

Herbal First Aid Wound Care

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Introduction

This handout covers basic wound care treatment and herbal medicines for these situations. As with all first aid events, it is important to evaluate the seriousness of any particular situation, assess your abilities, and seek help when needed.

Wounds are one of the most common first aid conditions. These are injuries where the skin is broken. They run the gamut from simply being an annoyance to potentially life-threatening. There are many types of wounds, including abrasions ('road rash'), lacerations (deep cuts), punctures (object piercing the skin), and animal bites. The basic goal of wound care is to prevent infection and have the area heal efficiently.

Wounds can appear at any time, so it is helpful to know how to treat them. Besides classes, one of the best ways to learn herbal wound care is to consistently carry a first aid kit. This will allow you to help out when the situation arises. Also, maintain a well-stocked herbal medicine cabinet at home, a smaller one for your car (that can withstand temperature changes), and one with the bare necessities when hiking. When an incident happens, you will be prepared and continually develop these skills.

All kits should include the basics, as well as herbal medicines. Also, any first aid kit should include personal medicines and be geared for the situations you are most likely to encounter.

Non-herbal First Aid Supplies

Basic First Aid Kit

1. Antiseptic wipes
2. Bandage strips- various sizes and types
3. Cold packs
4. Disposable gloves
5. Dressings
6. Duct tape
7. Elastic wrap bandages
8. Epinephrine injector
9. Flashlight and extra batteries
10. Gauze pads (various sizes)
11. Headlamp
12. Personal medicines
13. Scissors
14. Tape
15. Tweezers

Additional First Aid Supplies

- | | | |
|-----------------------|------------------------|---------------------------|
| 1. Bandana | 8. Hot water bottle | 16. Scalpel |
| 2. Basin for soaks | 9. Hydrogen peroxide | 17. Self-adhesive bandage |
| 3. Butterfly bandages | 10. Irrigation syringe | 18. Soap |
| 4. Cloth for compress | 11. Matches, Lighter | 19. Steri-Strips |
| 5. Elastic bandage | 12. Multi-tool | 20. To-go bottles |
| 6. Eye cup | 13. NSAIDs | 21. Wildcrafting tools |
| 7. Face mask | 14. Povidone iodine | |
| | 15. Rubbing alcohol | |

General Wound Considerations

1. Use disposable gloves whenever you are in contact with other people's body fluids, including blood, pus, mucus, and saliva.
2. Wash hands and change gloves between patients.
3. Assess every situation for its potential seriousness and complications.
4. Consider other patient factors. Do they have any conditions (i.e., diabetes) or taking any drugs (ex. chemotherapy) that may impair wound healing?
5. Assess wound risk for scarring or aesthetic concerns.
6. Decide your priorities and send for help if merited.
7. Learn to maintain your composure in unruly situations.
8. Learn how to volunteer people in case you need assistance.
9. Learn bandaging techniques. Carry an assortment of bandages in your first aid bag.
10. A tetanus shot may be warranted; discuss this with your patients.
11. Determine the seriousness of a wound and any possible damage to underlying tissue such as tendons, muscles, or nerves.
12. Assess the potential for infection and scarring.
13. Will the wound need stitches?
14. If the wound does not heal, consider what may be impairing its recovery, such as infection or an immune disorder.
15. Symptoms that indicate infection include: malodorous discharge, persistent bleeding, intensifying pain, body aches and fever, malodorous pus, worsening of the wound, redness and swelling, and a red line traveling from the wound toward the torso (lymphangitis).
16. Symptoms of systemic infection include fatigue, lethargy, fever, chills, and swollen lymph nodes.

When to seek additional help

1. If the patient feels the need for further diagnosis or treatment.
2. If the injury is beyond your experience or capabilities.
3. If the pain is extensive and/or persistent.
4. If there is extensive bruising.
5. If the wound requires stitches.

When to consider stitches

1. The goal of stitches (also called sutures) is to close wounds, allowing them to heal quickly and reduce the possibility of scarring and infection.
2. If the wound cannot be held closed by bandages.
3. Wounds that are deep and penetrate the fat, muscle, tendon, or bone.
4. Wounds that have jagged edges or are very wide.
5. Wounds over areas where the skin separates easily, such as joints.
6. Wounds on the face or any area where there is a potential for scarring that will affect appearances.
7. Wounds that continue to bleed even after pressure has been applied.

