

# *Risk, Health And Safety*



Offered by the  
**HIGH ADVENTURE TEAM**  
Greater Los Angeles Area Council  
Scouting America

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The High Adventure Team (HAT) of the Greater Los Angeles Area Council (GLAAC) of Scouting America is a volunteer group of Scouters which operates under the direction of GLAAC-Camping Services. Its mission is to develop, promote and conduct challenging outdoor programs and activities within the Council and by its many Units. It conducts training programs, sponsors High Adventure awards, and publishes specialized literature such as Hike Aids and The Trail Head. It also promotes participation in summer camp, in High Adventure activities such as backpacking, peak climbing, conservation, and in other Council programs.

Anyone who is interested in the GLAAC-HAT and its many activities is encouraged to direct an inquiry to the GLAAC-Camping Services or visit our web site at <https://glaac-hat.org/>. The GLAAC-HAT meets on the first Tuesday of each month at 7:30 pm in the Cushman Watt Scout Center, 2333 Scout Way, Los Angeles, CA 90026. These meetings are open to all Scouters.



Cover picture: What would you do differently to reduce the risks in this backpacking situation? (Answer on the back cover.)

#### REVISIONS

February 2025	General update.	Craig Triance
April 2017	Deleted Tour and Activity Plans.	Tom Thorpe
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Published by the  
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of the  
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*Luck -- what some people mistakenly attribute to thorough planning and preparation and careful execution.*

## **Introduction**

“Scout Lost On San Gorgonio;” “Jogger Attacked By Mountain Lion;” “Climber Falls To Death;” “Unattended Campfire Starts Blaze.” Headlines such as these appear regularly in the local press. The same incidents occur repeatedly, involving both Scout Units, and the general public. Unfortunately, most people refuse to recognize that these instances represent both a warning, and a report about an unfortunate event.

The majority of “accidents” and other incidents that occur in our mountains and deserts are avoidable. As you go beyond the headlines to learn the details, a careful study of the incident and the events that preceded it generally reveals it never should have happened. These are needless tragedies that often involve death. An “accident” is not truly one when prudent actions, taken in a timely manner, could have prevented it. An incident that occurs because the Unit Leadership took the Unit, or allowed participants to get into harm’s way is no accident.

This does not mean that the Unit Leadership must take every action that could possibly be taken in advance of, and during a High Adventure activity. Such a requirement is probably beyond the ability of most of us. Rather, the expectation is that Unit Leadership will take the actions a reasonable, prudent leader would take.

Throughout this Hike Aid, the emphasis is on avoidance and prevention of unnecessary risk. Accidents and unanticipated events may still occur. It covers the actions to be taken to recover from them, or until qualified medical or other assistance is obtained. The objective is not to frighten, but to remind the Adult Leader that the tragedies represented by the headlines are a warning which must be respected in the Unit’s High Adventure Program.



## **Risk Management**

*“An ounce of prevention is worth a pound of cure.”*

Teenagers like to take risks. It is a part of their growth and of the development of skills and judgment. The High Adventure Program provides an opportunity to overcome challenges in the backcountry, most always involving some level of risk. Determining what is an acceptable risk, taking the actions necessary to avoid unacceptable risk, and learning what to do when an unexpected incident occurs are the responsibility of the Unit Leadership.

Risk management begins with the understanding that a High Adventure Program will involve risks, taken both by choice and chance. Unit Leadership must limit outdoor activities to those within the ability and skill of all of the likely participants. Activities may, however, occasionally be selected that are beyond the abilities of some members. In those instances, clear and specific criteria for participation must be determined and enforced for all participants. The risks for these activities should be within the ability of the Unit to overcome without undue risk to the health and safety of the members. A greater level of risk should be considered unacceptable; and activity above this level of risk should not be considered for the Unit’s outdoor program.

Implementation of risk management, begins in the selection of activities for the High Adventure Program. The type of activity, location and time of year should all be part of the calculus of risk. For example, a backpack trip at elevations above 9,000 feet taken during the summer or early fall has a different kind and level of risk than one taken during the late fall, winter, or early spring.

Selection of activities and their locations are a part of the planning process, which the prudent leader does as completely and accurately as possible. Hike Aid 4, "High Adventure Procedures and Practices", discusses this in detail. Instruction on the preparation of a Trail Schedule and Trail Profile is covered in the seminar and syllabus for Adult Leaders Backpack Training.

Other actions which will reduce the level of risk include:

- ◆ Requiring a medical examination of participants each year.
- ◆ Using easier weekend outings to assess physical and mental ability.
- ◆ Setting and enforcing criteria for participating in more strenuous activities.
- ◆ Obtaining all permits required by the administering agency for the location.
- ◆ Having Adult Leaders obtain American Red Cross Certificates (ARC) in First Aid and CPR. Wilderness First Aid is recommended.
- ◆ Attending Scouting America conducted training in outdoor skills.
- ◆ Obtaining and carrying permission slips for participation and medical care.
- ◆ Carrying all of the equipment and clothing needed for the activity.
- ◆ Obtaining qualified instruction for all participants in the technical skills needed for an activity such as skiing, rock climbing, canoeing.
- ◆ Obtaining qualified instruction for all participants in the use of technical equipment, e.g., ice axe, before taking it on an outing.
- ◆ Maintaining control of the Unit at all times; horseplay/harassment must never be allowed.
- ◆ Staying with the planning of the activity, including routes, timing, etc.
- ◆ Terminating the activity when conditions threaten the Unit's health and safety.
- ◆ Following good hiking and camping practices at all times.

An Upjohn Corporation survey of outdoor persons provided these results as to the frequency of first aid situations.

Insects bites.....	95%
Sunburn.....	77%
Waterborne illness.....	77%
Wasp/bee sting.....	70%
Blisters.....	70%
Poison ivy/oak .....	45%
Imbedded fish hook .....	43%
Sprained ankle.....	43%
Snake bite.....	4%

Reported in Backpacker, May 1995

- ◆ Considering the use of liability releases for the more physically or technically demanding activities.
- ◆ Maintaining a constant awareness for situations that represent unacceptable risk.
- ◆ Conducting the High Adventure Program at all times in a reasonable and prudent manner.

A Unit Leadership that takes these actions is exercising due diligence in conducting its outdoor program. The balance of this Hike Aid covers some of the more common sources of risk that a Unit will likely encounter. Some are minor, others are medical emergencies that require immediate action. The discussion usually includes:

- ◆ the nature and source of the risk.
- ◆ the actions that should be taken to avoid it, or to reduce its incidence to an acceptable level.
- ◆ the measures to be taken when a participant or the Unit experience the effects of a risk.

The discussion of first aid measures is deliberately brief, to avoid duplicating materials available in other manuals and in first aid training.

Awareness that there are risks and being continually alert for risk are responsibilities of Unit Leadership. Dealing successfully with those situations that do happen during High Adventure activities can contribute to the participant's physical and mental growth.



*“The ‘Climbing Code’ of The Mountaineers provides a guideline for safe practice. It includes:*

- ◆ *Carry at all times the clothing, food and equipment necessary.*
- ◆ *Keep the party together and obey the leader or majority rule.*
- ◆ *Never climb beyond your ability and knowledge.*
- ◆ *Never let judgment be overruled by desire when choosing the route or turning back.*

*"In summary, being aware of the causes of accidents will help you in preventing injuries. Both your enjoyment and your safety are best assured through setting a level of acceptable risk. Setting that level should be a conscious decision, based on sound judgment."*  
Jan D. Carline, et al., *Mountaineering First Aid*.



## **Denial**

The first reaction by many persons when facing an unpleasant situation is denial, Unit Leadership cannot afford that reaction. Each symptom or indication of a personal or environmental problem must be noted and carefully evaluated. To ignore or deny one may exacerbate a problem and complicate the solution. It may also later be judged to constitute a lack of reasonable and prudent leadership.

No one wants to be accused of being a worrywart, but there are worse things to be called. Recognize denial for what it is, a seemingly normal response by many persons to situations where they may feel embarrassed, foolish, disappointed, etc., in admitting a problem. Unit Leadership should deal with these feelings as a part of evaluating the incident. Don't allow denial to cloud your judgment and fail to act in a reasonable and prudent manner.



