



F29 Remains of Climber Identified After 21 Years on a Glacier: A Case Report With Discussion of the Need for an International Missing Persons Database That Includes Dental Records

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After attending this presentation, attendees will understand the circumstances and factors involved in a climbing accident, which resulted in rescuers being unable to locate a missing mountain climber for 21 years. Positive identification of the recovered remains was possible because of dental records retained by the local police agency.

This presentation will impact the forensic science community by reinforcing the importance of retaining dental records of missing individuals for an indefinite period of time. Priority must also be placed upon consensus and implementation of a national and international missing persons database that includes accurate dental records.

The American Alpine Club states that between 1951 and 2005 there were 1,686 deaths in Canada and the United States related to climbing activities with 18 and 59 fatalities occurring each year. The report, *Accidents in North American Mountaineering*, provides statistics regarding injuries and fatalities in all reported climbing incidents and the factors involved.

This case report concerns a pair of experienced winter climbers in the Canadian Rocky Mountains. Upon reaching the summit of the mountain the climbers unclipped from their ropes. One climber proceeded to move about to locate their desired descent route. While venturing too far onto an unsupported snow/ice cornice, the climber disappeared from view as he fell 300 feet before likely striking the face of the mountain and another 1,800 feet before striking a snow slope, which then fanned out over a 160,000 square foot area of glacier. Due to deteriorating weather and snow conditions, the body could not be recovered. Dental records were acquired by the local police agency and retained on file in anticipation of a future recovery of the body of the deceased. Twenty-one years later, a body was observed partially embedded in glacial ice and was subsequently identified as the missing climber through comparison with the dental records.

The body, still clothed in climbing gear, was desiccated and mummified. The remains showed evidence of being trapped and compressed within the glacier for the 21 years. The right foot had been disarticulated at the level of the ankle and was located in close proximity to the rest of the body. Some bony fractures and adjacent soft tissue discoloration were suggestive of possible antemortem trauma. The cause of death has been attributed to multiple blunt injuries.

The head and climbing helmet were extensively compressed in a midline sagittal plane resulting in a compressed thickness of approximately 6.5 cm in width. Brown head hair and a moustache were still evident. The teeth were still in good condition and position with only one tooth displaced through avulsion despite the lateral compression of the dental arches. A considerable amount of previous dental work aided the comparison with antemortem dental records.

The Royal Canadian Mounted Police are to be acknowledged for their record keeping and readily accessible antemortem dental records for this individual. This case emphasizes the importance of comprehensive antemortem records, including dental, being compiled, stored, and being accessible for all missing persons cases.

Dental Identification, Mountain Climbing Fatality, Glacial Compression