General Treatment Protocols

1. Consider the therapeutic categories for each first aid situation and the herbal medicines you have on hand. The main therapeutic categories for wound care are anti-inflammatories, antimicrobials, antiseptics, anxiolytics, astringents, pain aids, trauma aids, and vulneraries.
2. Wash the wound with warm water; try to remove all dirt and debris. Use mild pressure or gentle scrubbing if needed. When using tweezers, disinfect them first with rubbing alcohol or heat.
3. Clean the wound thoroughly, removing any extraneous matter that may cause infection or prevent the wound from healing.
4. Gently pat dry the wound.
5. Apply firm pressure with a clean cloth or gauze to stop bleeding. Maintain the pressure until the bleeding stops.
6. If the cut is on the hands, arms, feet, or legs, elevating them above the heart will slow down bleeding.
7. Stop excessive bleeding with hemostatic medicines.
8. Give internal pain-relieving and trauma herbs if needed.
9. Apply antiseptics to disinfect wounds.
10. Apply strained liquid preparations such as teas, tinctures, and liniments directly onto wounds or onto the dressing.
11. Internal antimicrobial and immunostimulating herbs may help against infection and speed recovery.
12. Use anti-inflammatories to decrease inflammation and accelerate recovery.
13. External astringent washes can draw tissues closer and reduce inflammation and bleeding.
14. Apply herbs topically before dressing the wound.
15. Use a disposable razor to shave hair that may get into the wound or prevent the bandage from sticking.
16. Dress the wound, and apply herbal preparations to the gauze.
17. Avoid making the dressing too wet, as this can impede the healing process.

18. Propolis and conifer resins can help tape or bandages adhere to the skin. They also have antiseptic qualities.
19. Check the dressing and wound regularly for infection, and change the dressing as needed.
20. If the wound becomes infected, clean and probe for foreign material and then re-dress it.
21. If infection spreads, especially with signs of a systemic infection such as swollen lymph nodes, seek assistance.
22. Learn to apply Steri-Strips, butterfly, and other types of bandages.
23. Consider using self-adherent wrapping (such as Vetrap) to hold bandages in place instead of tape. Tape can be painful to remove, especially if the wound needs to be checked frequently.
24. When wrapping wounds, there is an important balance between the bandage being too tight or too loose. It should be tight enough to hold the bandage in place against the skin and loose enough for expansion, which may occur with inflammation. Bandaging should conform to the contours of the body.

Phases of Wound Healing

The wound healing process is often divided into three major phases. There is overlap among these stages.

1. **Inflammation**-the initial phase of wound healing. This includes blood clotting and local blood vessels dilating, allowing various cells and processes into the area that promote wound healing and prevent infection. This is the stage with the most physical symptoms, including pain, swelling, and redness.
2. **Proliferation**-during this phase, the tissue is 'rebuilt' as new tissue and blood vessels develop. During this process, the tissue looks uneven and reddish.
3. **Maturation** (or remodeling). This is the final phase and starts during the proliferative phase. During this process, which may last months, the scar that was formed is remodeled into more regular tissue.

General Herbal Medicine Considerations

1. When evaluating treatments, consider the therapeutic categories.
2. Pain remedies are an important consideration with most first aid situations, including wounds. It is helpful to know specific remedies from a variety of pain-relieving categories.
3. Test small amounts of pain tinctures initially to see if they are helpful. Moderate the dosage accordingly.
4. While tinctures are often effective antiseptics, the alcohol in them can slow down tissue repair.
5. Do not apply Comfrey initially to a wound, especially if it is deep or liable to become infected. Infection can proliferate underneath the superficial

