

Risk Management for Outdoor Leaders



A Practical Guide for Managing Risk Through Leadership

By
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Cover photos: Tom Bol (front); Doug Demarest (back)

Preface

When an outdoor education leader heads into the wilderness – whether leading experienced climbers, a group of children or NASA astronauts – he or she will encounter “risk” at every turn. It can be anything from a stream that is bigger than expected, weather that has turned, or a group member who ignores instructions. A good leader makes decisions that minimize harm and maximize the positive experience. This leader is an effective “outdoor risk manager.”

We set out to write this book to share information from our combined 64 years of experience in adventure education. Both of us have spent extensive amounts of time leading outdoor trips. We’ve both worked as National Outdoor Leadership School (NOLS) instructors, branch school directors and risk-management directors. We’ve also both chaired the Wilderness Risk Manager’s Committee; a group risk managers from prominent outdoor education organizations.

We have seen firsthand how “risk” inevitably crops up on every outdoor education trip. Using our experience and drawing from other experts, we have fine-tuned methods — which capitalize on practices like advanced planning, team building and clear communication — that can help any outdoor educator, be it a new summer camp leader or a seasoned NOLS instructor, face risk and minimize harm while leading successful wilderness adventures.

We call this “risk management.” As in other industries, such as insurance or finance, risk can be “managed” on outdoor trips if approached smartly. Our field, broadly labeled as outdoor education, includes taking a biology class on a day hike in the forest and taking a leadership class on a multi-week expedition into remote wilderness. The former is still considered outdoor education while the latter is usually referred to as adventure education. Both outdoor and adventure education entail risks, but generally speaking the exposure to hazards, and thus risks, are greater in adventure education.ⁱ

We’ve intentionally chosen to use the terms “risk” and “risk management” in this book rather than “safety” and “safety management.” The word safety implies freedom from harm. We know this is impossible both in and out of the wilderness. Indeed, much of the magic that occurs in adventure education is derived from living and traveling in wild places. Wild places (as well as civilized places) are not safe.

We’ve also intentionally chosen to use the term “incident,” instead of “accident.” The word accident is commonly used to refer to events that cause injury or damage from natural or human forces. Webster’s Collegiate Dictionary defines an accident as an “unforeseen and unplanned event.” In reality, many, if not most, of the accidents we see in the adventure program-



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ming profession are, in fact, foreseeable. They can be planned for (and therefore avoided or their harm minimized) through the use of controls and appropriate risk-management strategies. The word “incident” is a more useful term to refer to these events. Incident is defined as “an occurrence of an action or situation that is a separate unit of experience.” This allows us to refer to events in a more factual way. Incident is a non-judgmental way to refer to events that may be accidental, intentional, a force of nature, errors in judgment or procedures, or an outcome of the inherent risks of participating in adventure activities.

In the insurance world, companies measure risk of injury, illness or accident and assign a monetary value to loss of life, loss of function or loss of enjoyment. Financial advisors and managers assess the risk of investments through quantifying the potential loss of income or gain from an investment.

In outdoor education, risk can to some degree be measured and calculated, but sound numbers are elusive and comparisons are often apples to oranges. Attempts to quantify risk are significantly influenced by subjective perceptions of danger and tolerances for risk. Still, this book lays out concrete steps to take that will measurably decrease the likelihood of injury, harm or failure on an outdoor education trip.

Adventure program managers have many tools for managing risks: training, curricula, protocols and reviews, to name a few. We believe that these tools are vital to risk-management, but they are useless without effective leadership. The heart of this book is how to creating a high functioning team with sound leadership and teamwork. This is most powerful risk-management tool you’ll ever carry into the wilderness with you.

Introduction

On the fifth day of a multi-week ski expedition in the back-country of Yellowstone National Park, a participant fell and suffered what was eventually diagnosed as a fractured left femur. The temperature was 20-degrees Fahrenheit and would fall to zero overnight. Camp was a mile away, and the nearest phone or radio (this was before they were carried routinely) was 20 miles away. It would be dark in an hour.

What would you do?

This is an extreme example, but it is not an uncommon example of how risky an outdoor adventure trip can be. As a leader, you must be well prepared for all worst-case scenarios. But how do you do that when there are an infinite number of things that can go wrong?

In our experience, equipment failure is an uncommon cause of injuries in wilderness education; our modern outdoor gear is sound and rarely breaks ^{ii, iii, iv}. Likewise, while weather influences events, it only rarely is the major factor in an incident. It's people, individually and as groups, who contribute to most incidents. We call this the "human factor."

This book focuses on how best to "manage" the human factor and therefore how best to manage risk. We will take you chapter by chapter through how to best prepare and plan for an expedition (Chapter 1), maximize group communication (Chapter 2), sharpen your attitude (Chapter 3), use sound judgment (Chapter 4) and apply risk-management procedures in the field (Chapter 5).



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In the early days of aviation, mechanical failure was a common cause of crashes. This has changed today with our very reliable aircraft. Aviation safety researchers believe that crew coordination, communication and decision-making, not structural or mechanical problems, are now the greatest factors behind incidents.

Studies show that the "human factor" is a prominent source of error in aviation incidents, mountaineering mishaps and medical mistakes. Simulator studies by National Aeronautics and Space Administration (NASA) show the importance of leadership and communication in the cockpit. NASA's research shows that 70 percent of aircraft accidents involve human error.^v An article on climbing incidents in Grand Teton National Park in the 1980s attributes the majority of incidents to human error.^{vi} The medical field is now scrutinizing breakdowns in teamwork and communication to resolve errors.^{vii}

We believe these same behaviors and habits – failures in leadership, teamwork and communication — are involved in every incident in outdoor education. How do we use this insight to enhance our risk management practices?

Experience is not necessarily a solution. Charlie Shimanski, Education Director for the Mountain Rescue Association, says: "Whether it is a climbing or avalanche accident, it is generally the more experienced that are at higher risk."^{viii} In an article on the epidemiology of climbing accidents in Yosemite National Park, the authors reveal that it wasn't just the casual or novice climber who were injured; many experienced climbers cited a poor decision as a leading cause of an incident.^{ix}

Training is not necessarily a solution either. Avalanche experts Dale Atkins and Ian McCammon note: "Unfortunately, a majority of avalanche victims have had at least some avalanche-awareness training, and many victims have considerable amounts of avalanche training." Their data implies avalanche incidents are not a terrain, weather or snow-pack problem. "Avalanche incidents are a human problem."^{x, xi}

Sound rules, protocols and standards are not necessarily a solution. Emergency response plans provide tips to respond to incidents; medical protocols offer guidance; and field practices, manuals and textbooks communicate important procedures. Similarly, cookbooks offer a step-by-step way to make a delicious meal, but cookbooks — like these other resources — require that the cook think.

