

TerranearPMC Safety Share

Week of February 13, 2017 – First Aid in Remote Locations

Whether at work or just hiking on our own time, many of us find ourselves in remote locations exploring paths and unique terrain. Without a doubt, we have heard about the importance of carrying first aid supplies in our vehicles as well as during hiking expeditions. And when we find ourselves in secluded locations, should a medical emergency arise, prompt action is all the more critical as a medical facility may be several miles away.

It is considered as accepted knowledge that a “Remote Area” is a location where a medical facility is more than 1 hour away.

Remember that First aid in a remote location is the immediate care and is intended to provide assistance until more advanced level of medical care is obtained or until the chance for recovery without medical care is apparent. While many organizations, such as the American Red Cross and the American Heart Association offer first aid classes, first aid courses for remote areas are also available and focus on the various scenarios that may be encountered when a medical facility is not readily available. Training in Remote Area First Aid needs to be considered if:

- Definitive medical care may be delayed for hours or days; by a difficult location, bad weather, lack of transportation or communications.
- Certain injuries and illnesses are more likely due to the remoteness.
- Medical care beyond urban first aid is needed.
- First Aid supplies and equipment are limited.

Some typical conditions in remote locations that would require to be addressed include:

- Hypothermia is a normal hazard of temperate wilderness. It occurs when a person's core body temperature falls below 33.7 °C (92.7 °F). If a person is wet, in a mild wind, it can occur in less than an hour at temperatures as high as 15 °C (59 °F).
- Hyperthermia tends to occur during heavy exercise in high humidity, or with inadequate water. Some chronically ill persons enter this state normally.
- Burns of many types, including scalds, flame burns, flash burns, chemical burns, and electrical burns, can be very variable, affecting different layers of the dermis and covering varying proportions of the total body surface area (TBSA). For that reason, they can be very hard to treat, especially in remote or harsh environments.
- Cramps can be caused by the buildup of lactic acid during anaerobic respiration or a lack of electrolytes, among other things.
- Insect bites and stings and animal bites
- Anaphylaxis can be triggered by insect bites or allergen exposure. It is a life-threatening medical emergency because of rapid constriction of the airway, often within minutes of onset.
- Altitude sickness can begin in susceptible people as low as 8,000 feet (2,400 m). The early symptoms are drowsiness, feeling unwell, and weakness, especially during exercise. Acute mountain sickness can progress to high altitude pulmonary edema (HAPE) or high altitude cerebral edema (HACE).

The care of significant wounds in the wilderness presents a great challenge. Lack of access to sterile supplies and hospital care renders useless many aspects of routine wound care. The care of wounds can be broken down into **acute** care (immediate) and **chronic** (long term – day to day care).



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In emergency medicine, some advocates assert that there is a *golden hour*. This refers to a time period lasting from a few minutes to several hours following traumatic injury during which there is the highest likelihood that prompt medical treatment will prevent death. While most medical professionals agree that delays in definitive care are undesirable, there has been some debate over the indication that there is a magical time for saving critical patients. Nevertheless, prompt medical care cannot be overstated.

Plan ahead for how you will treat the cuts and scrapes that most often merit care using a first aid kit. Remember that you always immediately call for emergency response in the event of any serious injury that you are not fully confident you can manage without assistance.

Assuming a person's wound is not causing heavy loss of blood, the first step you should take is always to **wash your hands**. If no soap and water are available, use the antiseptic towelettes likely contained in your first aid kit. Next, **stop the wound from bleeding**. If possible, as with a cut to a hand, arm, foot, or leg, elevate the injury above the victim's heart to reduce the blood flow. Apply gentle pressure to the wound using a sterile pad from the first aid set. Once the bleeding has stopped, you must **clean the wound** itself and the area immediately around it. Wipe the nearby skin clean, flush the cut or burn with water, and then clean and sterilize it. Do this with alcohol and/or antiseptic products found in the first aid kit, and when possible do not use soap, as it can be an irritant. If there is visible debris present in or near the injury, attempt to flush it again and/or remove the debris using sterilized tweezers. After the injury has been cleaned and then allowed to dry, apply a thin layer of an antibiotic ointment to prevent the likelihood of infection. Now gently dress the wound, using the minimum amount of bandaging necessary to cover and protect the afflicted area. Airflow is good for minor injuries, while deeper and more serious scrapes, burns, or gouges may need to be fully covered for the initial few days of healing.

Even a well-stocked first aid kit will not transform you into a trained medical professional, so being able to safely contact medical emergency is very important. While cellular phones are generally reliable, in the event that yours cannot complete a call, an **emergency radio** can provide a backup way to reach a first responder. And if you do plan to rely on your cellular phone for assistance in times of emergency, at least be sure to have a **backup power source** on hand, as the electrical grid will quickly fail in the path of major weather events or in times of severe civil unrest.

Make sure there is a supply of food that can last for several days; fresh water is even more critical.

Wilderness First Aid is a relatively new field compared to regular or 'urban' first aid. For this reason, there are a number of boards and societies which have been formed in recent years to attempt to establish normalized standards for wilderness first aid certification and wilderness medicine in general. Currently, there are no national standards for wilderness medicine, however one of the most popularly followed curricula is the "National Practice Guidelines for Wilderness Emergency Care" published by the Wilderness Medical Society in 2010.

It is amazing how complete is the delusion that beauty is goodness

Leo Tolstoy