- skin growth initiated by Comfrey.
6. Ask patients what other medicines they are taking and factor this into your treatment.
 7. Have to-go bottles to put liquid medicines in for patients to take later.
 8. Put labels on each patient's to-go bottles. This can include:
 - Specific dosage directions, including how much and how often to take their medicines. Ask each patient to repeat the direction to make sure they understand. This is especially important with stronger herbal medicines.
 - Write the ingredients on the label; this makes it possible to replicate the formula if they need more later.
 9. Know when to use or avoid salves and other 'greasy' applications on wounds, as they can form a film allowing bacteria to grow underneath. Salves are sometimes better used *around* an open wound (in the reddened area), while tinctures are placed directly in the puncture wound initially.
 10. When using salves, use a clean applicator each time to remove the contents from the jar to avoid contamination.
 11. Avoid putting powders directly into wounds, especially deep ones.
 - The powders need to be removed or absorbed for the wound to heal effectively.
 - This may delay wound closure and create an opportunity for infection and/or scarring to take place.
 - If there is an obvious infection and only powders are available, they could be used and irrigated out later.

Tincture Considerations

1. Before giving anyone a tincture, let them know it contains alcohol (ethanol). For some people, no amount of alcohol is acceptable. Since many people do not know what tinctures are, it is helpful to let them know that they contain alcohol. Some people will be puzzled by this, but those who avoid drinking alcohol will appreciate you letting them know.
2. It is helpful to have remedies for common ailments in a non-alcohol form, such as glycerin, capsules, powders, and tea.
3. Tinctures are often strong tasting, and it is helpful to dilute them before administering.
4. The tincture can be put in a small disposable cup with some water added to it. The cup can then be refilled with water as a chaser.
5. Reasons for using tinctures in first aid.
 - They are convenient and have no special storage requirements.
 - They are ready to administer and do not need further preparation.
 - They are concentrated, and smaller amounts can be effective.
 - It is easy to have an assortment available to prepare a personalized formula.

6. There is a lot of individuality in how much and how often to use a specific medicine for an individual. For this reason, it can be helpful to initially try a small dose of a medicine to see if it helps with acute symptoms such as pain and does not cause any unwanted effects such as excess sedation.
7. Be cautious when using medicines during pregnancy. Consult if unsure.

Tincture Calibrations

Below are basic calibrations describing how many milliliters (ml) and drops are in a *half-full dropper* for the three most common dispensing sizes. A half dropperful is used as a practical measurement, as it is difficult to fill a dropper to the top.

- 1 oz dropper when $\frac{1}{2}$ full, it's about 1 ml (about 20 drops).
- 2 oz dropper when $\frac{1}{2}$ full is about 1 ml (about 20 drops, the same as a 1 oz dropper)
- 4 oz dropper when $\frac{1}{2}$ full, is about 1.5 ml (about 30 drops).

Tincture Dosage Guidelines

These dosage guidelines are meant as a starting point when dispensing herbal tinctures. The dosage will vary depending on the individual being treated, as well as their health condition.

The term '*plateau*' is used below to indicate that the maximal medicinal effect of a specific medicine has been reached, and giving more will not further improve symptoms.

The loading dose describes the initial dosage given of a specific medicine. It is often larger than later doses to effect a bigger initial change.

1. **Drop doses** are potent medicines and should only be used by experienced practitioners. They are used in small amounts and can be poisonous. A possible dosage is 3-5 *drops* a few times a day.
2. **Low-dose** medicines work well at lower doses and do not usually cause harmful effects in a medium dose range. The starting dose is often about 5 drops, with additional drops given as needed until a desired effect or a plateau is reached. The difference between low dose and *drop dose* is toxicity. More of the low dose medicines can be given to reach a desired effect, while the drop dose medicines have to be stopped after a small amount is taken to avoid harm.
3. **Medium dose** medicines are relatively safe, and starting doses can begin at $\frac{1}{2}$ -1 ml, with a similar amount given incrementally until a desired effect or plateau is reached.
4. **Large-dose** tinctures are very safe and often work best at higher doses. The loading dose begins between 1 to 3 ml, with more taken as needed. Many of the immune remedies fit into this category. There is no obvious plateau response, as their function is not immediately seen.