## **Insurance**

The National Council provides several types of insurance that cover adults who are active in an official Scouting activity. The following discussion of insurance was summarized from the 2024 edition of Guide to Safe Scouting. See the latest edition of Guide to Safe Scouting for details.

“Consider the possibility that an accident could occur involving your Unit. Take proper steps in advance, not only to eliminate potential hazards, but to fully protect yourself and others responsible for the outing. An adequate emergency fund will cover minor emergencies.”

### **Comprehensive General Liability Insurance**

This coverage provides primary general liability coverage for registered adults of Scouting America who serve in a volunteer capacity. This coverage responds to allegations of negligent actions by third parties that result in personal injury property damage claims. It protects Scouting Units and chartered organizations on a primary basis.

Scouting America general liability insurance program provides volunteers and chartered organizations additional excess coverage for motor vehicles above a volunteer's or chartered organization's automobile or watercraft liability policy. The owner's liability insurance is primary.

Scouting youth are not insured under the general liability policy.

### **Automobile Liability Insurance**

The greatest single risk on a trip is a motor vehicle accident. A liability insurance policy **MUST** cover all vehicles. The minimum coverage is called out in the latest Guide to Safe Scouting.

### **Chartered Organizations for Scouting Units**

The general liability policy provides primary liability insurance coverage for all chartered organizations for liability arising out of chartering a traditional Scouting Unit.



## **Accident and Sickness Coverage**

Accident and sickness insurance (also known as accident and health insurance) coverage for Scouts and Scouters furnishes medical reimbursement in case of death, accident, or sickness within the policy amounts. Information regarding Unit accident coverage is available through the local council.

Remember: Any incident that requires the intervention of medical personnel, involves emergency responders, or results in a response beyond Scout-rendered first aid must be reported.

Unit Leaders who have questions about these insurance policies and how they interact with any personal coverage are encouraged to contact the GLAAC. They may also want to discuss these matters with their personal insurance agents.



## **Off-Trail Hiking and Backpacking**

To put some real high adventure into your program the Unit will be hiking off-trail and cross-country. This ups the challenge and risk considerably from that associated with backpacking on trails, with an occasional scramble to a nearby summit. These risks are probably beyond the ability of a young or inexperienced Unit to deal with in a safe and enjoyable manner. Consider the conditions that the Unit will face:

- ◆ Chaparral, trees, deadfalls, etc., to hinder its progress.
- ◆ Cliffs, up to 40 feet, steep slopes, and large boulders that are not apparent on the topographical map.
- ◆ Dust, pollen, snags, scratches.
- ◆ More frequent contact with insects and animals.
- ◆ Rough, uneven, unstable hiking surfaces.
- ◆ Difficulty in establishing and maintaining a bearing.

Backpacking any distance cross-country is very demanding of physical and mental condition, navigation skills, and clothing and equipment. It can easily take twice as long as hiking the same distance on a trail. And, it certainly is a heck of a lot harder.

The Unit that schedules such an outing must place additional emphasis on the following matters during its planning and preparation:

- ◆ Adequacy of clothing. These conditions demand heavy duty boots, long pants and long sleeve shirts. A person who is wearing anything less will be miserable, or injured, in a short time.
- ◆ Physical condition.

- ◆ Learning about the location and any unusual hazards.
- ◆ Reviewing navigation skills.

Remember that there are no trails in some locations because they are closed to hiking and camping. Also, hiking and camping in other locations may be restricted to established trails and campsites. Check with the administering agency about the proposed route, as a part of the planning.

As the Unit proceeds cross-country:

- ◆ Keep everyone within sight and sound; it's much easier to lose someone.
- ◆ Continually check your bearings and progress. Know where you are at all times.
- ◆ Take frequent, brief (3-5 minute) breaks.

Climbing ropes and hardware normally should not be taken on any outing, except when the Unit can use them in full compliance with the National Council Policy stated in the brochure "Climb On Safely." Rigging a safety line is a last resort to finding an alternate route, and done with extra care and consideration of the ability of the persons relying on it. Planning and taking a long-term, backpack over a route of the Unit's own choosing can provide unique challenges and opportunities for the experienced Unit. Just be certain that everyone understands and can safely meet those challenges and their attendant risks.



## Beyond Backpacking

So many other activities to add variety to the High Adventure Program. Long-term backpacks in the Sierras are not the end-all; rather, they are the introduction to the innumerable opportunities to explore and enjoy the local seashore, mountains, and deserts.

Skiing, rafting, bicycling, rock climbing, et al. - they are all within the capabilities of many Units. The places to do them are at our doorstep. However, before the Unit Leadership runs out to sign up, it must understand that each of these activities involve risks that are considerably different from those of backpacking. They generally place greater physical and mental demands on the participants, and involve a greater element of danger. Specialized equipment and training are needed. All of these things are what provide the challenge and the thrill. Done with the necessary, specialized preparation and careful execution, the risk can be kept at an acceptable level.

This specialized preparation includes:

- ◆ Selecting an initial outing that is appropriate for a beginner. No matter what some Scout or parent may tell you of their past experience at skiing, rock climbing, etc., keep it simple. The majority of participants have not done it before.
- ◆ Identifying locations or opportunities to “bail out” should something unexpected happen.

- ◆ Getting all participants trained in the use of all specialized equipment. This should be done every time that someone new is involved, but should be required of everyone. This must be given by a qualified (certified) instructor, not just by someone who has done it a time or two.
- ◆ Carrying and using all necessary specialized equipment, particularly safety items. They must be of proper quality and quantity to protect the health and safety of each person.
- ◆ Insisting that each potential participant demonstrates the physical proficiency that is needed to use the equipment.
- ◆ Considering the possible use of a liability release. Any decision to require such a release should be made with the consultation and agreement of the Unit Parents Committee. Expect that suppliers of rental equipment, instruction, and guide service will require a similar release by each user of their services.

During these types of activities, adult supervision and control of the Unit is mandatory at all times. Careful execution also includes:

- ◆ Using all equipment to its intended purpose.
- ◆ Reviewing all safety procedures and practices at the beginning of each day.
- ◆ Explaining rules-of-the-road and the grounds for disqualification from further participation.
- ◆ Using all safety equipment, at all times and in the proper manner.
- ◆ Disqualifying a person who deliberately acts in an unsafe manner.
- ◆ Prohibiting horseplay and similar behavior.
- ◆ Insisting that everyone take rest and water breaks at regular intervals.
- ◆ Using professional services, as available.

The activity must be continually monitored for conditions that change or increase the risk; stop before an accident happens.

As people become tired, their physical abilities decline. A drop in the body's level of hydration accentuates this (losing a pint or more of water per hour when doing these things is "normal"). A person's mental awareness can also be affected as he/she becomes tired, thirsty, and hungry. This is when an accident is most likely to happen. Adult Leadership must prevent it..



## Lost

Someone once asked Daniel Boone, "Were you ever lost?" Dan thought it over for awhile, then replied, "No, I was never lost. But once I was a mite bewildered for five days." Dan had the right idea. No one is really lost if he knows how to find his way.

One purpose of thorough planning and preparation and careful execution is to keep from becoming lost. There are several reasons why a Unit or individuals get into this predicament.

- ◆ Inadequate, incorrect, or no planning.
- ◆ Failure to take and use planning, maps, tools of navigation.
- ◆ Inattention to where it is going and what it is doing.
- ◆ Going off on an unplanned "adventure;" taking a shortcut.
- ◆ Allowing members of the Unit to become separated or to go off on their own.
- ◆ Lack of training and skill in navigation and staying found.

You reduce the likelihood of becoming lost by not doing these things.

Numerous books, including several that are listed in the Bibliography, provide excellent commentary on avoidance and what to do if lost. The subject is also discussed in Hike Aids 4 & 5, and the syllabus for Adult Leaders Backpack Training. The limited coverage here of this matter acknowledges those sources of information.

