

Wilderness First Aid: A Step-By-Step Field Guide **(Provided by: HighCountryExplorations.com)**

[Website Author's Notes: This field guide to wilderness first aid was written by my close friend, James Morrison. He has 14 years of EMT experience in the field and 45 years of mountaineering and backpacking experience in Alaska, California and Washington State. It is a companion guide to the [Reference Guide to Wilderness Medicine](#), also written by him. We suggest you download both guides, print them in a greatly reduced, double-sided version, and then add them to your [wilderness first aid kit](#).

Enough on downloads. Here is Jim's step-by-step guide for responding effectively to medical emergencies in the wilderness.]

The central issue covered in this reference guide is how to respond to a medical emergency in the wilderness. Definitions of "Wilderness first aid" vary, but generally speaking anytime you are more than an hour from getting a critically injured or seriously ill patient to a hospital emergency room you have a special set of circumstances. The application of first aid is somewhat unique in the wilderness. Accepted procedures for first aid change from time to time and if you haven't taken a class in first aid recently you may have forgotten some of what you learned.

Ask yourself the following questions.

- If a seriously injured patient isn't transported to a hospital within the first hour ("the Golden Hour") then are their chances for survival severely reduced?
- At the scene of an accident is rescuing the victims always your highest priority?
- Should you *ever* move a patient with a suspected neck or back injury?

- Are chest compressions more important than mouth-to-mouth ventilation when doing CPR?
- Should you use a wet or dry dressing on a burn?
- We know there are short-term effects like snow blindness from the sun (UV radiation), but are there any long-term effects on the eyes?
- Should you suture deep wounds in the wilderness?
- What causes muscle cramps?

In this article and the next we will look at these fascinating questions, and more. You might be surprised at some of the answers.

Wilderness First Aid and the Golden Hour

In most wilderness situations it is unlikely that you would be able to get the patient out of the woods and to a hospital quickly. You may have heard of what is called the “Golden Hour”. The Golden Hour refers to the first hour after a serious injury, after which the patient’s chances of survival fall rapidly. Some authorities consider the “Golden Hour” a myth, and say there is no real evidence of a dramatic drop in survival rates after one hour. Nevertheless, there is no question that getting a critical patient to an emergency room is something you would like to do as soon as possible. First, you probably can’t know exactly the extent of internal injuries or the complications of a serious illness. Second, getting the patient to the hospital will provide them with the best possible care. The point here, for wilderness situations, is that you should not panic because the patient isn’t going to get to a hospital in the first hour. Stay calm and keep tending to the patient no matter how long it takes.

Know What to Do

This article covers what to expect and what to do when you first come upon an accident victim or ill person. It is important to know the basics. You may be the only person available to render help and call for assistance. It could be you, a love one, or a stranger that is injured or ill. Although understanding these procedures

will certainly help, nothing replaces hands on training. I recommend that you enroll in a CPR and a First Aid class to learn or renew your skills. Even better, enroll in a wilderness first aid course. Knowing what to do is the best way to avoid panic or indifference in a medical emergency.

Prevention

Before we get to the actual process of assessing (i.e., evaluating) and treating the patient consider prevention. Many articles on this website deal with prevention strategies. I would like to emphasize that here because if you or a friend is critically injured or ill in the woods you are much more likely to expire than you would be at home. If you take a fall and are bleeding internally there may be little anyone can do in the wilderness before you go into shock and die. If you suffer serious trauma and your heart stops, no amount of CPR is likely to revive you. If you or your friend require evacuation from a remote location it is going to require a lot of hard work and expense to get you out of there. Call it safety, loss prevention, risk management, security, protection, or whatever you like. Just be aware that preventing an accident or illness is infinitely less trouble than trying to pick up the pieces afterward. Of course not all accidents can be prevented, but it is possible to greatly improve your odds by taking appropriate steps.

