## FALL ON ROCK, INADEQUATE BELAY - ROPE RAN THROUGH DEVICE AND NO KNOT IN ROPE ENDS <br> Colorado, Boulder Canyon, Bihedral Wall

On August 19, 2009 Andrea Knufken (29) and her partner were climbing on a route, possibly Trick or Treat (5.8) - a single-pitch climb on the upper tier of the Bihedral Wall. A climber who witnessed the fall heard Andrea, saw her bounce off the belay ledge and fall down a rock gully until by-standing climbers jumped on her rope and arrested the fall. She was lowered to the ground and received care until Rocky Mountain Rescue Group arrived. Apparently her belayer had not tied into or tied a knot into the end of the rope. After Andrea led the climb and was being lowered, the rope-end ran through the belay device causing the fall. Andrea fell between 10 and 30 feet and hit several ledges, sustaining injuries to her face, head and right knee.

## Analysis

The routes in this section are all bolted and approximately 100 feet in length with a weird slabby section for the bottom ten feet of the climb. A fiftymeter rope or a short sixty-meter rope may not be long enough to lower the leader all the way to the base of the climb. Closing the belay system by placing a knot on the end of the rope, anchoring the rope, or have the belayer tie into the rope could have prevented the rope from being pulled through the belay device. (Source: Britton Calvert, Boulder, CO)

## FALL ON ROCK, INADEQUATE PROTECTION and TOO MUCH TIME TO PLACE PROTECTION

## Colorado, Lovers Leap

On September 6, Greg (40s), Mike (30s) and I, Matt (50), were planning to do Lover's Leap (5.7), switching leads and having the two following climbers simul-climb as seconds on separate ropes. I took the first lead, with the intention of linking Pitch 1 and Pitch 2 to make the leads more interesting on the remainder of the climb. I bypassed the first belay ledge, placing a runner on one of the bolts for protection, and proceeded to climb out on the 5.8 wall that was slightly off route. At this point I had used approximately 37 meters ( 120 feet) of rope. Realizing that the wall offered little in the way of protection, I moved into a dihedral above the ledge. I was approximately 15 feet above the ledge at this point with what I thought were two good feet and one good hand. I identified a crack in which to place a cam above my head, but as I reached down with my left hand, I felt myself coming off the rock and shouted, "Take!" which Mike did. I hit the belay ledge before extending what could have been a 24 to 30 -foot whipper, but in light of the $5.7+$ nature of the climb, I might also have hit some other feature before the rope caught.