The main points to remember, should you become lost or temporarily disoriented, are:

- ◆ Keep calm; take a five minute break before doing anything; avoid panic.
- ◆ Do a headcount; keep everyone together,
- ◆ Make yourselves visible; do everything possible to be found.
- ◆ Use everything that you have to keep warm, dry, and safe.
- ◆ Stay put; only move if you are absolutely certain that you know where you are going and can get there safely.
- ◆ Maintain a positive attitude - you will survive.

In most instances, you will be lost only a short distance from your planned route. You don't know how to get there, so stay put. In the local mountains, the decision to hike down canyon to safety is usually the absolutely worst thing to do. These canyons are steep, with unstable soil, numerous cliffs, and waterfalls. Instead of safety, you are more likely to make rescue more difficult, plus create the possibility of serious injury or death. Proceeding on a disoriented basis, while hiking in the desert, will generally lead to misfortune.

A properly equipped Unit, or individual, that behaves in a calm, rational manner, should easily survive being lost; embarrassed, perhaps, but nothing worse.



### **Falling Objects**

The next time that you take a break while hiking, listen closely to what's happening around you. Chances are that you will hear the sound of something falling - a rock, tree, branch, pinecone. Any object that is above ground or in an unstable location can shift or fall at any time. Wind, rain, snow, fire, earthquake, animals, all contribute to this happening. You can't prevent it, but you can act to minimize the risk of injury (or death) or damage to equipment.

The two practices that can reduce this risk are awareness of the potential for falling objects and the insistence that objects must not be thrown or kicked off of a trail, at any time. This latter might not impact your Unit, but you have no idea as to who might be down-slope. Scanning the trees for a potential widowmaker is a necessity when selecting a campsite. Pitch tents away from dead trees, trees with dead branches or pinecones that are ready to fall, and rockslides. When doing trail conservation, instruct all persons in the proper methods for removing and moving rocks and trees. Post lookouts down-slope to warn other hikers. Be extra observant when hiking after a heavy rain or an earthquake.

If a person is injured by a falling object, your first concern is the possibility of more coming down. A victim who has been knocked unconscious must be checked for a back or neck injury and moved only if he/she is in an unsafe location.

Treatment for being struck by a failing object includes:

- ◆ Calm the victim; keep him/her still.
- ◆ Check for broken bones.
- ◆ Wash area with soap and water (if no broken bone).
- ◆ Control any heavy bleeding.
- ◆ Cover any open wound with a dressing and bandage.
- ◆ Treat for shock.
- ◆ Splint any broken bones (if victim must be moved by you).

Medical care must be obtained for a person who has been knocked unconscious or who has a broken bone. Lesser scrapes and bruises probably won't require it.

Even small objects that fall from a tall tree or roll down a hill can cause considerable harm.



## **Criminal Activity**

Being in the backcountry doesn't remove you from the risk of coming into contact with, or becoming the victim of, criminal activities. Being aware and keeping together are your best defense.

The full set of urban crimes are committed in the local mountains and deserts, generally close to roads and drive-in campgrounds. Poaching and removal of plants are unique, but not likely to involve your Unit unless you try to interfere. The cultivation of marijuana on public lands is an increasing problem and can be hazardous if you stray into a plantation. However, they are generally in remote locations, which you are unlikely to find unless you go off-trail.

The U.S. Forest Service advises its volunteers to do only three things when encountering these activities - observe, record, report. Be discrete, back off, and look to the health and safety of the Unit - nothing else matters.

Actions which you can take to reduce the risk of becoming a victim are:

- ◆ Secure all belongs out of sight, in parked vehicles and in camp.
- ◆ Be friendly, but wary, towards everyone.
- ◆ Don't be confrontational.
- ◆ Stay together.
- ◆ Leave unnecessary, expensive jewelry, electronics, etc., at home.
- ◆ Put identifying marks on your equipment.

Report all criminal acts immediately to the USDA-Forest Service and the Sheriffs Department. Take notes as to what, where, when, who as specifically and accurately as conditions permit.



## **Lightning**

Beautiful to watch from a distance, but a deadly hazard when you are caught in an electrical storm. They usually occur in the local mountains and Sierras during the summer and early fall. The prudent hiker in the Sierras advises being off the summits and high ridges by early afternoon, and never camping on them.

Be observant while hiking and climbing, as these storms generally move amazingly fast. When you see one that seems to be coming towards you, move immediately to a safe location. People do survive being struck by lightning, but the experience will ruin your day. These storms are often preceded by a rapid drop in temperature and by winds, typically from the north or northeast. You should notice this before you see the clouds, so be alert and ready to move quickly.

An excellent discussion of this subject is contained in the Fieldbook. It is also covered in the syllabuses for Adult Leaders Backpack Training and Desert Camping and Travel, and in several of the books that are listed in the Bibliography.



## **Fire Hazards**

Fire!!! Yell that word and you immediately have everyone's attention. Fire heats our food, warms our homes, and generates electricity. Fire also ferociously and totally consumes everything with which it comes into contact. What fire does is dependent upon your skill and care when using it. Avoidance of a problem is far easier than dealing with the consequence of misused or uncontrolled fire.

- ◆ Stay out of any location that is under a fire closure.
- ◆ Be especially observant when hiking and camping during conditions that promote a high fire hazard - hot, dry, low humidity, wind.
- ◆ Obtain and carry a Fire Permit, as issued by Cal Fire.
- ◆ Learn and obey the fire regulations and restrictions as they apply for the date and location of each outing; they do change over time and by location.
- ◆ Select campsites that are relatively clear of brush and weeds.
- ◆ Do your cooking in a location that is totally clear of weeds and brush, and away from your tents and other equipment.
- ◆ Never fuel a stove or cook in a tent - use a dining fly.
- ◆ Supervise the fueling and use of all stoves. They are an incendiary device, capable of great harm.
- ◆ Instruct Scouts in the proper use of a stove, before allowing them to cook.

- ◆ Have a pot of water and a small shovel/trowel handy when using a stove or having a campfire.
- ◆ Never leave any fire or stove unattended.
- ◆ Inspect each stove before and after each trip; keep them clean and in good repair.
- ◆ Store fuel containers in a safe location, away from heat and fire.

The National Council adopted a policy several years ago to the effect that a campfire is no longer a desirable or appropriate part of the typical Scout outing. Such fires consume environmentally necessary wood and have started forest fires. If the Unit “must” have a fire, please:

- ◆ Have it only in a USDA-FS (or other administrative agency) constructed stove or fire ring.
- ◆ Never construct your own or use a fire ring that someone else has constructed. Such actions are contrary to USDA-FS regulations.
- ◆ Keep tents and equipment as far away as possible. Nylon burns easily and quickly, with great intensity.
- ◆ Always totally quench a fire before going to bed or leaving camp.
- ◆ Never try to dry clothes, boots, equipment over an open fire.
- ◆ Keep a wood fire small, i.e., flames reaching no more than two feet above the ground. It will be just as much “fun” and far less likely to get out of control.
- ◆ Keep the Scouts from stirring up sparks. Sparks start fires and burn holes in clothing, tents, and other equipment.
- ◆ Scatter the cold ashes and charcoal of your fire over a wide area, several hundred yards from the campsite.
- ◆ Bring your wood from home, when using a drive-in campground, or purchase it locally.

As you encounter illegal campfire rings, please take the time to clear the site and scatter the rocks. This will help discourage other persons from using them.

Forest fires can, and do, occur at any time of the year and at any location in the local mountains and deserts. The chaparral that blankets these lands to elevations of 7,000 feet will burn whether green or dry, in wet years or in drought years. Whether caused by lightning or other natural occurrence or by a careless or deliberate human action, these plants will always burn.

Upon seeing a large plume of black smoke when hiking or camping, you must act immediately to ensure the safety of the Unit. The closer the smoke, the more quickly an escape plan must be developed and executed. Regardless of the proximity and the direction of the wind, the Unit should leave as soon as possible. If the wind appears to be blowing the fire directly toward



you, move quickly along the safest route at ninety degrees to its expected path. Wind driven fire can travel much faster than you can hike, so get immediately out of the way. This may mean abandoning cars and equipment that you have left in a location that is now in danger.

