Managing Field Evacuations

Jay A Satz, David McEvoy, and Kurt A Merrill, MS

If you work with a quality outdoor education, service or adventure program - whether you are a professional outdoor leader in the field or an administrator - your utmost priority is the safety and well being of every student and staff member. As a result, a large portion of your organization's planning time and training is devoted to anticipating and preventing incidents, and developing emergency response systems and plans should an emergency evacuation become necessary for one of your programs or courses. But as we all know, despite due diligence, stuff happens.

Many of us in the "industry" have gained significant experience in emergency response in outdoor settings through work with local search and rescue organizations, federal professionals in the National Park Service, US Forest Service, or working with ambulance services. All these outfits provide quality services that have been responsible for saving many thousands of lives, using time tested protocols and procedures that guide the rescuer in the performance of her or his service.

One of our greatest challenges in this business of outdoor programming however, is that it is often difficult to put up "the wall of professionalism" that separates us from the human drama, trauma and sometime tragedy of the situation we are responding to. The reason this happens, of course, is that rather than coming to the aid of patients we have never met, the patient will likely be a member of our group of wilderness travelers, and perhaps even a colleague or long time friend. And, we may in fact, like many outdoor leaders, be responsible for a decision that led to the original incident.

Despite the fact that the heightened standards in risk management and prevention programs now prevalent in our industry have reduced the number of incidents per participant days, statistics and experience tell us that incidents still will occur. In the event of a debilitating injury or illness, regardless or our relationship to the patient, there are four critical phases that outdoor leaders should consider to successfully manage backcountry field evacuations. These guidelines borrow in part from the Wilderness Medical Society's Practice Guidelines, edited by W.M. Forgey, M.D.

- Manage the incident to minimize risk to the remaining party and to provide appropriate patient care.
- Determine the most appropriate evacuation response to the incident.
- Transfer patient care to third party rescue personnel (if not performed by your own organization).
- Manage stress during and after the incident to improve your success rate for all of the points above.

The following sections will highlight strategies and actions you should consider in managing evacuations to meet the above goals.

MANAGING THE IMMEDIATE SCENE

"Don't just do something...stand there!"

Safety is your number one priority. But you must stop and assess the scene before you assess the patient(s). Before you touch your patient, ask yourself four questions: What happened? Are you safe? Is the rest of your group safe? Is the injured/ill person in a safe environment? Think before you act. As soon as patient care begins, your ability to assess the larger scene for safety and mechanism of injury is greatly reduced by your specific focus on the patient.

Despite both your training and experience, managing a critical scene is very stressful and can be overwhelming. Imagine how you would feel if you were group leader of young adults and your route choice proved to be unsafe and led to the injury of two of your students. Unlike rescue personnel who maintain a level of "distance" from an anonymous patient, outdoor leaders typically know and are responsible for their patients. Another critical factor in this scenario is the possibility that, in some instances, the leaders may have played a role in causing the initial incident. It would be easy to become totally overwhelmed at such a moment.

The leader must be able to control these emotions in order to focus on the important issues of the moment - assuring scene safety, medical care of the patient, instituting the emergency response plan, and providing for the needs of the uninjured group members. Distracting emotions and concerns need to moved into the "To Be Dealt With Later" file. These might include-though not limited to-pity or fear, thoughts about the long-term outcome of the illness or injury, guilt and feelings of personal responsibility, and the potential for professional and legal consequences. Although you must deal with these issues at some point after this critical stage, for now you need to concentrate on more immediate needs. By recognizing that these concerns will loom up in the midst of your initial response and anticipating them as absolutely normal and appropriate, you will find it easier to focus your energies on the task at hand.

THE EVACUATION SPECTRUM
"Today is a good day to get hurt!"

As a leader you should be able to wake up and say "this is a good day for me or a member of my group to get hurt. My group is healthy, well fed, well hydrated, in good spirits, and we have a well thought out emergency response plan should something go wrong". If you cannot say this at the beginning of each and every day, then as a leader, you need to address and correct this problem. As a leader, remember to focus on injury and illness prevention.

Your main objective is obviously to prevent accidents and illness so that incidents and consequently, evacuations, become unnecessary. Fortunately, most injuries and illnesses are minor and can be addressed and treated in the field. However, there is a second, more subtle, level of prevention that needs to occur to prevent the injury or illness from progressing from the left side of the evacuation spectrum to the right side (see below). For example, by continuing to assess and treat an injury as simple as an infected blister

you may be able to walk your patient out rather than having them become weakened through a progressive infection. It is important to continue concentrating on this second level of injury and illness prevention after the initial incident has occurred to keep the injury/illness from progressing.

