must be vigilant about testing each and every hand and foot hold before trusting their weight to it. Some climbers argue that it is wise for the lead climber to wear a pack, even if it only has some light clothing in it. Packs have been known to prevent climbers from suffering back injuries during a fall. On the other hand, packs have also been known to cause falls when they catch on rock or pull the climber off balance. (Source: I.H. and Nancy Hansen)

FALL ON ICE, CLIMBING UNROPED

Alberta, Banff National Park, Mount Aberdeen, North Glacier

On October 14, a party of five was climbing the lower tongue of this snow and ice route. The party solo climbed the ice tongue until the angle reached about 45 degrees, and then they stopped to set up a belay. One of the climbers fell, tumbling about 200 meters into talus below the ice. Two of the party members rappelled to him while two others lower on the ice down-climbed. They reached him in about ten minutes, where they joined a mountain guide who had reached G.L. first. G.L. was unconscious but regained partial consciousness after some time. He was in critical condition with head injuries, abdominal trauma, and an ankle fracture. One of the members ran out for help. Another found G.L.'s cell phone and climbed up to a pass to get reception. He was able to reach the Warden Service, saving a significant amount of time for the initiation of the rescue. The patient was evacuated by heli-sling to Lake Louise. He was later transferred to Calgary by air ambulance. The victim survived his injuries.

Analysis

Soloing "easy" ice is common. However, even on low angled ice a slip will result in very rapid acceleration and a potentially long fall. Climbers should consider this risk before deciding to solo climb. It is not known how long it was before the party was able to make cell phone contact to request help, but it likely saved at least one hour. (Source: Parks Canada Warden Service, Sandy Sauer)

FALL ON ICE, INADEQUATE PROTECTION British Columbia, Lillooet, Oregon Jack

On January 7, H.C., S.P., and I headed into the hills south of Cache Creek for

a day of ice climbing on "Oregon Jack."

The ice was in good shape, although quite "platey" on the surface. The angle of the climb was moderate, so H.C. placed only four screws on the pitch, which looked like a reasonable number to us on the ground—although subsequent events were to prove this wrong. Just below the top, he placed his second tool, causing a large plate to fracture around both tools. H.C. fell a long way and came to rest upside down, unconscious, tangled in ropes and gear, and dribbling blood from out of his helmet.

S.P. was dragged out from behind the block where he was sheltering and was whipped over to the base of the route, but did a good job of maintaining control of the rope. Luckily, while the "slack" rope was a tangled mess, the "active" line ran smoothly, and we were just able to lower H.C., who started to regain consciousness within a minute or two, to the ground. The screw that caught him was about 29 meters up, and we were climbing on 60-meter ropes.

S.P., a fireman, assessed H.C. and determined that while H.C. was pretty dazed and banged up, he was basically okay. A climber from Seattle walked out to raise the alarm while we got H.C. out of most of his climbing gear and stretched out comfortably on pads and packs. Half an hour later, it seemed advisable to move him away from the "line-of-fire" at the base of the waterfall, and once he was up it became apparent that he was well enough to be able to move, so we set off toward the hayfield about 400 meters away.

With support from S.P. on one side and me on the other, H.C. hopped, hobbled, and slid his way out in about half an hour. At the hayfield we were greeted by an RCMP officer, a couple firemen, and several medical personnel with an ambulance. Three hours later, after being X-rayed, examined, stitched,

glued, and generally cleaned up, H.C. was released.

Analysis

So, lessons? Well, I've only been witness to one other long leader fall on ice, and it came about in much the same way—the fracturing of the surface ice around tool #1 when tool #2 was placed too close to it. Shoulder-width apart is not enough when the ice is brittle. Either stick strictly to diagonal placements, or keep your tools far apart if you must place them at the same height—the width of a door (about 80cm) should be perfectly safe. Think "X," not "H."

Lesson #2: Double ropes are great on ice. Both ropes got notched (probably by tools) and the active line had a partially fused sheath (maybe rope on rope?),

but they did their job, and H.C. lived to tell the tale.

Lesson #3: While it is tempting to run it out on moderate ice, it would have been wise to dial in another screw a few meters up onto the finishing pillar. As it was, a screw on the pillar would have greatly shortened H.C.'s fall. Also, having the alternate rope clipped to that piece would have reduced the reliance on the screw that caught H.C. Given the distance between the placements, if that one screw had failed, H.C. would have decked from 40 or 45 meters. Not a pleasant thought...

Lesson #4: People are great when trouble hits, and the natural instinct is to help. The guys from Seattle blew off their day of climbing to raise the alarm and helped to carry packs out. The locals were helpful in shortening the walk out and were ready to help carry H.C., if that had been needed. I had to leave my gear in the route, but a friend from Abbotsford recovered it the next weekend, and I got it back at the Ice Festival. I came out of the whole affair feeling

good about my fellow man.

As for H.C., he ended up with a dozen stitches in his scalp, a dozen stitches in a gashed elbow, a few smaller notches glued shut, and a badly wrenched knee. Later, more detailed examination uncovered a small fracture at the top of his left tibia, and he had surgery to screw the chip back in place. A short time on crutches and a while with a cane and he is pretty much okay—a lucky lad! (Source: Don Serl)

CLIMBING ALONE, WEATHER—LOST EQUIPMENT IN STORM British Columbia, Mount Robson Provincial Park, Mount Robson

During the week of August 27, C.G. set out to attempt a solo climb of Mount