearly after a rest—focus on maintaining their airway, ensuring they can breathe adequately, and checking circulation by feeling for a pulse. Arrange for immediate evacuation, as every minute without treatment results in the loss of brain cells; note the exact time symptoms began, as this informs medical intervention. Avoid giving aspirin or food, which could worsen a hemorrhagic stroke or complicate care. The priority is rapid transport to a facility equipped to handle strokes, where imaging and medication can mitigate damage—your role is to stabilize and expedite that process.



Seizures

Seizures involve uncontrolled shaking or staring spells, often due to epilepsy or head trauma, and require careful management to prevent injury. If someone begins to seize on a rocky path, gently clear the area of sharp objects, such as stones or branches, but do not restrain them, as this could cause fractures or dislocations. Cushion their head with a folded jacket if possible. After the seizure ends, typically within a few minutes, they may enter a post-ictal phase, which can be confused and drowsy. Place them in the recovery position (on their side) to protect the airway from saliva or vomit, and cover them with a blanket for warmth. Monitor their breathing and pulse, and prepare for evacuation if the seizure recurs or if injuries occurred. Inquire about their medical history afterward, asking, "Have you had seizures before?" to understand the context—your focus is safety and support until they recover fully or help arrives.

Diabetes

Diabetes emergencies arise from blood sugar imbalances: hypoglycemia (low sugar) causes sweating, shakiness, and confusion, while hyperglycemia (high sugar) leads to dry skin, fruity

breath, and lethargy. For hypoglycemia—imagine someone on a hike becoming disoriented—offer a quick sugar source, such as candy, juice, or honey, placing it under the tongue if they cannot swallow. Expect improvement within 15 minutes; if not, evacuation is necessary. Hyperglycemia, which tends to escalate more slowly, requires encouraging water intake to dilute sugar levels, followed by immediate transport, as it can progress to ketoacidosis —a dangerous buildup of acids. Ask questions like, "When did you last eat or take insulin?" to differentiate the two—if unsure, sugar is safe to try first, as it won't harm a high-sugar case acutely. These conditions demand swift recognition and response to prevent coma or worse, relying on basic supplies and rapid decision-making.

Head Injuries

Head injuries range from concussions (temporary disorientation, seeing "stars") to severe skull fractures (clear fluid leaking from ears or nose), each requiring careful evaluation. For a concussion—perhaps after someone falls from a low ledge—ensure they rest and monitor their level of responsiveness every few hours using A-V-P-U, watching for worsening signs like repeated vomiting or confusion. Skull fractures or closed head injuries with swelling (indicated by severe headache or combativeness) necessitate maintaining airway, breathing, and circulation, keeping them warm with a blanket, and arranging immediate evacuation, as brain damage can be permanent without surgical intervention. Avoid moving them excessively due to potential spinal involvement. Assess by gently feeling the skull for depressions and asking, "Do

you remember what happened?"—changes over time signal urgency, guiding your decision to seek advanced care quickly.

CHAPTER 10

Abdominal Issues

MODULE TEN

Open vs. Closed Injuries

Abdominal injuries fall into two categories: open, where the skin is breached and organs may protrude, and closed, where internal damage occurs without visible breaks. An open injury—such as from a sharp branch piercing the abdomen—requires covering the wound with a moist, clean cloth (like a water-soaked shirt) and securing it with tape or a bandage to keep it from drying out; do not attempt to push protruding intestines back inside, as this risks infection and further damage. Closed injuries, often from blunt trauma like a fall onto rocks, may present with a rigid or tender abdomen, bruising, or signs of shock (rapid pulse, pale skin), indicating internal bleeding from organs like the spleen or liver. For these, monitor airway, breathing, and circulation closely, elevate the legs 8-12 inches if the person is conscious to improve blood flow, and arrange for immediate evacuation. Both types

demand prompt recognition—open injuries are obvious, but closed ones rely on subtle cues like abdominal firmness, making careful assessment critical to prevent rapid deterioration.

Abdominal Pain

Abdominal pain in the wilderness can stem from various causes—indigestion, infection, or serious issues like appendicitis—and its vague nature complicates diagnosis without medical tools. If someone complains of pain during a hike, assess its intensity and location by asking, "Where does it hurt most?" and "Is it sharp or dull?"—then offer small sips of clear water or an antacid if available, avoiding solid food, caffeine, or alcohol, which can exacerbate the condition. Encourage them to find a comfortable position, often with knees bent, to reduce strain. Watch for red flags: persistent pain, vomiting (especially blood), or a swollen abdomen suggests a need for evacuation, as these could indicate a rupture or obstruction requiring surgery. The goal is not to pinpoint the cause but to manage symptoms and monitor for signs of shock, such as a racing pulse or clammy skin, ensuring they remain stable until professional evaluation is possible.

Specific Conditions

Several abdominal conditions may arise, each needing tailored care: nausea and vomiting, often from contaminated food or water, require rest and gradual rehydration with clear fluids, avoiding meat or dairy for at least 48 hours to prevent worsening. Diarrhea, potentially from bacteria or parasites, leads to fluid loss—replace it with water mixed with a pinch of

salt for electrolytes, and evacuate if dehydration sets in (dark urine, dizziness). Bloody stool might be minor (bright red from hemorrhoids) or severe (dark, tarry from internal bleeding), the latter necessitating urgent transport. Hernias, where intestines bulge through the abdominal wall, often near the groin, can sometimes be eased with relaxation and gentle pressure, but persistent cases require evacuation. These conditions vary in severity—monitor closely, asking, "How long has this been happening?" to gauge urgency, and prioritize fluid balance and rapid response to prevent complications.