Evacuation Spectrum
No Evacuation Necessary ->Self and Assisted Evacuation -> Simple Carry ->Litter Carry

There are many variables to consider as you assess backcountry emergencies. We will cover some evacuation criteria later, but these criteria must be evaluated within the context of the evacuation spectrum. The spectrum's first category is "No Evacuation Needed". You make this decision after determining that you can handle the situation where you are.

The second category is "Self and Assisted Evacuation". Here the patient can self-extricate with little or no help. An example is a patient with an early urinary tract infection (UTI) who is ill but still able to walk (ski, paddle, whatever) out of the backcountry.

The third category is "Simple Carry". This same patient becomes too weak to walk, but is strong enough (and the terrain forgiving enough) to be carried out by one or two team members. This evacuation will be slower than the "Self and Assisted", and is the first category where we really begin to worry about rescuer and patient safety (particularly falls and back injuries). This method is obviously not an acceptable choice for any patient needing cervical spine protection during transport.

The fourth and final category of the evacuation spectrum is the "Litter Carry". The patient is now too weak to hold on for a carry, is unresponsive, or needs immobilization to protect known or possible fractures. Litter carries are fraught with peril and should be avoided whenever possible. They are time consuming, expensive(in terms of resources), and dangerous for all involved. So that you do not underestimate what a litter carry involves, consider this:

Two important points need to be made as one evaluates the situation relative to the evacuation spectrum. First, this is a dynamic process. We manage evacuations the same way we manage the medical care of patients: we assess, intervene, then re-assess. Leaders must be flexible and not blindly adhere to a plan because "that's what we decided." The plan may be altered as the patient's condition and/or backcountry variables (weather, etc.) change.
Second, when in doubt, get the patient out. Whenever possible, stay on the left side of the spectrum (where no carries are involved). It is inevitable that some patients, by virtue of the illness or injury suffered, will require a litter carry. It is sometimes unavoidable. What you want to avoid is staying in the backcountry with a sick or injured patient (who yesterday could have walked out) whose condition deteriorates, and now must be carried out.

Once the decision to evacuate is made, there are a number of inter-dependent variables to consider, each of which may hasten, postpone or change the method of evacuation. One of your first considerations should be an evaluation of the weather. You may have everything in place for your group to litter-carry your head-injured patient off a high mountain ridge. But if three inches of wet snow fall, making the already loose scree wet and slippery, you might want to reconsider your decision. Depending on terrain and your distance from civilization, deteriorating weather can make you want to go, or stay. You may think, "the weather is closing in, so we'd better get out of here while we can." Or, you may think, "with this weather closing in, we'd better sit tight until things clear." It depends on your patient's condition, the terrain, and your location.

You must also consider the skills of other members of your group, as well as available equipment. If no one knows how to construct a litter, or if materials are not available, another plan must be considered. The more subtle assessment is the mental and physical readiness of the members. If some are physically exhausted or mentally distraught, they probably should not embark upon an arduous litter-carry.

EVACUATION CRITERIA

Making the decision to actually evacuate is a challenging one, so it is helpful to have set criteria to compare to the variables of your specific situation. We have placed reasons to evacuate into eight categories, as outlined below.

Immediate Threats to Life These include patients with an unmanageable airway, acute respiratory distress (struggling to breathe, cannot sleep or are awakened due to shortness of breath, or have difficulty breathing while at rest), signs and symptoms of shock, and/or those with a deteriorating level of consciousness.

Immediate Threats to Limb These include patients with severe orthopedic trauma (any fracture or any injury resulting in the loss of distal circulation, movement or sensation), suspected spinal trauma, and/or significant blows to the head (leading to changes in the level of consciousness).

Malaise This includes patients with signs and symptoms of progressive infection (increased redness, pain and swelling, "streaking" in lymphatic system towards the heart, fatigue, significant fever, swelling in lymph glands). Other symptoms include the inability to tolerate oral liquids for more than twelve hours, true diarrhea for more than twelve hours, signs and symptoms of dehydration (weakness, headache, lethargy, dry mucus membranes, low urine output, dark urine), and progressive or unexplained weakness (dehydration, infection). A final concern is significant fever, defined as any fever at all over 102 degrees F, or any fever over 100 Degrees F for longer than twelve hours.

