in Spring freeze-thaw cycles, when cracks are forced wider by snow and ice, and then the ice melts, taking out the "glue" holding the rocks together. This is a spot that gets climbed thousands of times a year, and appears solid. It's not known for rockfall, though perhaps it should be. I've personally had my closest call from rockfall about ten feet away from this, just on the other side of the chimney. (Source: Tom Moyer–Salt Lake County Sheriff's Search and Rescue)

## FALL ON SNOW–UNABLE TO SELF-ARREST DURING VOLUNTARY GLISSADE, POOR POSITION, WEATHER

### Washington, Mount Rainier National Park, Mount Ruth

On June 22, a group of nine Mountaineers and I set off to attempt Mount Ruth, a spur-peak on the north-east flank of Mount Rainier. As we encountered snow several hundred feet below Glacier Basin, the starting point of our ascent, Mount Ruth would be classified as a "snow scramble."

Around 1:00 p.m., we achieved the summit without incident. After soaking up the sun rays filtering through the rapidly moving clouds, we began our descent. After descending less than 1000 feet, the clouds thickened and engulfed us. An occasional fleeting sunny break allowed us to find our route. Leadership with respect to route finding on the descent was rather informal and the group diverged as we descended. As realized only later, several of us ended up considerably to the left of the relatively slope we had ascended. Our descent trajectory placed us directly above the rock cliff bands purposely avoided during our ascent.

The urge to glissade in the mushy summer snow was irresistible to many of us, although a few individuals refrained, perhaps more cautious as a result of greater experience with the conditions confronting us that day. Although I had never been an overly enthusiastic "glissader," I became caught up in the excitement of the moment and followed several others. In proper glissade position (as taught by the Seattle Mountaineers), I found myself "racing" a fellow Mountaineer when the clouds once again descended upon us. Immediately, I forced my ice ax into the snow to act as a brake. With no immediate reduction in velocity and continued acceleration, I instinctively rolled over into a perfect textbook self-arrest position. To my shock and disbelief, my acceleration continued.

Earliest memories of the initiation of my fall are of sheer terror. I vaguely recalled the series of rock bands, and that they protruded perhaps 20 feet above the height of the snow. Realizing I was well above them, logic continued in my thoughts, and as seconds passed, I speculated that if I hit the rock band, my fall would terminate.

I was not stopped by the rock band. It acted more as a springboard, deflecting my fall over its rocky edge. I was then thrown through a long narrow rock chute approximately 300 feet in height, extending from the top of the cliff band to an open snow field littered with various sized rock debris from the cliffs above. I was ejected onto a snowfield of lesser slope scattered

with boulders and situated at a drastically lower elevation. My final resting position was within 500 vertical feet of the floor of Glacier Basin. I found myself in a sitting position amidst a field of rock debris. An unforgettable intense emotional outburst ensued.

I was wearing a high-tech tee shirt, Goretex rain-pants and a day pack, all of which were still attached. My vision was blurry. My prescription sunglasses were gone. Some time elapsed before I realized I could move my head. I could not feel my arms and I had severe pain in both legs. Looking down, I saw blood running down my left arm. There was blood over my shredded rain pants. I attempted to move my right arm and found I was able to. I grabbed my left arm with my right arm and attempted to maneuver the left arm to better evaluate the extent of the injuries. I repeated the exercise on my legs. Nothing appeared to be broken.

Injuries included multiple puncture wounds, cuts, scrapes and bruises to both arms, a deep puncture wound to the right shin, heavy bruising on right quadriceps and other regions of both legs. Nerve damage in the left elbow resulted in lack of sensation in the fingers and limited mobility of the left arm for two months. I recall my head hitting against rock on several occasions; however, there were no visible marks from these impacts, and I never lost consciousness, even though I was not wearing a helmet. I believe my well-stuffed backpack prevented more serious injuries. I suffered some memory loss of part of the fall.