CHAPTER 11

Allergies and Diabetes

MODULE ELEVEN

Anaphylaxis

Anaphylaxis is a severe allergic reaction triggered by substances like bee stings, nuts, or medications, rapidly causing symptoms such as wheezing, hives, and throat swelling that can obstruct breathing. If someone on a trail begins struggling to breathe after a sting, administer epinephrine immediately if they have an EpiPen—inject it into the outer thigh, hold for 10 seconds, and massage the site to enhance absorption—followed by an antihistamine like Benadryl if available. Arrange for immediate evacuation, as the reaction can progress to circulatory collapse within 20 minutes, making it one of the leading causes of allergy-related deaths. Without an EpiPen, apply a cold, wet cloth to reduce swelling and keep them calm to slow symptom escalation. Ask, "Do you have allergies or carry medication?" to confirm the trigger and resources. The priority is to maintain breathing and expedite professional

care, as this condition demands swift intervention to prevent a fatal outcome.

Insulin Shock

Insulin shock, or hypoglycemia, occurs in diabetics when blood sugar drops too low due to excess insulin, insufficient food, or overexertion, resulting in sweating, shakiness, and confusion. If someone becomes disoriented during a hike, quickly provide a fast-acting sugar source—such as candy, juice, or honey—placing it under the tongue if they cannot swallow, and expect improvement within 15 minutes; if no response occurs, prepare for evacuation. Inquire about their recent actions, asking, "When did you last eat or take insulin?" to understand the cause. This condition reverses rapidly with sugar, unlike hyperglycemia, and giving sugar poses no immediate harm if misdiagnosed, making it a safe initial step. The focus is on restoring glucose levels promptly to prevent unconsciousness or seizures, relying on simple supplies and careful monitoring to stabilize them until they regain clarity.

Hives

Hives are raised, itchy welts on the skin caused by allergic reactions to food, insect bites, or plants like poison ivy, appearing as pink or red patches that may swell slightly. If someone develops hives after brushing against vegetation, administer an antihistamine like Benadryl if available, or apply a cold, wet cloth to reduce itching and inflammation—natural alternatives like crushed plantain leaves can also soothe if medication is absent. Encourage them to avoid scratching, which worsens

the reaction, and ask, "What did you touch or eat recently?" to identify the trigger. Monitor for signs of escalation, such as difficulty breathing, which would indicate anaphylaxis and require immediate evacuation. Typically, hives resolve within a day or two with basic care, but in a wilderness setting, the goal is to manage discomfort and watch for complications using minimal resources effectively.

Ketoacidosis

Ketoacidosis is a serious complication of diabetes where high blood sugar produces excess acids, marked by symptoms like fruity-smelling breath, dry skin, and deep, rapid breathing—indicating a gradual but dangerous progression. If someone exhibits these signs during an outing, encourage them to drink large amounts of water to dilute blood sugar and reduce acidity, and arrange for immediate evacuation, as this condition requires hospital treatment with insulin and fluids to correct. Ask, "Have you taken insulin today?" or "When did you notice these symptoms?" to assess severity and timing. Unlike hypoglycemia, ketoacidosis develops over hours to days and can lead to coma if untreated, making rapid transport essential. Your role is to support hydration and monitor their condition, ensuring they remain conscious and stable until advanced care can address the underlying imbalance.

CHAPTER 12

Urinary System Issues

MODULE TWELVE

Painful Urination

Painful urination, often caused by urinary tract infections or dehydration, presents as a burning sensation that can disrupt activities in the wilderness, compounded by limited access to hygiene or medical care. If someone experiences discomfort during a trip, encourage them to drink plenty of water, aiming for at least a quart per hour if possible, to help flush the system and dilute irritants. Advise against acidic drinks like juice or soda, as they can intensify the pain. Monitor for worsening signs, such as fever or blood in the urine, which may necessitate evacuation to address a potential infection that requires antibiotics. Ask, "What color is your urine, and how long has this been happening?" to gauge severity—dark or cloudy urine suggests dehydration or infection. This approach focuses on hydration and observation, providing relief while

assessing the need for further intervention in a remote environment.

Dehydration

Dehydration occurs when fluid loss exceeds intake, which is common in hot or strenuous conditions. It is indicated by dark yellow urine, a dry mouth, and dizziness—signs that can escalate to confusion or fainting if left unaddressed. If someone exhibits these symptoms on a hike, provide small, frequent sips of water—approximately a cup every 10-15 minutes—rather than large gulps, which may cause nausea. Also, move them to shade to reduce further loss through sweating. Adding a small pinch of salt to the water can replace electrolytes if available. Check their pulse and skin elasticity (turgor) by pinching the back of the hand; a slow return indicates dehydration. If shock symptoms, such as rapid breathing, appear, prepare for evacuation. The objective is to achieve gradual rehydration and restore balance, utilizing basic resources to prevent progression to a critical state.

Kidney Stones

Kidney stones are hard mineral deposits that form in the kidneys, causing sudden, severe pain in the lower back or abdomen, often radiating to the groin, accompanied by nausea or bloody urine—symptoms that can incapacitate someone mid-trail. Encourage increased fluid intake, such as water from a filtered source, to help flush the stone through the urinary tract. Offer pain relief if medication is available, although options may be limited. If the pain becomes unbearable or if

fever or persistent vomiting develops, arrange for evacuation, as these symptoms indicate a blockage or infection that requires medical attention. Ask, "Where exactly is the pain, and has it moved?" to track its progression—groin pain suggests the stone is passing. Management focuses on hydration and comfort, acknowledging that definitive treatment lies beyond wilderness capabilities.

Heavy Menstrual Bleeding

Heavy menstrual bleeding—defined as soaking a pad in three hours or less, especially with dizziness or weakness—can signal underlying issues like hormonal imbalances or, in rare cases, miscarriage, posing risks in a remote setting. If someone experiences this during an outing, encourage rest to reduce physical strain, provide clear fluids to maintain hydration, and monitor for signs of shock, such as a rapid pulse or clammy skin, which would necessitate immediate evacuation. Ask, "Is this normal for you, or are you pregnant?" to assess potential complications—bleeding during pregnancy heightens urgency. Wrap them in a blanket to maintain warmth and prevent further stress on the body. The approach centers on stabilization and rapid response, recognizing that significant blood loss requires professional evaluation beyond basic field care.