If you are in any way threatened by a fire, make the Unit visible to low flying aircraft or other potential rescuers. If an uncontrolled fire starts as a consequence of an action by your Unit or some other camper in the vicinity, move immediately to a safe location and notify the Sheriff's Department. The faster this is done; the sooner fire personnel can be on the scene. The unintended consequences of a fire are all too often avoidable through reasonable and prudent leadership. Do not allow your Scouts or the local environment to become a victim of its dark side.



### **Water Hazards**

Water creates hazards in many different forms for the unwary backcountry traveler.

- ◆ Biological and chemical agents in drinking water that cause a medical problem.
- ◆ Rain that wets clothing, equipment, and the body, making it more difficult to stay warm.
- ◆ Slick surfaces on rocks, logs, and trails that cause falls, twisted ankles and knees, etc.
- ◆ Muddy, sloppy trails that make hiking slower, dirtier, and riskier.
- ◆ High water levels that make crossing streams difficult.
- ◆ Heavy rains or melting snow that loosen rocks and damage trails.
- ◆ Water for drinking that is not where it is expected.

Planning for the outing must consider these potential risks. Clothing and equipment to deal with the likely problems must be carried by the participants.

There are some actions that can be taken to avoid water hazards:

- ◆ Selecting routes that do not require risky stream crossings or have sections of trail subject to water damage.
- ◆ Delaying an outing when the forecast is for heavy rain or snow.
- ◆ Carrying extra water during seasons when springs or streams might be dry.
- ◆ Wearing waterproof boots with adequate tread.
- ◆ Carrying rain gear, tents, pack covers, etc.
- ◆ Carrying water purification supplies and equipment.

- ◆ Using hiking staves and carrying rope (bear bag rope) for slippery trail conditions and high water crossings.

As water hazards are encountered during the outing:

- ◆ Keep the Unit together; an injury or difficult condition will probably require everyone's help.
- ◆ Maintain a hiking distance of at least eight feet apart.
- ◆ Allow only one person to cross a stream at a time, particularly when crossing on a log or on rocks.
- ◆ Look for another spot instead of trying to cross a swift running stream where the water is greater than mid-calf deep. If a safe crossing cannot be found, turn back.
- ◆ Have older Scouts or adults carry the packs of younger, smaller Scouts at hazardous stream crossings.
- ◆ Always unbuckle waist belts before crossing streams.
- ◆ Tie up floppy shoelaces, dangling draw strings, etc., that could catch a snag.
- ◆ Use a safety line on slippery, steep trail sections and at hazardous stream crossings.

Several elastic bandages should be carried in the first aid kit for use on wrenched knees or sprained ankles.

Flash flooding can occur in any canyon or dry wash, whenever heavy rains fall anywhere within its watershed. A wall of water, several feet high or more, moves extremely fast, sweeping away just about everything in its path. The only way to prevent a disaster is to get out of its way. Unit Leadership must be conscious of weather conditions in the general area of its hiking route. If there is any indication of heavy rain, it should modify its route to be out of a canyon bottom or dry wash. Likewise, it should never camp in such a location. The noise made by a wall of water will provide a very brief warning. If the Unit Leadership is aware of the possibility of a flash flood, it may be just enough time to get the Unit out of danger.

Additional discussion of water hazards, appears in the syllabus for Adult Leaders Backpack Training and in the Fieldbook. Treat rain, snow, and all ground water with the respect that it deserves. Never contaminate it through the careless disposal of cleanup water, garbage, feces, and urine; you and others need it to survive. You risk injury or death by disregarding its hazards.



## Temperature

The body does everything that it can to maintain the temperature of the brain at 98-99 degrees. As its temperature is plus or minus two degrees outside of that range, a person can no longer function in a normal manner. With a temperature variation that is greater than that, the body's temperature control mechanism stops working, the temperature goes higher or lower, and the person dies.

It is far easier to keep a person from having a problem with temperature than it is to deal with it. The extreme cases, heat (sun) stroke and hypothermia, are medical emergencies which require immediate attention and evacuation. Even the milder problems, heat exhaustion and uncontrollable shivering and/or frostbite require immediate care and transport, in most cases, to a medical facility.

Prevention of a temperature problem is surprisingly similar for both hot and cold weather.

- ◆ Determine the likely temperature range and weather conditions to be experienced during the outing.
- ◆ Inform all participants of the clothing and equipment that they must bring.
- ◆ Ensure that everyone is properly clothed, as the temperature changes (layer/peel).
- ◆ Take a water break at least once an hour. The body can become dehydrated almost as quickly in cold weather as in warm. Dehydration hinders its ability to deal with a temperature problem.
- ◆ Recognize the symptoms of temperature caused problems and taking prompt action.

Special actions for hot weather include:

- ◆ Reduce the level of activity, hiking pace, etc., as the temperature increases.
- ◆ Hike earlier in the day and in the early evening, rather than during midday.
- ◆ Require participants to consume extra water - use flavorings like Tang, Kool Aid.
- ◆ Taking salt tablets is not recommended by most medical authorities.

Cold weather requires the following additional actions:

- ◆ Planning activities to avoid the colder parts of the day; sleep in later, cease hiking or other activities earlier.
- ◆ Carry additional clothing and equipment to survive an unexpected drop in temperature.
- ◆ Keep everyone dry, whether from rain, snow, or ground water.
- ◆ Prevent excess sweating by monitoring the amount of exercise and the clothing worn.

- ◆ Provide warm food and drink as part of the menu.
- ◆ Prohibit horseplay or other activities that result in getting wet, sweating, etc.
- ◆ Keep persons from direct contact with cold or wet objects.

Exposed skin makes the job of controlling the body's temperature more difficult, whether hot or cold. Light weight, light colored, and long for the heat; layered, heavier weight, dark colored, and long for the cold. Head wear is mandatory for both.

Elevation accentuates temperature problems and may mask them. Early stages of hypothermia have several symptoms in common with altitude sickness. A person may become dehydrated at a lower temperature when at a higher elevation because he/she does not realize the additional physical demands that the elevation places on the body. Breathing more quickly, with the mouth open, accelerates water loss.

Symptoms that are common to both heat and cold temperature problems are:

- ◆ pale skin.
- ◆ weakness; loss of manual dexterity.
- ◆ mental confusion; slurred speech.
- ◆ denial of a problem.
- ◆ headache.
- ◆ dizziness.
- ◆ unusual, extreme skin temperature.

Some of these seem like little more than the hot, tired, sore feelings that are common to a strenuous activity like backpacking. The big difference is skin temperature. The initial actions for treating a temperature problem are to:

- ◆ get the person out of direct exposure to the heat or cold.
- ◆ take all first aid measures to restore the victim's temperature to the desired range of 98-99 degrees.
- ◆ provide cool liquids to a conscious victim of a heat problem.
- ◆ do not provide warm liquids to a person with an extreme cold temperature problem.
- ◆ seek outside assistance or immediate evacuation for an extreme case.

Extended discussion of these problems is to be found in practically all of the books that are listed in the Bibliography. The syllabus for Adult Leaders Backpack Training contains sections which cover how heat, cold, elevation, and dehydration affect the body.

Temperature, which is a function of weather, is what it is. You can't change it, but you can overcome it through planning and preparation and careful execution. It may not seem like a risk, but it certainly is. The wrong actions can result in a person experiencing hypothermia with an air temperature in the 50's and heat exhaustion when it is in the 80's. Temperature caused medical problems are not necessarily the consequence of temperature extremes.



### **Anaphylactic Shock**

This is the body's acute allergic reaction to exposure to a foreign protein. It can occur as a result of an insect sting or an animal bite, of an injection of a vaccine, or from eating a particular food. It will occur independent of, and in addition to, any other medical problem associated with the bite or sting. Persons may experience this allergic reaction initially at any time in their lives, even though they have never had any problem from a similar incident. However, once a person experiences one, he/she will always have one when experiencing such an incident. This is the condition that causes more people each year to die from the sting of a European honeybee (EHB) or a wasp, than from snake bite.

