

cause she was turned around short of the summit, about 19,700 feet. The guides subsequently brought her down to the 14,200-foot camp for medical evaluation. After this patient was treated, lead guide Vern Tejas of Alpine Ascents International asked the Ranger staff to examine client Rosemary Zimmerman (49) who had sustained a lower leg injury while descending the fixed lines. Both were treated and flown off the mountain three days later.

Analysis

The Mountain Trip client started having respiratory difficulty while on a summit bid. Her guides, against her protests, turned her around and descended to the 17,200-foot high camp and started a Diamox regime of treatment. Her condition did not improve so the entire expedition descended to the 14,200-foot medical camp.

This climbing group had adhered to a reasonable ascent schedule. The patient had not exhibited any signs of AMS previously. Devenish stated that she had experienced approximately two hours of blurred vision near the summit, but that it had cleared up upon descent. She was unable to maintain oxygen saturation and had to be placed on high-flow oxygen to assist with respirations. For this reason, it was determined that the patient would be unable to safely descend the mountain under her own power. She was evacuated via the Lama helicopter on June 26, along with Zimmerman, who was also unable to walk down.

Injuries and illnesses are to be expected during a mountaineering expedition and, unfortunately, can occur regardless of planning. What is significant with these two cases is that both clients were evacuated/assisted down to the 14,200-foot medical camp without NPS assistance. In the case of the Mountain Trip expedition, the guides recognized a potentially fatal medical condition occurring and, against their client's desires, brought her down safely to a place where she could receive medical care.

Both groups demonstrated self-sufficiency and good judgment. In addition, in both cases guides remained with their clients until their conditions were resolved. (Source: Daryl Miller, South District Ranger)

RAPPEL ERROR—ANCHOR FAILURE

Arizona, Sycamore Canyon, Paradise Forks

On November 5, Shelley Windsor (31) had been climbing on several routes at Paradise Forks, Sycamore Canyon with her climbing partner Mark Brenner (26). During the climbs and rappels, the anchors had been constructed on large, live pine trees with one-inch nylon tubular webbing slings, connecting the end loops of the slings with a carabiner that was then attached to the rope.

Prior to the accident Mark led a climb and then belayed Shelley up the same climb. Upon reaching the top of the climb, she disconnected, then

pulled the rappel rope and retrieved the anchor slings from the rappel anchor tree. She then took the rope and the anchor material to a different tree in preparation for a rappel to end up where their backpacks were. She constructed a new anchor around a large, live Ponderosa pine tree (approximately six feet six inches in circumference and approximately 31 feet from the cliff edge) and was preparing to rappel as Mark walked toward her after packing his gear from the previous climb.

When Shelley began to weight the rappel, Mark saw the anchor come apart. The slings were no longer attached to the tree. Shelley fell approximately 90 feet to the canyon floor.

Other climbers in the area were notified of the accident and one of them made a call for help. Bystanders did an assessment and began first aid while waiting for rescue. Due to the relative remoteness of the area (approximately 20 miles from the nearest EMS units and approximately 40 miles from Flagstaff), rescue units had a significant response time to the scene.

After being extracted from the canyon, Shelley Windsor was transferred to an air ambulance and flown to Flagstaff Medical Center where she was pronounced dead.

Analysis

Ms. Windsor was wearing a commercially sewn seat harness and a helmet at the time of the accident. She used an ATC-type rappel device, according to Mr. Brenner. The climbing rope appeared to be in good condition and the webbing found at the bottom of the cliff was in good condition and was still tied into a sling. The auto-locking carabiner appeared to be in good condition other than some minor damage from the fall.

The two slings (described by Mr. Brenner as ten-foot runners when tied—but possibly longer) used for the anchor were the same color. This could have caused difficulty in inspecting the set-up.

It appears that Ms. Windsor may have intended to girth hitch two slings together and subsequently wrap the linked runners around the tree, but somehow an error was made in the connection, and when weighted, the slings came apart. One possibility is that the girth hitch was tied around a bight of the second sling and not through the sling. In this configuration, it may appear that the slings were connected correctly and would bear some weight if tested without full body weight prior to the rappel. Once full body weight was applied to the system, it could fail. Another possibility is a knot-jam, which could have been caused by the knot of one runner being pinned against the tree trunk by the bight of the other runner under tension. This configuration might initially bear some weight but could also fail after repeated loading and unloading associated with the edge transition during rappel.

To reduce the likelihood of a similar incident from occurring, a suggestion is to use a more easily inspected anchor system when wrapping trees,

possibly incorporating different colored slings if connecting them together is foreseen. It's always a good idea to have one's partner inspect the system. (Source: Aaron Dick, SAR Coordinator, Coconino Country Sheriff's Office, Jed Williamson, and local climbers)

FALL ON ROCK—HANDHOLD CAME OFF, FAILURE TO TEST HOLD

Arizona, Camelback Mountain

On December 26 K.P. (female - 46), L.R. (male - 53), and T.N. (female - 50ish) went out to climb on Camelback Mountain, a park area located centrally in Phoenix. L.R. is a very experienced lead climber and K.P. and T.N. had been lead climbing for about a year. K.P. and T.N. completed leads on The Monk, starting on the 5.7 variation for the East Face route. It was a beautiful day and they were having lots of fun. The group of three then went about 100 yards over to the Camel's Head to do Hard Times on Gargoyle Wall, a bolted 5.7. After K.P. and L.R. each led the first pitch, T.N. took her turn on lead. About 45 feet up, T.N. decided to move laterally, maybe five feet, to move onto easier looking terrain where T.N. saw a juggy nice hold. She was right below the next bolt on the route. She had both hands on the hold and began to pull herself up without testing the hold. The hold broke. Unfortunately, she was ten feet from the last bolt, so between the pendulum and the rope stretch, she fell about 25 feet, struck the rock, and broke both legs at the ankles.

There was enough rope to lower her to the ground, where cell phone contact was made with emergency rescue personnel. Another out-of-state climber who is a paramedic was nearby and helped stabilize both ankles. T.N. did a crab walk/crawl about 200 yards to the top of the Headwall where a rappel was made to an area accessible to hikers. At the bottom of the cliff members of the Tactical Rescue Squad of the Phoenix Fire Department placed T.N. on a stretcher and hand-carried her to the parking lot about half a mile from the accident site.

Analysis

For interested climbers: Camelback Mountain consists of a mudflow breccias and fluvial sediments described as "petrified mud" in Opland's guidebook *Phoenix Rock II*. The nature of the rock and the scouring summer sun can take their toll on rock quality. (Source: Erik Filsinger, Secretary, Arizona Mountain Club)

FALL ON SNOW—LOSS OF CONTROL ON VOLUNTARY GLISSADE

California, Mount Whitney

On April 10, Patrick Wang (27) and Martin Kozaczek (27) climbed the Mountaineer's Route on Mount Whitney. On descent, around 14,000 feet,