

Rappel Anchor Failure

New Mexico, Sandia Mountains, Chimney Canyon

On July 13, two men and a woman went to Chimney Canyon in the Sandias, planning to rappel the 140-foot route Skinwalker (5.10+) in order to preview gear placements on the climb. The woman went to the base of the crag while the two others went to the top and created a three-piece rock anchor in granite, using one number 3 Camalot and two Omega Pacific Link Cams that were equalized with a 240cm Dyneema sling. A single static rope was employed for the rappel, and a Grigri was used as the descent device.

They had brought a dog to the top of the crag, and one of the climbers left the anchor station to make sure the dog was tied up. As he left the anchor, he looked back and saw that his friend, Garon Coriz, 33, was placing a 60-liter backpack under the area of the anchor in an effort to protect the rope and anchor material against abrasion. Feeling comfortable that his friend was capable of managing the rappel, and that both of them had been confident in the anchor they had set, the climber went to attend to the dog.

The woman at the base also left to help with the dog but stated that she saw the rappel rope being thrown and that, since it became entangled, it was being pulled back up to the top of the cliff at the time she left the base. Approximately 15 minutes later, the climber heard a scream and returned to the anchor, where he saw that all of the gear and the rope were gone. Coriz did not survive the 140-foot fall. The accident was unwitnessed.

ANALYSIS

The rope and the anchor components were found at the bottom of the climb. The Grigri was clipped to Coriz's harness, and the rope was correctly installed in the device for rappelling. The investigators found that the Grigri was approximately eight feet from the anchor pieces on the ground. (A different report stated this distance was only four feet.) They also found that the Link Cams were damaged and opened wider than their normal stopping point, indicating they had pulled out under high force.

It is speculated that Coriz may have started the rappel but then returned to the anchor for some reason, without pulling rope through the Grigri to take up the eight feet (or four feet) of slack that accumulated. A slip or fall with slack in the rappel rope could cause a fall factor as high as 1. With a static rope, this would generate a very significant impact force on the anchor.

Although all of the cams used in this anchor are designed to resist pulling out against very high forces, this is only true in good placements in solid rock. In this case, the pack that was positioned under the rope and anchor (presumably to provide edge protection) likely shifted the position and vector of pull on one or all of the cams immediately prior to the fall. It's also possible that the rock around the anchor may have been weaker than it appeared.

Once rock anchors have been placed, they should remain in their intended direction and should not be used after movement without further inspection and/or appropriate readjustment. In addition, static ropes can create high impact forces on anchors as well as the climber—they should never be shock loaded. Pre-equalized anchors are never truly equalized, and sequential failure of rock anchors can happen. Lastly, maintain tension in the rope at all times during a rappel (or while standing at a belay

anchor); avoid creating slack that can result in higher than expected impact forces in the event of a slip or fall.

Dr. Garon Coriz was a physician from Albuquerque and Kewa Pueblo, and was an advocate for Bears Ears National Monument and Native American rights. He will be greatly missed. (Source: James Marc Beverly, Ph.D., IFMGA guide.)

Images

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