

## UNITED STATES

### **FROSTBITE, DEHYDRATION, DAMP MITTENS**

#### **Alaska, Iliamna Volcano**

On February 9, 1985, Ken Zafron, George Rooney, Willie Hersman (34), and Rudi Bertschi (38) flew to the Tuxedni Glacier. They hoped to make the first winter ascent of Iliamna Volcano, and to establish a new route on the mountain's north ridge.

Throughout the trip the temperature remained steady around  $-20^{\circ}\text{C}$ . Skies were sunny, but after two days the party was climbing in the shadow of Iliamna. Winds were generally light at low altitude. By February 12, the climbers ascended to 2350 meters where they made their high camp in a snow cave.

During the ascent, Bertschi had experienced nausea and heartburn which forced him to restrict his intake of food and fluids. On February 13, he rested in camp, eating and drinking as much as possible, while the remainder of the party explored the north ridge. The north ridge presented unanticipated difficulties, so the party turned its attention to the nearby northwest ridge.

At 0900 on February 14, the entire party left camp and traversed the north face. A relentless 30 knot wind with gale force gusts blew from the west. Just prior to gaining the northwest ridge, Hersman called a halt to warm his hands which had become very cold. Then, while Zafron, Bertschi, and Rooney continued to wait on the exposed ledge, Hersman led a steep pitch to gain the northwest ridge. During the 30 minute wait, Bertschi's feet became very cold, but rewarmed somewhat after he added extra clothing and resumed climbing. The climbers reached the summit (3080 meters) by 1530; and, in fading light, promptly retraced their steps to their high camp.

By the morning of February 15, Bertschi detected some discoloration of his right heel. The party descended to the airstrip on the Tuxedni Glacier by 1900. Then, inspection revealed the formation of a bleb on Bertschi's foot. Blebs were also developing on the fingertips of Hersman's left hand.

On February 16, Bertschi and Hersman were flown to Kenai and then drove to Providence Hospital in Anchorage where they were treated for superficial frostbite. Deteriorating weather delayed the exodus of Rooney and Zafron until the following day. (Source: Rudolph Bertschi)

#### **Analysis**

Winter climbing in Alaska is always risky. Prolonged periods of low temperatures, high winds, massive snow accumulation, and poor visibility should be anticipated. While extreme conditions were the proximate cause of the climbers' frostbite, dehydration and poor diet can be listed as contributing factors to Bertschi's injury. Hersman began climbing on the 14th with mittens still damp from the previous day's climbing, a condition which contributed to the rapid heat loss and injury to his hand. (Source: Rudolph Bertschi)

### **HAPE, FAILURE TO DESCEND**

#### **Alaska, Mount McKinley**

On April 25, 1985, a five member Japanese party, Tokyo Hakuryo Alaska Expedition, flew to the 2130 Kahiltna landing strip for their climb of the West Buttress of Mt. McKinley. On

May 1, Yoshikatsu Sumimoto (37) began to suffer symptoms of High Altitude Pulmonary Edema (HAPE) as they ascended to the 3900 meter camp. That evening he experienced gurgling in his lungs and difficulty with his breathing. By the morning of May 2, Sumimoto's condition had deteriorated to where he had difficulty in standing and began coughing up bloody sputum. His party decided to take him down to the last camp at 3200 meters. At 1400 an American party, MOTA, encountered the Japanese where they recommended they descend to a cave and igloo at 2750 meters. At 1900 the MOTA party arrived at the 4350 meter camp and reported Sumimoto's condition to rangers Roger Robinson and Bob Seibert. Robinson and Seibert consulted Rob Roach of the Denali Medical Research Project where a CB radio, a portable O<sub>2</sub> (E bottle) and Diamox was obtained to send back with the MOTA team. The MOTA party returned to 3300 meters at 2045 where they found the Japanese camped. Sumimoto was found by himself in a separate tent from the other four. Rick Maschek (of MOTA) found that Sumimoto had a pulse of 120, respirations of 28 and a temperature of 38°C. Maschek began administering O<sub>2</sub> at one liter per minute and gave him one 500mg of Diamox. Maschek provided Sumimoto with liquids and was adamant with the rest of the party about providing him with additional liquids and keeping someone with him at all times. At 2200 Michael Nicklas (of MOTA) skied to the 3050 meter level of the Kahiltna where he attempted to reach Kahiltna Base Camp or the NPS via his CB radio. He made no contact. At 2315 Sumimoto's pulse had improved to 108 with 24 respirations per minute. Early on May 3 at 1300 Sumimoto showed additional improvement with a pulse of 100. Maschek gave him another Diamox. By 0900, Sumimoto was feeling much better. He was able to sit up and had a pulse of 96-100. At some point in the night, the nasal cannula had frozen. Maschek put him back on oxygen that morning and reminded his partners to give him additional fluids. At 1000, Lowell Thomas, Jr., of Talkeetna Air Taxi flew over the area in an attempt to reach the Japanese party via CB radio. No contact could be made. Due to a cloud layer, Thomas made only one pass as he was uncertain of the party's location. Later in the day, Sumimoto was able to ski unassisted back down to the Kahiltna Base Camp. No further aid was given. (Source: Rober Robinson, Mountaineering Ranger, Denali National Park)

### **Analysis**

At the first sign of altitude sickness, especially when it became clear that Sumimoto's lungs were involved, his party should have stopped ascending. When his condition deteriorated to the point that he could not walk a straight line without assistance, his group should have started down with him. Another indication for immediate descent is the combination of gurgling in the chest, cough, shortness of breath and a heart rate greater than 100 and breathing rate greater than 20. These are signs of life-threatening pulmonary edema. This man's life was saved by the prudent action of the MOTA group, the NPS and the Medical Research Group. The oxygen provided enough improvement that he could proceed down on his own. Had he descended a mere 300-500 meters when first ill, he would have made a quick recovery and could have continued on two days later. The Diamox may have helped; its use in severe HAPE is still experimental, but it certainly did no harm. (Source: Dr. Peter Hackett, Denali Medical Research Group)

### **FALL ON SNOW, INADEQUATE EQUIPMENT, CLIMBING UNROPED**

#### **Alaska, Mount McKinley**

On May 4, 1985, at 1630, Siegfried Mayer (45), a member of the Schwarzwaldler-Alaska-Bergfahrt-Expedition, was descending from the summit of Mt. McKinley. He was unroped