Pain This includes severe pain with a sudden onset that is constant or getting worse or any significant pain that does not abate after twelve hours. Other concerns include abdominal pain accompanied with signs and symptoms of shock, females with unexplained abdominal pain, and any chest pain that you fear might not be from musculo-skeletal origin.

Cosmetics This is an area that is not often considered, but leaders and organizations, especially those serving young clients, should be particularly concerned with injuries that could potentially scar and/or limit function. This is particularly challenging because of the "teenager immortality factor." Occasionally, teens do not care about small scars of the face, head and neck and will resist evacuation. Since timely closure/plastic surgery does, in some cases, reduce scarring, we must remember that their parents might care very much. Consequently, we urge you to strongly consider evacuating those patients with potentially scarring injuries of the face, head and neck and/or potentially scarring injuries to joints.

Mechanism of Injury It is crucial that providers understand the importance of this category. Young, healthy people (frequently those we deal with in the backcountry) often tolerate trauma well. They can be suffering significant internal bleeding (especially from blunt trauma to the head, chest and/or abdomen) even though the initial exam might show only minimal signs of injury. The patient may be able to compensate for many hours before external signs of distress are visible, during which time a valuable opportunity to evacuate may have been lost. Examples of mechanisms of injury necessitating evacuation even in the absence of signs or symptoms of distress include any fall greater than fifteen feet, any other "significant fall", factoring in which body parts impacted and upon what type of surface, and any trauma that results in any loss of consciousness.

Psychological Evacuate any member of the group that poses a threat to themselves and/or to others. Unstable group members can cause crises all on their own, and can make

dealing with other emergency situations that arise much more difficult. You should usually consider other behavioral and discipline issues under this category as well.

Other This includes patients with suspected (but not obvious) fractures, and wounds with progressive infection. Burns are almost in a separate category. You should consider evacuation for burns to hands, feet, face or genitals, 2nd degree (partial thickness) burns over more than 1% of the patient's body surface area (an area equal to the size of the palm of the patient's hand), and any 3rd degree (full thickness) burn.

Evacuation's Golden Rules

Above all, when assessing whether an evacuation is necessary, consider these four "golden rules" for making the "Go" decision to evacuate:

B Think. Evaluate the scene for potential dangers and the mechanism of injury. Assess your patient(s). Consider all variables. Then make a plan.

B Use your gut instinct (and err on the side of caution). Trust your gut instinct and your medical training. Do the pieces add up? How does the person look?

B Do it sooner rather than later. Once you make the decision to cross the threshold and evacuate, do it sooner rather than later. Do not allow a person to become incapacitated before you make the decision to evacuate.

B Do not rush. Although you should follow the "do it sooner" rule, once you make the decision to evacuate, delaying the evacuation by a few minutes most likely will not change the outcome. Take time to educate your group, gather materials, and execute your plan. Do not create more patients or exit the scene with insufficient information by rushing your evacuation.

TRANSFER OF PATIENT CARE

The end goal of evacuation is transfer of the patient to professional rescuers (Search and Rescue, ground or air ambulance crews, or clinics). This transfer goes more smoothly for all parties involved (your group, the rescuers, and the sometimes-forgotten patient) if a few general guidelines are followed. First, whenever possible, designate a leader who will be the main communicator, and have that person speak with the rescue team leader. This greatly simplifies what can be a very confusing interface. Also, having a concise, legible written report is extremely valuable.

This can be a difficult time emotionally for your group. Your members will have invested much of themselves in this process. It is difficult to let go of the patient, even when you are convinced that the patient's needs are being met. The transfer leaves a void. Offer your group's help with logistics, but realize that your help may not be needed at this time. Tell them everything you want them to know. They may be in a big hurry, but this is probably your last chance to tell your story, so if you have important information make sure it gets relayed.

This sense of separation can be especially troubling if your group members have concerns about the abilities of the rescue team. Often, these concerns are actually about communications issues that are easily resolved by slowing the quick pace of action to clearly communicate your expectations. This is of particular importance if the patient is a minor, for whom you (or your organization) hold en locus parentus, i.e., legal authority over that minor patient's care. Knowing where the patient is being taken for treatment for example, is something rescuers don't always view as an important item for you to know versus getting that patient out of the mountains quickly. But it obviously remains important to you.

