

crevasse and fell in seven meters, injuring her head in the fall. M.S. (34), the last person on the rope, attempted to arrest T.S.'s fall, and was pulled into another crevasse. In the process, M.S. caught his crampon and injured his ankle. The remaining members of the group evacuated the fallen climbers from their respective crevasses and assisted them to a location where a helicopter could land.

Wardens flew to the accident site at the trench with a Bell 407 from Golden. The helicopter was able to land at the site, and the victims were loaded into the helicopter and were transported directly to Emergency Medical Services.

Analysis

The Columbia Glacier is an extremely broken icefall, which is difficult to navigate even under ideal circumstances. Falling into a crevasse is almost inevitable when attempting to travel through an icefall of this nature. (Source: Parks Canada Warden Service)

ROCKFALL, POOR POSITION, POOR JUDGMENT

Alberta, Jasper National Park, Mount Edith Cavell

On August 20, two climbers (F 43, M 54) began ascending the North Face route on Mount Edith Cavell. They began at 1500 on a hot day, when rock fall is at its worst. One of the climbers was hit directly on the head by a large rock, knocking her unconscious and causing her to fall approximately 100 meters to the glacier below. The climbers were not roped at the time, but both had helmets on. She was unconscious for about ten minutes. She suffered from amnesia and headaches the rest of the day. The pair bivouacked on the Angel Glacier for the night. The second climber subsequently suffered severe back spasms (a recurring problem) as a result of bivouacking on the cold hard surface, and could not go for help. They spent a second night on the glacier waiting for help to arrive.

The search for the climbers began when their registered check-in time came and went without their reporting in. The decision was made to bring in a helicopter after no evidence of the climbers could be found on the trail or with binoculars. A Bell 407 was brought over from Golden, and the mountain was searched by air. A warden was also dropped at the Verdant Creek/Astoria River trail junction to hike up the West Ridge of Cavell on foot. After an extensive search by air, the overdue climbers were found at their bivouac site low on the Angel Glacier. The helicopter was able to land at their location, and the climbers were evacuated to the staging area.

Analysis

The climbers did not depart the Cavell parking lot until 1000. They found the rock climbing up to the Angel Glacier to be quite tricky and therefore went slowly. They arrived at the base of the North Face route at 1500, and planned to climb the lower part of the route in the late afternoon and to bivouac on the large ledge halfway up the face. The weather was warm, and rock fall at that time of day was extensive. The lower part of this route is subject to a considerable amount of falling rock and ice. The climbers were well prepared and had

done extensive research on this route. They had been to the base of the route three times prior to this attempt and were familiar with the terrain. Despite their experience and knowledge, they chose to ascend the most hazardous part of the face in the heat of the afternoon when rockfall is at its worst. This turned out to be a critical judgment error. Luckily both climbers had helmets on, which undoubtedly saved the female climber's life. (Source: Parks Canada Warden Service)

FALL ON ICE, EQUIPMENT FAILURE

Alberta, Banff National Park, Mount Aberdeen

On August 20, L.S. (40) was guiding K.B. (61) on Mount Aberdeen. They reached the toe of the Aberdeen Glacier at approximately 0700. They moved together on a two-meter short-rope up 50 meters of firm snow and started to traverse 25-degree ice to reach a stance at the base of the steeper ice. K.B. slipped and L.S. held his weight easily. While K.B. was regaining his footing, L.S.'s crampon broke and they fell together down the glacier. After sliding for about 30 meters on the rock covered ice, L.S. was able to self arrest and they stopped at a small rock pile. K.B. had fractured and dislocated the head of his humerus and had back pain. After applying first aid to K.B. for several minutes, L.S. realized that he had broken his ulna and dislocated his radius (both lower arm bones) in the initial fall. L.S. was able to call the Banff Park Warden Service through the Lake Louise Ski area and request assistance. The climbers were slung out within the hour.

Analysis

Short-roping on low-angle ice and snow is standard practice amongst Mountain Guides. It is a necessary and effective tool that relies very little on equipment except for the rope, ice ax, and crampons. However, when the equipment fails or the techniques are poorly applied, the results can be catastrophic. In this case the crampons were very high quality (Charlet Moser S12 with heel binding and toe lanyard) but well used. The crampon strap broke on the outside of the guide's left foot. His left leg was braced flat-footed on 25-degree ice to hold his own and the client's weight, so when the strap broke the whole system fell apart. The strap looked like it had been cut, so it is possible it had been damaged while walking through snow covered rocks or while mixed climbing. The use of the radio in an area with an excellent mountain rescue service made the solution to a very difficult situation simple. (Source: L.S.)

FALL ON ROCK, LOOSE ROCK, FATIGUE

Alberta, Banff National Park, Mount Victoria

I (35) was climbing with two friends, H.N. (32) and E.D. (26) on August 28. We departed from the Abbot Pass Hut early Saturday morning to attempt a south to north traverse of Mount Victoria. The weather and conditions were excellent, and we were equipped for a likely bivouac around the north summit. We took a brief break at the main summit at about 1100. We continued on down and north along the ridge where we encountered the first of some very