SAFETY DURING RESCUES

Common problems occurring during a search

by Paul Baugher

Barta photographs

The intense Cascade storm made for extremely poor visibility and difficult communication. One skier remained at the "safe point" watching his partner traverse into the fog. Unable to regain voice contact, the skier followed his partner's tracks, which eventually ended at a fracture line.

"I'm starting a beacon search!" The rescue began with all the urgency possible for humans to summon. A short distance away, two companions heard the call and rushed to help. The skier had located his partner and was digging him out. Just as he was clearing the victim's head from the snow, the two companions traversed onto the slope above them. They could not see anything in the fog below and thought they needed to continue further in order to reach the site. The ensuing release of the "hang fire" buried the partner and re-buried the victim.

Avalanche rescue investigations reveal the same mistakes being made repeatedly. A number of contributing factors, such as poor visibility or bad communication, can make a rescue tricky, but awareness of these common mistakes and factors allow us to develop better rescue habits.

I am not judgmental. On more than one occasion I have found myself prostrate before the avalanche gods. In fact, the most oft-repeated mistake I have seen in my avalanche career is the pervasive belief that "these mistakes happen to less skilled or less fortunate people."

Mistakes made during backcountry small group rescues generally fall into two categories, those that compromise the safety of the rescuers and those that compromise the chances of the victims.

When venturing into the backcountry, avalanche awareness requires a certain amount of vigilance. That same mental attitude needs to be exercised periodically within the confines of patrolled ski terrain as well. These photos were shot the morning after a storm on a slope where the ski patrol had recently finished dropping numerous bombs to no avail. By changing from a north-facing aspect (the shadowed flutes) to a warmer northeast-facing slope, the rider overloaded an in-bounds slope causing it to crack. He was flushed out the bottom though not buried because the snow fanned out as it dropped over an icefall (not pictured).

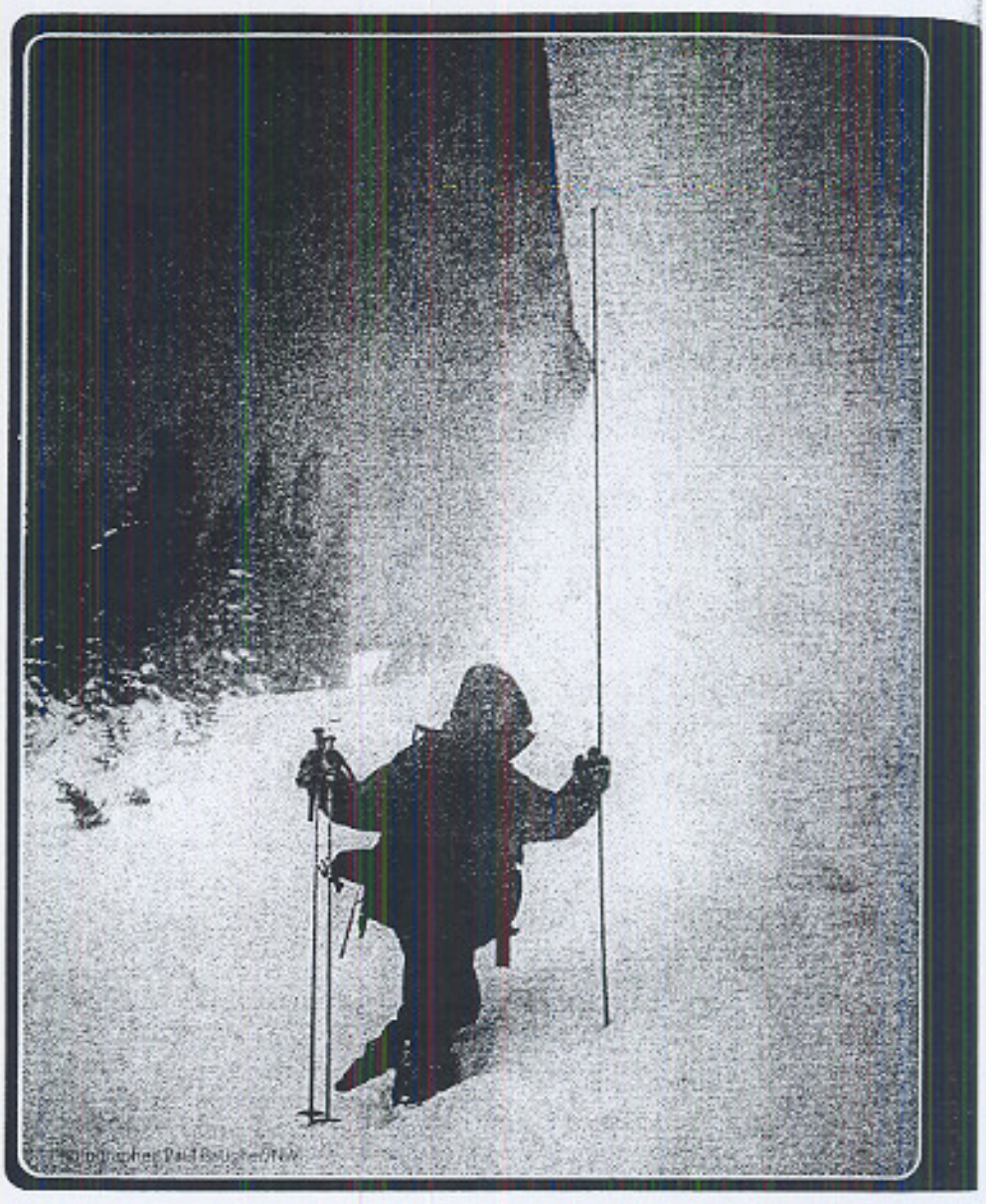
Safety of the rescuers

Failing to accurately evaluate the remaining hazard is the primary mistake. The corollary to this mistake is even after areas of instability have been identified, members of the rescue party still manage to get into them.