Soaks and Compresses

There are useful external treatments for wounds as they allow the plant's medicinal constituents to penetrate deeper and help float out foreign material. Soaks and compresses are basically strong tea preparations. They are easy to prepare and need only basic equipment. With soaks, the wound is immersed directly into the tea. Compresses are prepared by soaking cloths in tea and then applying them directly to the wound. In practical terms, soaks are often used on the lower extremities, such as hands, forearms, and feet, as they are easier to place into a container of tea.

The equipment includes a heat source, water, a container for boiling water, herbs, and a tub for soaking the body part. Two and a half gallon plastic tubs are useful for hand and foot soaks (the most commonly needed). You may need a bucket to soak a wound further up on a leg. To clean the container, use soap and water, and then bleach or iodine to sterilize it. Be sure to clean thoroughly between each patient and wear gloves while cleaning. An alternative to containers is to pour the tea into a thick plastic garbage bag and soak the body part in the bag. An advantage of this is that the bag can be thrown out afterward.

Both soaks and compresses should be very warm, but not too hot, which may damage the tissue. Once used, the tea should not be reused. After preparing the tea, but *before* using it, pour some of the tea water into a cup to drink, as most of these teas are useful internally as well as externally.

Tinctures can be added directly to the soak water as a substitute for the herb tea, but this can be expensive, as a lot of tincture is usually needed to make it medicinally active. But this is a useful alternative when all you have are tinctures.

Some of the plant categories for soaks are antiseptic, antimicrobial, anti-inflammatory, astringent, and vulnerary.

Soak Preparation

Boil water and pour onto the medicinal plants. Use enough plant material to make a strong tea. Pour the tea into an appropriate sized container. Soak the wounded area for at least 15 minutes, often a few times daily with changes of tea water in between. It is helpful if the soak water is kept warm to hot.

Refresh the water to keep it warm as needed.

Compress Preparation

Similar to a soak, but the tea is usually made in a pot so that it can be kept warm on a stove. Soak a clean cloth in the tea and remove it. When it is still very warm, but not too hot, apply it directly to the wound. A hot water bottle can be put on top to keep it warm. Refresh the cloth in the tea every 5-10 minutes so that the compress tea remains medicinally viable.

Activated Charcoal Poultice Preparation

Activated charcoal is used to *adsorb* a wide variety of toxins and other substances. Adsorption is the property of holding substances tightly to a surface. It is different than absorption. For example, a sponge *absorbs* water throughout its body. The activated charcoal poultice is applied after the wound has been cleaned. It is spread on the dressing before it is affixed. There are two types of activated charcoal poultices, a direct and a 'sandwich' preparation. The advantage of the direct preparation is that it may adsorb more infectious material, but the powder will also get into the wound and will need to be cleaned out. With the sandwich poultice, less powder gets in the wound, but it may not be quite as effective. Take these into consideration when deciding which type to use as wound treatment.

Preparation for both of these starts with about 3 mm of the moistened powder ('slurry') spread on a gauze pad. With the direct preparation, the slurry side is applied directly on the wound. With the sandwich poultice, another gauze is placed on top of the moistened powder so the powder is in between two gauze pads. This is then placed on top of the wound. It needs to be moist enough to wick up through the gauze. Generally, the slurry provides enough moisture. Try to avoid either of them being too wet, as this impairs the ability of the wound to heal.

Pain Remedies

There are many categories and therapeutic approaches for relieving pain with herbal medicine. The initial focus is on the type of pain being treated and how the specific medicine may affect the individual.

It is helpful to learn the subtleties of each of the plants used for pain relief. The more the clinician understands the distinct properties of the remedies, the more finely tuned they will be in choosing the proper remedy and the appropriate dosage.

Understanding the therapeutic categories of pain relievers is very helpful. These categories include antispasmodics, skeletal muscle relaxants, and general pain relief. It is also important to know which herbal medicines are more strongly sedative to avoid unknowingly altering an individual's cognitive function.

The amount used (the dosage) plays an important role when administering pain remedies. The effects of different pain remedies are felt at widely varying dosages. Some individuals will feel a change with a small quantity, while others will need much more for the same effect.