CHAPTER 13

Environmental Hazards

MODULE THIRTEEN

Hypothermia

Hypothermia occurs when the body's core temperature drops below 95°F, often due to prolonged exposure to cold or wet conditions, with early signs including shivering, stumbling, and slurred speech—collectively known as the "umbles." Treatment begins by removing wet clothing and drying the person thoroughly, followed by wrapping them in insulating layers, such as sleeping bags, blankets, or even dry leaves, to create a barrier at least four inches thick around their entire body, including under them, to block ground chill. Place warm items, like water bottles heated to a safe temperature, near major arteries (neck, armpits, groin) to transfer heat efficiently, and offer warm sugar water in small sips if they can swallow, as digestion slows in severe cases (below 90°F). For advanced stages, where shivering ceases and they curl into a fetal position, provide rescue breathing if respiration weakens,

and arrange immediate evacuation. The focus is on gradual rewarming and protection from further heat loss, requiring careful monitoring to prevent cardiac complications.

Hyperthermia

Hyperthermia develops when body temperature rises above 101°F, progressing from heat exhaustion (marked by heavy sweating, weakness, and a rapid, weak pulse) to heat stroke (dry skin, temperature exceeding 104°F, and potential fainting)—a spectrum intensified by heat and exertion. For heat exhaustion, move the person to shade, loosen tight clothing, and pour cool water over their head and torso, encouraging slow sips to rehydrate without inducing nausea. If heat stroke emerges—evident when sweating stops and disorientation sets in—immerse them in a cool stream or lake if accessible, or apply wet cloths to their skin, prioritizing rapid cooling to prevent organ damage. Avoid forcing large fluid volumes, which can lead to vomiting, and monitor their response closely; evacuation is essential if consciousness falters. The strategy hinges on reducing temperature swiftly while maintaining hydration, adapting to the environment's resources.

Frostbite

Frostbite affects extremities like fingers, toes, and the nose when skin temperature drops significantly, resulting in a prickling sensation followed by numbness, with affected areas appearing red, white, or waxy and feeling hard to the touch—indicating frozen tissue. To treat it, immerse the affected area in water heated to 104-108°F—test it with your el-

bow to ensure it's not scalding—for about 30 minutes until the skin becomes red and pliable, avoiding rubbing, which damages fragile cells. Provide pain relief if medication is available, as thawing is intensely painful, and wrap the area loosely in a clean cloth afterward to protect it; evacuation is necessary if the tissue turns black, signaling deep damage. The goal is controlled rewarming to restore circulation without worsening injury, requiring patience and attention to prevent complications like infection.

Lightning Injuries

Lightning strikes can cause burns, cardiac arrest, or neurological damage, with effects ranging from ruptured eardrums (common in about half of cases) to severe trauma from muscle spasms—posing immediate risks in an exposed setting. If someone is struck, check for a pulse and breathing; if absent, begin cardiopulmonary resuscitation (CPR) with chest compressions and rescue breaths, continuing until they revive or help arrives. Treat visible burns by cooling them with water and covering with a clean cloth, and assume they may not hear well due to ear damage, communicating loudly or with gestures. In a group lightning strike, prioritize those who are unresponsive over those crying out, as silence may indicate critical injury. The approach focuses on restoring vital functions and managing secondary injuries, adapting to the chaotic aftermath of a strike.

Altitude Sickness

Altitude sickness emerges above 8,000 feet due to reduced

oxygen pressure, causing headache, shortness of breath, and fatigue—symptoms that can worsen to confusion or coughing up pink sputum, signaling severe forms like cerebral or pulmonary edema. The primary treatment is descent—drop at least 2,000 feet as quickly as safely possible—to increase oxygen availability, combined with rest and hydration using clear water. If oxygen supplementation is an option, use it, though it's rare in the wild; ask, "When did you start feeling this?" to track progression—rapid onset suggests urgency. Evacuation becomes critical if symptoms escalate beyond mild discomfort, as high-altitude effects resolve only with lower elevation. The strategy emphasizes timely retreat and support, recognizing that persistence at high altitudes risks life-threatening deterioration

CHAPTER 14

Plants, Bites, and Stings

MODULE FOURTEEN

Plant-Induced Dermatitis

Plant-induced dermatitis results from contact with urushiol, an oil found in poison ivy, oak, and sumac, which binds to skin within 30 minutes, triggering blisters and itching in about 50% of people within 8-48 hours. Immediate treatment involves washing the affected area thoroughly with soap and water—hand sanitizer can substitute if soap is unavailable—to remove the oil before it fully adheres; if delayed, the reaction proceeds unabated. Apply calamine lotion or a cool, wet cloth afterward to soothe irritation, and consider natural options like jewelweed if accessible. Ask, "When did you touch the plant?" to estimate exposure time—quick washing prevents spread. Evacuation is warranted if the reaction affects the eyes or breathing, though typically, it's a manageable dis-

comfort requiring diligent cleaning and monitoring to avoid worsening.

Treating Bites and Stings

Personal Experience: As a teen, I worked in my grandparents' yard, mowing and clearing some brush. I was stung behind the ear three times by a wasp, knocking me out cold. It had hit me in the lymph node behind the ear. I came to just after hitting the ground, and luckily, my grandma saw the whole thing and helped me crawl to the car and climb in. I was pretty out of it and started swelling. While I am not generally allergic to stings, anyone can have an adverse reaction should they get hit in the right spot. ~ Jason

The first treatment protocol for any bite or sting, from any animal, is to check and/or maintain an open airway whenever possible and immediately wash and/or disinfect the site of the bite or sting. Most of us carry on after we've been bitten or stung by an insect without much thought, until we calm down enough to notice the itching, skin irritation, and redness that often follows. This reaction is caused by foreign proteins introduced into our body; wiping off or washing the affected area would have prevented this reaction most of the time. Soap, water, hand sanitizer, or even alcohol (in the form of rubbing alcohol or vodka) would work well. Wood ash, crushed black walnut hulls, and tulip poplar or red oak leaves would also work well. Additionally, a mixture of crushed plantain with a bit of water or a spit poultice would be effec-

tive. The point is to take action to clean the area and minimize the risk of further infection.

