

for the considerations listed above. Specifically, informing others of your itinerary and using extra caution are critical, and I failed at both.

- I feel that a cell phone would have helped me get assistance sooner, even though reception is limited in the mountains. Carrying one could mean the difference between life and death, and I now feel it's worth it to always bring one along. (Source: Jeff Moore)

FALL ON ROCK, INADEQUATE PROTECTION, MISUSE OF EQUIPMENT (GRIGRI), NO HARD HAT

California, Yosemite Valley, Half Dome

On September 14, a clear day, Bela Christopher (Chris) Fehrer (35) was solo climbing the slab route when he fell 100 to 150 feet to his death.

Analysis

With dozens of Yosemite routes under his belt, including Mescalito, Wyoming Sheep Ranch, El Capitan (seven times), and a host of other hard walls, he was by no means a beginner. He was likely headed up the slabs to shuttle gear to the base of Tis-sa-ack (VI 5.9 A3+) in preparation for a solo climb.

Known to climbers as the “death slabs,” this approach, though much shorter than the nine-mile maintained trail around the south face, is notorious for loose rock and devious exposed fourth-class route finding. According to friends, he knew the approach well from previous Half Dome ascents. On this day he didn't follow the “standard” approach, a goat trail of sorts that zigzags across the slabs taking advantage of broken ledge systems. Instead, he headed up a more direct, steep corner system avoided by other climbers. After a short pitch of fourth class, he left most of his rack on a ledge, rigged a quick single-piece anchor, and rope soloed with a Grigri up a moderate fifth-class pitch. He placed a few nuts and cams as he went and built a three-piece anchor upon reaching the end of his rope.

Exactly what happened next will remain a mystery, but the climber fell before successfully clipping into his anchor. Rock fall has always been common below Half Dome's northwest face, and this climber's top anchor was surrounded by exfoliating flakes held in place by dirt and sheer luck. Though other causes are possible, a moss scar found while investigating the accident suggests he was standing on one of these flakes when it cut loose. As he fell, he ripped two of the four pieces he placed on the pitch. He tumbled down the slabs and landed on a large ledge just as his rope came taut on another piece. Two climbers found his body attached to the lead line by a Grigri, apparently having fallen the length of the pitch.

Beyond the objective loose-rock danger, rigging mistakes may have played a roll as well. When the climber was found, his Grigri was set on

the lead line in the direction appropriate for a single-rope rappel from the top anchor, not in the direction one might use while rope soloing up from the lower anchor. As a result, his Grigri never truly came tight on the line; the rope wrapped around his body as he tumbled, ripping two pieces when it came tight, but his Grigri never engaged. In the end he stopped only by hitting a large ledge.

It's possible that he rigged his Grigri backwards before rope soloing the pitch and then slipped on loose rock before clipping to his top anchor. In this scenario, his Grigri would have slid down whatever rope remained before wrapping on his body as he fell. Since his protection failed, the orientation of the Grigri ended up being irrelevant, but it suggests another scenario. He may have re-rigged his Grigri for a rappel at the top of the pitch, intending to anchor his lead rope and rap back to his lower anchor, but somehow failed to connect his lead line before leaning back to rappel. There was a figure eight tied in the end of the rope, possibly intended as his anchor point, and his Grigri was attached to the line just a few feet from this knot. Whatever its intended role, in the end this knot never held any weight. In any case, there are some lessons to take away:

1. When you place protection, make it count. Whatever the cause of his fall, this climber placed very little gear on the pitch, and two of these pieces failed. The others (including his single-piece lower anchor) were sketchy at best. He was a skilled trad climber, and confidence on easy terrain could explain these careless placements. If he had taken the time to find solid protection despite the moderate grade, he might have survived his unexpected fall, assuming he had also rigged his self-belay properly.

2. Back to basics: double-check your rigging. Much of the rigging in this accident appeared to have been rushed or carelessly done. If the climber had clipped into one of his top anchor pieces before dealing with the rest of his anchor, his fall would have been caught immediately. Had he rigged his Grigri correctly, it might have arrested his fall sooner. If he was attempting to rappel, a quick double-check of his anchor attachment could have saved his life. Remember the basics; these safeguards are what prevent absentminded mistakes.

3. Know where you're headed and take loose rock seriously. Though it's possible he was intentionally taking a variation to the standard slabs approach, it's more likely that he was off route. With better information to guide his decision-making he might have turned around before heading into seldom-traveled terrain. Climbing popular routes spoils some of us into a sense of security, but it only takes a split second to realize that dirty, loose, easy fifth-class can be more dangerous than clean, sparsely protected 5.10.

4. Use the right device. Though many soloists use it, the Petzl Grigri is

not intended as a self-belay device. Its manufacturer strongly warns against using it for this purpose—it's very easy to rig a Grigri backwards, rendering it useless for catching a solo fall. The standard sliding clove hitch or one of a number of belay devices designed for self-belays are more foolproof.

5. Wear a helmet. This climber wasn't wearing a helmet despite the approach's ominous reputation, and head trauma likely played a role in his death. Though a helmet can't protect us against everything, it might have prevented this tragedy. (Source: Lincoln Else, NPS Ranger, Yosemite National Park)

FALL ON ROCK—RAPPEL ERROR, NO HARD HAT

Colorado, Eldorado Canyon State Park, Rincon

On January 26, a 25-year-old man was fatally injured when he fell 20 to 30 feet in Eldorado Canyon State Park. The Boulder County Sheriff's office said the accident occurred at about 6:15 p.m. as the victim was rappelling. He was not wearing a helmet and sustained severe injuries when he landed on his head. His climbing partner summoned emergency help, but the victim was pronounced dead as he was being evacuated from the canyon. (Source: Edited from articles appearing in *Rocky Mountain News* and *Boulder Daily Camera*)

Analysis

Rincon is a crag in Eldorado Canyon with generally mid to upper range difficulty climbs 5.9-5.12 up to three pitches. Rincon is also a climb that is rated 5.11a. One normally does not rappel off it. (Source: Leo Paik)

FALL ON ROCK, INADEQUATE EQUIPMENT—SANDALS, OFF ROUTE, NO HARD HAT

Colorado, Boulder Canyon, Near Security Risk Crag

On April 2, a 31-year-old male was attempting to set up a top-rope system when he suffered a fatal fall from a rock outcropping near Security Risk Crag.

Analysis

The victim was attempting to set up a top-rope for his climbing party, consisting of himself, his sister, and his girlfriend. The victim, wearing only sandals, free soloed a traverse toward a location where he thought there were anchor bolts. He reportedly slipped three times as he traversed before finally falling. His head impacted on the rock three times during the fall. He was not wearing a helmet.

The party reported that they thought they were at Security Risk Crag, located well above the roadway in Boulder Canyon, when in fact they were on an unnamed outcropping much closer to the road. (Source: Rocky Mountain Rescue Group)