In the aviation field, a concept called Crew Resource Management (CRM) focuses on technically skilled teams operating in complex and changing environments – aircraft cockpits – and identifies strengths and positive behaviors that



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enhance teamwork, communication and coordination. CRM is a leadership training process designed to manage poor teamwork that is thought to be the root cause in many aviation accidents. The behaviors CRM addresses include:

- *Lack of trust and ineffective problem solving secondary to poor leadership and teamwork.*
- *Lack of clarity of team goals, roles and decision points.*
- *Inability to use available information.*
- *Poor distribution of workload, which overloads individuals (often the leader) and fails to use talents within the team.*
- *Distraction and lack of situational awareness.*
- *Lack of clarity in communication from jargon, imprecise phrases, distracting chatter and lack of acknowledgement by the listener.*
- *Lack of assertiveness by less experienced or lower ranking team members.*
- *Inability to keep people informed of new information, decisions, actions or changing plans.*
- *Inability to recognize and resolve the effects of fatigue and stress.*

We believe CRM's lessons have relevance to what we do in adventure education, how we do it and where we do it. As outdoor leaders, we commonly function as small teams operating independently in complex and changing environments. Wilderness educators and trip leaders work within paddling, hiking and climbing teams, among other outdoor groups. Like pilots, we have to make decisions and take action under time pressure. These decisions and actions affect the lives of others and may need to be made without all the information we desire.

Incidents rarely have simple cause and effect sequences but rather an intricate web of events, actions and decisions. Seemingly insignificant events can go unnoticed or be disregarded but may in the long run and in the right sequence combine to lead to a serious incident.

The aviation research tells us that high-performing crews use leadership and teamwork to undo this web and isolate problems before they become an incident. These habits include preparing for contingencies, keeping the team informed, using the experience and expertise within the team, managing workload, recognizing fatigue, resolving conflict, communicating clearly, staying alert and maintaining an appropriate culture – with the most critical attribute being active leadership. Leadership is the overarching behavior that determines how well a team will function.

Risk management is rooted in the actions and decisions of leaders. Leaders must evaluate weather, assess the performance and abilities of participants and weigh these and other factors against course objectives. Leaders make decisions on a daily basis that can result in successful expeditions and healthy students, or the opposite. Creating high-functioning teams with sound leadership and teamwork is a key risk management tool.

This book examines leadership, teamwork and risk management in wilderness education at the interface between instructor and student, leader and team. This book is more than CRM in hiking boots. It culls information from a variety of sources — the medical field, studies on human decision making, reports of major incidents, anecdotes from successful outdoor leaders, as well as the National Outdoor Leadership School's 40 years of experience.

We've seen sound leadership, teamwork and communication at work on NOLS trips, within search and rescue teams, and in the patient compartment of ambulances. We've seen it in routine procedures and in hair-raising crises. We've seen it at NOLS and in the many other outdoor programs we've worked for, visited or reviewed, both in North America and abroad. It works, and we want to share it with you and help you become an effective risk manager.

In the scenario that opened this introduction, the leaders were good examples of effective risk managers. The leader on the scene found pain and tenderness in the upper thigh and suspected a femur fracture. The injury was stabilized. Students were directed to help the patient into warm clothes. They moved her onto a pad and into a sleeping bag.

While the patient needed help, the well-being of the remainder of the group had to be managed in the harsh winter environment. The leaders gathered and with a sense of urgency came to consensus on a plan, then briefed the participants. A helicopter evacuation that night was not possible. They would need to ski to the road to call for help. Their immediate task was to keep themselves and the patient warm, to move their camp to the patient, and to cook a meal.

A stove was started to melt snow for water, and eventually hot drinks. The patient was kept warm and comfortable and an improvised splint was constructed from an avalanche probe. A leader and three participants stayed with the patient. It took several hours for the other two leaders and participants to move the camp to the patient.

After dinner, a team of four left to ski to the road. They traveled on their previously broken trail with stove, food, tarp, full water bottles, maps, sleeping bags and other essentials.

Back at camp the patient ate, drank and got some sleep. She was understandably anxious about her predicament. The leader kept her informed and her mind off her problem with stories and conversation. Several times during the night, they adjusted the splint and used hot water bottles and massage to keep the patient's feet warm.

The evacuation party arrived at the road at dawn. One of the participants was very tired, so he and a leader stayed behind, while the remaining participant and leader continued to the ranger station to ask for a helicopter. Meanwhile, the participants at camp located a nearby meadow suitable for a landing, packed the site, and prepared a sled for the patient. When the helicopter arrived, the group briefed the paramedics and then brought the patient to them on the sled. Within an hour, she was in the emergency room.



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Good preparation and planning are essential for a successful expedition: leader reviewing the day's hiking route with participants.

Chapter One: Preparation and Plans

One of the cornerstones of a solid foundation for effective leadership and teamwork is taking the time to adequately plan and prepare for an expedition. This is true whether you're preparing for a professional 30-day backcountry trek or a weekend hike with friends.

Simple, short trips can be done quickly by experienced adventurers. All you may need is a briefing (or conversation) before a peak climb or a fishing jaunt.

On a larger scale, your program will need a plan based on careful thought and attention to many details. You'll want an overarching expedition plan, daily travel plans, and contingency and evacuation plans (in the event things go awry).

Expedition Plan

Before you hit the trailhead, you'll want to come up with your expedition plan, which is your ideal vision of the trip. For this, you'll need to consider the route, required permits and regulations, travel logistics, immunizations, food rations, equipment and supplies. You should check guidebooks, read mountaineering journals, and research weather patterns and environmental hazards. You'll scrutinize maps and possibly talk with land managers and local residents.

You'll also want to consider what you want to achieve from the trip. What physical goals — traversing a pass, descending rapids, summiting a peak — do you hope to accomplish? And, perhaps more importantly, what lessons do you want your group to come away with? A sense of team? New outdoors skills? Enhanced communication? (See sidebar for more.)

Preparation and plans are not tasks to finish before the trip that then gather dust on a shelf — or mold in a backpack. They continue as themes in the field providing guidance for the trip through daily travel plans, contingency plans and lost-student plans.

Your adventure program may have its expedition planning done by a subcontractor. If so, you should review these plans, especially emergency and evacuation plans, to fully understand them and to clearly define roles and responsibilities. And don't assume the subcontractor has a sound plan.

Daily Travel Plans

While an expedition plan is made before the trip, as you travel you should develop daily travel plans.

Daily travel plans are often as informal as a conversation before a nature walk near camp. But sometimes they're complex and may include the particulars of a group traveling from one camp to another over several days. If the plan is simple, it's often done in your head. If it's complex, use a written plan.

When formulating a written plan, you should clearly and specifically describe the route, prominent features and anticipated hazards. A standard plan format can help make the task easier as well as help make planning a habit. (See below for suggestions on written plans.)

Vision, Mission and Goals

A sense of your trip's goals and priorities is vital to building teams, making decisions and managing risk. These goals and priorities should not just be about physical accomplishments, like climbing a peak or navigating a river, but include more intangible successes such as learning outdoor skills, appreciating the natural surroundings, or becoming a cohesive team. Effective leaders articulate the importance of climbing the mountain, descending the river, completing the traverse or making the open ocean-crossing but they balance this with more subtle yet equally important messages about lessons learned, communication strategies, and upbeat morale.