Tick-borne Illness

There are 15 different tick-borne illnesses one may encounter, the most common of which is Lyme disease. According to the Global Lyme Alliance, some common indicators are shared by all of these different illnesses, such as fever, chills, joint pain, headache, fatigue, and sweats. These symptoms after a known tick bite or infestation should warrant a clinic visit for a check-up. Other indicators, such as striations, which look like stretch marks, may appear, which are familiar with Bartonella Henselae- Cat Scratch Disease, would indicate a serious infection. Symptoms include swollen lymph nodes (especially under the ears), often with conjunctivitis, heart or spleen problems, bone lesions, hepatitis, other eye problems, and encephalitis (causing seizures and coma).

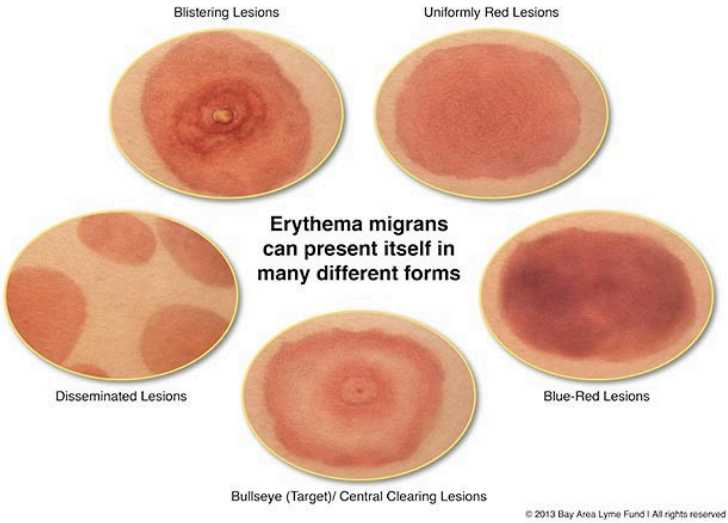


Photo courtesy of the Bay Area Lyme Foundation

Circular rashes of any type, not just the bull's-eye, indicate Lyme and Southern Tick-Associated Rash Illness (STARI), the latter of which comes from the Lone Star Tick. If an ulcer develops at the site of a tick bite, it may indicate Tularemia, which is most often associated with rabbits. These are medical emergencies, but symptoms may not appear for up to two weeks! It may not be months before your joints begin to swell. So, when in doubt, get checked out.

To remove a tick:

Use tweezers, even if you make some of your fingernails. Grasp the tick as close to the skin as possible and pull steadily. Wash or disinfect the bite area. If swelling occurs, use cold compresses. Watch for signs of infection over the next several days. You may consider circling the bite area with a Sharpie marker. Generally speaking, it takes several hours for a tick to burrow in deep enough to transmit an infection, usually 4-6 hours. Thorough tick checks and proper hygiene will go a long way in reducing exposure.

Spider Bites

Thankfully, fatal spider bites are very rare. The most dangerous spider in North America is the Black Widow, of which there are several species.

Symptoms of a Black-Widow bite:

- A sharp pinprick MAY be felt.
- Faint, red bite marks MAY appear later.
- Muscle stiffness & cramps – affecting the bitten limb and ascending into the abdomen and chest.
- Headache, chills, fever, heavy sweating, nausea, vomiting, and severe abdominal pain later.

The Brown Recluse spider would be the next we need to be most aware of as they often make people sick when they bite them and cause necrosis, which means they leave a deep scar where they bite. These are also called "fiddleback" spiders due to the violin shape on their dorsum. Again, bites are rare, but they do occur and when they do, regardless of the insect, we should again always thoroughly clean the affected area and should you deem it necessary, seek further medical treatment.

Michael F. Potter, Extension Entomologist University of Kentucky College of Agriculture

Symptoms of a Brown Recluse Bite:

- The bite will typically have a "bulls-eye" appearance – a central white core surrounded by red, ringed by a whitish or blue border. A blister may form at the bite site hours later.
- Local pain, which can become severe – subsiding to aching

and itching.

- Can develop necrosis of the tissue around the bite.
- Fever, weakness, vomiting, joint pain and rash.

Snake Bites

Approximately 25% of snake bites are dry, meaning that no venom was released. When envenomation does take place, you'll know it because you will feel severe burning at the bite site along with increasing redness, swelling, and most often two puncture wounds from the snake's fangs. Discoloration and blood-filled blisters begin developing 4-6hr after the bite should more immediate treatment not be sought. Nausea, vomiting, and general weakness can be expected in more severe cases or in children or the elderly.

The Wilderness Medical Society tested a suction device called The Sawyer Extractor, and to date, it remains the only marginally effective device on the consumer market that can help pull venom from a wound. They were found to be 33% effective. So, you're helping reduce more adverse reactions by about a third by using it. Antivenom works best when administered no more than 4-6 hours after a bite. In the United States the majority of people can reach a hospital within 1-2 hours, it's those that live in the most rural areas that may benefit from using the Sawyer Extractor on the way to their local hospital.

To treat a snake-bite:

- Remove any restrictive clothing or jewelry on or near the affected area.
- Keep the area of the bite below the heart in order to slow the spread of venom through the bloodstream.
- Remain calm and move as little as possible to keep venom from pumping through the bloodstream.
- Clean the area and dress and bandage.
- Seek medical care for anti-venom administration.

*When you get to the hospital, it is helpful to know the size and type of snake that bit you. This will help them administer the antivenom. No, this is not required information, and no, they do not want you to bring the snake in with you!