One way to initially test a specific remedy is to give the patient a few drops, then observe and ask if there was any subjective reaction. While the effect of such a minimal dosage may be subtle, sometimes small changes of the pain may be felt, and the dosage can be adjusted accordingly, or a different herbal remedy can be tried.

Animal Bites and Scratches

The bites and scratches of animals require special precautions and treatments. Aside from pain and wound management, they often become infected due to the mouth flora deposited in the wound. If the skin is broken, all animal bites should be treated promptly and aggressively, assuming bacteria may infect the wound. Animal scratches may not be as deep as wounds, but they often leave jagged, hard-to-mend cuts that need to be monitored for infection and possible scarring.

Signs of a local infection usually appear within one to three days after the bite or scratch and include swelling, tenderness, redness, warmth, pus, and pain. If the infection becomes systemic, the symptoms include fever, swollen lymph nodes, headache, and fatigue. Professional help may be necessary at this point.

Questions after an Animal Incident

1. Obtain information about the animal situation.
 - What bit them?
 - Was it a wild or domestic animal?
 - Was the animal someone's pet? Is it loose? Do they know the owner?
 - What is the current situation of the biting animal, and are others in danger?
 - Could the animal be rabid or otherwise unsafe?
2. If needed, send people out to ensure the situation is safe and obtain necessary information on the animal.

General Animal Wound Treatment

1. Wash hands and put on gloves.
3. Help with the patient's immediate needs.
4. What is the severity of the wound, and should they be sent for treatment elsewhere?
5. How deep is the bite, and where is its location on their body?
6. Clean and irrigate the wound.
7. Is there any damage to nerves, muscles, joints, tendons, or other tissues?
8. Did the person receive any other injury during or after the encounter?
9. If an animal scratch breaks the skin, the risk is similar to that of a bite. Follow the bite protocols.
10. Stop bleeding with clean gauze and pressure. If this doesn't work, use hemostatic agents.
11. Remove (debride) any damaged and devitalized tissue to reduce the possibility of infection and promote wound healing.
12. Probe and remove any foreign material.
13. Clean the wound thoroughly again.
14. Bite and scratch wounds should be checked daily for at least two to three days afterward, as infections may not take hold until then.

15. Unwrap bandages usually at least once a day for the first few days to inspect the wound and see if there are signs of infection.
16. Look for signs of local and systemic infection.
17. Clean the wound and apply fresh herbal medicines before re-wrapping.
18. Give internal medicines to take throughout the day to help prevent infection.
19. Keep the wound clean and re-dress it.

Herbal Treatment for Animal Bites and Scratches

1. The order of the treatment strategies below may shift depending on the situation.
2. Decide on the most important therapeutic categories.
3. Treat pain and trauma with sedatives, anxiolytics, general pain relievers, and trauma aids.
4. Administer antimicrobial internal medicines. If there is a history of festering wounds, use immunostimulating medicines as well.
5. Soak the wound for up to 20 minutes in a very warm antiseptic herbal soak once or twice daily. Do this for at least 2-4 days, depending on how the wound is healing.
6. Categories of herbs for soaks and compresses include: antimicrobial, antiseptic, anti-inflammatory, astringent, and vulnerary herbs.
7. Prepare and apply an activated charcoal poultice. Wrap snugly into place.
8. When applying bandages, do not wrap too tightly, as inflammation can create pressure. Also, do not apply too loosely, as this can allow dirt into the wound.
9. They may need pain, sleep, and trauma aids for a few days.
10. Internal antimicrobial herbal medicines should be taken every 2 to 4 hours for a few days, with the dosage gradually reduced over time.
11. Unwrap and check the wound for signs of infection at least once a day until the wound is healing well. Apply fresh poultices when rewrapping.
12. When treating scratches, follow bite protocols. Topical cell proliferants, such as Comfrey, can be applied if the wound is not too deep and there is little risk of infection.