The good news is that it is relatively rare; the bad is that it is a medical emergency, requiring immediate care and, possibly, evacuation. Everyone who participates in the Unit's High Adventure Program must be instructed in the risks, including anaphylactic shock, of many insect and all animal bites. They are to be told to immediately tell another adult, when such an event occurs. Someone must stay with the person for at least a half hour after it to monitor his/her condition, in addition to providing the appropriate first aid for the sting or bite.

Symptoms of anaphylactic shock from a bite or sting include, in likely order of occurrence:

- ◆ weakness
- ◆ rash or hives
- ◆ difficulty breathing
- ◆ pale, cool, clammy skin
- ◆ severe chest pressure or pain
- ◆ loss of consciousness
- ◆ cessation of breathing
- ◆ cessation of heartbeat

The skin around the bite or sting may not have any unusual appearance.

Not every allergic reaction will include all of the above (which are similar to the symptoms of a coronary problem), but any reaction requires medical attention. If breathing stops, death will occur within 4-6 minutes, unless proper first aid is provided.

Symptoms of anaphylactic shock from food include:

- ◆ intense stomach pain.
- ◆ sweating; hot flashes.
- ◆ itching sensation in the palms of the hands and soles of the feet, in the armpits and groin, and behind the knees.
- ◆ weakness.
- ◆ pale appearance.
- ◆ feeling of nausea.

In many cases, an allergic reaction to food will disappear in about 30 minutes. The person may then resume activity. The only first aid is rest, calm, and water. However, if the symptoms progress into difficulty breathing, loss of consciousness, etc., it is now a medical emergency. The same care as if it were from a sting or bite is required.

The full set of symptoms of anaphylactic shock will generally appear within 3-5 minutes after the event. Once they include difficulty breathing, the following measures must be initiated:

- ◆ obtain medical assistance and/or evacuation.
- ◆ treat for regular shock.
- ◆ administer rescue breathing if cessation of breathing.
- ◆ administer CPR, if loss of heartbeat.

Someone must continually monitor the condition of this person, until medical assistance is obtained.

Persons who know that they have an allergy must always carry a prescription antihistamine (epinephrine) kit on every outing. They must know when and how to use it. The Adult Leadership must know of this medical condition and also know when and how to administer the prescribed medication. They must be told where in the person's pack the kit is located.



## Poison Oak

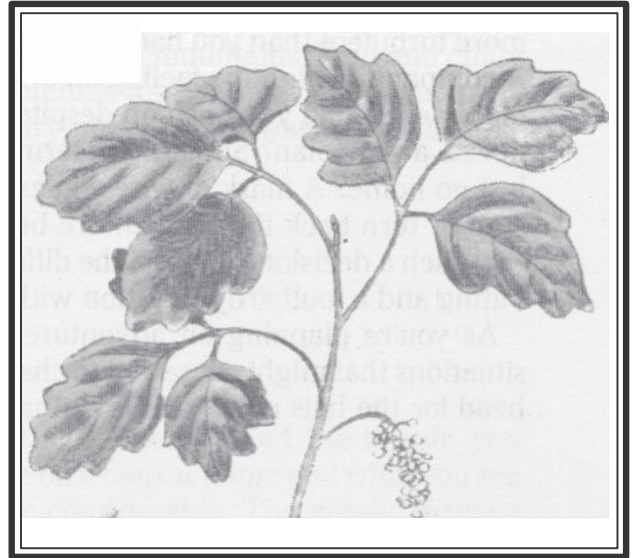
Do you know the plant that bears the leaves shown below? Does everyone recognize the three-leaf pattern with prominent veins, shiny upper surface, and smooth edges?

Poison oak is found in many locations in California, at elevations up to 6,000 feet. It thrives where there are shade and reasonable rainfall, so you won't find it in the deserts. The leaves may change color during the year, from bright to dark green, into yellow, orange, red, or a combination. In spring, the plants have clusters of small, whitish-green flowers, that become small, white or tan berries.

In winter, the leaves and berries may fall, leaving bare sticks, stems, or vines. Always avoid contacting any part of the plant, as oil that the leaves and stems secrete may cause a painful rash at the point of contact.

Poison oak is very adaptive to other vegetation, appearing in several forms:

- ◆ Bushes, which may cover a wide area.
- ◆ Inter-grown with other bushes and vines.
- ◆ Vines that cover and hang from the lower branches of trees.



A major task for persons doing conservation work is to totally clear the poison oak that intrudes into maintained trails and campsites.

A High Adventure Program is likely to take the Unit into contact with it in the following circumstances:

- ◆ Doing conservation work.
- ◆ Hiking cross-country.
- ◆ Hiking or camping on poorly maintained trails and campsites.

However, a person is most likely to come into contact with the painful rash at poison oak because of failure to recognize it and to take evasive action. In addition to recognition and avoidance, there are other actions that persons can take to avoid its consequences:

- ◆ Wear long pants and a long-sleeved shirt.
- ◆ Wear work gloves, when doing conservation work.
- ◆ Wash all exposed skin with a mild soap.

Persons who have experienced severe reactions to poison oak may want to contact a doctor about receiving inoculations or drugs that can provide a measure of immunity.

Some other rules for dealing with poison oak:

- ◆ Remove hiking or work clothes before going to bed. Oil on them will get on the sleeping bag and cause a problem later.
- ◆ Wash all equipment and tools that come into contact with it.
- ◆ Wash all personal clothing that may have come into contact with it.
- ◆ Never burn it. Breathing the smoke will cause a painful, potentially fatal, inflammation of the lungs.

Poison oak may not represent a medical emergency, but it can be painful and partially disable a particularly susceptible individual from full participation in the remainder of the activity.

Prevention of a problem begins with recognition and avoidance. Whenever you hike, mention its presence to the Unit. Wear proper clothing for the activity and frequently wash hands and exposed skin with soap. Everyone should be advised to avoid touching other parts of his/her body and other persons, as it can be spread by hand contact. Washing the hands before urinating is particularly important; a rash and swelling on the genitals are a great discomfort. The rash and swelling from poison oak generally appear by 12-24 hours after contact. Wash it with soap and water.

Calamine lotion may provide relief to some people. Any first aid spray or lotion will provide some relief for the urge to scratch. Scratching may break the blisters and spread the problem. If it is especially bad, a site on an arm or leg may be covered with a loosely applied roller bandage.



### **Snake Bite**

A buzz; a swift movement; a stinging sensation; you've been struck by a rattlesnake. The good news is that fewer than a dozen people die per year from snakebite. However, many times that number are bitten by snakes and each incident must be treated as a medical emergency.

Snakes are found just about everywhere, provided that there is food for them, up to 8,000 foot elevation. They are relatively easy to avoid, and will go out of their way to avoid you when given the opportunity. Contrary to some popular portrayals, practically all snakes in this part of the world are not aggressive in seeking out and attacking people.

Snakes nest in the holes or burrows dug by other animals, in naturally occurring crevices and cracks in rock, and in rock and wood piles. They hibernate during the winter, usually appearing in early April and disappearing in October. They can climb any rough object, including walls and trees, that provides traction for their scales. They sun themselves in early/mid-morning and hunt from late afternoon through late evening. In between they rest in their burrows or other secure, warm locations. Hunting involves waiting in ambush for a small animal. Baby



snakes are less than a foot long; mature ones are usually 3-4 foot. Usually striking distance for a rattlesnake is two-thirds its length.

Your High Adventure Program can bring you into contact with them at any time. Clearing brush and moving rock during conservation projects can turn one up. Hiking during mid-morning on a sunny trail may bring you on to one. They may enter your campsite during late afternoon/early evening to dine on any small animal that has been attracted by garbage, etc.

Avoiding a snake and any subsequent medical emergency is relatively easy to accomplish.

- ◆ Look where you're putting your hands and feet.
- ◆ Walk around large logs and rocks, whenever possible, rather than stepping over them.
- ◆ Use the proper tools to move rocks, brush, and down wood when doing conservation projects.
- ◆ Hike on trails; avoid brushy locations.
- ◆ Keep your campsite clean; hang all food and garbage and carry it out.
- ◆ Use a flashlight when hiking or walking around a campsite in the dark.
- ◆ Never pitch a tent next to, or on top of, an animal burrow.
- ◆ Keep tent flaps zipped closed.

