

down the snow to an elevation of about 2540 meters. Adkison stayed there with Rotberg while Delgado descended to the lake where he met the others and they all returned to Signal Mountain on the boat. Delgado called dispatch to report the accident at 2025.

Rangers Rickert and Jackson were flown to the scene in a Bell 206L-3 helicopter piloted by Ken Johnson of Mountain Rotors. They rappelled to the victim at 2110 and performed first aid (applied K.E.D. and C-collar). The helicopter returned with the litter, and the victim was evacuated using the "short-haul" technique at 2140. She was transferred to the inside of the helicopter at the Cathedral Group scenic turnout and flown directly to St. John's Hospital in Jackson, arriving there at 2210.

The following morning, beginning at 0640, Rangers Larson, Johnson, Gagner, Perch, Woodmency and Burgette were flown to the moraine of the Skillet Glacier in three separate flights. They rappelled to the glacier, since no safe landing site was available. Equipment was delivered in a sling load and the rescue team climbed to the accident scene to extricate Mackey. This was accomplished by 1005. The body was transported down the glacier to the moraine where it was picked up in a helicopter sling load and returned to Lupine Meadows at 1100 where it was turned over to the coroner. (Source: Peter Armington and Bob Irvine, Rangers, Grand Teton National Park)

### **Analysis**

Interviews with Nicola Rotberg and Steve Adkison brought out the following points. Rotberg realized she was inexperienced, but felt fine on the ascent and was not nervous until she fell. She can't remember why she fell. She tried to self-arrest, but the pick wouldn't hold in the soft snow. She eventually lost both her ice ax and gloves during the fall. The wrist strap on her rented ax was on at the time, but not tightened up on her hand.

Adkison had two 22 meter ropes, but didn't use them because he said no one seemed nervous, and he had not used a rope on his 1985 ascent. He said they had tried to rent helmets, but no place had them available.

He said that he and Mackey were feeling the effects of altitude and had headaches. He felt that none of the party was nervous about the descent. Adkison told us that he never considered the possibility of what might happen if someone fell on the handle and could not stop. He said his only concern prior to the climb was the length of it and the physical stamina needed.

This route is not a good one for inexperienced climbers, especially ones on their first snow outing. (Source: Peter Armington, Ranger, Grand Teton National Park)

## **FALL ON ICE, PLACED INADEQUATE PROTECTION**

### **Wyoming, Tetons**

I, Doug Bringham (28), was climbing the Black Ice Couloir in Grand Teton National Park on August 9, 1986, with Hal Throolin (37). We were alternating leads on the ice. We had climbed about four 45 meter leads. I was leading and had run out about 41-42 meters of rope and hadn't placed any protection. I had stopped at a fixed pin and placed my hammer (Forrest Mjollnir III with alpine pick), which was attached to me with a shoulder sling. I placed my ice ax (MSR Sumner) and pulled my hand out of my mitt, leaving the mitt in the wrist loop. I was not then attached to the ice ax. I had my front points in the ice (Salewa hinged crampons on Galibier Vecors boots), had my hip/back leaned against a steep rock wall just downhill of the fixed pin, and was reaching up with a carabiner and sling to clip into the pin. The pin was quite high above the ice and

required me to stretch up to reach it. Just as I about reached the pin with an open carabiner, the movement from stretching dislodged one or both crampons. I then started to fall backwards (I think) with my head nearly full height above the ice which caused an upward jerk on my hammer.

The hammer pulled out and I began accelerating rapidly down the couloir as I yelled, "Falling!" to warn Hal. As near as I can tell, I slid with my body flat against the ice and didn't do any head over heels type of tumbling. My body changed orientation while I was sliding to where at points I was head down, head up, sideways and in between. I don't recall if I slid on my side, stomach or back. I hit the end of the rope and then pendulumed three to six meters and came within one to one and a half meters of hitting the rock on the west wall of the couloir. I had been attempting to grab my hammer while sliding but never got it.