Medicinal Preparations

Internal

Capsule
Glycerite

Powder
Tea

Tincture

External

Compress
Essential oil
Infused oil

Liniment
Poultice
Salve

Soak

Preparation Descriptions

1. Capsule-powdered plants put into a capsule.
2. Compress-a cloth soaked in a strong tea and applied topically.
3. Essential oil-concentrated aromatic oils distilled from plants.
4. Glycerite-plants prepared in vegetable glycerin.
5. Infused oil-plant prepared in a fixed oil (i.e., olive oil). For external use.
6. Liniment-plants prepared in isopropyl (rubbing) alcohol. For external use.
7. Poultice-plants cut up and/or cooked, and applied topically.
8. Powder-plants ground into powder form.
9. Salve-an infused oil with beeswax added.
10. Soak-a strong tea where the body part is placed directly in the fluid.
11. Tea-plants prepared in water.
12. Tincture-plants prepared in ethanol (drinking alcohol).

Therapeutic Categories

These categories group herbal medicines into similar therapeutic actions. This is helpful when evaluating treatment, as it expands options rather than focusing on a specific herbal remedy, which may not be accessible. Note that some plants fit into a few categories. This can be clinically relevant when deciding which plants to use in a given situation, as it may mean fewer plants are necessary.

Sometimes, determining the type of remedy is based on the dosage. For instance, a plant that may be sedative at a low dose may also be a sleep aid with a larger dose.

1. Adsorbent-attracts and holds foreign material.
2. Anesthetic-reduces local sensation
3. Anti-inflammatory-reduces inflammation
4. Antimicrobial-inhibits or kills microorganisms
5. Antiseptic-topical antimicrobial agent
6. Anxiolytic-reduces anxiety
7. Astringent-constricts and tightens body tissues, reduces discharges
8. Circulatory stimulant-stimulates circulation
9. Demulcent-soothes mucous membranes often with a mucilaginous texture
10. Emollient-skin softening, a moisturizer
11. Hemostat-stops bleeding
12. Immunostimulants-increase various immune system components
13. Pain relievers-general pain reliever
14. Rubefacient-stimulates local blood vessels, causing skin reddening
15. Sedative-calms and reduces excitability, tranquilizing
16. Sleep aid-helps with sleeping
17. Trauma aid-helps with recovery from shock and trauma
18. Vulnerary-wound healing agent

Rubefacient/Circulatory Stimulant

Cayenne	Mustard
Ginger	Nettles

Sedatives/Sleep aids

California poppy	Kava kava	Skullcap
Hops	Marijuana	Valerian
Jamaican dogwood	Passionflower	

Vulneraries

Aloe	Comfrey	Marshmallow
Arnica	Echinacea	Plantain
Calendula	Gotu kola	St. Johnswort
Chickweed	Mallow	Yarrow

Selected Herbal Medicines

1. **Activated charcoal**-Adsorbent. Powder, compress. Medium to large dose. Attracts and holds many bacteria and toxins. Used internally and externally.
2. **Aloe gel or fresh plant** (*Aloe species*)-Demulcent, emollient. Poultice. Medium to large dose. Used internally (gel) as a digestive demulcent. Used externally (gel, poultice) for sunburn and other burns.
3. **Anemone** (*Anemone species*)-Anxiolytic, trauma aid. Tincture. Low dose. Useful for acute anxiety, panic attacks, and trauma.
4. **Arnica** (*Arnica species*)-**Caution with internal use**. Anti-inflammatory. Tincture, liniment, oil. Drop dose (for internal use). For inflammation soon after soft tissue injury (sprains, etc.) and for swollen wounds. Externally, larger amounts can be applied; avoid using Arnica directly in open wounds.
5. **California poppy** (*Eschscholzia californica*)-Anxiolytic, sedative, sleep aid. Glycerite, tincture. Medium to large dose. Useful for reducing anxiety, and help with sleep. Large amounts, up to 5 ml per dose may be needed.
6. **Chaparral** (*Larrea tridentata*)-Antimicrobial, antiseptic. Capsule, compress, glycerite, infused oil, liniment, tea, tincture, soak. Low to large doses. Internal use may be limited by its strong flavor. For internal and external infections.
7. **Comfrey** (*Symphytum species*)-**Caution with internal use** (liver damage) **and external use** (may exacerbate infection). Anti-inflammatory, demulcent, vulnerary. Capsule, compress, infused oil, powder, tea, soak. Medium to larger amounts. Limit internal use to 2 weeks. Useful for soft tissue injuries, fractures, and bruising. Should not be applied directly over wounds where infection may occur.