Wearing long pants, heavy socks and high-topped, leather boots is good practice when hiking and camping in locations known for rattlesnakes. Leave all snakes alone. The non-poisonous ones are all protected, and their bite can still cause a medical problem. Rattlesnakes can kill you, dead or alive.

Treatment for the bite of a poisonous snake includes:

- ◆ Get the victim and others in your Unit away from the snake.
- ◆ Get medical help as quickly as possible.
- ◆ Keep patient calm; provide assurance that he/she will be OK.
- ◆ Apply a loose constrictor band on the arm or leg, above the fang marks.
- ◆ Remove any rings, watches, or other tight fitting objects and clothing that are in the vicinity of the bite.
- ◆ Wash area with soap and water.
- ◆ Treat for shock.
- ◆ Continually monitor the person's condition.

It is desirable that the person receive medical care within 4-6 hours, and especially as swelling and discoloration occur.

Do not take any of the following actions:

- ◆ Apply a tourniquet.
- ◆ Put heat or ice on the wound.
- ◆ Attempt to suck out the venom with your mouth.
- ◆ Cut into the bite area.
- ◆ Give the patient alcohol, coffee, or other stimulant.
- ◆ Scream and shout, i.e., panic.
- ◆ Pursue the snake - let it go!

Most rattlesnakes do not administer a lethal dose of venom to humans, although a baby snake is more likely to. However, only a doctor can make that determination. Also, other proteins entering the wound may cause anaphylactic shock.

Treatment for the bite of a nonpoisonous snake includes:

- ◆ Keep person calm; provide assurance.
- ◆ Wash area with soap and water.
- ◆ Treat for shock.
- ◆ Continually monitor the person's condition.

Medical attention should be obtained, especially if there is any symptom of anaphylactic shock. Any time that the teeth of any animal break the skin, this is a possibility. If there is any doubt as to the type of snake, assume that it is a rattlesnake and treat accordingly. Do not go looking for it. Most snake bites occur as a consequence of some stupid action on the part of the victim.



## **Other Animal Bites**

Any animal that you encounter, other than a person or a dog on a leash, is wild!!! It is to be avoided, because of the several risks that it represents. Besides the nasty cuts that can be administered by teeth, claws, hooves, or horns, these animals may have rabies or be carriers of ticks, fleas, and other noxious insects. They shouldn't be around you and you should stay away from them.

Avoiding most animals is easy to accomplish. Common sense will keep them from being a problem.

Wild animals need to remain wild. As they become accustomed to people, they may lose their ability to survive. Furthermore, human food is just plain bad for them. Observe them from afar and preserve their wild nature.

Treatment for the bites and scratches of a wild animal includes:

- ◆ Get the victim and others in the Unit away from the animal.
- ◆ Keep the person calm.
- ◆ Control any heavy bleeding.
- ◆ Wash the wound and surrounding area with soap and water.
- ◆ Cover the affected area with a dressing and bandage.
- ◆ Treat for shock.
- ◆ Check for the presence of ticks and fleas from the animal.

Medical care should be obtained within 24 hours of being bitten.

The condition of a person who has been attacked by a wild animal should be monitored for several hours for any symptoms of anaphylactic shock. The introduction of foreign proteins occurs with any break in the skin that is caused by an animal bite or insect sting, and an allergic reaction is always a possibility. If that happens, medical care must be immediately obtained. Hike Aid 5, "High Adventure Backpacking Program", contains further discussions on dealing with wild animals in the section, The Local Fauna. Please report any incident of attack by a wild animal to the administering state or federal agency for the location.



## **Bees and Wasps**

Honeybees, hornets, yellow jackets, and wasps all carry a painful punch in their stingers, especially for a child. However, one or two stings, from an encounter with a limited number of them, generally does not present a medical emergency. There are two important exceptions:

- ◆ An attack by a swarm of bees. This situation is discussed in the following section, Africanized Honeybees.
- ◆ A sting that triggers an allergic reaction. This problem is covered in the earlier section, Anaphylactic Shock.

Medical aid must be obtained immediately for either of these problems.

Bees, et al., are generally encountered individually, as they forage for nectar and pollen. As you approach a nest or hive, the number will increase significantly. Except when you become a risk to them or their nest, they are unlikely to sting you. Therefore, the primary rule for avoiding this is to not do anything that represents a threat.

- ◆ Be observant and avoid getting closer than 50-75 feet to a nest.
- ◆ Stay away from brush and flowers where bees are collecting nectar and pollen.
- ◆ Do not wave your arms and swat at them; calmly move away.

Other actions that can be taken to avoid being stung are:

- ◆ Hike on a trail; stay out of brush/chaparral.
- ◆ Be observant when selecting a campsite and pitching a tent.
- ◆ Wear light colored clothing.
- ◆ Do not wear lotions or perfumes.
- ◆ Keep food in storage containers or pots with lids.
- ◆ Keep campsite clean.
- ◆ Shake out damp clothing and towels before using.

In most instances, the meeting will be brief and both you and the bee will be on your way, no worse off than before.

In the event that someone does get stung:

- ◆ Calm the person.
- ◆ If a hornet or wasp (which can sting several times), be certain that it has gone.
- ◆ If a bee, remove the stinger immediately. Use the flat edge of a knife, credit card, fingernail, etc., to scrape it off the skin.
- ◆ Wash sting with soap and water.
- ◆ Apply ice or cold compress, if available, for 20 minutes.

- ◆ Applying a first aid cream, lotion, or spray may provide some relief from the pain.

The classic home remedy is to apply a slice of onion to the sting. This probably is not practical in the backcountry, but it does provide relief. A person should be checked about every twenty minutes, for several hours, for any signs of shock. This is important for a person who has been stung on the head or neck. It is also desirable that the person remain quiet and avoid strenuous activity for an hour or two.



### **Africanized Honeybees**

Although popularly called “killer bees,” their reputation has been greatly exaggerated. The Africanized honeybee (AHB) is closely related to the European honeybee (EHB). Their appearance is all but identical and their behavior is quite similar. They can sting only once, have the same venom, pollinate flowers, and produce honey. They are unlikely to sting when gathering nectar or when swarming.

AHB are more aggressive and less predictable than EHB. They will defend a large area around their nest, while EHB generally don't attack unless the nest is disturbed. When AHB do attack, they do so faster and in greater numbers. They can sense the presence of people and other animals when they are more than 50 feet from the nest; once they attack, they may pursue the enemy for more than a quarter mile. These are the characteristics that cause more persons to die from being attacked by a swarm of Africanized honeybees. A person can die from being attacked by a swarm of European honeybees, it just doesn't happen as often. Likewise, any person can experience anaphylactic shock from a single sting by either type of bee.

Things that the Unit and its members should do to avoid attack by a swarm of AHB include:

- ◆ Wear light colored clothing, with long sleeves and long pants,.
- ◆ Be aware of individual bees and any increase in numbers that would indicate that a nest or swarm is nearby.
- ◆ Listen for buzzing that would indicate the presence of a nest or swarm.
- ◆ Move quickly away from any increasing number of bees.
- ◆ Be alert for bees and indications of a nest when selecting a campsite.

If a person is attacked by a swarm of AHB:

- ◆ Run away from the direction of attack, until the bees stop coming.
- ◆ Remove stingers as quickly as possible, using the flat edge of a knife, credit card, or fingernail.
- ◆ Wash sting area with soap and water.

- ◆ Apply ice pack or cold water, if available.
- ◆ Applying any first aid cream, lotion, or spray may provide some relief from the pain.
- ◆ Monitor the person for any sign of difficulty in breathing or for anaphylactic shock.

Medical aid should be obtained for a person who has been stung numerous times, especially when on the head and neck. It must be obtained immediately when the person has any difficulty in breathing or any symptom of shock.

If the person is attacked, do not:

- ◆ Wave your arms or otherwise attempt to brush or scare them off - this will only make them more aggressive.
- ◆ Use tweezers to remove the stinger, as they will likely force more venom into the skin.
- ◆ Approach the person until he/she has gotten away from them - they will attack you, too. (If the person is unable to move, then you may have to approach him/her to help).