Bushcraft Tip: Black Drawing Salve

Black Drawing Salves are specialty cerates used to remove foreign bodies or substances embedded in the skin, such as pathogens from insect bites, boils, and splinters, small pieces of glass, and other foreign bodies. The following recipe, adapted from https://wholefully.com/antimicrobial-black-drawing-salve/, is one I have used in the past with excellent results. You may want to consider adjusting some of the herbs to better suit your needs.

Ingredients

For the Oil

- 1 part dried Andrographis

- 1 part dried or fresh calendula flowers (if fresh, see notes)
- 1 part fresh chickweed (see notes)
- 1 part fresh plantain (see notes)
- Organic extra virgin olive oil

For the Salve

- 1/2 cup infused oil
- 1 tablespoon beeswax pellets
- 2 tablespoons activated charcoal
- 2 tablespoons bentonite clay
- 1/2 teaspoon vitamin E, optional, works as a preservative
- 20 drops lavender essential oil, optional, works as a skin soother
- 10 drops of tea tree essential oil, optional, works as an antimicrobial and anti-inflammatory

Instructions

To infuse the oil using the solar method: Place the herbs in a wide-mouth pint-sized mason jar, filling the jar about 2/3 full. Using a marker or piece of tape, mark the top level of the herbs on the outside of the jar. Then cover the herbs with 1" of the oil. The herbs may float, but just fill the jar until the oil reaches 1" above the marking. Set in a sunny spot for 4-6 weeks, shaking daily (or as often as you remember). Strain through a cheesecloth-lined sieve before using.

To infuse the oil using a double boiler: Fill a saucepan with 1" of water, then place a glass bowl over the top. Bring the water to a gentle simmer, and then add in about 1 cup of olive

oil and about 1/2 cup of mixed herbs. Let it infuse over a very low burner for 2-3 hours, or until the oil takes on the color and scent of the herbs. Do not let the oil get hot enough to cook the herbs. It's best to err on the side of too cool here. I prefer to use the smallest burner on my stove at its lowest setting. Strain through a cheesecloth-lined sieve before using.

To make the salve, fill a saucepan with 1" of water and place a glass bowl over the top. Bring the water to a gentle simmer. Add the beeswax and 1/2 cup of the infused oil. Stir constantly until the wax is completely melted. Remove from heat and add the charcoal, clay, vitamin E, and essential oils, and stir until completely smooth. Pour into a glass container and let cool completely. Label and store.

To use on tick and other insect bites: Place a heaping glob on the clean bite site, then cover with a large bandage (the salve will stain). Remove after 24 hours.
To use on splinters, embedded glass, and other foreign objects: Place a heaping glob on the clean site and cover with a large bandage. Check after 12 hours to see if the foreign object has moved enough to be grabbed with tweezers. If not, apply more of the salve and check again in another 12 hours. Deep splinters might take a few days. If the site becomes inflamed, red, warm, has pus, or shows any other signs of infection, immediately contact your healthcare professional.

Notes:
When using fresh herbs, it's important to "fresh wilt" them to

remove some moisture before adding them to the oil. Oil and water don't mix! To fresh wilt, just place the herbs in a warm, dry spot (the sun works, too) until they are floppy and a bit shriveled—it shouldn't take more than a few hours.

CHAPTER 15

Backwoods Hygiene

MODULE FIFTEEN

Backwoods Hygiene

One of the most poorly managed skills of the nominal woodsman is hygiene. For some reason, many are under the impression that keeping clean, sanitary, and even smelling "good" are not attainable goals while camping, thus people naturally relax the rules regarding these issues. However, when these rules become lax, people often begin to have poor camping experiences, including illnesses related to foodborne contamination, conjunctivitis (also known as pink eye), irritated or burning feet (also known as athlete's foot), unpleasant odors, and an uneasy, greasy feeling anywhere there is a fold on the body.

Many a wife and girlfriend, and I suspect many an alpha male, have remembered at least one camping experience and rated it as good or bad based primarily on how clean they felt. If you're unable to get clean, you're not able to feel "good", not completely at least. There are of course those on the opposite end of the spectrum that are germophobes, that invest

a good portion of their camping funds into devices to keep them clean such as pop up shower stalls, camp soaps, toilet papers, foot powders, propane water heaters and all else related to camp hygiene and comfort.

George Washington Sears (Nessmuk) said in his book Woodcraft & Camping, "We do not go to the green woods and crystal waters to rough it, we go to smooth it." One of the things I made a point to learn how to do early in my career was to smooth it while in the woods. By smoothing it, I mean making every outdoor experience enjoyable, regardless of how little equipment I carry. This led to the development of innovations in equipment and natural resource use, achieved through extensive book research and practical experience in the field. With my background in wilderness medicine and great enjoyment I get cooking over the campfire for a group of hungry woodsmen, I naturally drifted toward methods of first keeping my hands clean. Keeping my hands clean, even when I didn't have soap or sanitizer, was important because I use the restroom or outhouse daily and, at times, care for the wounds of others. I also cook for people, so safe food handling skills are necessary. I then became concerned about keeping my feet in better condition due to the miles we would cover during our regular outings, and subsequently, I became concerned with general body and dental care.

The following techniques I will describe do not rely on hard-to-find natural resources or require any modern invention to create. Anyone may perform them, anywhere they find themselves in the backwoods with or without minimal gear. Once you begin putting these techniques into practice, you'll

soon realize that you can most certainly forgo packing the majority of your store-bought camp hygiene items thereby saving weight and space in your pack, while still and in all likelihood, increasing the enjoyment of your outings as you develop skills that true woodsmen have practiced for centuries.

Hand Sanitation

The earliest mention of soap use can be found in Babylonian tablets dating back to 2800 BC. In 1500 BC, we learn the Egyptians used soap-like plant substances mixed with various oils to bathe in, and the Native Americans, specifically those in the Southwest, utilized the soap naturally occurring in plants such as Yucca, Soapberries, Buffaloberries, and Saltbush. My method, however, does not rely on plants or trees, which you may have to search for and properly identify to utilize, but on the simple ash from around your campfire. The World Health Organization lists ash, sand, and even dirt as preferable methods of hand sanitation whenever soap is not available in post-disaster scenarios (https://www.who.int/water_sanitation_health/emergencies/qa/emergencies_qa17/en/).

