



## AAC Publications

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### **Fall Into Crevasse - Traveling Unroped on a Glacier**

Alaska, St. Elias Range, Middle Peak

At the end of March, I (Colin Haley, 28) left for a climbing trip in Alaska's St. Elias Range with Portlanders John Friehe and Daniel Harro. We were flown into the range by Paul Claus midday on April 1. We spent a few hours setting up our base camp and then went for a short ski up-glacier to scope our objective. About 20 minutes out of camp, I suddenly broke through a totally hidden crevasse and fell approximately 15 meters, ricocheting off the walls of the crevasse.

We had left for our leisurely ski with essentially no equipment, so Daniel immediately skied back to camp to fetch a rope, crampons, ice tools, and harnesses. I was able to climb out of the crevasse with a top-rope (and even managed to rescue my skis and poles). Fortunately, I escaped any truly serious injuries. Unfortunately, however, I had a fractured cheekbone and my trip was over. We skied back to camp and the next morning I flew off the glacier, for a total of about 16 hours in the St. Elias Range. John and Daniel graciously offered to fly out and help get me home, but I was confident I'd be alright, so I told them to stay and go climbing.

This accident has undoubtedly made me more wary of glacier travel, even though it's something I've been doing very regularly for over 15 years. I'm sure I will continue to do some occasional solo travel on glaciers, but I absolutely view solo glacier travel much more seriously now.

#### **Analysis**

This crevasse fall is what I consider to be my fifth close call in the mountains. I'm fortunate to have come away mostly unscathed every time, but if I'm not taking away injuries, hopefully I am at least taking away lessons:

1. Climate and snowpack play huge roles in crevasse hazard. The area of the St. Elias where we were is dry. We arrived at the start of April, and the snowpack in our base camp was a mere meter of dry, light snow. I think that glaciers like this (with a huge amount of ice below the firn line, in the ablation zone) generally exist in places that are cold enough to sustain large glaciers, but with low accumulation rates.

The crevasse that I fell into was at least two meters wide, and the bridge across it was never thicker than 40cm across the entire gap. This wide, super-thin snow bridge was not sagging even the tiniest amount, which is why I didn't have any clue it was there. Such a thin snow bridge, likely formed during a snowstorm many weeks earlier, didn't sag at all because it was in such a cold, dry environment, especially during the winter. In the Cascades, Chamonix, or the Coast Range, a snow bridge of those dimensions undoubtedly would have been sagging, and it would've been obvious a crevasse was there.

Basically, I have realized from this incident that crevasse hazard is much, much higher in relatively dry glaciated environments because the snow bridges are often very weak and very well hidden.

2. Skis are a mixed blessing. Most of us have been taught that having skis on your feet makes glacier travel safer, and there's no doubt this is generally true. However, I think my crevasse incident would've been avoided completely if I hadn't been wearing skis. If I had been on foot, then the moment I

stepped off the solid ice I would've punched a leg through the edge of the snow bridge (something I have done many, many times before), and most likely I wouldn't have fallen in. Because I had skis on, I was able to ski well past the edge of the solid ice, and I didn't break through the snow bridge until I was in the middle of it. In other words, if you have skis on you're less likely to break through a snow bridge than when you are on foot, but you're more likely to break through the snow bridge completely (a proper crevasse fall) if you break through at all.

3. A partner is a good idea. This one's a no-brainer, but still worth mentioning. My crevasse accident is a perfect example of how much safety a climbing partner can provide compared to solo glacier travel, even if you aren't roped up.

4. Wear your harness. This accident has shown me that even if you are unroped having your harness on makes your ability to deal with a crevasse fall much better. In my case, it was very difficult to get to a position where I could put my harness on, and I was lucky that it was possible at all—and that was with only minor injuries.

5. Use your umbilicals. I have often used my ice-tool umbilicals while walking on glaciers, and this accident has confirmed to me that it is a good idea. Anytime you are in a crevasse, your ice tools will be very useful to you, and if you happen to be by yourself, ice tools provide your only significant chance of self-rescue (aside from perhaps aiding off of ice screws). During my crevasse fall I completely dropped both of my ski poles despite having the wrist loops on. I think the chance of dropping your ice tools during a crevasse fall is really high, and using umbilicals will make you much more likely to still have the ice tools when you stop falling.

6. Use your crampons. Like choosing whether to wear skis or not, realistically we will all decide whether to wear crampons depending on the snow conditions. If I had been wearing crampons when I fell in the crevasse, the chance of breaking my ankles might have been higher, but this incident has made me realize how advantageous it would have been to have them on my feet already. If not on your feet, your crampons should be at the very top of your backpack, not buried in the bottom. Also, it goes without saying that you should ALWAYS have your crampons adjusted to your boots before you leave home, since many of us switch between different pairs of boots. Don't just throw them in your pack and plan to adjust them in the bottom of a crevasse!

7. Technical climbing skills are useful. I have always felt that being an experienced technical climber would be advantageous in a crevasse fall scenario, and this incident confirms that theory for me. If you are roped up, I have no doubt that a strong technical climber will be much faster and more competent at simply prusiking up a skinny rope (especially if he/she has any broken limbs). And obviously if you are by yourself, then being able to solo vertical ice is pretty much your only chance of getting out.

An important disclaimer: Any unroped crevasse fall is really, really sketchy and not a good idea! It is obviously most prudent to follow the advice I learned from the Mountaineers at age 14, and simply always be roped up on every glacier. I wanted to share my conclusions because I know there are many people, such as myself, who travel on glaciers unroped at times, and you won't be taught some of these conclusions during a typical glacier travel course. (Source: Colin Haley.)

## Images



The thinly bridged crevasse in the St. Elias Range into which Colin Haley fell.

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