Renowned mountaineer Charles Houston M.D. remarked at a NOLS staff gathering in 1986: "What is the point of reaching the summit if you do not return with the good companionship of your partners?" Many of us would agree that summits, routes or timetables can be changed, or can wait for another day, while safety, friendship and learning are timeless.

On a sea kayaking trip, a standard daily travel plan might focus on chart reading, deduced reckoning, tide and current calculations and terrain such as reefs, beaches and exposed sections of coast. For hiking, a daily travel plan might feature "hand rails" or physical features like a stream that guides your travel or prominent terrain like a peak that make for helpful navigation-reference points. Standard features might include compass bearings, GPS coordinates, and potential hazards like rivers, boulder fields and high passes. A thorough plan also considers

the participants and how their health, skills, experience and morale might affect the group's travel.

A travel plan is also a decision-making tool. Use it to anticipate tricky decisions or "decisions points," such as where an alternative landing for a kayak might be. The mileage, timetable and decision points are carefully calculated when you are fresh and rested. They can be a valuable resource when you're tired and need to make a quick decision. You can compare your progress against your plan. Are you traveling faster or slower than anticipated? Is the weather changing? Have you reached a pre-determined decision point?

The plan should be complete, without being a tome. Use well organized bullet statements. You'll refer to it on the trail, in your raft, or in your boat cockpit. Keep it simple. After all, we want to travel, not spend our time planning to travel.

Here are examples of what a written travel, passage or paddle plan might include (A sample template is included as Appendix B):

People, Goals and Gear

- Participant names and their responsibilities (e.g. leader, navigator etc.).
- Skills and experience of the group?
- Current health concerns in group members?
- Goals for the day.
- Key equipment: first aid kit, water treatment, food, shelter, maps, navigation and communication gear.

Navigation plans

- Starting point and destination.
- Route description (use named map features and cardinal directions).
- Linear distance, elevation change.
- Significant waypoints, prominent features and decision points.
- Time-distance travel calculations with estimated travel and arrival time.
- How long it should take to get there.
- When to begin packing packs or boats.
- When to be walking or under way.
- Anticipated rest breaks or a lunch break.
- Expected to arrival time.

Anticipated obstacles and hazards

- Can the obstacle be avoided?
- Is the group capable of negotiating?

Contingency or Evacuation Plans

- Alternate campsites, rendezvous points.
- A plan if overdue, delayed or separated.

Contingency and Evacuation Plans

The expedition plan is your ideal vision for the expedition. It's optimistic and expectant of a great trip into the wilderness. It also needs to be realistic and anticipate that things can go wrong.

A "contingency plan" is a local, short-term plan that addresses routine and anticipated hazards and offers response tips. Contingency plans help, for example, when a group is traveling slower than anticipated, a raft flips, or a cell phone doesn't work.

An "evacuation plan," on the other hand, is a broad emergency-response strategy. You turn to it when things go very wrong. It helps you predetermine when you will self-rescue, and when you can't what additional rescue resources are available. It helps you anticipate how to communicate with outside emergency resources. And it maps out how to get a patient from the wilderness to the hospital.

Contingency Plan

Experienced leaders learn to mull over "what if" scenarios as they hike down the trail or paddle the coast. They're not morbidly fascinated with problems, they're practicing a good habit that helps them respond calmly with carefully thought-out action.

A contingency plan should be a routine part of any travel plan or activity briefing. Let's say you plan to lead your canoeing group across a 1-mile wide lake. This may be a standard route for you, but it's never been done on this day, with these participants and in these exact conditions. Before embarking, take a few minutes to talk with your co-leaders and participants (your "teams") about what may go wrong, and how you expect to handle it. Airline crews call this a "briefing for operational threats." Weather can change. Equipment can break. Team members can stumble. Stay ahead of the curve by analyzing your plan and asking, "What if?": "What if the wind and waves build?" "What if we get spread out?" "What if someone falls in?" River guides do this routinely, telling participants how to swim in a river or respond to a rescue should they fall out of a raft.

Contingency plans are not just for the participants. Leaders should be clear among themselves what they expect from each other if a problem arises. River guides set their team expectations when they discuss not only how they will negotiate a rapid, but where they will stage their safety equipment, the order in which people will paddle and how they will handle a swimmer. Sometimes inappropriately called a "freak plan," a contingency plan prevents panic, because the response is anticipated.

Emergency Drills

Talking to participants does not fully prepare them to respond in a real emergency. Using an emergency drill can improve how people respond in a true emergency. The drill is in essence an interactive briefing, only it takes place long before the emergency. We routinely use drills to prepare students to respond to medical emergencies—practicing CPR is an obvious example.

Drills can be used to prepare participants to respond to lightning, bear encounters, or emergency kayak landings in surf. The basics are taught and practiced in a controlled setting, then reinforced before they really need to be used.

Drills have hidden team benefits too. They can teach an emergency skill, but they also can help a group gel as a team, clarify roles and expectations, and illuminate leadership and decision-making styles (something we detail in later chapters).

Staying Found: A Lost Group/Person Plan

Contingency plans should include scenarios for what to do if a group or individual becomes lost or delayed and cannot make it to camp. If you travel as one group, this can be fairly simple to handle because everyone is accounted for and all the gear and food are together. If you travel in separate groups and a sub-group becomes lost or delayed, things can become more complicated.

In anticipation of a sub-group becoming lost, first be sure each sub-group has shelter, food, cooking gear, clothing and a first aid kit in order to be self-sufficient. The second thing to do is set expectations for how a lost group should react once they realize they are not in the right place. If they are lost, but able to re-orient themselves, do you expect them to continue to try to reach camp or should they stay put, make themselves visible, and wait to be found? In the event of a medical emergency, do you expect the group to stay put or try to find the rest of the team?

Contingency planning for lost sub-groups should also include an agreed upon time for beginning a search. At NOLS, this is commonly at noon the day after the sub-group is due. But this needs to be designed with the specific program, group, weather and terrain in mind. In certain conditions, you might start your lost person search sooner.

Lost around camp

Typically, adventure program participants don't travel alone. But it is not uncommon for an individual to get lost simply walking around camp or seeking a latrine or an activity site. Be sure to brief participants on what you expect if they become lost around camp. Take a few minutes after arriving at camp to orient everyone to the surroundings. Define the perimeter of the camp with prominent natural features or "handrails."

If participants plan to leave camp (beyond the established perimeter) by themselves or in small groups to, say, go for a day

hike or fish a nearby lake, they should take a "life support pack" (minimal food and clothing to spend the night out) and tell a leader where they will be, when they will return, and whom — if anyone — they will be with. They should take a map and compass or GPS receiver. Tell them to pick out landmarks along the route and to time the walk. These are valuable reference points should they get lost.

What to do if lost

A lost group or individual must actively work to be found. There are right ways and wrong ways to do this. Be sure to convey these strategies.

