

The MacScouter -- Scouting Resources Online

Winter Camping & Hypothermia

Wilderness Emergency Preparedness, Communications and Training

by Bob Amick, EMT-B

As has been discussed in other posts [to the Scouts-L Youth Groups Discussion List], preparation for and ANTICIPATION of potential problems is absolutely imperative. It is my experience and observation that many of the tragedies that are experienced are often a result of insufficient preparation or education about risk factors on the part of leaders and youth. So many things can go wrong as a result of natural hazards (such as lightning, rock fall, whitewater, floods, etc.). Add to that the physiological impacts of sudden illness, injury, etc., that create an adverse "domino effect" resulting in tragic consequences we often read and hear about. Naturally, when it is a Scouting event, it gets far more press than non-Scouting events which suffer a tragedy, might receive. Statistically, Scouting trips still have one of the best safety records of any youth organization in the world, but risks are always present.

Any one countermeasure which might be invoked in this "chain of events" can be enough to mitigate or reverse the progression of events. However, lacking those resources, the end result can be catastrophic.

Obviously we are dealing with statistical probabilities, and in some situations, no matter how well prepared you are, "mother nature" has the advantage, and we "mere mortals" are going to suffer the consequences.

In Scouting, preparedness is our "watchword." But we don't always do all we can to fulfill those obligations. Yes, you can "nit-pick" an outing to the point of saying, "well it's just too risky, so we aren't going to even attempt it. But maybe that's not all bad. So here are a few ideas about invoking effective countermeasures to mitigate risks:

1. Strategic planning:

Reach out for experts with the resources and extensive experience and expertise, preferably who have been where you are going. If they cannot go on the trip with you, get them to share as much of their experience as they can well in advance of your trip. If you don't have access to experienced persons, call Forest Rangers, National Park Service Rangers, et al, and get in-depth information on the area you plan to travel. Ask in-depth questions about "what-ifs" to try to anticipate weather, natural hazards, physiological/environmental risk factors.

2. Failsafe plans:

As with any trip, map out where you plan to go, camp, and return for each day, and make sure every leader and member knows the plan. Be sure that someone at home has all this information, and can serve as a "callback" point in case of emergency, to contact other parents, request search and rescue if the group doesn't return on time, as scheduled, etc. Be sure they have copies of vehicle descriptions, license plate numbers and names of everyone in the party. This information can be invaluable to public safety agencies seeking a "lost" group or individual. Give your plans to the park/forest rangers/ local mountain rescue or law enforcement agency so they already know where/what you are doing and what to expect if you have a problem.

3. Shakedown:

Do small "conditioning trips" to be sure everyone can physically keep up with the rigors and demands of the trip, and to better assess their equipment and skills; This gives an opportunity to

"fix" things before the "big trip." It also greatly helps group dynamics to see who the real leaders are, and who might be "problems" under some circumstances. Reflecting with the Scouts and Leaders after each shakedown allows everyone to benefit from the experience of each member and to better understand what problems may arise and how best to deal with them.

4. Tabletop Exercise:

With as much information as you can gather, sit down with the Scouts and the adult leaders, and carefully go over the routes, discussing hazards, risks, and asking for "what if" scenarios for each eventuality that might be anticipated.

Examples:

1. Crew Leader John Smith gets giardia, too sick to hike out, what do we do?
2. Scout Leader Joe Jones has chest pain and breathing difficulty, ten trail miles from nearest phone or ranger station.
3. Scout Timmy Tenderfoot is stung by a bee and has an allergic reaction on the trail, with 5 trail miles to the nearest road or phone.
4. The "desert rat" patrol's canoe hits a rock and rips a hole in the side so big it can't be repaired on the river. We don't have enough canoes to carry their gear and them too, and the closest landing is ten miles down river.

Research has shown that such "preparedness exercises" often give the participants some good "mental preparedness" to react to real situations calmly and effectively which can save lives and avoid panic.

EMERGENCY RESPONSE ACCESS

Then we need to consider fallback. Previously, it has been thought that "preparedness will always get us out of a serious situation." True, it can mitigate most things...but if you have a serious, life threatening injury or illness, the only measures which can be undertaken in a field setting with first aid skills may not be enough. The lifesaving "golden hour" from time of injury to time of delivery to a trauma center, in serious trauma situations can only be achieved through rapid contact with emergency services, response of aeromedical helicopters, and evacuation to level II or I trauma centers for definitive care. Beyond that "hour" the probability of survival diminishes almost exponentially.

Communications which are effective and reliable throughout the course of the trip, then become the only means of access for such emergent situations.

So how do you find effective communications?