First Impressions and Scene Safety

Oddly enough, the first thing to think about when someone else is seriously injured or ill is you. Your highest priority is the need to protect yourself. You are no good as an aid giver or rescuer if you allow yourself to be injured or killed. Don't become a victim and add to the problem. For example if someone slips and falls off the trail and is injured you need to be sure you don't do the same thing trying to get to them quickly. If someone falls into a river or lake, don't immediately jump in after him or her if you can assist them without risking your life too. Your first impressions at the scene are important. As you approach the patient make him/her aware of your presence and try to get a verbal response. Shout, "Hey, are you okay? What happened?" If the person speaks, you have determined that they are breathing and have a heart beat. You can get additional information quickly by simply looking at the patient. What are the patient's body language and facial expression telling you? Are they frightened, wincing in pain, relaxed, or in a stupor?

Positioning the Patient

If the patient is not conscious you can check for a heart beat by feeling for a pulse (the carotid artery is a good place to check for a pulse if it is accessible). If there is no pulse then you start CPR. In order to start CPR you will need to have the patient face up, lying on his or her back (supine position). If the patient is lying on their stomach (prone position) you will need to log roll the patient on to his or her back. To do this you will probably need help. The object is to keep the head, neck and spine inline so that if there are any spinal injuries you won't damage the spinal cord. The person controlling the head calls the shots and everyone together rolls the patient over keeping the spine, neck and head in alignment. This is one of the things that needs to be practiced a few times before getting it right. It is dangerous to move an injured patient, but if CPR or clearing the airway is required it may be necessary.

Cardiopulmonary Resuscitation (CPR)

CPR is a skill best learned, or relearned, by taking a [Red Cross](#) or [American Heart Association class](#) where you practice on manikins. Typically when we are trained in CPR we are taught to give both mouth to mouth ventilation and cardiopulmonary resuscitation. However, in a study researchers at the University Washington found that of the 14.6% patients that survived were given only chest compressions while 10.4% patients that survived were given both chest compressions and mouth to mouth. The study has resulted in reevaluating the way basic CPR is taught. Here is a YouTube video showing the latest CPR techniques that anyone can do, trained or not:

[American Heart Association 2010 Guidelines for CPR](#)

The difference between wilderness CPR and doing it at home is that it is unlikely a skilled team can quickly come to help you in the wilderness. Even when a skilled team is nearby, most patients in cardiac arrest who are given CPR do not survive. Regrettably, if you are required to give CPR in the wilderness the prognosis is grim. Continue CPR until someone else relieves you, or until you are exhausted. If, however, there is absolutely no response from the patient after a half-hour of CPR you may assume additional CPR will be of no avail.

CPR Factors That Reduce Survival Chances

There are several factors that reduce your chances of reviving a patient with CPR. First, if there is trauma internally that has caused the heart to stop in the first place then CPR isn't going to correct the fundamental cause of the arrest. In addition to that, CPR is just one link in a chain of events that need to be completed to give a patient in cardiac arrest the best chance of survival. The next two links are shocking the patient with an external defibrillator and Advanced Life Support by EMT's or Paramedics who can give certain medications prescribed for the situation. Because that can't be expected to happen in the wilderness the chances of survival are diminished. Even in Seattle where CPR training is common and the Emergency Medical System responds with defibrillation equipment the survival rate is only about 30 percent. And that only includes the patients that were seen going into ventricular fibrillation (VF), not those that were found already in cardiac arrest. That isn't to say you shouldn't try to save a life with CPR, just that you shouldn't ever blame yourself if you are not successful. The inconvenient truth is that the odds are very much against you, even in an urban setting.

Bleeding and Rapid Patient Assessment

Now consider the situation where the patient is breathing and has a pulse. The next thing to do is look for bleeding. Any obvious bleeding should be stopped with direct pressure. If you have only your hand to put over the wound, use it. Firm direct pressure will stop most bleeding. Several layers of gauze dressing are better of course, but time is important here. A bandana or shirt can be used if a sterile dressing isn't available. Once you have applied pressure, keep pressure on unless you are applying more bandages. Don't take bandages off, just keep putting more on if necessary. At the same time you are stopping bleeding ask bystanders or the patient what happened and look for other wounds. You need to know what happened because if there is a possibility of a neck or back injury you will need to keep the person from moving the injured part. Knowing what happened will also help you determine how serious the injuries might be.