When it comes to cleaning your hands, whether after using the bathroom or for any other reason, collect the white ash from around your fire pit and rub it over them. Ash is alkaline; it disinfects, and if you have any wounds on your hands, it will aid in cleaning them. When a thorough scrubbing is needed, wet the ash and add a bit of charcoal as a scrub.

Foot Care

When you've walked miles after miles along the trail, nothing feels quite as nice as airing them out near a crackling fire in the evening. This heating process aids in drying out your sweaty feet and soothing the joints with the radiant heat of the fire. But, what about the next day when you put the same socks on for another day's work, or when your feet have been sweating all day and smell so bad that a goat would become ill? Once again, the hardwood ash from your fire is the answer. While sitting near your fire, coat your feet in the ash and rub it in. Make sure to get it between your toes too; this foot powder will eliminate bacterial growth and odors, freshen your socks, and serve as an antibacterial agent in your boots throughout most of the day.

Body Sanitation and Odor

The human body releases natural oils that aid in protecting our skin from the elements by moisturizing and shielding it from the sun, essentially creating an oily barrier over time. Modern soaps are detergents that eradicate all traces of oils from the body for periods, drying the skin, which causes many to add moisturizers back into the skin through various lotions. Odors are caused by bacterial growth in areas the skin folds or does not get a lot of exposure to air such as the feet, arm pits, groin, and butt. These areas are not often exposed to the air for obvious reasons, so bacteria have a warm place to colonize. Our detergent-based soaps eliminate these colonies. We then use antiperspirants, which help limit sweat in these areas by plugging the pores with aluminum salts that melt as they heat, creating a temporary gel. This gel is usually boosted

with an aromatic perfume to mask residual bacterial odor. Deodorants work by either making the environment too salty for bacteria to grow or by killing bacteria, should the deodorant contain chemicals that do so. Antiperspirants are typically applied only under the arm, whereas deodorants are designed to be used anywhere bacterial growth leading to odor may occur.

You can clean yourself and eliminate body odors a couple of different ways:

The Smoke-bath

This tried-and-true method eliminates the bacteria on the body's surface, eliminating most odors. Of course, this method is nowhere near as good as bathing with water, but it is a suitable alternative for removing general odor from the skin or clothing. Create a fire and burn green boughs of pine or similar greenery to produce a thick, white smoke. Position yourself so you can waft it over you without breathing it in.

Body Wash

If you know a few tree species, you can create a very effective means of cleaning yourself by producing a toning body wash. Trees higher in tannic acids, such as Tulip Poplar, Oaks, Hickories, or Aspen, work best, as the tannin they provide aids in tightening the surface of the skin with an astringent effect.

This not only soothes but also aids in the relief of minor burns and other irritations. To create a body wash, remove some of the outer and inner bark from your selected tree and boil it in water until the water turns a dark color. Then, dip a rag into the solution and use it to wash yourself. Simple and effective.

You can also consider adding finely crushed charcoal or wood ash to this decoction when you need some grit in your wash to exfoliate, remove stains, or stubborn dirt. Adding ash or charcoal will significantly enhance the effects of the wash solution, but it will also dry the skin substantially.

Mouth Care

When it comes to cleaning your teeth in the woods, one thing I do not recommend is using a stick to scrub your teeth, for a couple of reasons. People must know how to identify trees

and plants to understand which ones they may be allergic to and which will produce the desired result. This often requires additional research and field experience, which the average person typically lacks. Another reason against twig brushing is that it can be dangerous, as it may lead to tooth and gum damage. One splinter in a gum under your tooth will ruin your trip! In most cases, it's not worth the risk, as you can either go a few days without brushing until you get home or easily take a toothbrush or two with you.

If you decide to carry your toothbrush but omit the paste for whatever reason, you can utilize the same decoction of tannic acid from trees we use for body wash as a mouth rinse. Swish it around in your mouth, brush your teeth, then swish again and spit. It will eliminate odor and bacteria and leave your mouth clean and dry. It's also great for tightening the gums, although it will not taste very good!

Another option is to create a paste of pulverized charcoal. Charcoal is highly abrasive, however, and can scratch the enamel on the teeth; therefore, it should be used sparingly and not for extended periods. However, these two methods address general cleaning and odor control during extended trips. Woodsmen throughout the centuries have been utilizing these same techniques, so there's no reason we should not continue using them simply because we have modern options.

There's much to be said about the smell of smoke, trees, and earth elements on the body. It grounds us in nature a bit more, releases us from the burden of modern society, and relieves us a bit of expense and effort when it comes to buying and carrying additional hygiene items, which in reality are not required to smooth it while in the backwoods. All you need is a rag, a toothbrush, the ability to make fire, and the willingness to learn the resources nature provides so you might make the most of them.

Methods to create Soap

In a 2006 article published in the London Medical Journal of Inflammation, the researchers cited a wide variety of health benefits of Yucca. Studies have shown that yucca has properties that protect against sun damage, potentially even more effectively than many commercially available sunscreens. Yucca can treat various skin conditions, including dandruff and

balding, as well as sores, cuts, arthritis, sprains, and general infections. Add to this the numerous internal benefits when eaten as an edible, as well as its survival uses for tools, fire, and cordage, and this is one plant to become very familiar with and fond of.

To create soap from Yucca, you must crush the leaves with a stone or other blunt object to release the saponins. Saponin is the substance that causes foaming when added to a bit of water. Douse the crushed leaf with water, and rub briskly between your hands to create a rich lather. Use it as a hand, body, or hair wash. It can also be used to wash dirty dishes and laundry as needed.

Various types of yucca are used as ornamental plants nationwide and grow wild throughout much of the Southwest and Southeast.

Cold-Process Soap

Cold-process soap is made by combining oils and sodium hydroxide lye, which causes the chemical reaction of saponification. This process allows you to select the soap's ingredients more carefully and add them immediately into your mix. This is a popular option for those who frequent farmers' markets and create designer soaps. It's not very labor-intensive and easy to do in the field.

