



AAC Publications

FALL ON SNOW – Fatigue

Washington, Cascades, Mt. Stuart

On July 29, my partner (male, 33) and I (male, 33) set out around 2 a.m. for an attempt at Mt. Stuart's Direct North Ridge (IV 5.9). The route was well within our technical expertise and similar to other alpine objectives we had completed in the past.

The approach and climb went well; however, it was much hotter than forecasted. We had refilled water at the base of the route and carried a combined six liters of water up the climb. Still, we'd emptied our water supply shortly before the summit, which we reached around 6:30 p.m. From researching the climb, we knew that many ascents take two or more days, and we had brought light bivy set-ups. However, after a discussion on the summit, we felt we could make it down the technical portion of the descent before sunset and hike out in the dark. Shortly into the descent, we found a spot to refill water. After some class 2/3 traversing, we dropped over the ridge and into the Cascadian Couloir. This is the standard descent route at this time of year.

The upper couloir was nearly entirely snow-filled, with a large boulder field midway down. My partner started to traverse down and to climber's right, stepping onto the snow, while I chose to scramble down the scree field another hundred feet before stepping onto the snow. We both had light ice axes and no crampons, a gear decision jointly made, with consideration for temperatures and likely snow conditions.

I started to trend down and right to clear the boulder field but slipped after a few steps on the snowfield. I attempted to self-arrest using my axe but couldn't stop. Approximately 200 feet down, I hit an isolated boulder that launched me into the air, at which point I lost my ice axe and continued to slide at a faster speed. After a few tumbles, I was able to align myself feet-first, facing the snow, and dug in my hands and toes. I recall looking down and realizing I was going to hit the rocks quite fast. I do not remember the initial impact, but I suspect I hit the rocks with my right foot first. I somersaulted backward, striking my helmet and left shoulder before landing in an upright, seated position. My partner estimated the total slide was 350 feet. I completed a basic self-assessment and knew I had broken my right femur and would not be able to continue the descent.

We activated emergency services via both 911 (spotty cell service) and Garmin inReach at approximately 7:30 p.m. My partner (a Wilderness First Responder with SAR experience) and I (an emergency physician with wilderness medicine training) were able to complete a medical assessment. It appeared there were no other major injuries. We splinted my leg and got me warmed up while waiting for rescue, which was coordinated by the Chelan County Sheriff's Office. A U.S. Army helicopter was able to evacuate me via hoist shortly before midnight.

At the hospital, they confirmed I sustained a three-piece spiral fracture of my right femur as well as a hairline fracture in my right foot and some minor sprains and abrasions. My partner was not able to be flown out; instead he hiked our gear down to a safe bivy spot and continued to the trailhead the next morning.

ANALYSIS

A major contributor to this accident was the heat and fatigue, leading to a sense of urgency to complete the mountain in a day. At the summit, we were out of water and still had a few hours of

daylight left. Descent seemed appropriate. However, just a few minutes along, we found a water source and subsequently passed several good bivy spots. Perhaps we should have recognized how fatigued we both were and reconsidered our plan.

Had we arrived at the snow slope better rested, we might have taken extra time to assess conditions, especially since we didn't have crampons. While my partner and I both have extensive experience on alpine rock, he has much more ice, snow, and glacier-travel experience. We might have decided that I follow in his kicked steps or even rappel down the steeper snow sections. Better rested, I perhaps would have been more careful planting my axe and kicking steps in the snow. While I don't remember the exact moment my foot slipped, I think fatigue might have affected my footwork. The large, steep snowfield we had climbed in the morning was cold and firm, perhaps giving me a false sense of security about moving quickly in that terrain.

We also reflected on gear choices. We knew that we would be in snow during both the approach and descent, but given recent high temperatures, we opted to bring ice axes but not crampons. I also borrowed an ultralight ice axe for the climb instead of using my heavier, standard mountaineering axe. This, in addition to snow conditions, might have contributed to my inability to self-arrest.

Wearing a helmet during the descent likely saved me from a serious head injury. The severe cracking and damage to my helmet demonstrated it absorbed a significant force of impact. While we had some cell service, the inReach allowed for reliable communication with SAR. We also had a light first-aid kit, with a SAM splint, tape, and pain medications. While I was extraordinarily fortunate and grateful to be evacuated that night, we would have been prepared to spend the night on the mountain.
(Source: Avi Baehr.)

Images



The snow slope in the Cascadian Couloir on Mt. Stuart down which the climber in this report fell, breaking his femur. His slide started close to the horizon.

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