If a group is lost, the group should stay together. If they can determine their location, they should correct themselves and continue toward their destination. They should stay on established trails as much as possible, in case searchers are looking for them.

If a lost group doesn't know where they are and needs to send out scouting parties, they should scout in groups of two or more, with a plan for where each group will explore. Scout for a short time (about 30 minutes), set a turn around time, and leave at least one person at the spot from where the scouts left.

If an individual is lost, typically after leaving camp, suggest that he or she go to a high vantage point to get their bearings and look for the handrails. If close to camp, they can listen for people talking.

Anyone, whether a group or individual, who is lost and cannot determine their location, should stay calm, stay put, make camp and try to be visible. Making noise by shouting, singing or blowing a whistle can help if searchers are nearby.

If the lost group or individual has camping gear with them, they should camp on or near established trails, on the shore of larger lakes, or in open meadows. If they don't have camping gear, they need to find shelter well before dark. It is drier under evergreen trees or overhangs. It is warmer higher on hills and out of the wind. For unplanned bivouacs, look for water to drink and ways to keep warm. Cover up with leaves or pine boughs to create a pocket of warmth. Get a nap in early in the evening before the cold wakes you up later in the night.

Lost people should expect searchers (eventually) to be looking for them — especially if a set time for a search to begin has been met. In addition to camping in highly visible places, building large smoky fires can help searchers find a missing person. Doing all you can to be visible to searchers is often inconsistent with "Leave No Trace" principles and many land-management regulations, but in this case helping searchers find you takes precedence.

The lost person should be aware that searchers may be looking from the air. It's surprisingly difficult to see people on the ground or in the water from an airplane or helicopter. There

are many stories of lost people standing in open meadows and waving their arms vigorously, but who were invisible to searchers in low-flying aircraft. You can be more visible in open areas by lying down or laying out brightly colored items such as sleeping bags, ground cloths or rain gear. Geometric patterns are even more discernible than bright colors from the air. And the best way to be seen is to reflect sunlight from a shiny object. According to pilots, bright flashes of light are more readily seen from the air. Signal mirrors can be effective. If lacking signal mirrors, bright flashes can be created with jewelry, a pot or pan lid, or other metal objects.

Evacuation Plans

Managing a wilderness emergency begins well before you enter the wilderness. An evacuation pre-plan can help you better handle emergencies because you've already thought through the many variables.

First, you need to understand the capabilities of your group and to what extent you can self-rescue. Who has medical training? Who can climb? Who has great endurance? Knowing what kind of evacuation skills your group has can be extremely helpful in the heat of the moment. It's wise to develop criteria for how much of a self-rescue your group can handle before you embark. Know when you'll need outside help and what is available. Research available resources and contact local rescue groups. Know who is responsible for rescue in your travel area. Know if helicopters, technical rescue teams, or paramedical support are available.

Before you leave, you'll want to consider possible evacuation scenarios and write guidelines for their management. These Emergency Plans should include a sketch of your group's responses.

Here are questions to consider:

- If an injured participant can't walk, will you be able to carry him, and if so, how far?
- Is a helicopter an option? If so, who are they, how are they dispatched, and what are their capabilities?
- Can local search and rescue assist you? How are they dispatched? What is their anticipated response time?
- What special instructions do you need for serious injury, illness, or fatality?
- What are the available rescue services? Their names, addresses, and telephone numbers?
- Where are the closest roads, beaches, helicopter-landing locations, phones?
- What is your alternate plan? What will you do if your first option fails?

It sounds daunting, and at NOLS there are staff dedicated to creating evacuation plans. But the leaders of any expedition or adventure program should think and plan ahead. Details are

important; small omissions in planning can have dire consequences. Errors have a tendency to multiply over time.

We've found that the following factors are key to successful wilderness evacuations.

Key Decision Making for Wilderness Evacuations

- **Severity of Injury:** How soon does this patient need to be in the hospital? Does the injury threaten life or limb?
- **Distance to Road:** What is the distance to vehicle transportation or additional help? Realistically, how long will it take you to travel? Do you anticipate traveling at night?
- **Difficulty of Terrain:** If there is an obstacle, can you manage it? Will you reach it when you are fresh or when you're tired?
- **Anticipated Weather:** Will it slow, stop, or alter your timetable or your chosen evacuation method or route?
- **The Group:** Their physical strength, stamina, technical abilities, experience and ability to function in deteriorating weather or technical terrain?
- **Communication Possibilities:** Can you communicate quickly with outside resources by telephone or radio, or must your message be carried by foot?
- **Transportation schedule:** Who will meet you at the road? Did you leave a vehicle?
- **Landing Zone:** Is there a suitable landing zone (LZ)? Do you need to carry a person to the LZ?
- **Outside Resources:** Who might come and help you? How are they dispatched? What is their response time? What are their capabilities?

What type of evacuation are you considering?

- **Walking or Skiing:** For the patient who is able, this is easiest, safest and least complex.
- **Simple Carries:** Whether or not you can carry the patient on your back depends on your strength, the patient's size, and the nature of the injuries. For short distances this can be faster and easier than a litter.
- **Litter Carry:** Requires a larger group—at least 10-20 people. Slow (often only 1 mile an hour).
- **Horse:** Depends on the injury, the horse, the terrain and the skill of the rider. Often incorrectly assumed to be an easy option.
- **Helicopter:** Requires permission in wilderness areas.
- **Ski sled litter:** Litters using pulks (manufactured cargo sleds) can be effective.
- **Snowmobile:** Limited by snow conditions and wilderness boundaries. Don't over estimate the capabilities of a snow mobile.
- **Vehicle:** Consider the jostling a patient may experience on poor roads. Do you need an all-terrain vehicle or four-wheel drive?
- **Boat:** Is there a boat available? Coast Guard? Rapids? Surf? Exposed open water?

What type of communication do you anticipate?

- Will your cell phone work from this location? The service you expect at home may not be realistic in the wilderness and particularly in mountainous terrain.
- Assuming that no radio or telephone communication is available, messages must be delivered on foot. These messages are generally one-way and must be accurate, concise, complete and written.

During the evacuation:

- Keep the group together. Ideally travel in 3's or 4's, not alone.
- Be prepared with food, extra clothing, sleeping bags and marked maps.
- Consider: physical stamina, map, navigation skills and challenges, first aid skills and foul weather experience.
- Send written instructions including medical and evacuation report forms with a travel plan. (Appendix C is a sample Field Evacuation Report. Appendix D is a Sample SOAP Medical Report.)
- Communicate with your team with regular updates on the plan and the ongoing evacuation.
- Group maintenance. Maintain everyone's health by seeing to food and hydration. Some people may think they can't stop for a meal, to drink water or to rest. Successful evacuations require hard work and long hours, but the group needs to set a pace that everyone can sustain. It's not unlike emergency protocol on airplanes: Put your oxygen mask on first before assisting someone else with theirs — or you may be of no help.