Coincidentally, I had taken a photo of the rock bands located between Glacier Basin and Mount Ruth during our ascent, although we had not ascended by this route due to the steepness. When compared to the topographical map of the region, the photos and map together provided the capability to measure the extent of my fall. Using Green Trails map number 270, Mount Rainier East, I calculated the total elevation loss during my fall to be about 1600 feet. The rock cliff I plummeted over was approximately 300 feet in height.

Looking back up at the mountain, I could not see any members of my party. Although it was painful, I attempted to stand-up with my intent being to plunge-step the remaining 500 feet to the floor of the basin and safety. I appeared to be in rock fall zone at the base of the rock chute. I staggered down the slope, using my ice ax as a cane. After what seemed an eternity of stumbling downhill, I arrived at my destination, a large relatively flat pile of gravel-sized rock. While starting to attend to my injuries, I gazed up at the mountain and saw small "dots." I instinctively recognized as my fellow Mountaineers. I waved my ice ax, hoping I would be spotted. Fortunately, one member from my party was well ahead of the others and reached me about an hour and a half after my fall. He assessed my injuries and provided first aid.

**Analysis**

Key factors attributing to this event were over-confidence in ability of ice ax to self-arrest, glissading under unsuitable conditions, and not knowing

the descent route. All these were exacerbated by poor weather. The lessons I learned were that the effectiveness of ice ax in self-arrest technique is variable to the point of complete failure and that glissading should not be practiced during unsuitable conditions. (Source: Tim Nair)

## FALL ON ROCK, FATIGUE, INADEQUATE PROTECTION

### Washington, Cascades, Chimney Rock

On July 6, on the sixth pitch of the East Face of Chimney Rock, Ralph Leach (50) was leading. He was showing signs of fatigue after moving about 20 feet. He had two pieces of pro in. After trying for a while two get a third piece in at about 30 feet, he decided to move on up, looking for a better placement for the pro. This is when he peeled off and fell 30 feet. The rope caught him just short of hitting the deck. But 15 feet into the fall, he hit a blocky ledge, seriously injuring both feet. (Fractured left heel and an open dislocation of the right ankle.)

Given that there were just the two climbers on the mountain and no one else available to assist, evacuation was going to be a slow process requiring extreme vigilance. After lowering the injured climber using his belay device, his partner Rod Xuerb (47) would retrieve the rope and rappel to the new position. After repeating this procedure a few times, a ledge suitable for a bivouac was reached at 7,000 feet. After securing the injured climber at 6:00 p.m., Rod continued to descend and go out for help. After only eighteen hours a National Guard helicopter performed the evacuation the following morning.

### Analysis

A willingness to back off on days that you are not up to the demands of the climb could prevent an accident such as this. Rod had offered to lead the pitch, but Ralph thought that he was up to it at the outset. The level of skill at placing protection may have been a factor. (Source: Ralph Leach and Rod Xuerb.)

*(Editor's Note: These two climbers provided a lengthier description that included details about the lower/descent. We appreciate their willingness to contribute.)*

## FALL ON ROCK–RAPPEL ERROR (NO BACK-UP), AND DISLODGED ROCKS

### Washington, Snow Creek Wall, Outer Space

On September 22, William Tharpe (28) died in a rappelling accident on Snow Creek Wall near Leavenworth, Washington. Tharpe and his partner, M (27), were climbing Outer Space, a popular, six pitch, 5.9 route. M led the route's crux 5.9 pitch above Two Tree Ledge. Tharpe then started leading the more moderate pitch that ends on a feature known as "The Pedestal." There was now a party of two on the route below them. Tharpe placed several pieces of protection in the dihedral on the right side of The Pedestal, including a #3 Camalot near the top. He fell approximately fifteen feet onto the Camalot.

He and M could not see one another, but were able to yell back and forth. Tharpe said he had injured his left arm, shoulder, and ribs and asked to be