over the pair to provide assistance. At 0745, a CB radio call was made to the 14,200 foot Ranger Station to report the situation. Within 30 minutes, Gordon Smith of the Milford Expedition and solo climber Adrian Popvici arrived to provide additional assistance. Brandon was apparently killed from the fall and exposure. Tyler was stabilized and placed in his sleeping bag and given hot liquids. The NPS LAMA helicopter arrived with ranger Daryl Miller and VIP Doctor Colin Grissom, who had been picked up at the 14,200 foot Ranger Station. They were dropped off near the 17,200 foot camp at 1033 where they climbed over to Tyler and Brandon. Grissom examined Brandon and reported no spontaneous pulse or respirations and her pupils were fixed and dilated. In examining Tyler, Grissom suspected back injuries and felt he should only be moved in a litter. Tyler was placed on oxygen and an IV was started. The extreme cold affected the IV operation even with a separate heat source. Their location precluded a helicopter pickup. A pickup spot 500 feet down the slope was spotted where Tyler was lowered. Tyler was picked up at 1305 where he was transferred to the Alaska Air National Guard helicopter at the 7,200 foot basecamp. Tyler was flown direct to Alaska Regional Hospital in Anchorage, arriving around 1410. Brandon was flown off at 1405 by the LAMA to 7,200 feet, where she was transferred to a fixed wing Cessna 206 and flown out to Talkeetna.

Tyler lost eight of his fingers to frostbite while retaining his thumbs. The cause of Brandon's death was listed as hypothermia with an underlying diagnosis of cerebral edema.

Analysis

Richard Tyler and Pauline Brandon persisted in trying to reach the summit, which appeared to be their most important objective. Many climbers come to Denali each year with fairly limited mountaineering experience and a strong desire to reach the summit. The combination of the two has led to the sad ending of many. The most important objective of all climbers should be the goal to return safely. (Source: Roger Robinson, Mountaineering Ranger, Denali National Park)

AVALANCHE, POOR POSITION, UNDERESTIMATED CONDITIONS

Alaska, Mount Hunter

On May 5, 1994, Andy Carson and Charles Crago triggered an avalanche and were carried 800 feet down the route they were attempting on Mount Hunter.

The team—totaling five people—was attempting the North West Basin Variation to gain the West Ridge. This is a popular variation that avoids a rock buttress on the original route. The variation joins the ridge at 12,000 feet. The basin is steep and contains hazards. There is an ice fall that periodically deposits ice blocks and debris on and across the route.

The weather pattern during the week prior to the avalanche was unstable. Temperatures ranged with lows in the negative single digits to highs in the twenties and thirties. Several weak systems moved through the area bringing snow showers with accumulations of eight inches. The winds varied in speed, sometimes reaching 30 mph, and mostly from the South East. Periodic sunshine created thin crusts on most aspects.

The climbers had to camp at 7,400 feet in a bergschrund. Their plan for May 5 was to carry a load above the couloir, to the 10,500 foot level. They were carrying food and fuel to be used higher on the route. They also had warm clothes, but were without tents, sleeping bags, or full bivouac gear. They were not fully prepared to spend a night out.

The group moved as two rope teams. Andy Carson and Chuck Crago comprised one rope team, and were leading at the time of the slope failure. Mark Whiton, Mike Gil-

bert, and Zach Etheridge comprised the second rope team. They dug a snow pit to evaluate the avalanche hazard, and determined the conditions to be unstable. Avalanches were numerous during the days of this unstable weather cycle, and at this elevation. This was reported by several people at the landing strip who observed slides surrounding the south east fork area.

The group carried both rock and snow anchors. The snow anchors were useless in the unconsolidated snow pack. They placed rock anchors where available. They decided to climb to the crest of the ridge to get above a suspect slope. At the time of the avalanche, they had traveled three rope lengths along the ridge and were at the elevation of 9,700 feet. Where the avalanche occurred, the slope angle was estimated to be only ten to 15 degrees. Below the climbers, and beyond a pillow, the slope steepened to 50 degrees. The first rope team was unable to place snow anchors along the ridge, and continued on. At 1720, Carson triggered the avalanche. The snow fractured a few feet above and the depth of the slab was estimated to be 18 to 24 inches deep. Carson was carried down by the slab. Crago, not yet caught in the slide, went into self-arrest to try and stop Carson from taking a long ride. Crago was plucked from his arrest position by the rope coming tight, due to the force generated by Carson and the avalanche.

Whiton, Etheridge, and Gilbert watched the avalanche, but lost sight of the men. They initially thought that Carson and Crago were buried in the avalanche debris. While descending to the runout zone, they heard a shout from Carson and Crago, indicating they were not buried.