Serious Injury/Illness/Fatality Protocol

In the event of a serious incident, such as paralysis, loss of limb or death, there will be many tasks and concerns to deal with in addition to the standard emergency procedures. Many organizations have written crisis-management protocols to use in responding to and managing a serious injury, illness or fatality. These protocols, however, are usually large documents, often administrative in focus, and rarely read by field staff. A concise version of a protocol that outlines expectations for field staff should be a part of your emergency plan. You should know crucial details of documentation and debriefing along with media contact, legal and administrative concerns. Serious injury, illness or fatalities in outdoor programs, while rare, are emotionally stressful. Clear expectations, effective communication, delegation of tasks and cooperation are essential to managing the crisis in the best interests of the victim, the family, course members, staff and the program.

Planning is a Habit of High-performing Teams

Highly-trained airline pilots say: "The high performing crews ask for more information, anticipate problems, consider more options, plan for glitches and plan early."

The expedition plan helps you prepare for a successful and

enjoyable trip — and it helps you manage risk. The time invested in preparation pays invaluable dividends when you must make a quick decision when things go awry.

Unfortunately, groups who do not give a thought to an emergency during their trip are all too common. Our local search and rescue team was mobilized to search for two people who were missing in Wyoming's Wind River Range. The two had been part of a group of six friends who started out from a familiar trailhead without discussing how they would travel or what they would do if separated. They wound up hiking in two groups of two and four about 20 minutes apart. They rested separately in different locations at different times, never sharing a unified group conversation. A challenging river crossing lay on their route, and the hikers approached it in two separate clusters. The first group of two hikers waded across the turbulent water. The crossing was tough, and left them cold and wet. They took a break to dry off and warm up. In the meantime, the final four came to the crossing, didn't see the first two hikers, and wandered downstream where they found an obscure log bridge. They crossed with ease and continued on the trail. After an hour, they stopped to wait for their companions. When the two did not appear, the foursome returned to the river. Still unable to find them, they speculated that their friends may have been swept away while trying to cross the river. In reality, the two had continued up the trail and arrived at the destination lake that evening. The group of four searched up and down the river into the night. They never checked the destination lake, assuming the two would wait for them if they became separated. The following morning, they left the mountains and called for a search. The search team found the supposedly lost twosome happily fishing, wondering when the rest of their group would arrive.

The habit of planning is a vital risk-management tool. A plan that outlines when to turn around or stay put helps you avoid an unexpected night out. A plan that spells out what to do if a group is overdue helps circumvent unneeded responses and involved rescues. And a well-executed evacuation plan can save a limb or a life.

It's the leader's responsibility to articulate the vision and the plan, and to do so as often as needed. From the picture of the entire expedition to a snapshot of a day's activity, your team should understand what they are doing, why they are doing it, and what they will do in an emergency. A good plan can help you reach your destination in good style and good time.

Summary Points:

- Expedition planning is a foundation for risk management and successful expeditions.
- Continuous planning is a habit for high performing teams. They constantly evaluate variables and their potential impact on the plan. They seek more information, anticipate problems, consider options, and plan for glitches in advance.
- A written travel plan or oral activity briefing is a useful tool used on daily basis on a trip. They always include contingency plans.
- Contingency plans help you prepare for and anticipate mishaps, such as a capsized kayak or exhausted hiker.
- Articulate in advance what your team will do if a person or group becomes lost. Also, decide what to do should a subgroup be delayed or not make it to a designated camp.
- An evacuation plan should be researched before every trip. Determine in advance to what extent your group can self-rescue, and when and how you will seek outside help.



Six hands are better than two: pack lowering in Jordan Canyon.

Chapter Two: Team Building & Communication

When we debrief NOLS students after an expedition or Wilderness Medicine Institute (WMI) participants following a challenging night rescue exercise, they often talk more about the leadership, teamwork and communication skills that were required to complete the task than the specific technical skills needed. They are energized by the peaks they summited, the rivers they paddled, the rescues they performed, yet the conversation almost always turns to how successful the leadership was, how well the group worked together, and whether communication was effective. These students learned what researchers know from observing airline pilots and NASA astronauts: a team's successful performance is closely linked to effective leadership, teamwork and communication.

Experts have discovered that weak leadership, flimsy teamwork and poor communication can prevent teams from sharing critical information or making sound decisions. Airplane crashes have happened because a co-pilot felt he couldn't tell the pilot the fuel was low or the altimeter reading was wrong. Incidents have happened on outdoor adventure trips because participants couldn't overcome a dysfunctional team and speak up, report observations, ask questions, or clarify ambiguous information.

Expedition Behavior

"Expedition behavior" is the attitudes, values and practices that make up the culture and style of a group and determine how effective its leadership, teamwork and communication will be. At NOLS, expedition behavior represents practical tasks as well as sets the tone for the group.

On the practical side, expedition behavior details how the essential camping and travel chores will be broken down and completed in a timely and efficient way. As part of their expedition behavior, students learn to set up camp, cook, clean and stay organized.

But expedition behavior also defines the "style" for the team. At NOLS, students are steeped in the value of good conduct like doing more than their share, staying organized and carrying extra weight for a weaker teammate. They learn the importance of watching for fatigue in others as well as noticing it in themselves, lending a hand as well as asking for help. They learn to listen as well as speak-up and share ideas. Leaders are responsible for modeling positive expedition behavior.

On a day-to-day basis, positive expedition behavior makes for fun, enjoyable and successful trips. It is fundamental to a good team which respects all team members' skills and ideas. And when an inevitable error happens or challenge arises, it is

why a team can detect and manage the issue before it becomes a problem.

Building Teams

If you are planning a personal trip, you can select people who work well together, enjoy each other's company, and have the skills and experience necessary to attain your objective. You know each other's fitness level, attitudes, moods and habits, as well as each other's approach to risk management and use of judgment and common sense. But in many outdoor programs, leaders, co-workers and participants are thrown together because they were hired or signed up for a particular program, not because they chose to travel together. A "team" doesn't already exist. It must be built by the leaders.

In this scenario, don't leave your team's leadership and teamwork to chance. Handling the demands of equipment, food and course logistics are time-consuming, but you must devote equal time to conceiving your "team." Take time to conscientiously discuss your and your fellow leaders' communication and decision-making styles, comfort level with giving and receiving feedback and personal and course objectives.

Two school teachers leading a wilderness orientation trip may have different expectations for leadership, teamwork and communication. Two friends taking a local youth group on a backpacking trip may have different expectations of hierarchy and structure. Even when the leaders are old friends, or have worked together many times, don't assume that you will be able to work seamlessly together. Clarify your trip or course goals, roles, responsibilities and decision-making styles in advance — for both routine activities and emergencies.

Some team building questions to consider:

- What is the goal of this trip?
- What are your roles and responsibilities? Who is in charge?
- How do you like to make routine decisions?
- What decision-making style do you want to use in a crisis?
- How do you like give and receive feedback?
- How will you handle conflict?
- What are the anticipated challenges and hazards?
- What is your plan in case of an emergency?