8. **Echinacea** (*Echinacea purpurea*)-Antimicrobial, immunostimulant, anti-inflammatory, vulnerary. Glycerite, compress, tea, tincture. Medium to large dose. Immune system stimulant beneficial for infections and wound healing. Large frequent doses may be helpful. Local applications are useful for wounds.
9. **Goldenseal** (*Hydrastis canadensis*)-Antimicrobial, antiseptic. Capsule, glycerite, salve, tincture. Low to large doses. For infections. Internal and external use.
10. **Gotu kola** (*Centella asiatica*)-Vulnerary. Capsule, infused oil, powder, tea, tincture, salve. Medium dose. For wound healing. Internal and external use.
11. **Hops** (*Humulus lupulus*)-Sedative, pain relief, sleep aid. Glycerite, tea, tincture. Low to large doses. Sedation can be helpful for pain relief and for sleep.
12. **Immune formula**-Immunostimulant. Glycerite, tea, tincture. Medium dose. Combination of immune-boosting herbs for prevention, infection and wound healing. May include Astragalus, Echinacea, Gotu kola, Reishi, Oregon grape root.
13. **Jamaican dogwood** (*Piscidia piscipula*)-Anxiolytic, pain relief, sleep aid. Tincture. Medium to large dose. Good general pain remedy, combines well with other pain relievers. Also helpful for relaxing and sleep.
14. **Kava kava** (*Piper methysticum*)-Anxiolytic, pain relief, sleep aid. Capsule, glycerite, powder, tea, tincture. Low to large doses. Useful relaxing medicine for pain and sleep.
15. **Licorice** (*Glycyrrhiza species*). Anti-inflammatory. Capsule, powder, tea, tincture. Medium to large dose. Caution for long-term use with hypertension. A good general anti-inflammatory.
16. **Lobelia** (*Lobelia inflata*)-Anxiolytic. Tincture. Low dose. Useful calming remedy in small amounts by itself or combined with other anxiolytics.
17. **Meadowsweet** (*Filipendula ulmaria*)-Anti-inflammatory, pain relief. Glycerite, tea, tincture. Medium to large dose. Larger doses may be useful. Well-tolerated general anti-inflammatory.
18. **Oregon grape root** (*Berberis species*)-Antimicrobial, antiseptic. Compress, glycerite, tea, tincture. Medium to large dose. Useful for a wide range of infections. Larger doses may be helpful. Internal and external use.
19. **Pain formula**-Pain relief. Glycerite, tincture. Low to large doses. A combination of sedative and pain relief herbs for various pains and trauma. May include California poppy, Hops, Kava kava, Lobelia, Jamaican dogwood, Skullcap, and Valerian.
20. **Propolis** (*Bee resin*)-Tincture. Antimicrobial, antiseptic. Low to large doses. External use. A useful antiseptic wound covering. Stickiness helps bandages adhere to skin.

21. **Silk tassel** (*Garrya species*)-Pain relief. Tincture. Low to medium dose. A good general pain reliever.
22. **Skullcap** (*Scutellaria species*)-Anxiolytic, sedative, pain relief, sleep aid, trauma aid. Glycerite, tincture, tea. Low to large doses. Large doses may be useful. A good general pain reliever also helpful with anxiety. Well tolerated and works well in combination with other similar acting plants.
23. **Valerian** (*Valeriana officinalis*)-Anxiolytic, sedative, pain relief, sleep aid. Capsule, glycerite, tincture. Low to large doses. One of the most useful sleep aids, also helpful for pain and anxiety. Caution: may cause agitation. Start with a low dose and look for adverse reactions.
24. **Wild lettuce** (*Lactuca species*)-Pain relief, sedative. Tincture. Medium to large dose. Useful for physical pain.
25. **Willow** (*Salix species*)-Anti-inflammatory, pain relief. Capsule, compress, tea, tincture, soak. Large dose. A useful all-purpose anti-inflammatory for swelling and pain.
26. **Yarrow** (*Achillea millefolium*)-Anti-inflammatory, antimicrobial, antiseptic. Compress, glycerite, infused oil, liniment, poultice, salve, tea, tincture. A useful and commonly found plant for infections. Good for soaks and compresses. Internal and external use.
27. **Yunnan Baiyao**-Chinese patent formula. Hemostatic. Pill, powder. Used internally and externally to stop bleeding.