Occasionally, there may be very legitimate concerns that the transfer may actually result in a decrease in the level of medical care your patient will be receiving. You may determine that you have greater experience, and/or hold a higher level of medical certification. If, as leader, you feel that the rescue group cannot meet your patient's needs, then you will have to be creative. Options to consider include accessing another rescue group, continuing the transport yourselves, or pooling resources with the rescue team (recognizing that you cannot abandon your group without leadership). Either way, the leader can expect the members of the group to experience a sense of loss at this time. Try to anticipate and be sensitive to this. If your perception is that there are frustrations and anger amongst members, it might be best to let matters settle for awhile before addressing them. But if people seem generally satisfied with the intervention, but sad at the transfer of responsibilities, it might be a good time to take a break and talk about things. Whether the patient outcome is positive or not, the astute leader will recognize that people will need to talk about the events, and that the timing of the conversation can be as important as the content.

Finally, even under the best of circumstances, with a strong and confident team coming in, you still need to consider your responsibility to the patient. If you have a leader to spare, she or he should most likely accompany the patient out. Once the rescue is complete, the patient (perhaps a minor) may be alone in a hospital far from home, in need of an advocate. Your organization may also be able to provide this support, or you may not be in a position to leave your group, but you should also be thinking about what happens once the patient is successfully extracted from the scene.

MANAGING THE REST OF YOUR GROUP

Even as the patient faces a debilitating or perhaps life threatening injury or illness, you are still responsible for providing leadership for the rest of your group. It is important that both the injured person and the rest of your group see that you are in control of the situation and not being controlled by it. In the midst of the tremendous stress of such a situation, remember to care for yourself as well. Once the injured person is stabilized, calm and comfortable, you may want to step away for a moment to give yourself space to plan what you will do next.

You need to consider several things at this point. First, the members of your group are now prime candidates for becoming additional patients if you are dealing with an unsafe

scene or other significant unfavorable environmental factors. Second, this group is a potential treasure trove of assistance to both you and the patient. Finally, individuals in the group may be in a better position to see the precariousness of the situation, and thus are equally, or in some cases, more susceptible to stress than the patient. It is extremely important that you share your confidence in both their ability and your own to successfully handle this situation. Be as upbeat as possible, but also be truthful.

If possible, from a pragmatic and emotional safety standpoint, involve your group in administering first aid and evacuating the injured person. In doing so, you will begin to relieve their stress. If you have discussed safety and your emergency response plan, they will be mentally prepared to pitch in. Involve members who do not appear to be comfortable working with or near the patient with setting up shelter, preparing and distributing food and water, or other such tasks. If anyone on site becomes a nuisance rather than helpful, direct him to perform another task unrelated to the first aid/evacuation. If you suspect he may be suffering from emotional shock, have him work with a partner who can keep an eye on him. Managing stress in the patient, yourself and the rest of the crew may be the hardest and most important thing you do to ensure a smooth evacuation.

MANAGING STRESS - IN THE FIELD

Perhaps the most sincere and oft spoken lie to pass the lips of an outdoor leader in crisis management mode is "I'm okay". The leader(s) job is to take care of everyone, including him or her self. Maintaining the perspective discussed earlier about time appropriate concerns versus immediate needs can help control stress in the midst of the incident response.

While you are still in the field, pay attention to basic needs. Shelter if necessary and hot food and drinks, if possible under your circumstances, can really help alleviate anxiety. Laughing and joking (sometimes necessarily out of earshot of the patient, and sometimes involving the patient) may seem macabre to some, but it also stimulates endorphins, as well as a sense of perspective that is calming. Playing hacky sack or Frisbee, or simply reminding people that it is okay and appropriate to continue to appreciate and be in awe of their surroundings does wonders to reduce stress.

If you are fortunate enough to be in contact with the outside world via radio, cellular or satellite telephones, this will often help you manage your own stress, and it will certainly be a great source of comfort to both the patient and the rest of the expedition. But it can also be a double-edged sword for you as a leader. If this communication is utilized to commence the evaluation of the incident and the response, or to superimpose administrative oversight of the decision making process for the incident response, on-site stress will skyrocket.