Head to Toe Examination

Once you have dealt with the immediate problems (Airway, Breathing and Circulation) you need to quickly look for other injuries. This should only take a

minute or two at the most. It is much too easy to concentrate on one injury and miss another. If the person were lying face up you could easily miss a bleeding wound on his or her back. A good example of this is a gunshot exit wound. Examine the patient from head to toe looking for any deformity, burn, bleeding, swelling, bones sticking out, or anything else unusual. Ask where it hurts, or hurts most if the pain is diffuse. Palpate (examine by touching) the patient's shoulders, chest, abdomen, check each leg and arm one at a time. Palpate the hips. Don't palpate anything where the patient has already said hurts badly or where there is an obvious wound.

Planning For Evacuation If Necessary

Can your patient walk out? How far is it to the nearest trailhead? Do you have enough manpower to make a makeshift stretcher and carry the person out? Other factors affecting the decision are the patient's body weight, terrain to be crossed, and the weather. What communication do you have with the outside world? A cell phone or a personal locator beacon? How long would it take someone to run down the trail and summon help? Now is the time to consider how you will evacuate this injured person. Discuss options with your companions. Are you prepared to spend the night? Would the cell phone work better atop a nearby peak?

General Care for the Seriously Injured or Ill Patient

Seriously ill or injured patients suffering from blood loss, dehydration, heat or cold exposure should be protected from further injury while awaiting rescue. Keeping the patient warm is your next concern. Put a sleeping pad under the person and a sleeping bag or blanket over them. After looking for hidden wounds and other issues replace clothing. Shelter the patient from wind, rain and snow.

Collecting and Recording Important Information

When you gather information ideally you or someone else should write it down. Here are some things you should be able to determine.

- What is the age of patient?
- What is the type and severity of the injury? Describe what you see and what the patient Says. Don't try to diagnose too much unless you are Superman

and have X-ray eyes. If he or she can't stand because of a sharp pain in the left upper leg just say that. You won't know if it is a sprain or a strain or even a fracture. It doesn't make much difference. She is injured, in severe pain, and can't walk out.

- If there are multiple pain or problems be sure to identify which is the victim's chief complaint.
- Find out if the patient is taking any medications and what allergies they may have. Ask if there is any medical history that you should know about. If unconscious look for a medical alert bracelet or necklace and ask bystanders.
- Find a pulse either at the carotid artery or inside the wrist (radial pulse) and record the beats per minute. Notice if the pulse is regular or irregular. Also notice the strength (quality) of the pulse. Is it weak or strong? Do not take a pulse on an injured arm or leg if you can help it.
- Check the breathing rate. The normal respiration rate of an adult is somewhere between 12 and 20 times per minute. Children normally breathe faster. Also record if the breathing is shallow or deep. Normally you would expect the breathing to be quiet and not requiring effort.
- Look at the patient's skin color. Is it normal, flush, or pale? Is the patient sweating or is the skin dry? Is the skin cold, normal or hot?
- What is his or her level of conscious? Asleep, incoherent, groggy, or fully alert?
- Does he or she know where they are and what day it is?

If you are able to write down this important patient information, it will help you give better care, and help you convey important information to succeeding caregivers. Helpful information to provide search and rescue and other responders is:

- Your location

- Your name
- What exactly happened?
- Age of patient
- Breathing status
- Level of consciousness
- Do you have the means to evacuate or will assistance be required?



SHOULD I SEND THE BILL
DIRECTLY TO YOU OR TO
YOUR HMO??

JIM MORRISON

Summary of Steps to Be Taken

To sum up it goes something like this:

1. Make sure the scene is safe for you to enter.
2. Observe the scene to see what might have happened.
3. Determine if the patient is breathing and has a pulse.
4. If no pulse start CPR, if no breathing start rescue breathing.

5. If pulse is present and they are breathing ask what happened and look for bleeding
6. Stop the bleeding with direct pressure on the wound.
7. Look head to toe for other problems.
8. Keep the patient warm.
9. Record Vital Signs.
10. Discuss evacuation and treatment plans with the group. Consider your options.
11. Continue to protect, monitor, and treat the patient.

Of course writing that information down ahead of time is the only way to give an accurate detailed report and description of your situation. Because cell phones and other means of communication may not be reliable (because of things like batteries dying, poor reception, interference or changing atmospheric conditions) giving as much information as quickly as you can is important. Do not wait too long to call for help. Advise 911 or Search And Rescue (SAR) of your situation even if immediate help is not necessary.