



## AAC Publications

---

### **Exposure, Loss of Eyesight – Inadequate Equipment**

Washington, Mt. Baker

**Our party of eight** departed base camp (ca 6,400') for the Easton Glacier route at approximately 1 a.m. on June 9, 2013. It was very windy and cold. We had to shout to be heard, even in close proximity.

I noticed on the Roman Wall (steepest section of the route) that Climber 1 was slower than I would have expected, but he communicated that he was fine so we continued. On the summit, at about 5:50 a.m., one of our teammates informed me that Climber 1 had blurry vision. It was primarily in one eye, and he said he could walk, but slowly. When we reached the caldera, Climber 1's vision had deteriorated to "20 percent" of what it should be. He said he could see only about five feet in front of him—beyond that was just a blur. He put on a coat and sunglasses (the sun had just risen), and we took his pack and arranged ourselves so he was second on a rope of four, with a strong leader in front and me just behind to guide him. A quick medical exam did not reveal any obvious causes (e.g., no AMS or head injury) or pertinent history (no previous problems at altitude, and he did not wear contacts).

We tried to raise the other rope teams on a radio but had no luck in the howling winds. We had a slow trip back to camp but made it without incident. We guided the impaired climber carefully over the handful of crevasses we encountered, most of which were barely open. During our descent, a member of another team in our party radioed that Climber 2 was suffering from similar symptoms. After some sleep in camp, Climber 1 reported that his vision had improved and he could walk out unaided. Climber 2's vision remained impaired, even after some sleep, and so we divided up her gear and guided her out. We walked out without incident.

### **Analysis**

According to Climber 1's eye doctor, the cold and high winds had damaged his corneas. The eye doctor said this is not uncommon in alpine environments. Both patients made a full recovery in a few days. In the future we will consider eye protection for trips where the wind and cold may be an issue. I will make a point to encourage my rope teammates to share any possible medical issues as soon as they suspect them. This incident also served as a reminder that radios may not be usable in some conditions, and that a single rope team should be prepared to be self-sufficient, even if others are nearby. All in all, we made many good judgments that day and the team worked well together to handle the situation. (Source: Will Kruse.)

[ Editor's note: Corneal injury has been well documented in athletes participating in cold-weather sports. A study published in 1969 described a cluster of 29 cross-country skiers who participated in a 50-minute, 15km cross-country ski race at  $-15^{\circ}\text{C}$ . Examination of the competitors revealed that 26 had developed corneal epithelial damage by the end of the race, and three had visual acuity reduction in one or both eyes [1]. In cold, dry conditions, like those experienced while climbing at altitude, the corneas become less sensitive, which might increase the chance that they could become scratched, abraded, or further dried out [2]. Thankfully, most of the damage is self-limited if the eyes are protected and allowed to recover without further environmental insult [3]. Even while climbing at night, climbers should protect their eyes from drying out, which can be accomplished by using low-light goggles or glasses. Any climbers with

loss of vision while climbing should be evaluated by a medical professional, as corneal abrasion is just one possible etiology for decreased or loss of vision in this setting. Source: Dr. Joseph Forrester.]

**Citations:**

[1] Kolstad A and Opsahl R. Cold injury to corneal epithelium. *Acta Ophthalmologica* 1969;47: 656-9.

[2] Bourcier T, Acosta MC, Borderie V et al. Decreased corneal sensitivity in patients with dry eye. *Investigative Ophthalmology and Visual Science* 2005;46(7): 2341-5.

[3] Ansari I and Canning C. Frozen corneas in the desert: a case report. *Grand Rounds* 2012;12:6-9.

## Images



Mt. Baker from the southeast.

## Article Details

Author	Will Kruse
Publication	ANAM
Volume	0
Issue	0
Page	0
Copyright Date	2015
Article Type	Accident reports