Fall On Rock – Inadequate Belay

Roosevelt National Forest, Dream Canyon

On a lovely spring day in April, I met several friends at the Oceanic Wall in Dream Canyon, a deep tributary of Boulder Canyon. After several warm-ups, I got on a 5.11d I had climbed several times in the past. The crux lies between the third and fifth bolts, where the route steepens in a small bulge and the holds are small and far apart. After clipping the third bolt—approximately 30 feet off the ground—I climbed a technical slab adjacent to a small (approximately two to three feet wide), right-facing dihedral with a seam in the corner. Getting to the fourth bolt entails moving over this dihedral to the left, but at this point I couldn't reach the bolt. The third bolt was now about 10 feet below me and slightly to the right, below the dihedral. I started downclimbing to reposition and realized I couldn't reverse the move over the corner. I decided to jump out to clear the dihedral and shouted to my belayer that I was coming off.

I expected to drop well below the dihedral, but instead, as the rope came tight, I swung hard into the wall below the corner and just below the third bolt. I was still in a push-off position so my right knee slammed into the wall, shattering my patella (kneecap). I was lowered to the ground, a distance of about 20 feet.

One of our party had a set of hiking poles, which we used to splint my leg, and with considerable support I was able to walk up the short, steep trail to the parking area. Coming down took about 10 minutes; the return trip probably took an hour. The patella is not a weight-bearing bone, so as long as I kept my leg fully extended the pain was bearable. I used a long sling under my foot to lift it when I had to climb over obstacles. From the parking area we drove to the local ER, where an X-ray revealed multiple fractures in the patella, entailing a later surgical repair.

Analysis

I believe several factors contributed to this accident. First, and most important, there was not clear communication between me and my belayer. Normally I ask everyone I climb with to jump up if I fall, in order to give a dynamic belay. I weigh 115 pounds with my clothes on, so most people outweigh me—some significantly. So it's not difficult to give a dynamic belay, but the belayer has to be aware of the need for this. My belayer and I had climbed together for years, so I didn't think to stress that fact again.

Second, the belayer was using a Grigri. These are fantastic devices, but like anything else can be misapplied. I think that when I shouted I was coming off, the belayer sucked in the slack, which resulted in me arcing into the wall from a short distance above the bolt. When I asked the belayer why she didn't jump, she told me she thought I would hit the ground. I stopped at least 20 feet above the ground, so this was not a realistic concern. I have fallen on a number of the high-angle slabs at this area with no problem in the past. The only ledge on this climb was near the first bolt, well below me. The one obstacle I was concerned about was the dihedral, which is why I jumped out (i.e. backward) to avoid hitting the lip when I fell. In my experience, a useful metric for leading goes like this:

Before the first bolt, you will hit the ground if you fall. Between the first and second bolt, you may well hit the ground if the belayer isn't paying attention. This is probably the most dangerous area on the climb in terms of ground fall due to inattentive belaying. [See Know the Ropes on page 14 for an illustration of this hazard.] After the second bolt, depending on bolt spacing, the belayer can begin

giving a softer catch by jumping up or moving in toward the wall if the leader falls. Of course, ledges are always a concern and require additional judgment from the belayer.
Good climbers and belayers always check each other: harness, knot, and belay device. I suggest an additional step: Before starting up, the leader should address his or her preferred belay techniques for the route. For example: “There is a ledge below the fourth bolt, so watch me close there.” In my case, when the belayer’s using a Grigri, I want a soft catch so I should request a short loop of slack or a jump. It’s never good to assume your belayer is a mind reader. By spelling out the kind of catch you want, you’re more likely to get it. (Source: Beth Bennett.)

[Editor’s note: In misguided efforts to give a “soft catch,” some belayers leave a huge loop of slack in front of them as they belay sport climbs—or even pay out slack as the leader falls. These methods may only increase the impact of a fall, as well as the risk of hitting a ledge or other obstacle. In an article about this incident in Rock & Ice magazine, Alison Osius recommended belayers maintain a “gentle smile” of slack in the belay rope in front of them. A small arc of slack and a slight hop toward the first bolt are almost always sufficient to avoid short-roping the leader.]

Images

The appropriate amount of slack for belaying a sport climb varies with the terrain: less slack when ledge falls are possible and more slack (as shown here) to avoid short-roping a leader on an overhang. A good general guideline is to maintain a “gentle smile” of slack in the belay rope.

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