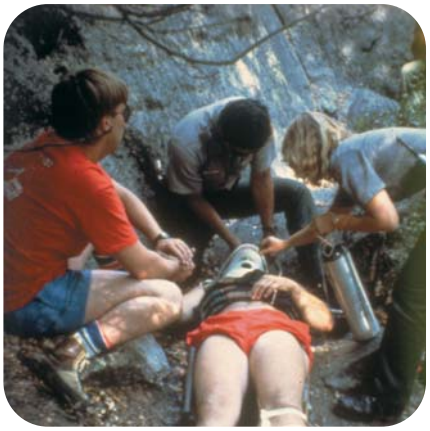
Wilderness First Aid

Student Handbook

AMERICAN SAFETY & HEALTH INSTITUTE



2010

AMERICAN SAFETY& HEALTH INSTITUTE

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American Safety & Health Institute
1450 Westec Drive
Eugene, OR 97402 USA
800-246-5101

hsi.com/ashi

Printed in the United States of America

ISBN 978-936515-05-9. BKWFA-10N (12/10)

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Chapter 1. Training for Wilderness First Aid

Wilderness first aid is the assessment of and treatment given to an ill or injured person in a remote environment where definitive care of a physician and/or rapid transport is not readily available.

In this wilderness first aid class, students will learn how to assess, treat and, when possible, prevent medical and traumatic emergencies within the scope of their training.

Time is the essential element distinguishing wilderness first aid from standard first aid. When calling EMS is not an immediate option, or when help could be an hour or even days away, the task of managing the injured and the ill will challenge you beyond the principles of first aid you will learn in this course.

Urban rescuers face many challenges — technical, physical and psychological. Unless they are involved in a major disaster, urban rescuers usually have quick access to medical care, transportation, shelter, supplies and reinforcements. And although they may go into hazardous situations to perform emergency care, these rescuers can usually retreat to safe surroundings.

In the wilderness, you can count on none of these advantages. You may have to care for patients for many hours even during bivouacs or strenuous evacuations. Your shelter and supplies will be what you pack in or improvise, and reinforcements may be long in coming. With limited resources, you must protect your patients and yourself against weather and other environmental hazards. What kind of training prepares you for wilderness emergencies?

Before you can take care of others, you must first learn the survival skills needed to take care of yourself in the wilderness. These skills include knowing what to carry and to wear to survive the worst possible conditions. You should learn how the body interacts with environmental stresses such as heat, cold and altitude; and how clothing and shelter can control this interaction. You should also practice first aid skills, such as bandaging and splinting, on yourself as well as on others because you may have to treat your own injuries.

Psychological Aspects of First Aid

Any serious emergency can make rescuers as well as victims feel that they are losing control of events. In the wilderness, the strange surroundings, exposure, and insidious effects of environmental stress on the brain all may conspire to induce fear, despair or apathy. You can begin training yourself to cope with these stresses by understanding them.

Everyone is susceptible to stress. Behavior that denies or evades the reality of an unpleasant situation is common. This behavior may range from unrealistic assessments or plans to apathy or withdrawal. Some may react by blaming themselves or others in the group. Others may have sensory disturbances like tunnel vision or muffled hearing.

By recognizing these behavioral problems as signs of emergency stress, you can avoid being pulled into unproductive emotional responses. When causes of the stress are physical, simple physical measures, such as rehydration, energy food, and protection from the elements, can have major psychological benefits. Productive action also gives people a sense of regaining control. Reasoning with the unrealistic and reassuring the fearful may help, but tactful redirection to useful tasks is often more effective therapy.

Every serious injury or illness has psychological effects. Patients may be locked into an internal conversation about pain or fear. As a rescuer, you need to join in this conversation and redirect it to what you and the patient can do, together, to help. Those who are seriously ill or injured are often in a highly suggestible state, so what you say and how you say it can influence autonomic nervous system functions, positively or negatively. These functions include pulse, blood pressure, respiration, and the inflammatory response to an injury. You should use only positive words and

statements when a patient can hear, but always tell the truth. If a patient asks about his or her injuries, acknowledge them in neutral terms, and redirect the conversation to what you can do to make the patient more comfortable. If possible, involve patients in their own care, and give them choices, e.g. “Are you more comfortable in this position or that position?”