CELL PHONES

Cell phones have limited effectiveness. Unless you have taken one or more of them to the area, and tried them out in most of the areas you will be in, you are not guaranteed to have coverage. Sometimes, in mountain settings, you may have to hike to a high point to "hit" a cell site. Cell phones operate at frequencies in the 800 MHz range, with low power so are limited to "line of sight" access to cell sites. Other problems are often associated with battery life and failure of electronics. **REDUNDANCY** is critical. Having multiple spare batteries, more than one phone, and phones with different carrier companies that you know to be functional in that area is essential. Contact your service provider to get a "footprint" map of their service area. More than likely unless your high adventure site is close to a major interstate highway or populated area, cell service will not be available or reliable. Cell phones do NOT work well in canyons, so don't count on them. In fact, most communications equipment that is portable does not fare well in canyons or where obstructions exist. Going to a high point such as a peak or ridge will almost always enhance communications access for any type of equipment.

SATELLITE CELL PHONES

Satellite Cell phones are available and certainly are the most reliable method of communications anywhere in the world since their "footprint" is essentially any point visible to a "geosynchronous communications satellite." The drawback is that they are expensive, and not everyone has access to them.

GPS Locators (Geosynchronous Positioning Satellite Locators) GPS receivers are becoming less expensive and can be most valuable for transmitting exact latitude and longitude coordinates from the point of where assistance may be needed. Mountain Rescue and Civil Air Patrol can effect very rapid responses when such coordinates are transmitted by radio to the emergency communications centers. Often you can borrow one for a trip from a business or government agency.

HAM RADIO (two-meter amateur radio)

HAM (amateur) radio is probably the best and most reliable alternative in the two meter band. Many extensive ham radio repeaters cover many mountainous and isolated terrain areas from high locations. Extensive "patching" capability and comprehensive monitoring by amateur operators provides reliable communications and access to emergency response providers. Scouts and leaders can get a "no code" two meter ham license rather easily by taking a training course from local "ham clubs" and taking the "novice" and then the "no-code" tech license exam. Cost of high quality hand-held two meter portables from various vendors such as Radio Shack, Uniden, Kenwood, et al is very reasonable; and worth it's weight in gold, if you have an emergency. Redundancy is still critical. Multiple batteries, and multiple radios are needed for reliability and in case the group gets separated. These radios are so light and small that they are not any burden at all to carry.

Radio communications for coordinating trips, travel, getting help for breakdowns or "getting lost," informing others of changes in itinerary is absolutely essential and can save much lost time and frustration while en route or returning from a trip. In some cases, equipping a vehicle with a high power mobile radio and having the hiking group check in periodically with "base" can alleviate a lot of problems and greatly enhance coordinating for pickups, food drops, change of plans and most of all emergencies that may occur.

There are those who say "keep high tech stuff out of the wilderness experience." Unfortunately, this view while aesthetically pleasing, is potentially very dangerous for reasons already discussed. So long as the trip goes well without "complications," the need for "high tech" assistance is minimal. But for those times when it is necessary, it may be the difference in life or death! If nothing else, it can save you a lot of lost time and coordination problems when "Murphy strikes" and things get weird.

TRAINING

You cannot get enough! Remember that if you are going to be responsible for the health and safety of Scouts, you need to do everything you can to be ready for eventualities. This includes not only extensive first aid and CPR, but additional training in "Wilderness first aid" techniques. There are a number of good Wilderness first aid books, one by William Forgey, M.D., that are packable, and give excellent references for everything from minor first aid to field medical techniques and medications that can be lifesaving. However, the book alone won't do it. Many outdoor programs offer "wilderness first aid modules" in addition to regular first aid courses just for that application and are well worth taking.

EMERGENCY RESPONSE TRAINING COURSE (RED CROSS)

You need to take a comprehensive first aid course such as the new Red Cross "Emergency Response" course. It is the next highest level training to EMT and takes about 50 hours. But it is well worth the time and experience, because it give you much needed in-depth knowledge of assessment, obtaining emergency assistance, and rendering in-depth care. It is vastly superior to the shorter 8-hour "community first aid/CPR" courses which are now the minimum requirement for BSA leaders on camping trips and high adventures.

The training is not just for leaders! Scouts and Explorers absolutely should take this training. I have been teaching this course to our youth for the past two years, and they really respond well to it. Many

adults have commented that they would almost rather have the Explorers rendering emergency care because they are so good at it!

Just as you need first aid/CPR, you also need wilderness survival and light rescue knowledge. Courses such as those offered by "Papa Bear" Whitmore and the National Outdoor Leadership School (NOLS) or Outward Bound, et al; are extremely useful. Similarly, if you are doing aquatics on rivers and lakes, under BSA aquatics regulations, you need "Safety Afloat/Aquatics Training and ideally, experienced leader(s) with such abilities. It goes without saying that aquatics requirements must be strictly adhered to. A moment of exception such as a Scout not wearing a life vest on a river trip, can result in tragedy. This is one area where a "no-nonsense" policy must be rigidly enforced and Scouts and Leaders must be made aware that violations may be fatal, and the "lesser penalty" may result in them being sent home forthwith. While negative reinforcement is not the ideal in Scouting, it can be minimized by showing Scouts video-tapes of the force of moving water and how river-rafters and canoeists without life-vests have been tossed into moving waters and quickly drowned in hydraulics or other hazardous situations.

This "real world" experience can be quite sobering, without causing fear. It is often said that "knowledge is power" and the ability to educate Scouts and leaders about anticipating and preventing risks with proper equipment and procedure will go a long way toward enhancing safety awareness.