This is the process I use most often, as it permits me to change ingredients quickly without recalculation while providing a consistent end product that's smooth and more similar to a store-bought soap. While I do use heat, it's only to liquefy the lard. Truthfully, it generates enough heat on its own, and I do this purely for effect! Oils such as olive oil, coconut oil, etc., do not require outside heating to saponify. I use lard because it gives a more traditional appearance and texture, and I most often make Pine Tar Soap for classes and events.

Here's the recipe I use:

Ingredients:
Sodium Hydroxide: 8.5oz
Water: 26.4 oz
Lard: 4lb
Pine Tar: 1lb/ 16oz

Directions:
Add lye to the water in a glass or heavy plastic container. Stir slowly as you pour it in and continue to stir until the lye is fully dissolved. Allow the solution to cool until you can hold your hand to the side of the container or until it's roughly 120°F. As this solution is cooling, melt 4lb of Lard over the fire, then add your pine tar. Remove from the heat immediately as soon as the lard is melted.

Once your lye solution is at the appropriate temperature, slowly add it to your oils (lard and tar) and continue stirring them in. Keep stirring the concoction until it thickens into a cake batter consistency. This batter will be pretty hot and may sting if it gets on your skin, as the lye can burn you. Have white vinegar on hand to stop burning, or flood the affected area with soap and cold water.

Once the batter has reached a very thick consistency, similar to cake batter, you can place it into a mold. I use a standard wooden soap mold that holds 5lb of soap. I then allow this to set up and cool for at least 5-7 hours before cutting it into bars. I store the bars flat on a shelf for four weeks, which allows time for the soap to cure, as my family and I find it too caustic for our skin to use any faster. After this, it's safe to use. If possible, flip the bars over once weekly to ensure even time to air on all sides of the bar.

Hot Process Soap

This process is similar to the cold process, but it utilizes external heat to initiate the chemical reaction required for saponification. Suppose you plan to use traditional wood ashes to obtain your lye. In that case, you will need to cook it over a fire or in your crockpot, along with your oils, to achieve saponification. Afterward, you would add your additives, such as fragrances, colors, etc. Hot process soap creates a more rustic soap and has been used for thousands of years. To make lye water, collect hardwood ash (potassium hydroxide, KOH) into a bucket and pour rainwater or another water free of heavy metals through the ashes. Water should be allowed to pass through the ash bucket and recaptured into another vessel so it may be run through many times.

In my experience, running water through the ash solution several times generally takes 2-3 hours. Once you float a

chicken egg or dissolve a feather in the water, you have lye strong enough to make soap. You only need to transfer the solution to your cooking vessel and your selected oils.

You will need a soap calculator to create your recipes. I recommend those from www.soapcalc.net and www.soapguild.org/lye-calc.php /

Woodsman's Hygiene Kit

Let's be honest, no one likes to be funky while they're in the woods. Wilderness hygiene isn't just about getting rid of your stink – it's crucial for your health and well-being and that of your fellow campers. Poor hygiene can lead to urinary tract infections, nasty rashes, GI illnesses, dental infections, and other preventable diseases.

Staying clean in the wilderness can be challenging, but being dirty is a choice. For your health (and those of us who have to smell you), you should regularly take advantage of the simple skills shared in this text to maintain a base standard for good health and hygiene. With that in mind, let's look at a Woodsman Hygiene essentials kit- this kit is what you should take with you camping or training, while the techniques discussed in this text should be used to supplement your kit.

1) Shemagh – This lightweight, multi-use cloth can serve as a wash rag, bath towel, and other hygiene uses. It dries fast in fair weather and should be dried in direct sun whenever possible to kill bacteria. It can also be boiled in a pot to sterilize between uses. I am a fan of the shemagh, which is an Arabic word that also describes the Biblical Tallit (prayer shawl), which in ancient Israel was worn as a garment that held the tzitzit, the knotted tassels that represented the commandments of God. My shemagh has knotted tassels, which I use as tie-outs on hot summer days to create shade.

2) Victorinox Classic—This little knife includes tweezers, a toothpick, a nail file, a small blade, and scissors for trimming nails as needed. Alternatively, you could include some nail

clippers with a file.

3) Toothbrush- this makes life easier, safer, and more effective than other cleaning methods.

4) Toothpaste is safer than making charcoal tooth powder and can be used daily, whereas field-made powders should be used sparingly.

5) Soap—This may be in liquid or bar form, as desired, but I like to have the option of cleaning my hands and myself as needed. Soap can also serve as a shampoo and is excellent for cutting the oils after contacting poison ivy.

6) Alcohol Wipes- These are handy for quickly cleaning and disinfecting minor wounds.

7) Comb or Brush—I like a comb due to its smaller design, but having something to tease out ticks, detangle hair, and make oneself feel better is a great morale booster. It also works great for getting food out of beards.

8) Q-Tips—I use these to clean excess wax or debris from my ears and have occasionally used them to remove debris from under my eyelid and clean out deep wounds.

9) Medicated Powder or Anti-Chafe Stick—When it's wet and you've slogged over miles of rough terrain, chafing can become a real problem. A medicated powder or stick for chafing is essential and can be used on the feet and under the arms as needed.

10) Sunscreen/Lotion—Repeated burning is not good for your skin or your eyes. Sun protection is vital in all seasons. Sunscreen also serves as a lotion for dry skin due to overuse of ash or charcoal washes.

11) Deodorant—This is purely a comfort item. If I'm lead-

ing classes with strangers, I'll often have it. If I'm with friends or alone, I never have it! Ash or medicated powder under the arms works just as well.

This is my actual hygiene kit. The primary technique I have used for bathing has been the oak/poplar decoction bath. I like a warm bath before I retire at night to soothe me to sleep. Add some lavender from the woods, and you'll most certainly get a rested night's sleep.