These bees are in many parts of California. State and federal forestry officials are already taking actions to eliminate nests as they are established. If anyone is attacked by a swarm of bees that exhibit the aggressive behavior of AHB, please report it to the administering state or federal agency for the location.



## Scorpions

Scouts are fascinated by them. The Mayan word for scorpion meant “Sign of the Death God.” They feed on insects, including other scorpions. About 30 of the 1,500 known species can endanger a person’s life. You may have to go out of your way to find them, but they do inhabit the local deserts and mountains, up to 6,000 feet. They hide under rock or logs or in burrows during the day and hunt at night.

The sting of most species of scorpion is no more venomous than that of a wasp. However, the venom of one species (the Bark Scorpion) that is found in Southern California can cause death. It is yellow or greenish yellow, is from one half to three inches long, and has a slender body, narrow tail, and small pincers. Not much to go on, so treat them all with respect. Any sting is painful and may induce anaphylactic shock.

Scorpions are reasonably easy to avoid.

- ◆ Watch where you put your hands and feet, particularly when picking up rocks and wood.
- ◆ Shake out boots, gloves, and clothing before putting them on.
- ◆ Keep tent flaps zipped closed.
- ◆ Do not go barefoot, particularly in the dark.

- ◆ Keep backpacks closed and zipped, in an upright position.
- ◆ Don't leave clothing, etc., on the ground, overnight.

Treatment for being stung includes:

- ◆ Calm the person.
- ◆ Wash site with soap and water.
- ◆ Apply a cool, wet compress for 20 minutes.
- ◆ Applying a first aid cream, lotion, or spray may provide some relief from the pain.

Monitor the person for any symptom of anaphylactic shock.

Immediate medical care is vital when there is reason to believe that the sting is by a Bark Scorpion. If in doubt, assume the worst. Obtain medical care for anyone who is stung on the neck or head by any scorpion.



## Ticks

Lyme's disease has certainly changed our awareness of ticks. Before Lyme's, they were considered to be just another nuisance, along with all of the other bugs to be found in the mountains. Now they rate front page newspaper coverage. We are fortunate in that the most common type of tick that is found locally is not a carrier of Lyme's. However, any tick that is embedded represents a medical problem. If it is not removed, the person may develop flu-like symptoms, including fever, headache, and muscle or joint pain.

Contact with ticks can be reduced by:

- ◆ Staying out of weeds and brush.
- ◆ Keeping away from animals, living or dead.
- ◆ Wearing long pants.
- ◆ Using insect repellent on expose skin and on cuffs of shirt and pants.

Be alert and tell everyone when you find one. It is much easier to brush one off skin or clothing, than to remove it when embedded. Carefully check along the back of neck and hair line, behind the knees, and in the armpits and groin.

An embedded tick must be removed immediately, using a pair of fine-tipped tweezers. Prompt removal will reduce the likelihood of the person developing any medical problem, including Lyme's disease.

- ◆ Grasp the tick's mouth parts as close to the skin as possible.
- ◆ Pull out slowly and smoothly.
- ◆ Save the tick in a plastic bag for medical analysis.
- ◆ If the head or jaws remain embedded, try again; every part of the tick must be removed.

Do not try to remove one by applying heat or by covering with a salve. That's like trying to teach a pig to dance - it wastes your time and irritates the pig.

Once the tick is removed:

- ◆ Wash the bite with soap and water.
- ◆ Apply a cold compress, to reduce the initial pain.
- ◆ Apply a first aid spray, cream, or lotion to reduce itching.
- ◆ monitor person for symptoms of anaphylactic shock.

Upon returning home, parents should be told of the presence of ticks and of any bites. If a person experiences a rash at the location of the bite or develops flu-like symptoms, he/she must see a doctor immediately.



## Other Insects

In addition to those already discussed, there are numerous other insects that are a nuisance, or worse, to the backcountry traveler. This is particularly true for young persons, who are more sensitive to their presence, bites, stings, etc. Most of these bugs do not present a potential medical problem, although fleas are a carrier of several nasty diseases, including bubonic plague and Rocky Mountain spotted fever.

As insects are always present, wherever you go, you cannot totally avoid them. There are, however, things that you can do to minimize these contacts.

- ◆ Hike on trails; stay out of brush/chaparral.
- ◆ Be observant when selecting a campsite and pitching a tent. Avoid ant hills, wasp nests, animal burrows, etc., Camp away from water.
- ◆ Wear light colored, long pants and a long sleeve shirt.
- ◆ Apply insect repellent sparingly to exposed skin and along the cuffs of shirt and pants (Keep it off of equipment and waterproofed fabrics).
- ◆ Do not wear lotions or perfumes.



- ◆ Stay away from dead or sick animals.
- ◆ Keep a clean campsite - police it when you arrive, while you are there, and before you leave.
- ◆ Keep food in storage containers or pots with lids.
- ◆ No food, no cooking in tents.
- ◆ Clean utensils and cooking area immediately after each meal.
- ◆ Have everyone wash their hands and face after eating.
- ◆ Keep tents in good repair - fabric, netting, zippers.
- ◆ Pitch tents away from cooking/eating area.
- ◆ Keep tent netting zipped closed.

A person who is susceptible to swarms of flying insects should be encouraged to carry and wear a hat with netting attached.

The USDA-FS regularly published and posts notices of the location of fleas that are carrying a disease. Stay out of those areas until the notices are withdrawn. Remember that fleas are always present and that these diseases are also. Check skin and clothing regularly and warn other members of the Unit when you find them. A person who develops a rash or flu-like symptoms (fever, headache, muscle or joint pain) must see a doctor immediately.

If a person is bothered by a swarm of gnats, flies, mosquitoes, etc., the first step is to separate them. If you are in camp, get him/her into a tent and close the netting or flaps. If on the trail, cover all exposed skin. If the problem is crawling insects, brush them off. Aid to a person who is extensively bitten or stung includes:

- ◆ Calm the person; give him/her something to drink.
- ◆ Wash the bites.
- ◆ Apply a first aid spray, lotion, or cream to relieve itch.

On occasion, a person may become hysterical or panic when bothered by a continuous or persistent swarm of bugs. Prompt action is necessary to protect him/her from injury while trying to get away from them.



## **Headaches**

For the typical person, a headache is little more than an annoying condition, caused by the participation in a strenuous, hot or cold, dusty activity, such as backpacking. However, it is also a common symptom for numerous medical problems, and is often the first to appear. Therefore, immediate attention is necessary, not just to alleviate the discomfort, but to determine the cause of it.

A headache can be a symptom for any of these medical problems.

- ◆ Blow to the head.
- ◆ Dehydration.
- ◆ Heat exhaustion/sun stroke.
- ◆ Hypothermia.
- ◆ Anaphylactic shock.
- ◆ Altitude (mountain) sickness.
- ◆ High altitude pulmonary edema.
- ◆ Cerebral edema.
- ◆ Eye strain/snow blindness.
- ◆ Cardiac conditions.
- ◆ Constipation.
- ◆ Sudden illness.

Fatigue, hunger, tension, caffeine rich drinks, and some foods may also trigger a headache.

Reduce the likelihood of a headache and/or those medical problems by taking the following actions:

- ◆ Require a physical exam annually by each participant in High Adventure.
- ◆ Take easy hikes to determine physical condition before hard ones.
- ◆ Set an easy pace at the start of each day.
- ◆ Take a brief rest stop each hour.
- ◆ Consume adequate water and snacks as you hike.
- ◆ Wear adequate protective head gear and sunglasses.

- ◆ Wear proper clothing; change it as conditions change.
- ◆ Avoid over-exertion, particularly in the hottest part of the day.

These actions will reduce the possibility of someone developing a headache, not just because backpacking is hard work, but also as a symptom of a serious medical problem.

The first step in dealing with a headache is to take a break and determine the underlying cause. A headache is a warning that something isn't right with the person. It may be as simple as over-exertion, stress, or hunger, or as deadly as the onset of high altitude pulmonary edema. Once determined, treat the problem; the headache will take care of itself. When involved in a strenuous High Adventure activity, it is not enough to allow the person to self-medicate.

