Know the Ropes: Safer Climbing Transitions

The inspiration for this “Know the Ropes” article originated from a recent change in my professional life. I’ve had the privilege of working in the National Park Service as a climbing ranger for almost two decades. After a couple of seasons on Mt. Rainier and over a dozen on Denali, I was fortunate to be hired as a seasonal climbing ranger with the rescue team in Grand Teton National Park. When asked how this transition has been, two answers immediately come to mind. Number one, I love being the new ranger on the team. And number two, my risk assessment and management framework has been completely reset.

I am honest when I say that I appreciate being the newest person on a crew. I am able to ask questions and learn from others and see how they do their job. But most importantly, I get to listen. There is so much experience on our team. At meetings and rescue briefings, I am privileged to absorb literal centuries of time spent by my fellow climbing rangers in this range.

The Tetons are intimidating. Prior to working here, I had spent very little time in the range: I do not know the names of all the canyons, I don’t know where all the popular climbs are, and at this point I have done so few of them. These mountains are steep, diverse, and crumbling. A day spent anywhere in the Tetons is marked by echoes of rockfall. My head, it seems, is on a constant swivel. Because of the nature of the terrain and rock quality, climbers in the Tetons must constantly and efficiently switch their styles of climbing and protection. They change clothing and footwear or adapt what they wear to terrain that changes from trail to rock, rock to snow, snow to ice, and back. Climbers rope up and unrope multiple times on the well-traveled routes. All of this has really reset my assessment and management of risk.

The importance of recognizing and reacting to changing terrain was most impressed upon me by the other climbing rangers and by local mountain guides, who are always a few mental steps ahead and always prepared for pending changes in style, tools, and technique. Their years of experience make these transitions appear effortless.

As I prepare for my third rescue season in Grand Teton National Park, I note that climbing transitions are a prevalent underlying factor in accidents here and elsewhere. Near misses that I’ve personally witnessed and accidents published in this book often occur at climbing transitions. Other accidents were the result of a missed transition, a delayed transition, or a poorly executed transition. As you’ll see in the pages of this edition, these incidents happen in every genre of climbing, from bouldering to traditional rock climbing and alpine climbing to expedition mountaineering. All types of climbing require recognition of the need for change, followed by reacting with an appropriate technical, physical, or mental transition. This is a mandatory risk management skill.

Yet every climber has carried on until a slip, trip, or fall demanded that they finally put on a headlamp, rope up, or swap out approach footwear for climbing shoes. In general, human beings do not like change. Most of us struggle to adapt to anything new or different. Climbers are no exception. This principle is commonly referred to as “change aversion.” However, change is required for progression in any discipline. And the willingness to change might prevent a serious accident.

Climbing Transitions

There are a multitude of circumstances that require climbers to execute transitions even on basic rock climbs. At some point or other, most climbers will likely transition from: following to lead climbing; belaying to ascent; 3rd-class to 4th-class to 5th-class terrain; roped climbing to scrambling; and ascending to descending. Even on a boulder problem, climbing style will require change at various points during ascent and descent. These required transitions demand that we continually observe and adapt.

The examples above are primarily terrain-driven. Environmental factors also come into play, including weather, visibility, daylight, seasonal changes, footing conditions, and climbing ability. All of these factors dictate constant adjustments in style, equipment, and risk mitigation. With experience, climbers can learn to expect and embrace change.

The types of transitions are as varied and plentiful as the routes we climb. The following list provides some broad examples:

• Unroped to Roped Climbing (and Vice-Versa): This transition requires technical proficiency to manage ropes and hardware. However, the most important factors are judgment and experience. The decision on when to rope up when terrain steepens or when to unrope as the difficulty eases requires mature dialogue between team members. Err on the side of caution. In Canada last year, a climbing team was preparing to rope up for a technical step of rock. When one partner observed another group downclimbing unroped, he proceeded sans rope and fell to his death (see the report here).

• Following/Belaying/Rappelling to Lead Climbing: These transitions require equal parts technical and non-technical skills. The premium here lies in proficiency. And remember, the objective of proficiency is safety and efficiency. It is important to maintain focus on a changeover from start to finish. On Mt. Evans in Colorado, one climber chose to forgo an anchor while pulling a rappel line. This decision contributed to her falling to her death (see the report).

• Ascending to Descending (and Vice-Versa): This transition can be a simple as clipping a set of carabiners atop a wall at the climbing gym before lowering. It can also be as complex as breaking down a fixed top-rope solo system and then rigging a double rope rappel–a failure in this type of transition occurred last year in California (see report here). In this case, the lack of technical training contributed to a fatality. Each link in the belay chain and rappel/ lowering system is of critical importance. Again, well-practiced technical skills, combined with unwavering attention, will keep you alive.

