

stopped by the rope a few feet below it. Although he did not hit the ground, he suffered a compound fracture of his lower left leg. What happened, we think, is that his crampon caught on the ledge as he fell past it.

With the help of two other climbers, I splinted Yates' leg, using two ice axes. Someone phoned for an ambulance and the Flamborough Volunteer Fire Department also responded. They carried Yates on a stretcher up the stairs to the top of the escarpment and then to the ambulance. (Source: G. Smith)

Analysis

An ice screw should have been placed just below the top of the waterfall to provide additional protection. Top roping might be a good idea here to avoid the hazard of brittle ice on these small practice falls. The accident occurred at the same place as a similar accident the previous weekend. (Source: G. Yates and G. Smith)

FALL ON ROCK, LACK OF CONCENTRATION, NO HARD HAT

Ontario, Bon Echo Provincial Park

At approximately 4 P.M. on August 1, 1982, Robert Jones (41) was leading the third pitch on One Pine Route. He was roped in with four other climbers. He slipped on the crux move and fell approximately ten meters down a smooth ramp. His protection, a Friend, held, and he came to rest upside down and unconscious, level with his belayer.

Jones regained consciousness after about three minutes. By this time, two experienced climbers were descending to the site from the top of the cliff, and a doctor was climbing from below. The doctor diagnosed and splinted a broken shoulder. Jones also sustained a concussion and bruises. He was lowered on a rope to a waiting boat and evacuated to the hospital. The entire descent of about 100 meters took over two hours. (Source: M. Melcher)

Analysis

Jones had led this route previously but with a smaller party. His enthusiasm may have reduced his concentration and contributed to the fall. He was not wearing a hard hat.

The length of time to effect the rescue could have been dramatically reduced had there been a trained rescue team coordinated by one person. (Source: M. Melcher)

FROSTBITE

Yukon Territory, Saint Elias Range, Mount Steele

On January 3, 1982, the Kluane Park Warden Office received a phone call from an airline company in Whitehorse which had been monitoring a Czechoslovakian climbing party on Mount Steele. They reported that members of the party were suffering from severe frostbite and required medical attention. A helicopter was dispatched and two people were picked up and evacuated to the hospital in Whitehorse. On January 4, the helicopter was again dispatched and the remaining three

climbers were picked up and also evacuated to the hospital. All suffered some degree of frostbite on their feet, hands or faces. Three climbers had been successful in reaching the 16644-foot summit. (Source: L. Freese, Kluane National Park)

Analysis

The weather during the climb was probably normal for this time of year. The temperature in the valley bottom at the start of their ascent was minus 40°C.

During their climb, they experienced temperatures of minus 40°C with 40 kph winds and were forced to bivouac in the open for one night. They climbed rapidly and possibly suffered from some degree of altitude sickness that may have hampered their abilities to care for themselves in view of the extreme weather conditions that they experienced. Winter mountaineering in this area is restricted by reduced daylight hours and extremes in weather. Winter temperatures of minus 50°C are not uncommon and wind velocities can be very high. All these factors should be considered before winter ascents in the area are even contemplated. (Source: L. Freese, Kluane National Park)

AVALANCHE, FROSTBITE

Yukon Territory, Saint Elias Range, Mount Logan

A party of seven climbers from Colorado was attempting an unclimbed north ridge of Mount Logan. About 11 A.M. on June 11, 1982, their camp at about 15,500 feet was struck by an avalanche. Two members of the party, who were outside their tents when the avalanche struck, were swept about 200 feet below the camp. They climbed back to the campsite and were able to dig out two other members of the party. These four then dug for the remaining climbers, using their hands and whatever tools were available. After another two hours, they discovered the body of one other climber. Throughout their search, they had found no air pockets or signs of life and, at that point, decided to see to their own survival as it was storming and they needed shelter.

On June 12, another slide covered the area. On June 13, they were again able to excavate at the site to look for the radio which would assist in saving their lives. They managed to uncover the bodies of two members of the party and the radio. However, they never did discover the third body.

About 4 P.M. on June 13, as weather was again moving in, they packed up what gear they could and moved down to the point where they were eventually picked up around noon on June 16. Three of the surviving four climbers suffered some frostbite on their feet and hands. (Source: L. Freese, Kluane National Park)

Analysis

There is probably no way to avoid avalanche hazard on this route and it is not known whether a safer campsite could have been found. It was fortunate that these climbers had a radio and were able to obtain assistance. (Source: L. Freese, Kluane National Park)