The headache is not the problem, and the person's health and safety are not assured until the problem is identified and appropriate treatment administered. When the headache is of the following nature, the person needs immediate evacuation and medical care. This may be apparent from the appearance of other symptoms, just do not wait for them.

- ◆ It is the worst, or first, headache that the person has ever had.
- ◆ The pain won't go away, even after basic first aid.
- ◆ The person has a fever.
- ◆ The person has an unusually stiff neck.
- ◆ The person is incoherent or can't think clearly.
- ◆ The pain was sudden and severe.
- ◆ The person has experienced a series of headaches that are progressively more painful.
- ◆ The person's arms or legs are tingly, weak, numb, or paralyzed.

The sooner this person is off the trail and receiving medical care, the more likely he/she will experience a full recovery from whatever the problem.

In summary, a headache is a symptom of a problem, not the problem. Aspirin and other non-prescription, analgesic drugs are not a treatment for the underlying cause. That cause will not go away until it is identified and the measures specific to treating it are taken.



## Search and Rescue

A person has become separated from the Unit; you have come upon another hiking party who has lost someone; a Scout has left the campsite and not returned. What to do:

- ◆ Wait for the person to find you?
- ◆ Immediately fan out in a search?
- ◆ Immediately go for help?

Time is important, particularly in bad weather or hazardous terrain. But, haste makes waste. Anything done without a plan, even sending for help, will probably be done poorly.

The first thing to do is to get everyone together and attempt to determine when and where the lost person was last seen.

- ◆ Was it at or near where you are currently located?
- ◆ If not here, exactly where?
- ◆ Why did the person become separated/lost?
- ◆ What was the person wearing, carrying, doing?

Make certain that everyone else is present, as you prepare a plan of what to do. Get out your maps and the Trail Profile and Schedule. Mark your current location and the location where the person was last seen.

Having done this, try to determine:

- ◆ How far apart these points are, in time and distance.
- ◆ Where the person might have gone, or strayed off the trail.
- ◆ What the hazards are to the lost person; to the search party.
- ◆ Where you would send members of the Unit to summon help and how far it is.
- ◆ The abilities of the members of the Unit and the resources that it has for conducting a search.
- ◆ What the weather is doing and how it may change.
- ◆ The time of day and how it will affect sending for help and/or conducting a search right away.
- ◆ The ability of the Unit to camp safely at or near the area of search, while help is obtained.

Answering these questions will aid the Unit Leadership in deciding what to do and in developing a plan.

### Sending for help

This is not an admission of fault or failure. The sooner that you realize that you need help and send for it the better for everyone. If members of the Unit have been instructed to stay put, once they are separated or have become lost, it may be possible to find a person fairly quickly, without additional help. However, if no such training has ever been given or if the person is likely to wander and try to find the Unit, then finding him/her can be more complicated. A person who stays put is also less likely to fall or otherwise become injured.

Sending for help to search for a lost person is virtually the same as for a medical emergency.

- ◆ Send a group of at least three persons.
- ◆ Explicit directions (with a map as to where to go).
- ◆ Provide an exact, written location of the Unit, now and where it will be when help arrives.
- ◆ The probable location of the lost person or where last seen.
- ◆ Advise for the search party as to weather, terrain, other problems.
- ◆ What the Unit will do while waiting for help.
- ◆ Keys for any vehicle and where to drive.
- ◆ What the persons who go for help are to do after they have contacted the local Sheriffs Department.

### Conducting a search

The first priority of Unit Leadership is the health and safety of the rest of the Unit. Do not conduct a “search,” but wait for help, if there is any possibility that additional persons may become lost, or of someone being injured. Of course, you can probably do the obvious, that is, returning to the spot where last seen, checking side trails - those things that do not involve sending Scouts off in a haphazard manner through chaparral and up and down steep hillsides. Any searching that includes going off-trail should never be attempted in the dark.

To be effective, a search must be conducted in an orderly manner. Select a location that is easy to find as a control point. The person who is directing the search is to remain here while it is being conducted. A group of 4-5 persons is sent out in a specific direction, after being told how long (20-30 minutes) before they are to stop and return. Members of each group are to fan out, but remain within sight and sound of another member at all times. They are to look for footprints or other clues as to the person’s presence, and listen for his/her voice. It would be helpful if one person in each group had a police whistle, on which they could give two toots every few minutes. This search pattern continues until every direction from the control point is covered. A broader search, outside the immediate location where the person was last seen or likely to have gone, is generally beyond the ability of a Unit to conduct.

Each incident is bound to be unique, so decisions by Unit Leadership must be based upon the specific circumstances.

- ◆ Develop a plan and stay with it, until a critical assumption or condition changes.
- ◆ Do not subject yourself or any other member of the Unit to undue risk. Macho behavior is not to be allowed.

When the person is found, remember TLC (tender loving care). Do a full, first aid emergency evaluation. Save the fault-finding, recrimination, etc., until later. You may find that they aren't necessary or appropriate.



### **Evacuation**

Something has happened that requires that a participant, or the entire Unit, be taken off the trail. The incident may be a medical emergency, a change in weather, trail damage, or a loss of food to our animal friends. Its nature may be such that evacuation must be as swift as possible or may be at normal hiking pace; it may require outside assistance and medical aid or may be done by the Unit, i.e., self-evacuation.

The decision to evacuate arises from a recognition that the Unit has experienced an unexpected situation that is beyond its ability to handle. It may imperil the health and safety of a participant, or the entire Unit, unless it leaves the trail. Feelings of uncertainty, confusion, fear, and failure may be prevalent. Evacuation means disrupting the planned activity, if not terminating it. Sending for outside help usually means incurring a considerable cost, particularly when helicopter service is required. It is often a difficult decision to make, not made easier by these other considerations. But, it is a decision which must be made without unnecessary delay, particularly for a medical emergency.

Previous sections of this Hike Aid have noted medical problems that may require evacuation. The seminar and syllabus for Adult Leaders Backpack Training provides coverage of the subject, as do numerous books that are listed in the Bibliography. Therefore, only the highlights of what to do are presented here. This begins with the recognition of a problem and promptly deciding on how to act. A decision to seek outside help and/or evacuation must be followed by preparing a plan for doing it. The final step is to follow the plan, while providing first aid to any victim and caring to the health and safety of the rest of the Unit.

When evacuation requires outside assistance, members of the Unit will probably be sent to obtain it. A cellular phone may also be used. It is recommended that the Unit Leadership carry a Request For Assistance form such as found in Mountaineering First Aid and the Fieldbook. Its use will help the persons going for aid and the rescue agency understand the problem and its urgency. When outside aid arrives, the Unit Leadership should provide it with any notes regarding the victim's condition and the first aid provided. If a Scout is evacuated, their medical permission slip should be given to the evacuation party. Personal gear should also be sent out with them.

Evacuation, whether with outside help or on one's own, is not an admission of failure. It should not be a time of fault-finding, anger, or recriminations. It is a prudent act, when faced with an unexpected event.



*"The more improbable the situation and the greater the demands made on (the climber), the more sweetly the blood flows later in release from all tension. The possibility of danger serves merely to sharpen his awareness and control. And perhaps this is the rationale of all risky sports: You deliberately raise the ante of effort and concentration in order, as it were, to clear your mind of trivialities. It's a small scale model for living, but with a difference: Unlike your routine life, when mistakes can usually be recouped and some kind of compromise patched up, your actions, for however brief a period, are deadly serious."*

A. Alvarez, The Savage God: A Study of Suicide

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## Answer to Question on Inside Cover

- ◆ Look for another route that does not involve a water crossing on rocks and logs.
- ◆ Wear wrap-around dark glasses.
- ◆ Wear a hat with a full brim, long sleeved shirt and long pants.
- ◆ Unbuckle backpack waist belt.
- ◆ Shorten/tie up floppy boot laces.
- ◆ Carry a hiking stave.
- ◆ Hike with a partner/crew.

Another person on the log would increase the risk of this situation.



*"There is no trap so deadly as the trap you set for yourself."*  
Raymond Chandler, The Long Goodbye