COMPREHENSIVE MEDICAL KITS

Consult with physicians, especially those with outdoor medical experience, as well as EMT's/Paramedics, and get them to help you design a good field first aid kit. Remember that first aid kits are more than bandaids, and aspirin. You don't need to carry a "portable emergency room" with you but there are some key medications and equipment that can be lifesaving in a field setting. Dr. Forgey's book provides excellent lists for this area. Some medications are by prescription only, but may be essential to your kit. Ask your physician advisor to give you a prescription and a notarized letter giving you "standing orders" to administer those medications to the members of your trip. Be sure you are trained by the physician and that he is comfortable with your ability to administer such medications.

GET GOOD MEDICAL HISTORY AND PHYSICAL EXAMS FOR ALL PARTICIPANTS

Be absolutely sure you know what the medical history and susceptibility of each member of the trip may be. The high adventure physical form is a must. Be sure to note any allergies to insects, foods, etc., and other pre-existing medical conditions such as asthma, heart condition, etc. Designate Scouts and Leaders to be "medics" to deal with those issues. DON'T put all your "eggs in one basket" by having only one person trained medically. Remember the military adage, that sometimes "the doctor needs a doctor." So you better have several layers of fallback in case your resource becomes a victim.

KNOW WHAT THE LOCAL EMERGENCY RESOURCES ARE AND HOW TO GET THEM QUICKLY

Check in advance about mountain rescue, whitewater rescue, medical helicopter availability, and local hospital/trauma center resources/ambulance services. Don't "assume" that those services are always close by and readily available. Generally they are, but you need to know for sure. If not, consider options to compensate.

ADDITIONAL FAILSAFE RESOURCES AND EQUIPMENT

Always plan to have "spare" or additional resources that you hold only for emergencies. This includes additional drinking water, water purification filters; emergency high energy freeze-dried food rations, Gatorade electrolyte drink mix packets for dehydration treatment; a "survival" kit with "space blankets"; spare flashlights, batteries, bulbs; a "survival" strobe beacon for aircraft/night location identification; "high visibility" yellow-green fluorescent/reflective nylon fabric cycling jackets/parkas; cyalume 12 hour emergency lightsticks and police whistles for each member. Other items can be added to suit individual preferences. If you are going on a river trip, or even on backpacks when it rains, be sure to package your first aid and survival gear in waterproof containers or kits. Nothing is worse than "soggy" bandaids and pills when you need them. Ziplock bags help a lot for these items

as well, and are good "organizers" for first aid and survival kits. Redundancy is again important. Have small kits spread out among the group, and be sure each participant has a personal first aid/medical kit for his/her own needs. If the person who is "lost" has the only first aid kit, the rest of the group is big trouble.

NATURAL HAZARDS AWARENESS

The Red Cross teaches a new course called "Community Disaster Education." The course deals with natural hazards such as lightning, flash flooding, tornadoes, avalanche, hazardous materials emergencies, severe storms, hurricanes, etc., and provides excellent video tapes and brochures on how to avoid such hazards or to mitigate their effects. This information can be very useful on outdoor trips. It is interesting to note that flash floods are the leading cause of death in natural hazards, followed closely by lightning fatalities. Good videotapes and publications on these topics can go a long way in enhancing awareness and prevention.

MENTAL PREPAREDNESS

Outdoor survival courses such as Papa Bear Whitmore's course stress the vital need for "mental toughness" to acknowledge quickly that a critical situation has arisen, and to immediately begin countermeasures. Research has shown that most victims of wilderness emergencies often perish because they do not acknowledge the apparent and immediate risks, and fail to prepare for them early in the process when they are still mentally alert, well hydrated, and physically capable to responding. An attitude of "fierce will to live" must be instilled in every participant. All of the resources discussed above will do absolutely no good if the individual does not have the determination to assess the situation and respond appropriately and effectively in the face of very adverse circumstances. Interestingly, studies in disasters have shown that people have a great capacity to respond and render assistance, but often lack the skills and knowledge to do so effectively. Much of what Scouting teaches is self-reliance and leadership skills to use resources effectively; there is no better place to put those skills to use than in emergent situations.

SIMULATIONS

Again, simulations of potential real-life scenarios such as a "lost Scout" on a shakedown are excellent ways to test response plans and to give Scouts and Leaders confidence in dealing with the real situation should it occur. Positive reflection sessions after the exercises contribute greatly to reinforcing those responses and skills for the whole group.

It is recommended that Scouts and Scouters who plan to be involved in wilderness experiences avail themselves of as much training and experiential education as possible before the fact.

Unfortunately, this is presently one of the weaker areas of leadership training in Scouting in many areas. Much attention should be given by District or Council risk management and health and safety committees to greatly improve the leadership skills and resource availability in the topics discussed above.

It would be most interesting to have additional input and discussion on these topics from others who are similarly experienced. Once again to paraphrase a quote from another post "plan for the worst and expect the best and you will not be disappointed."

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