The bag I use is our Campcraft Outdoors Accessory Tote, which keeps everything dry and secure.

Long-Term Wilderness Stays

While the following information doesn't necessarily fall under hygiene, it does fall into pre-emptive wilderness self-care. Imagine, if you will, an actual survival or collapsed society situation. How long would it take for you to begin suffering from caffeine withdrawal? What if you had diarrhea or a severe seasonal allergy? While you can undoubtedly learn about wildland resources to deal with these sorts of ailments to some degree, the average person does not take the time to know all of this information, and those who do take a nominal interest in the subject of herbal remedies often do not make it a part of their daily life.

Thus, preparing for such issues well in advance only makes sense for the average woods-goer. Not only will the following products help you circumvent common problems associated with the initial shock of off-grid living, but they're likely items you already have in your home and can easily obtain, at least at this point, without a prescription. Long gone are the days when you could go to the junk drawer to pull out that stash of antibiotics from the illness you had years ago. Restrictions on pain medications and antibiotics have caused physicians to stop giving as much to their patients as they used to. So, save what you do not need or use now! Medications will not lose potency if stored in a cool, dry place for at least five years. After five years, they will begin to degrade at about a 10% drop in potency every decade (10 years). Some medications, however, degrade faster, such as time-released and liquid capsules, which are unreliable after their intended expiration.

The following list of over-the-counter medications would be a good starting point to always keep on hand.

- Caffeine Pills: To stave off withdrawal symptoms of coffee, soda, tea, etc., as they become less available or unavailable in an actual system collapse
- Antihistamines: When applied topically, Benadryl, Dramamine, and Diphenhydramine can treat pain and itching caused by insect bites, minor cuts, burns, poison ivy, poison oak, and poison sumac. It can treat hay fever, allergies, cold symptoms, and insomnia in its oral form. It also improves pain relievers such as acetaminophen, ibuprofen, Vicodin, and Percocet work better.
- Claritin: A non-drowsy antihistamine alternative
- Anti-Diarrheal: Immodium eases pain, gas, and inflammation of the digestive system. If blood is present in diarrhea

with a fever, it's a sign of a toxin in the body; diarrhea is the body's way of removing it.

- Rehydration Aids: Gatorade, Pedialite, Jello all serve as electrolyte replacements and should be administered at half strength, diluted with water.
- Anti-Nausea: Anavert, Dramamine, Phenergan, Promethazene all perform very similar functions and can treat allergies and motion sickness. They can also be used as a sedative before and after surgery and medical procedures, control pain, nausea, and vomiting. One recent study showed cetirizine (Zyrtec) to be 90% as effective as the prescription drug Zofran for controlling nausea.
- Acetaminophen: Tylenol for pain and fever reduction
- Ibuprofen: Aleve, Advil, For the reduction of Inflammation: When Acetaminophen and Ibuprofen are combined at the rate of 1000mg Acetaminophen and 800mg Ibuprofen, they mimic the effects of Vicodin without the narcotic side effects. Administer every 8 hours, not more than three times daily. Be cautious about total dose of acetaminophen. It is present in a lot of other OTC drugs.
- Aspirin: Can be used to treat pain, fever, headache, and inflammation. It can also reduce the risk of heart attacks.

These items are in addition to specialized products related to hygiene, dental care, eye care, etc.

If you wear glasses or contact lenses, stock up on several eyeglass repair kits, toss them in your various outdoor bags and supplies, and perhaps include as recent a prescription for extra contact lenses as possible and perhaps an older pair of prescription glasses. Any specialized dental needs should be

added to the list, whether it be denture adhesive or dental wax.

WFA Exam Procedure

We sincerely hope you have sharpened your Bushcraft Hygiene and Wilderness First Aid Skills with this course. As part of the Survival Mastery program, we do offer the opportunity to achieve your initial WFA Certification, along with Stop the Bleed Certification. This book aligns with the online course, which provides demonstrations and lectures on the material covered in this book. You shall be required to pass a written exam and complete a hands-on skills evaluation by submitting video demonstrations or by attending an on-site class at one of our Field School affiliate locations. The required video skills demonstrations and Written Exam are outlined in your course portal and are available for download as a PDF.

If you have purchased this book apart from enrolling in the Survival Mastery program, you must first join at www.survivalmastery.co, then enroll in the Bushcraft Hygiene and Wilderness First Aid course.

If you have any questions, e-mail us at info@survivalmastery.co

ABOUT THE AUTHOR

Jason Hunt is a distinguished Outdoor Skills Instructor, survivalist, and scholar whose deep-rooted connection to the wilderness shapes his mission to prepare others for survival and emergency response. Born in the rugged forests of Southern Indiana, Jason honed his skills in tracking, camping, and thriving in nature from childhood, building a foundation of resilience and adaptability. Holding three Ph.D.s in Ministry, Outdoor Leadership, and Biblical Archaeology, he seamlessly integrates academic insight with practical expertise, drawing from ancient survival wisdom and modern methodologies.

As the founder of Campcraft Outdoors, Jason has trained thousands in emergency, bushcraft, and wilderness living skills, earning accreditations from the International Outdoor Educators and Instructors Association. A former Lead Instructor at The Pathfinder School, he brings 17 years of experience as a firefighter, Wilderness EMT-level instructor credentials, Specialty Rescue qualifications, and NASAR instructor certifications in FUNSAR and Wilderness Emergency Care to the Responder level. These qualifications underscore his authority in wilderness first aid and emergency response.

Jason is the author of Bushcraft First Aid (with Dave Canterbury) and The Gospel of Survival, with contributions to Survivor's Edge and Backwoods Survival Guide. A martial artist with over 40 years of experience and a U.S. Martial Arts Hall of Fame inductee, he embodies discipline and preparedness. Guided by faith, integrity, and kindness, Jason teaches not only survival but how to thrive—physically and spiritually—in the wild. His extensive experience and relentless pursuit of knowledge make him an unparalleled guide for mastering wilderness first aid and emergency care.