Last spring a backcountry skier in Alaska was caught and carried out of sight of the rest of the group. In an attempt to begin a quick rescue a companion rushed to the firm bed surface and proceeded down. She died as she went over a cliff that was initially hidden from view.

The most crucial first step involves taking a moment to size up the situation. Once the remaining hazard areas have been identified, clearly communicate the safe route and escape route from the search area. Usually this involves finding a safe entry onto the bed surface of the avalanche. Recently in Colorado, a slab avalanche broke part way down the slope, burying one skier while leaving the remaining members of the party above the fracture. In their hurry to help their companion, they descended directly through the crown area above the fracture line. This highly unstable area, referred to by avalanche professionals as "hang fire," caught the would-be rescuers, fortunately with no further loss of life. The bed surface is generally a safe place to be with the major caveat that you are often surrounded by hostile terrain. In this case, a better alternative existed. A short traverse to timber on the flank of the slide path offered a safer route to the bed surface. Remember that the weak layer in the snowpack surrounding the accident site doesn't give a wit about how urgent you are.

The difficult part becomes watching and controlling the movement



of members of your party and others that may come to help. This means keeping people out of the "forbidden areas" such as the crown area immediately above the fracture line and/or flanks of the path. During a rescue in the Cascades a group member above the accident site started down the bed surface to rejoin her companions who were administering first aid to a victim. No communication about when or how this person would join the rest of the group had taken place. The surface was so icy that she decided it would be better to descend in the softer snow on the flanks of the path. This resulted in a secondary slide that caught everyone including the original victim.

Keeping people out of each other's fall line is critical on extreme terrain. It doesn't take much moving snow in a gully or on a steep and icy bed surface to turn a rescue into a calamity. Multiple release zones often affect accident sites. Changes in stability like blowing snow or rapid warming have to be monitored.

Continued vigilance over the movement of the rescue team and changing stability is essential despite the multitude of distractions.

Chances of the victims

Mistakes that compromise efficiency burn precious time and decrease the chances for the victim's survival. There are two major themes here. First is failure to do an adequate hasty or initial search. The second results from inadequate preparation or training.

Inadequate hasty searches involve missing readily apparent visual cues like the victim's hand at the surface. In the worst cases the hasty search is abandoned prematurely and the rescuers leave the scene to get help.

Last winter two people were caught in the backcountry with one member completely buried. His partner was able to free himself and begin a search, but all of his equipment was lost. The search was quickly discontinued and his trip for help took hours as he walked out. When potential rescuers learned about the accident, it

Good Avalanche Rescue Habits

1. Take a moment to assess the entire situation. As hard as this sounds, this is the time when you complete your mental checklist. Remember, if you're efficient when you first start, speed follows accordingly.

2. Clearly communicate the safe route into the search area and the escape route from the search area. Watch and control the movement of members of your party and others that may come to help. The most common triggers of secondary avalanches result from the actions of the rescue team members.

3. Know how to use and maintain your equipment. Practice until you can consistently find a beacon in under five minutes at a depth of three feet. Practice assembling and maintaining your probe poles, especially if they are dual purpose ski/ probe poles. Remember, localize with the beacon then find with the probe.

4. Take professional avalanche training seminar. If it has been more than a few years since your training you're probably due for a refresher course.

— **Paul Baugher**

Doug Blanchard of the Northwest Avalanche Institue stands underneath the fracture line of a Cascade climax avalanche. Below this site a backcountry skier was caught and injured, but rescued alive.

had already been four hours and was getting dark. They assumed that the victim had no chance and decided to wait until the following day. Meanwhile, the victim had been able to dig a hole to the surface and managed to toss out a piece of equipment. Fortunately, a passerby was examining the avalanche debris and saw it and rescued the victim from a five-hour burial.

Another mistake made during the hasty search is waiting too long before beginning, usually because the group is unaware someone has been caught. As indicated in the first accident example, poor visibility and loss of voice contact are classic contributory factors. The nature of the terrain or storm conditions can make it impossible to know when or if your partner has made it to safety. Recognition of this pattern should have the group discussing actions to take when contact has been lost and a realistic time frame to initiate a search.

Inadequate preparation or training for avalanche rescue is the other common threat to the victim's chance of survival. This includes failure to carry rescue gear or not understanding how to use it efficiently. Lack of transceiver practice is the obvious example. Less obvious is recognizing the need to have other skills. Rescue statistics from the 1998-99 winter demonstrated that of ten live recoveries only three people were found with beacons, while spot probing, close visual inspection and voice contact located the other seven. Make no mistake beacon proficiency is still your best line of defense, but it is not a skill that stands alone. Remember that you are conducting a backcountry rescue not just a beacon search.

Forgetting to search the entire path or missing key visual clues results when the "big picture" is missed. Distractions or lack of leadership contribute to the common mistakes. Larger groups should quickly identify a leader. A leader avoids actual searching and can focus on a method using the available rescuers efficiently and handle distractions as they occur.

In small groups the leadership role is often shared. Everyone is apt to be actively involved in the search. However, the same problems, like safety of the group and a thorough visual search, still have to be addressed. During these fateful moments there is no substitute for having practiced rescues together.

This important concept was beautifully demonstrated last year near Sun Valley, Idaho. A professional avalanche forecaster was completely buried. The quick well-practiced actions of her partners led to a rapid beacon recovery. The victim was recovered in four minutes yet had already begun to show signs of anoxia. In other words, that is not blue lipstick. On an encouraging note, shortly after word of this event spread the local backcountry skiers and boarders were conspicuously seen training with their beacons.

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