Combination Formulary

These are examples of possible combinations for different first aid wound situations. Depending on the herbal medicines you have available, different plants and combinations can be utilized to create effective formulas.

Teas

1. **Infection tea blend**-Chaparral, Echinacea, Yarrow, Oregon grape root
2. **Relaxing tea blend**-Oatstraw, Lemon balm, Lemon verbena, Rose, Chamomile, Passionflower
3. **Pain relief tea blend**-Skullcap, Hops, Marshmallow, Kava kava
4. **Anti-inflammatory tea blend**-Licorice, Marshmallow, Comfrey, Calendula, Yarrow

Tinctures

1. **Pain relief tincture**-Valerian, Jamaican dogwood, Hops, Skullcap
2. **Antiseptic tincture (topical use)**-Chaparral, Oregon grape root, Echinacea, Propolis, Witch hazel
3. **Trauma tincture**-Damiana, St. Johnswort, Lemon balm, Lavender, Skullcap

Liniments (for topical use)

1. **Arnica liniment**-Arnica

2. **Wound liniment**-Propolis, Chaparral, Barberry, Witch hazel, Echinacea, Cayenne

Oils and Salves (vitamin E is often added to these as a preservative).

1. **Arnica & St. Johnswort oil**-Arnica, St. Johnswort
2. **Bruise salve**-Arnica, St. Johnswort, Calendula, Yarrow
3. **Trauma oil**-St. Johnswort, Arnica, Valerian, Tea tree, and Wintergreen essential oil.
4. **Vulnerary salve**-Calendula, Chickweed, Comfrey, St. Johnswort,

Medicinal Plants

Anemone-Anemone species	Meadowsweet-Filipendula ulmaria
Arnica-Arnica species	Motherwort-Leonurus cardiaca
Astragalus-Astragalus species	Mustard-Brassica species
Black cohosh-Actaea racemosa	Myrrh-Commiphora myrrha
Blue vervain-Verbena hastata	Nettles-Urtica dioica
Calendula-Calendula officinalis	Oak-Quercus species
California poppy-Eschscholzia californica	Oregon graperoot-Berberis species
Catnip-Nepeta cataria	Osha-Ligusticum porteri
Cayenne-Capsicum annuum	Passionflower-Passiflora incarnata
Chamomile-Matricaria chamomilla	Plantain-Plantago species
Chaparral-Larrea tridentata	Poplar-Populus species
Chickweed-Stellaria media	Prickly ask-Zanthoxylum species
Comfrey-Symphytum species	Propolis-Bee resin
Conifer resin-various species	Reishi-Ganoderma species
Damiana-Turnera diffusa	Shepherd's purse-Capsella bursa-pastoris
Echinacea-Echinacea purpurea	Silk tassel-Garry species
Garlic-Allium sativum	Skullcap-Scutellaria lateriflora
Ghost pipe-Monotropa uniflora	Slippery elm-Ulmus rubra
Ginger-Zingiber officinalis	St. Johnswort-Hypericum perforatum
Goldenseal-Hydrastis canadensis	Tea-Camellia sinensis
Gotu kola-Centella asiatica	Tulsi-Ocimum tenuiflorum
Hops-Humulus lupulus	Turmeric-Curcuma longa
Jamaican dogwood-Piscidia piscipula	Valerian-Valeriana officinalis
Kava kava-Piper methysticum	Wild lettuce-Lactuca species
Licorice-Glycyrrhiza species	Willow-Salix species
Lobelia-Lobelia inflata	Witch hazel-Hamamelis virginiana
Marijuana-Cannabis species	Yarrow-Achillea millefolium
Marshmallow-Althaea officinalis	Yerba mansa-Anemopsis californica

Essential Oils

Black birch	Tea tree
Chamomile	Wintergreen
Lavender	