The process of building a team continues when the leaders add the participants to the group. Make time early on in the trip to describe to the participants your vision for teamwork and expedition behavior; the mission, goals and style of the expedition. Often this begins in a formal trip orientation. But it should continue as the leaders set a course tone and model the

norms for expedition behavior at the start of the trip and throughout its duration.

The Trip or Course Orientation: Setting Clear Expectations

The trips your organization offers are probably described in marketing materials, pre-trip information sent to participants and conversations with admission-registration staff. But don't assume all participants have read the material or held in-depth conversations. They may not have the same expedition vision as you. Often, another step is needed before venturing into the field: a pre-trip orientation.

At NOLS, the orientation is a formal process done at the start of every trip. During it, participants learn the expedition's goals, logistics, activities and anticipated environmental hazards, as well as the responsibilities of both the leaders and themselves. It's an opportunity to make sure everyone knows the expedition's goals and plans, and to set expectations for the trip's style — or expedition behavior.

Any trip, even a personal one, should have an orientation process. It can seem unnecessarily stiff or formal to spend a few moments reviewing your plan, but false assumptions are often at the heart of miscommunication, conflict and poor decisions on trips with professionals as well as friends. Even on a casual afternoon bike ride, it's a good idea to check in with companions and make sure you're in agreement on where you're going, the pace you'll take, and what to do if someone gets separated.

Briefings

Briefings should be a routine, regular part of your trip. They help clarify the team's goals and expectations. Lying await like rocks in a river are unarticulated or out-of-date goals and unclear or unstated teamwork expectations. Effective leaders articulate and explain goals, and they do so as often as is needed. Regular briefings before activities, whether for a fishing jaunt or a demanding climb, should be a tool you use again and again. Brief at the start of the day. Brief before you tackle a particular challenge, such as facing an avalanche-slope, river crossing or white water rapids. If your plans must change, brief on the revised plan.

Effective aircrews review flight plans they've flown again and again. They clarify what their roles are, what they expect from each other, how decisions will be made and what they might do in the event of an unforeseen event. Wilderness leaders should do the same. It could mean the difference between being healthy or injured, success or failure.

As their name implies, briefs should be brief — clear, concise and consistent. People can remember details from short briefings. Several 2- or 3-minute briefings during the day may be more effective than one 20-minute briefing at the start of the

day. A briefing shouldn't be a planning session or decision-making process; it's a time to communicate the plan.

As you brief, have your team put aside social conversation or low priority tasks and pay attention. Ask for and encourage questions. Check that you've been understood.

A sketch of an activity briefing:

- What are we doing? (What are the goals?)
- How are we doing it? (What's the plan?)
- When are we doing it? (What's the timetable?)
- Who is doing it? (What are our roles?)
- What hazards can we anticipate?
- How will we manage those hazards? (What are the contingency plans?)
- What gear do we need?
- How and when will we make decisions?
- How is everyone doing?
- What is our plan if someone becomes ill or injured?
- Have I been understood? (Repeat back information.)

A briefing can set the tone for a situation. In an emergency, it can be used to calm your team down. "Folks, let's take it easy. We've finished the assessment and the scene is safe. We next have to splint Bill's fractured leg, then log roll him onto a sleeping bag and treat him for shock. Let's take it one step at a time."

Modeling good expedition behavior

Good expedition behavior doesn't magically or spontaneously develop from a shared wilderness experience. It comes from conscious forethought and discreet actions. Build good expedition behavior by articulating your vision for teamwork and setting behavioral norms. Early in the team-building process, engage your participants in discussing good expedition-behavior attitudes, values and practices.

At NOLS, a discussion on expedition behavior also covers school policies such as no alcohol, smoking, illicit drugs or offensive behavior. We discourage any obscene or profane language and set expectations that everyone treat each other with dignity, serve the team's mission, and support leaders and teammates. Students learn they are expected to follow directions, especially regarding health issues, and that they will speak up, particularly when it comes to risk management. We include participants from the start as active partners in risk management, as members of the team, keeping them informed on plans and involving them in decisions.

Your team probably includes a core group of leaders and participants, but it is not static. It expands as you interact with different people: the bus driver, support staff who help with equipment and food, organization administrators and managers, outside rescue groups or land-management personnel.

You may work with a subcontractor who provides rafts, kayaks or canoes; who guides horses that carry your gear; or who cooks your meals and helps your group. Speak with these folks as best you can about your group’s norms, expectations, roles and responsibilities. As the team changes, you need to include the newcomers and build the new team.

You can describe expedition behavior in words, but it’s through action that the expedition members show they understand the concept. The best leaders model the behavior they want to see in their team. They both teach and lead. They take the initiative and time to make sure pertinent details of the plan are shared with team members.

Questioning Decisions, Advocacy and Assertiveness

An atmosphere in which participants and co-leaders can question, advocate and speak up needs to be consciously created. Peer pressure and poor self-confidence can make it hard for some students to speak up. Also differences in age, gender, training or cultural background can become communication barriers. And there is also a tendency for deference to hierarchy, making it hard for co-leaders to question a leader in charge or for students to speak up to leaders. “I might sound stupid if I say something.” “Surely the leader knows about this problem with the rudder on the kayak.” “They must have meant to turn left instead of right.” But there are times when the nurse knows more than the doctor, the sergeant knows more than the lieutenant. Effective teams avoid these communication traps and can access the experience and knowledge of the entire group. Effective leaders build a team environment in which everyone can speak up, question decisions and seek clarification without fear of reprisal.

Make every effort to demonstrate to participants that they can speak freely. Consider the following:

- Let your team know you care about their thoughts by periodically checking in with them.
- Give them opportunities to speak up.
- Listen to their responses.
- Do not interrupt or “talk over” them.
- Do not rush through a discussion, and give the impression that they have nothing to contribute.
- Make eye contact.
- Ask: “Are you getting enough direction from me about what you need to be doing?”
- Say: “If anyone disagrees, please speak up.”

Be aware that silence can be mistaken for agreement. Don’t assume everyone has said what they need to. Put the responsibility on people who disagree to speak up, but at the same time check in with quieter people. Make sure they are not afraid to speak up. All too often in incidents, someone felt like they couldn’t say something though they had important information that could have prevented the situation.

Avoid starting a discussion with a predetermined decision or assumption hidden — subtly or not so subtly — in your question. We’ve all experience times when the leader says “Any questions? Okay.” or “Everybody’s ready, right?” which really means the discussion is over. That habit can squelch conversation and stamp out good ideas. Consider: “This river looks crossable, right?” “We’ve done this before, ready to go?” “I don’t see any problems here, how about you?” These questions convey that the speaker has already made a decision. Instead, give people ample opportunity to speak. Phrase questions like: “Is there anyone who’s not ready?” rather than “Is everyone ready?” Ask questions that check for understanding, agreement or disagreement: “Okay, let’s take turns and mention any concerns you have.”

Be sure to use non-urgent situations to model an open communication environment. The habits your team develops while making simple decisions, like what to eat or when to break for a snack, will serve you in a crisis.