Communication and Teamwork

Communication is not by voice alone.

Injury or illness can suppress or alter body language and facial expression as well as speech. While rescuers usually understand this in theory, the absent or altered signals can still make it hard for them to communicate with patients.

One of the hardest lessons to learn in emergency care is that democracy does not work at an accident scene. When acting as leader, you learn to plan ahead and give unambiguous directions. As a member of the team, you learn to listen to the leader, talk as little as possible, and address questions or suggestions to the leader. Cross discussions cut the lines of leadership. It is also important that only one rescuer talk to each patient.

Learning to Find the Problems

You should learn and practice a basic patient assessment near the beginning of the class. Then you should develop each part of it to a more sophisticated level as you learn about what you are looking for.

Learning how injuries damage the body and affect the vital systems trains you in whole-accident response, rather than single-skill tunnel vision. You learn to treat the patient first and the injury second.

Sudden Illness and Shock

Getting the history of the present illness is akin to reconstructing the mechanism of an injury. In both cases, you are finding causal connections that converge to a damaging event.

Any problem that interferes with the delivery of oxygen to the vital organs usually has first priority, and anticipating problems may give you the margin needed to save lives.

Begin by looking at the system that delivers oxygen to the tissues: the pump, the pipes, the fluid and the signals that control them. Then you can work out what happens when different parts of the system are damaged or disrupted. Once you recall, for instance, that speed-up signals to the heart come down the spinal cord, you will not be surprised if the victim of a neck injury has a slow pulse. A similar approach can be used to learn about sudden illness. Once you understand how an illness affects different parts of the body, or disrupts vital systems, you can work out what signs and symptoms will be produced.

Environmental Stress

When the body’s internal environment is pushed to extremes, we need to re-examine our understanding of vital processes and emergency procedures. Until the 1960s, for instance, High Altitude Pulmonary Edema (HAPE) was routinely diagnosed as pneumonia and treated with antibiotics. Victims who were not promptly brought down to lower elevations often died. People have also died of undiagnosed heat stroke because, contrary to what the textbooks said, their skins were still pale and sweaty. We learn to begin CPR if we find no pulse, but what about a victim in deep hypothermia, who may have an impalpable pulse?

Biological Hazards

Although snakes and bears are more dramatic classroom topics, arthropods and microorganisms cause far more problems. Water may be contaminated, and there is no perfect way to disinfect it. Boiling water requires fuel and time. Ceramic filters can crack if dropped or allowed to freeze when wet. Paper filters must be replaced when they clog up. Neither filter is certain to take out viruses. No chemical is completely reliable, and chemical disinfection is hindered by sediment or cold water.

There is much folklore and misinformation about snakes, bugs and repellents. Slash and suck snakebite kits, for instance, were sold for many years, and an article in 1991 advised shocking victims with DC current to “devitalize” snake venom. Outdoor magazines have advertised everything from vitamin B pills to ultrasound generators as repellents. Yet the only ones that have any effect in laboratory tests are chemicals that jam the sense receptors of some blood-sucking arthropods.

Most wild animals, from wasps to bears, will not attack if we avoid provoking them. Staying out of their way requires that we understand something about their behavior and habitats. Blood-feeding arthropods like ticks and mosquitoes may seek us out, but humans are aberrant hosts for most of them. Abnormal behavior in wild mammals (e.g., friendliness) may be a sign of rabies. You need to educate yourself about the actual biological hazards where you will be going, and get up-to-date information on coping with possible damage.

Putting It All Together

Instead of just dispensing information and dogma, instructors should challenge you to figure things out and solve problems while they guide the learning process. Role-playing simulated accidents, realistically acted out and staged, help you put your skills together and prepare for real emergencies. When you play the patient role, you should figure out plausible mechanisms of injury to make the accidents convincing; and both patients and first aiders should stay in their roles while the instructors silently observe. After completing a class, you can stage your own simulated accidents with family or friends to maintain and improve you wilderness first aid skills.

Figure 1.1 High angle rescue on snow — lowering the patient.

Photo courtesy Ben Schifrin, M.D.