During the slide Carson sustained tibia/fibula fractures of both legs, contusions, and lacerations of the body and head. Crago's injuries included a puncture to the chest, contusions and lacerations of the head and body. (The men went over a small rock band, which may have provided the mechanism for the injuries.)

At the scene Whiton, Etheridge, and Gilbert assessed and stabilized Carson's legs using pickets and lashing both legs together. They packed a trail traversing out of the runout zone on which to evacuate Carson. Crago was ambulatory, and did not require assistance.

Annie Duquette was contacted by the Carson expedition with a CB radio. They relayed their assessment of the injuries, the equipment they had with them, and that they needed a rescue. They were concerned about not having sleeping bags and the real possibility of hypothermia. Carson was especially vulnerable because he was non ambulatory. The Park Service was notified at 1930. A fixed wing was sent to the area to determine the suitability of the weather for flying, and in using the LAMA helicopter for rescuing the injured climbers. The weather was marginal for flying and it was determined that a window was needed to reach the group. At 2016 Carson's expedition called and said the weather was poor and that they would attempt to lower Carson. Meanwhile climbers at Basecamp were organizing themselves to help out on a ground rescue. At 2100 eight climbers left basecamp intending to rescue the injured climbers.

At 2130 the LAMA helicopter was dispatched with two rangers and rescue equipment aboard. At 2215 the helicopter had visual contact with the group, who were in the process of rescuing themselves. The contact was brief as the weather closed in, necessitating a retreat by the helicopter to basecamp.

The advanced ground team had visual contact with the group and would reach them to assist in the lowering. Approaching darkness and flight restrictions required the helicopter to return to Talkeetna.

At 0625 on May 6, the ground rescue team continued evacuating the injured to basecamp. At 1050 all involved parties were at basecamp. Carson and Crago were transported to Alaska Regional Hospital by fixed wing at 1435.

Analysis
The North West Basin Variation to the West Ridge of Mount Hunter is popular because it offers a shorter approach to the ridge, and avoids a rock band on the original route. The route is also detailed in a climbing guide. The enticement is there, and may lure climbers onto dangerous ground. Debris from the ice fall on the lower half of the basin was observed from the air throughout the season. This debris crossed the route used by climbers. The runout from this ice fall should be avoided. The basin faces the North West and acts as a catchment for wind deposited snow. The angle of slope in the basin fits the criteria where avalanches are most likely to occur.

The precipitation during the unstable weather cycle loaded the basin, and in combination with the wind, created a slab. The Carson expedition suspected the slope might fail. They attempted to climb above where the slope failure might occur. The signs were there indicating avalanche conditions. The Carson party underestimated the hazard and accidentally triggered the avalanche. Whether anchors would have prevented the long fall is unknown. (Source: Kevin Moore, Mountaineering Ranger, Denali National Park)

AMS—POSSIBLE HACE, RAPID ASCENT
Alaska, Mount McKinley
On May 7, 1994, the Italian expedition "Sesia 94" departed from the 7,200 foot Kahiltna Base Camp and arrived at the 14,200 foot basin on the West Buttress on May 11. Mautezio Fasano (35), was the expedition climbing doctor and member of a 12 person team whose mission was to remove the body of Italian climber Giovanni Calcagno who died at 15,500 feet on the Cassin Ridge. "Sesia 94" split into several teams, with one team attempting to climb the Cassin Ridge. Fasano was on a four person team which was attempting to climb to the summit via the West Buttress in five days. The team departed at 0600 on May 13 and reached the 16,000 foot ridge at 0830. After reaching the 16,200 foot camp, Fasano was unable to balance himself and experienced severe headaches. The team members alerted the rest of their team at 14,200 feet, which in turn reported the incident to the ranger camp. The ranger patrol advised the expedition to lower Fasano as quickly as possible and bring him to the NPS medical weatherport. Fasano was treated for acute AMS and possible HACE inside the Gamow bag. He was non-ambulatory and also put on oxygen through the night and transported on May 14 by the NPS LAMA Helicopter to Anchorage.

Analysis
This Italian team was very strong and well organized, but underestimated both weather and altitude. Fasano was in excellent physical condition, and along with his teammates had no problem climbing up to the 16,200 foot camp. They were briefed at Talkeetna concerning moving 1,000 feet per day, and the weather patterns. Fasano was extremely lucky in that his expedition could help lower him in good weather. This same expedition called for a rescue on the Cassin Ridge several days later after losing their tents and climbing gear due to high winds. It is also interesting to note that they are all rescue guides in the Alps. (Source: Daryl Miller, Mountaineering Ranger, Denali National Park)

GRAND MAL SEIZURES
Alaska, Mount McKinley
On May 16, 1994, John Merrigan (43) was climbing Mount McKinley when he began experiencing what appeared to be Grand Mal seizures at 7,800 feet on the Kahiltna