Inhibiting communication by being unreceptive to feedback or questions can play a causal role in outdoor incidents. A leader — “John” — of an annual college-orientation trip into the Rocky Mountains knows this firsthand. During one trip, John was a co-leader with an uncommunicative trip leader who routinely forged ahead with stronger students, leaving John and the slower students behind and uncertain of directions. At a difficult stream crossing, John found himself facing the rough waters while the trip leader and stronger students stood safely on the opposite shore. John tried to shout out questions about the crossing but couldn’t hear the responses. Finally, John waded in with his group, only to slip and fall

Behaviors That Restrain & Behaviors That Encourage People To Speak Up

Restraining Behaviors	Encouraging Behaviors
Poor listening habits	Respectful, active listening
Not responding to input with action	Asking for critical evaluation
Sarcastic or condescending responses	Sharing information, not conclusions
Dominating a discussion with talkativeness	Responding to input with action
Having a pre-determined idea of the outcome	Checking for understanding on key points

when they were 10 feet from shore. John and the group were carried downstream by the current to the other shore. John scrambled out — wet and bruised — and caught up to the rest of the group, muttering, “That was cool, let’s go” even though he was really quite shaken and had banged his knee real hard. Fortunately, John’s injuries weren’t worse, and fortunately for the program, a more responsive co-leader was hired the next year, possibly saving a student’s life on that trip. Then, John felt comfortable asking for a belay rope on a tricky section of a 4th class climb, despite the fact that his co-leader and several students had already scaled it without the aid. But the other leader understood and backed up John’s request. Later, a student who slipped and would have had a bad fall was caught by the belay.

It can’t be overstated how important it is for an outdoor leader to create an environment in which students and co-leaders can speak up. It’s an essential part of a risk-management strategy.

Former U. S. Secretary of State and U.S. Army General Colin Powell understood this when he said: “The day soldiers stop bringing you their problems is the day you have stopped leading them. They have either lost confidence that you can help them or concluded that you do not care. Either case is a failure of leadership.”

Listening

Good listeners are active listeners. They ask questions, paraphrase, make eye contact and use positive body language. Poor listeners tune out, interrupt, debate and have quick, preconceived responses. Good leadership requires good, active listening.

Active listening helps you avoid the trap of hearing what you want to hear, not what is said. When listening actively you are focused on understanding what is said, not mentally preparing a response. Your response can paraphrase or summarize what you thought you heard and give the speaker a chance to correct or clarify. We find this especially important in cell phone or radio communications. These conversations are often rushed due to battery limitations or they are obscured due to static. Stating what you think you heard helps prevent misunderstanding. “I hear you requesting a helicopter at Lonesome Lake for a non-life threatening lower leg injury. Is that correct?” Repeating back instructions is another good habit. “I understand that you want me to pick you up at Bailey Meadows.” Clarifying unclear information also helps. “I don’t understand. Do you want information or do you want me to make this decision?”

Conflict Resolution

The potential for conflict is natural among people and is an inherent part of any group’s development into a high functioning team. Disagreements will arise. Personalities will clash. Feelings will get hurt. While conflicts are okay, unresolved

conflicts are not. They impede communication and cooperation, and they can lead to incidents. Good teams are not immune to conflict, but they effectively manage it.

Conflicts can arise over differing fitness levels (a seasoned climber versus a hiker with vertigo), opposing perceptions of risk (“I think we can paddle in these waves” versus “The waves are too big for us; we need to stay on the beach”), conflicting goals (“I came to summit this peak” versus “It’s taken too long to get here; we’re about out of food— we should head down”), disagreements over responsibilities (“Why am I always stuck with the same camp chore?”), or annoying personal habits (“I hate the way she tries to take control of every situation!”).

Typically, conflict arises on an expedition when expectations, roles and responsibilities are unclear. Participants are missing information or don’t have a sense of the big picture. It’s the leader’s job to clarify the vision and roles.

When conflict arises, you should see it as a sign that your team may be unraveling. As a leader, you may need to step in, acknowledge the issue and set aside time to work through the conflict by listening to the different perspectives and opinions, restating or revising roles and expectations and committing to moving forward productively. If a conflict arises during a crisis, the team will need to put aside differences until the emergency has passed, only addressing immediate issues that are impeding progress. Later, when the crisis has passed, work to resolve the conflict and increase the team’s ability to deal with its differences.

Clear and Effective Communication

Whether you are discussing how to cross a river or when to break for lunch, the members of your team need to understand each other. It seems simple. We talk to each other all the time. Talking is easy. But communicating effectively is difficult. Our words can be poorly chosen or laced with inscrutable jargon or acronyms.

Wilderness leaders are as guilty as anyone of jargon overuse. “We found a fast shear on loosely-bonded mixed forms above an R&R layer that popped on a RB4. We decided to avoid the slope.” This may tell someone something, but it may be Greek to someone unfamiliar with technical snow terms.

Be simple, clear and concise when giving instructions, sharing information, or asking questions. Too often, we convert nouns to verbs that don’t exist in any dictionary, and overuse adverbs and adjectives, rendering a simple concept incomprehensible. For example: “I c-spined the patient” is jargon for stabilizing a spine, but it could also mean immobilization on a backboard. Unless you saw the patient, you’d be guessing. Another example: “The patient was slightly nauseous, kinda sweaty and a little pale.” Can’t we just state: “nauseated, sweating and pale”?

Have systems in place when trying to convey information over distances or with other distractions around. If the wind or other background noise limits your ability to be heard, you may need to wait for or seek out quiet. Position yourself so that everyone can hear you. For example, always stand upwind so your voice carries.

Climbing signals use simple phrasing to be clear, concise and precise. At NOLS, we use “On belay” instead of “I’m tied in.” “Up rope” instead of “Pull it up!” A simple “Thank you” acknowledges receipt of the communication. It’s helpful if your team understands the words and uses them consistently.

NOLS Climbing Signals	
Belayer’s Signals	Climber’s Signals
“On belay”	Climbing
“Climb”	“Rock”
“Thank you”	“Up rope”
	“Falling”
	“Slack”
“Twenty-five”	“Thank you”
“Fifteen”	
“Zero”	
“Rock”	
“Thank you”	“Belay off”

On the water, paddle gestures and hand signals allow us to communicate when we can’t hear each other. They’re commonly used during ocean launches, landings and exercises; between pods of boats during multi-pod travel; and when running river rapids. By returning that same signal you acknowledge that you’ve received and understood it, similar to the “thank you” used at NOLS during rock climbing.

Paddle signals may vary between groups, but here is a commonly used series.

1. **Proceed** (paddle held vertically).

Usually gives a waiting paddler permission to proceed. Occasionally used to get a paddler to come to you.



2. **Stop** (paddle held horizontally overhead).

3. **Pod up** (paddle pumped up and down in the horizontal position). This is used to gather a scattered pod.



4. **Move left or right** (paddle held diagonally across the body pointing in the intended direction of travel).



5. **Emergency** (paddle held vertically then swung side to side in a waving pattern). Signals that help is needed.