MANAGING STRESS - POST INCIDENT

Stress seems to evaporate upon the conclusion of an evacuation, regardless of the outcome. There is relief that decision making is over, and exhaustion often plays a key role in making it feel as if everything is now behind you. If the outcome is positive, euphoria may also play a role in making the stress seem to disappear. The reality is however, that stress is very much present, and it is not about to dissipate without proactive work.
For your remaining students or group members, it is time to let them know that signs of stress will either continue to manifest themselves, or will likely reappear. These signs include irritability or antisocial behavior, changes in sleep patterns, or changes in eating habits. You may also need to deal with issues of loss of trust in your leadership, or a loss of their own sense of safety in the environment in which the incident occurred.

It is also important to have members of the group express what they are thinking and feeling in an atmosphere of trust and safety, as much as that is possible. Talk about what the worst, and best, things were for them during the incident and evacuation. Help them find pride in their role in the successes, and to find proportion and perspective regarding things that may not have gone as well. Most importantly, do not attempt to talk anyone out of how he or she is feeling. Let them know that you understand that he or she is feeling that way, and that while you all are still in the field, you are available to discuss either these feelings or other concerns whenever they need to.

As a leader, you need to be concerned that you don't fall prey to the "I'm okay" syndrome. Your very first question to yourself should be "do we stay in the field?" There will certainly be situations when it makes sense to stay, but now is the time to rely on your organizational or program protocols, or advice or direction from administrative staff. The decision to stay in the field, and to determine how to manage the emotional and stress issues related to the event, should not be based on the outcome of the evacuation alone. Even if the evacuation was a textbook model of stellar success, you will likely have some significant issues to resolve - all of those emotions you put into the "To Be Dealt With Later" file. The questions you ask yourself may include, "Could I have done a better job?" Or, "Was my original decision that led to the incident a poor one?"

It is at this point where the Critical Incident Stress Debriefing (CISD) process becomes extremely important. Leaders and all members of the group should debrief under the facilitation of a non-involved party with expertise in CISD, to begin to process the event. This allows the group to articulate emotions such as sense of loss, anger, helplessness, or perhaps even guilt over a sense of pride in a job well done, even when the outcome was still not positive [see NOLS Wilderness First Aid, Stackpole Press, Chapter 21, Stress and the Rescuer]. It is also important to recognize that even if the outcome of the event is excellent, and the patient is no longer in danger, that the need for CISD will still be likely. Don't fall into the trap of thinking that you can base the need for this important emotional processing on how things end up working out.

CONCLUSION

At the conclusion of any evacuation, and after the critical incident debriefing process, there does need to be an evaluation of both the incident, and the response to it. While this may add to the leader's stress level, this should also be viewed as normal and important. Any organization of quality and repute, as well as any leader with pride in the high standards of professionalism of our field, will welcome and demand the opportunity to analyze decisions and assess performance. Once you have been fully supported in the field, it is not only an administrative responsibility to second-guess decisions and conduct, but as an outdoor professional, this is your responsibility as well. It is by doing this type of assessment that organizations grow, outdoor professionals deepen their experience, and the industry as a whole does a better job of managing risk in our chosen program environment.

The subjects touched upon in this article are basic to considerations of field evacuation, and of course, there are many more issues to consider. However, what is critical to the success of any response to a field emergency is preplanning, training, and an institutional commitment to the highest standards of wilderness risk management.

ABOUT THE AUTHORS

Jay A. Satz serves as Vice President of Program for the Student Conservation Association, Inc. His responsibilities at SCA include developing and directing SCA's risk management program and oversight of all SCA program, including training and hiring of all field staff, and evaluation of all SCA programs. Jay also serves as an SCA representative to the National Wilderness Risk Manager's Committee. Jay can be reached via e-mail at: jsatz@thesca.org

David McEvoy is a professional paramedic for Missoula Emergency Services in Missoula, MT, as well as the co-founder of the Aerie School for Backcountry Medicine. Aerie provides wilderness medical training to individuals and organizations such as SCA and the US Forest Service Smokejumpers. David can be reached via e-mail at: Aerie@montana.com

Kurt A. Merrill is the National Director of Risk Management and Conservation Crews for the Student Conservation Association, Inc. His responsibilities at SCA include managing all crew-based activity and directing SCA's Risk Management Program. Kurt is also an SCA representative to the National Wilderness Risk Manager's Committee and currently serves as the committee Chair. Kurt can be reached via e-mail at: kmerrill@thesca.org

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