gone about half a rope length before getting any protection in. About four meters above his protection, he fell, striking the rock head first. He ended up hanging upside down with a serious head injury and a compound lower leg fracture.

The younger brother was pinned to the belay position and couldn't move. His cries for help were confused by passers-by as a warning about a bear. People scattered in confusion and it was some time before word reached the Park Warden Office.

It was nearly two hours after the accident before the victim was reached. In the meantime, in spite of his injuries, he had managed to right himself and obtain some support on the steep slope. He was removed under difficult wind conditions by helicopter sling rescue. (Source: T. Davidson, Banff National Park)

## **Analysis**

The victim was not wearing a hard hat and was using only a seat harness. (Source: T. Davidson, Banff National Park)

### **ROCK AND SNOW AVALANCHE**

### Alberta, Rocky Mountains, Mount Kitchener

Two climbers, both in their early twenties, were attempting the Grand Central Couloir on the north face of Mount Kitchener on August 22, 1982. Due to bad conditions, they decided to abort the climb and began to descend the fan below the upper bergschrund unroped.

Approximately 200 feet above the icefall, a rock and snow avalanche caught one man and knocked him over the icefall. A second, more violent, avalanche followed almost immediately and buried him in the bergschrund below the icefall. He was injured by the first slide and killed by the second. His partner dug out the body which was not deeply buried. (Source: D. Stinson and J. Steele, Jasper National Park)

#### **Analysis**

A considerable amount of snow had fallen in the area prior to the attempted climb and avalanche activity was observed throughout the area. A safer descent route would have been to stay closer to the side of the fan. (Source: D. Stinson and J. Steele, Jasper National Park)

# FALL ON ROCK, NO HARD HAT

# Alberta, Rocky Mountains, Mount Louis

On September 2, 1982, two climbers, both in their midtwenties, were ascending the standard route on Mount Louis. At the start of the final chimney pitches near the summit, the leader fell. The first protection point pulled out and she hit the rock after a 12-meter fall, ending up hanging upside down. She suffered a minor concussion, abrasions to the head, left arm and elbow and internal injuries (slight internal bleeding).

Other climbers on the route reported the accident and the party was rescued before dark by helicopter sling method. (Source: T. Auger and T. Davidson, Banff National Park)

# **Analysis**

The victim was not wearing a hard hat and was using only a seat harness. (Source: T. Auger and T. Davidson, Banff National Park)

### FALL ON SNOW, CLIMBING ALONE

# British Columbia, Selkirk Mountains, Ridge between Mounts Castor and Pollux

On April 21, 1982, a solo climber was ascending the ridge between Mounts Castor and Pollux. He had left his skis where the rock ridge began. On top of the ridge, he apparently walked out to the edge on a cornice to take a photograph. The cornice broke and he fell to the snow and ice below, suffering severe injuries: fracture of the left femur in three places, compound fractures of the right tibia and fibula. general lacerations to the head and back and exposure.

Another party, which arrived later that day, noticed the skis stuck up in the snow and investigated. They followed his tracks and then saw him on the ice field below. One member of the party skied down for help and the victim was recovered by Glacier Park Wardens using helicopter sling rescue. (Source: J.L. Turnbull)

## **Analysis**

The victim was fortunate in being found the same day and not having to wait until the next day when his registration would have been overdue. (Source: I.L. Turnbull)

# FALL INTO CREVASSE, CLIMBING UNROPED British Columbia, Purcell Mountains, Bugaboo Glacier

At 8 A.M., on July 21, 1982, Keven Donohoe (33), Jerry Murphy and Dan Prows were ascending Bugaboo Glacier, southwest of Snowpatch Spire, at an elevation of about 8500 feet. The glacier was snow covered and scattered with rock debris. There did not appear to be any crevasses.

The party was traveling unroped, with Donohoe about ten feet ahead of the others, when he dropped through a thin snow bridge over a two-foot-wide crevasse. He fell about 40 feet to where the crevasse narrowed, where he jammed. Murphy and Prows lowered a rope and prusiks to Donahoe who was able to tie in but could not prusik up the rope. They had started to pull him up when two other climbers arrived and, shortly after that, another two climbers. By 8:45 A.M., they had succeeded in pulling him out. He was very wet, in slight shock and had a suspected fracture of the upper right arm. He was wrapped in extra clothing, his head was lowered and his arm splinted.

Two of the climbers descended to the Conrad Kain Hut to report the accident; they then returned to the site of the accident with a rescue toboggan. They were accompanied by J. Timmins who brought first aid supplies and a radio.

Because of possible back injuries, it was decided to call for a helicopter evacuation; the message was relayed through the Conrad Kain Hut. The helicopter arrived at 12:10 P.M. and the victim was strapped to a backboard for the trip to the hospital at Invermere. (Source: S. Shaw and J. Timmins)