6. **Okay**. Tapping your flat palm on top of your head or making an “O” with your thumb and forefinger means “OK.”



Leaders sometime point to their eyes, then at a participant, to indicate they need to be watched. A finger in a slicing motion across the throat is used as “This is no good — abort.” Whatever signals you choose, make sure your team knows their meaning before they are needed.

The Perils of Portable Telephones

There is no question that cellular or satellite telephones and radios can be useful. If a participant needs to be evacuated, a cell or satellite phone can shorten the evacuation time. If there is a complicated medical situation, medical advice can be received from a physician. Yet the minute these devices become a crutch, they become hazardous. While the technology is improving, they still have limitations and can be unreliable — especially in mountainous or remote environments. Their reception can be fuzzy or non-existent. Batteries can die. A gadget can simply break. Electronics cannot replace training, skill, leadership and teamwork in the event of an emergency.

NOLS began widespread use of radios, which could be used to request evacuation, in 1989. In the late 1990s, the school began to also use cell phones as their coverage expanded. Most recently, satellite phones have been adopted as they have become more reliable. Indeed, NOLS has used radios or telephones numerous times to request evacuation. But not once were they directly responsible for saving a life.

Before any trip, you should decide when and how a portable phone will be used. Cell or satellite phones can be problematic if people use them in haste or with incomplete information. Needless rescue missions can be launched when just a little more self-reliance had been in order.

An example: A high school group was hiking an 11,000-foot ridge that separates Lone Bear Lake from Pontiac Creek in the Wind River Range when midday the weather deteriorated to whiteout conditions. As the teachers searched for a route down, two students grew cold.

Without personally checking the students, a leader radioed for help, believing the conditions were deteriorating quickly. A garbled message was sent indicating a “life-threatening emergency” with two “hypothermic” students. School employees who received the message tried to confirm the situation but were unable to contact the group. Worried, they initiated a rescue.

Meanwhile, a route down was quickly scouted, tarps were rigged in a saddle, and a stove was started for hot drinks. The cold students were brought to the makeshift campsite and placed in sleeping bags. Within 45 minutes, they were warm and coherent. Understandably, a search and rescue unit that reached the group, after traveling through the night in the storm, was not happy to learn that the S.O.S. had been made in haste.

A portable phone should never replace self-reliance and good judgment. If one is used, be clear about the protocol for its use.

Some guidelines:

- Are you informing another team member of your plan and coordinating support?
- Are you asking for help or for a rescue?
- Do you need information? If so, articulate your questions carefully.
- Are you asking for advice? Again, be clear about that.
- Are you asking the call recipient to make a decision for you?
- Are you informing someone of your decision?

Portable phones increase the need to verbally communicate clearly and concisely. A good report can facilitate an appropriate decision about the urgency of a rescue. It also conveys competence to a medical provider or rescuer. Writing your statements down first can help you compose your thoughts and make them as concise and complete as possible. An example of a good call:

Base: “Hello, NOLS Southwest EVAC line.”

Caller: “Hi this is Drew Leemon on Trip#5. I have an urgent situation and request immediate transport of a seriously injured student.

Base: “OK, you have one student with a serious injury and need a rapid evacuation?”

Caller: “Correct. We are at Black Canyon. lat 33.174°N, long 108.161°W.”

Base: “OK I’ll repeat that you are at Black Canyon. lat 33.174°N, long 108.161°W.”

Caller: “Correct. The patient’s name is Johnny Depp.”

This script says who you are, where you are, and what you need. If you have time and a clear connection, you can add details on the patient’s condition or the landing zone. Regardless, you always give the essential information and have it paraphrased back to you for clarity.

Never forget that a peril of portable phones is a loss of self-reliance. With the spread of cell towers and satellites, our society now has unrealistic expectations for rescues in the wilderness. Search and rescue personnel tell tales of adventurers who expect quick responses in the middle of nowhere while they sit passively and do little to help themselves. It’s an unfortunate attitude. The abdication of self-reliance and preparedness is the opposite of what is needed to survive in an emergency, and it’s counter to the leadership you should aspire to.

Team Competency

Ideally, critical points in a technical system are backed up. This may be a knot coupled with an extra half-hitch, a climbing anchor placed with multiple anchor points, a sea kayaker carrying a spare paddle or a rappel made with a back up belay. Likewise, good teams have duplicate human resources.

Effective leaders discern available skills within their team. They call upon the knowledge and experience of each team member. They know who has specific skills in medicine, navigation, technical rope systems or rough-water paddling. They instill respect and trust in participants and therefore empower them to use their talents.

Good leaders are always learning. Rock-climbing experts often review safety points from the day before, learning from their experience. Excellent teams take the time to share knowledge and experience, helping members grow in competency.

In 1989, a passenger jet departing Denver suffered catastrophic hydraulic failure, leaving the pilot with limited controls. Their mechanical failure was unprecedented and critical, yet the crew's performance dramatically lessened the loss of life during the crash landing. The captain credits his crew's open communication: It was a crew member who came up with an innovative solution for steering the aircraft. "When the Captain does not know how to resolve a situation, why should they be the only one involved in the problem-solving effort?" the captain noted later. "There is a lot of experience sitting in the other two seats, so why not use it?"ⁱ An analysis of the cockpit recorder showed the team continuously asking for more information, clarifying details, and stating intentions and observations.ⁱⁱ

In a crisis, it is all too common to use a directive leadership style. Such a leader, however, can miss out on taking advantage of her team's skills and experience. The true advantage of a team is its collective wisdom. When you build a functional team — a group with good expedition behavior — you're fostering an atmosphere that may help you find the answer you need in a crisis.

Summary Points

- A successful team is closely associated with the effectiveness of its leadership, teamwork and communication, more than its skills.
- Expedition behavior defines the atmosphere of a team. With positive expedition behavior, a team is better prepared to detect and manage a problem before it becomes an incident.
- Teams need to be consciously built by their leaders with clear expectations of goals, roles and responsibilities.
- Concise, clear, consistent briefings keep your team aware of the plan. Brief at the start of the day. Brief at the start of an activity. Brief when your plans change.
- A good leader sets a tone in which participants and co-leaders feel they can speak up, question and share observations.
- Listening skills help leaders avoid the trap of hearing that they want to hear, not what is said.
- Effective teams don't avoid conflict, they manage it effectively.
- Clarity in communication is vital, and a skill to be learned and practiced.
- Portable phones should never replace self-reliance. They don't save lives, people do.
- Good leaders are aware of their team members' skills, and capitalize on them.

ⁱ Haynes A. Eyewitness Report: United Flight 232. Accessed 6/1/2004 at <http://www.airdisaster.com/eyewitness/ua232.shtml>

ⁱⁱ Sexton BS, Helmreich RL. Analyzing Cockpit Communication: The Links Between Language, Performance, Error, and Workload. The University of Texas Team Research Project Department of Psychology The University of Texas at Austin



Expedition behavior and attitude can have considerable impact on your group's success: participants warming up with some hot chocolate on a cold rainy day.