After the fall was stopped, I made a quick assessment of my condition and noticed that I was still holding in my bare hand the carabiner and sling. I clipped it into my harness and then grabbed the hammer and placed it and my crampons. I started to climb up to take the load off the belayer. I then noticed that my ankle was sore, though I could still climb adequately with it. I scraped a patch of skin off the heel of my bare hand and scraped the skin off the knuckle of my little finger, but the scrapes were not serious. I then began climbing up to the belay station. I noticed after about three to five meters that I had lost my prescription glasses. I was able to climb at a reasonable speed to the belay where we determined that it would be best to climb out of the couloir as soon as possible. We determined that the fall was 85-88 meters, including rope stretch. As I was falling, Hal began to pull in rope hand over hand in an attempt to shorten the fall. He got it around his waist before I hit the end of the rope, but he wasn't able to grip tightly enough to hold the rope. A couple of meters slid around his waist and burned through his rain jacket and a little through his rain pants and melted the surface fibers of his polypropylene glove. His hand was badly bruised in absorbing some of the energy of the fall. The fall continued until the belay device finally held it. The force bent the head of the soft iron fixed pin that was one of the primary belay anchors.

Hal led all the remaining pitches. We found my ice ax with my mitt in the wrist loop right where I had placed it before I fell. We climbed to the upper saddle and arrived just before dark. We sorted gear and left for the lower saddle, arriving at midnight. I had to be very careful with each step in placing my injured foot to avoid aggravating the injury. By being careful the pain was not excruciating. I used a flashlight, sometimes held in my teeth, to illuminate my path.

At the lower saddle, I reported the incident to Ranger Paul Gagner. He examined my ankle and then we bivouacked for the night. In the morning the swelling had increased and there was substantially more pain in my ankle when I attempted to walk to the point that descending would have been an excruciating ordeal. Because I did not yet know specifically what damage there was and whether or not a walking descent would cause further or irreversible damage, I accepted a helicopter evacuation. My injury was later diagnosed as a sprained ankle with a fractured talus. (Source: Douglas Bringham)

### **Analysis**

My having done any one of the following things would have prevented the fall: (1) tie into both hand tools; (2) place both tools very well before letting go of them to work with protection hardware; or (3) chop a small step for crampon front points before relying solely on them.

Placing more intermediate protection would have decreased the relative severity of the fall, but it would not have prevented it in the first place.

We had slept through the alarm earlier that morning and had started later than planned and in our haste during the climb we probably tended to place less protection than we would have otherwise. Having climbed overhanging bulges on hard water ice several times in the past, I was not intimidated by the technical difficulty of the climb. I probably should have been more intimidated by the overall environment. In final analysis, I fell because I was too careless. I feel fortunate to be alive to benefit from this experience and to have been able to climb out of the couloir and descend to the lower saddle under my own power rather than risking the lives of others in any technical rescue attempts. (Source: Douglas Bringham)

## **HAPE**

### **Wyoming, Wind River Range**

(On August 20, 1986, Dennis Fenstermacher [33] had to retreat from the Cirque of the Towers because of an attack of High Altitude Pulmonary Edema. Here is his account).

We left Seattle on a Friday morning to drive to Wyoming. We arrived at the Big Sandy trailhead on Saturday night and hiked into Big Sandy Lake. Sunday was an easy hike into the Cirque and that evening I hiked up a sub-peak to get a good view of the range. At this point I felt great although during the day I probably should have drunk more fluids than I did. On Monday I climbed nine short pitches on Pingora up to the 5.8 level and still felt very well with no loss of energy.

Tuesday morning I started to hike up to the South Watchtower. Barely 90 meters out of camp I was unusually tired and developing a headache. I was slowly able to get up the hill to the start of the climb and I did the first pitch, but by this time my headache was so severe that I decided it was best to descend. I rappelled down and spent the rest of the day watching other climbers in the Cirque. I was taking Empirin with codeine for my headache, but it didn't go away.

Tuesday night I went to sleep with a headache. I awoke once to relieve myself and became completely winded walking only 20 meters. My breathing was labored and it took me an hour to recover and get back to sleep.

At midnight shortness of breath awoke me. I had extremely labored breathing, rales in my chest, and a splitting headache. People in the next tent said my breathing had awakened them also. I had to sit up to breathe or else the fluids in my lungs caused me to cough uncontrollably with great pain. At this point, it was obvious that I had high altitude pulmonary edema.

We elected to wait until morning to hike out. With the help of eight people, I was assisted over the pass and able to slowly hike out. The loss of altitude brought immediate relief. By the time I got to Big Sandy Lake, I felt pretty good but it still took eight hours to get to the trail head.

A checkup and X-ray in Jackson indicated severe fluid buildup in both lungs and some heart enlargement. The doctor felt that a six to 12 hour delay in reaching a lower altitude could have been fatal. This came as quite a shock since I had climbed above 6000 meters before and the Cirque of the Towers is generally under 3400 meters. (Source: Dennis Fenstermacher)