

circumstantial. We do know, however, that Jatkowski would not have fallen so far had he tied in short to his rope (just below the lower ascender) before the traverse. He is very experienced, including on Yosemite walls, and has tied in short in the past, but it just did not occur to him in this case. With the summit only a pitch away, he felt he may have been climbing hastily and not concentrating on the task at hand.

Several injuries and deaths have happened this way in the park, with several models of ascenders (and almost always on traverses). In every case, tying in short would have prevented the accident, and checking the ascender after attaching it would probably have prevented the incident in the first place. (See, for example, ANAM 1987, Schrattnner, El Capitan.) (Source: John Dill, NPS Ranger, Yosemite National Park)

EQUIPMENT FAILURE—HOMEMADE RIVET HANGER, FALL ON ROCK California, Yosemite Valley, El Capitan

On May 29, at 1430, Canadian climber John Chilton (36) started leading the A1 rivet ladder on pitch 24 of the Shield, heading for Chickenhead Ledge. At about the fifth rivet, he placed a homemade rivet hanger (a swagged loop of cable), clipped his étrier to it, and stepped up, leaving his daisy chain attached to the previous rivet, between his knees and his feet. After he had shifted his weight onto the hanger, the cable swag failed. He fell about seven feet and was caught by his daisy.

He immediately felt pain in his lower left rib cage, so severe he had a hard time breathing. He rested in his etriers for an hour and a half, hoping he could climb on, but it hurt to move and he felt a distinct protrusion in his lower chest. His belayer, Rich Prohaska, lowered him to the belay and set up their portaledge to make him more comfortable. Prohaska took the lead, but Chilton's pain was such that he was unable to belay, so they spent the night where they were.

The next day Chilton, though still in considerable pain, belayed Prohaska up to Chickenhead Ledge. He found jumarring too painful so they decided that Prohaska would solo off and go for help.

While Prohaska was fixing pitches another party arrived at the portaledge. They offered to complete the route and get help so Prohaska could care for his buddy, but that night Prohaska and Chilton decided to flash SOS signals to the Valley floor with their headlamps. Eventually they heard rangers calling them by loudspeaker. By blinking their lights in response to the rangers' questions, they were able to describe their problem.

The next morning, the 31st, an NPS team flew to the top of El Cap, lowered two rescuers, and raised Chilton to the summit (leaving Prohaska to jug out with a rescuer). At the Yosemite Medical Clinic he was diagnosed with a fractured rib. They taped it in place and released him (at his request) with a prescription of pain killers and instructions to watch for blood in his urine. It was a couple of weeks before he could walk normally and six or seven weeks before he could climb.

Analysis

Chilton blames his broken rib on the buckle of his harness, a common design with the buckle just left of center. It was of high quality, fit him well, and was properly cinched up, he feels. He'd taken leader falls with it before with no problems. The difference this time was most likely the high stopping force of the daisy.

With his daisy chain still attached to the previous piece, he had set himself up for a fall factor of 1.5 to 2 (depending on slack in the daisy). That's a hard fall that requires a

stretchy climbing rope to keep the forces low. Nylon webbing (e.g., Chilton's daisy) is too stiff, and spectra is even worse. In either case you may break yourself or the daisy or rip out the piece.

Often you don't need to clip in the daisy in the first place; it only serves as a keeper for the etriers, but they are already indirectly clipped to the rope. If you do clip the daisy, clip the rope through the piece as soon as your harness is level with it, and disconnect the daisy well before it will interfere with the rope's stretch if you fall—usually before testing the next piece. (Don't forget to allow for slack in the rope.) Some climbers leave the daisy clipped in but rig a Screamer in series with it as a shock absorber. If you do so, make sure the Screamer is designed for the job.

Chilton's injury was relatively minor but could have been fatal. The spleen lies directly behind the lower left ribs; had it been ruptured by the blow or later by the fractured end of the rib, he could have bled to death rapidly. (See ANAM 95, Oliver, El Capitan.) (Source: Martin Ziebell and John Dill, NPS Rangers, Yosemite National Park)

FALL ON ROCK, PROTECTION PULLED OUT, NO HARDHAT California, Yosemite Valley, Middle Cathedral Rock

On June 16, around 1330, Tyler Gregory (18) started up Pee Pee Pillar, a one-pitch, 5.10a thin crack, belayed by Casey Hyer (19). He scrambled 10 feet up to a ledge, climbed another foot or two, then placed a TCU at arms reach and continued up. At the crux, with the TCU at his feet, he fell off.

"The crack stops and the route goes over a bulge and opens up into a dihedral. I got to the top of the crack and thought there were some holds above that I couldn't see. I tried reaching for them but didn't find anything and that's what initiated the fall."

The TCU pulled out, and Gregory flipped over when his feet struck the ledge on the way down. He landed on the ground on his left shoulder blade and the side of his head after falling 20-30 ft.

Gregory was unconscious for about two minutes; he was convulsing and did not respond to Hyer's calls. Other climbers came over to stand by with Gregory, so Hyer ran to his vehicle and drove to Yosemite Village for help.

The SAR team and the AMR ambulance crew responded immediately. When they got there, Gregory was responsive but complaining of back pain. They gave him oxygen, immobilized him in a vacuum body splint, and carried him 200 yards to the ambulance. About an hour after the accident the AirMed helicopter met them at El Capitan Meadow and flew Gregory to Doctors Medical Center in Modesto.

Analysis

"I had a skull fracture. I was not wearing a helmet on the climb and the doctors said I was really lucky. I was in intensive care for three days and in the step-down unit for another two, but they didn't have to operate or do anything really major. I also had double vision for two or three months and burst my left ear drum. My hearing came back a little bit but the loss is pretty permanent. But I'm climbing again.

"Before the accident I'd been climbing a total of two years and leading traditional routes for about a year, three or four times a week. It was the first climb of the day, hot weather, I felt a little lazy, and that climb is 5.10a, probably at my leading limit.

"So I really didn't feel like doing that climb right then, and I said to Casey, 'It's your turn,' and he said, 'Oh, you'll do it, you'll be fine.' Casey was older than I was and solid on 5.10 and I looked up to him, so there was a lot of pressure on me to not come down