• Transitioning to Easier Terrain: Several accidents in 2022 resulted in injury or death when protection was not placed on moderate terrain. An ice-climbing leader fall in Utah illustrates how placing gear before transitioning to easier climbing can be a lifesaver. In this accident, the climber placed a solid ice screw before entering an easier, yet unstable, section. This screw likely saved his life (read the report).

• Day to Night: As nighttime arrives, darkness creates additional difficulties, in addition to the corresponding temperature drop. In these conditions, the technical grade of your climb matters far less than your preparation. In North Carolina's Pisgah National Forest, there were two instances of climbers stranded by darkness. Each incident could have been mitigated by thorough planning of the ascent and descent. One team did not know of an easy exit when confronted by a hazard. Another team carried insufficient clothing for nighttime conditions (see this report).

• Snow/Ice to Rock (and Vice-Versa): These transitions involve changes in climbing style, equipment, and protection. Simply making the equipment changes safely can prove challenging while straddling different surface conditions.

• Snow to Ice: In many alpine ranges, conditions will change from snow to ice climbing frequently.

These surface conditions require vastly different climbing footwork and protection. A change from snow underfoot to bare glacier ice has resulted in many accidents near Denali Pass on Alaska's highest peak, and this was likely a factor in another fatal fall that occurred in 2022 (see report here).

• Climbing on Foot to Skiing (and Vice-Versa): Transitioning between climbing on foot and skiing on descent involves both technical and non-technical changes. The change in the speed of travel alone can be a major initial hurdle. With an increase in speed on descent comes a mandatory transition in the speed of decision-making. During the 2022 season, one climber summited Denali, began a ski descent, and almost immediately fell on the sastrugi surface on a new aspect.

• Unroped to Roped Glacier Travel: This transition is often delayed or missed. Snow floatation, such as skis, can provide a false sense of security from a crevasse fall, and many climbing teams traveling on skis opt out of a rope for ease of travel and efficiency. This decision unfortunately proved fatal in a fall near Mt. Hunter's North Buttress in 2022 (read the report).

• Dynamic Weather: Even well-prepared climbers can suffer in extreme weather. Planning ahead, carrying the right clothing and gear, heeding forecasts, and knowing when not to attempt a climb would have prevented a group from becoming stranded in the Tetons and requiring rescue last season (see the report).

Recognize and React

In every climbing transition, foresight is critical. Climbers should be focused on anticipating and then using the most appropriate climbing style, equipment, and/ or risk management for the conditions. This requires that climbers think and plan ahead. The next step is to effectively and efficiently execute climbing transitions.

The recognition of change—or failure to do so—has been the cause of numerous accidents in all climbing disciplines. Change is often subtle, and attention to details requires a constant vigilance throughout an ascent and descent. As change occurs, climbers must first recognize and then react. Even verbalizing a change to ourselves or a partner can be enough to alter a course of action.

The reaction to change is equally as important as the initial recognition. Many accident reports include accounts of climbers that noticed the need for a transition and, for a multitude of reasons, failed to act. The psychological and social factors influencing indecision and inaction are many. The mantra of "see something, say something, do something" can help encourage action in climbers. In reality, doing something might actually be the most difficult part.

Technical and Non-Technical Skills

Climbers often focus primarily on technical skills. Also called hard skills, these encapsulate the functional elements of climbing, like footwork or placing gear. Technical skills are a relatively easy skill set to train and acquire feedback. Climbers can hangboard more, improve cardiovascular fitness, practice building anchors, or climb additional pitches. Technical skills typically have more dedicated resources, such as instructional articles, books, and videos. Climbing coaching also heavily targets this aspect of the sport. Granted, acquiring these skills requires time and effort, but that is the starting point for any genre of climbing.

Non-technical skills, also referred to as soft skills, encompass all those that do not fit into the physical and technical categories. They are equally important in a well-rounded climber. Judging the weather, planning a long route, or acquiring knowledge of a different mountain range are all soft skills. In truth, individuals should spend about the same time and effort training technical and non-technical skills to achieve mastery in various climbing disciplines. Some elite military operators spend half their time training technical skills and the other half dedicated to non-technical skills.

At times, climbers may successfully complete a technical transition but fail to make the non-technical mindset transition to a different style of climbing, equipment, or risk management. As examples, accidents are reported each year when a climber delays roping up, fails to stop and don crampons, or skips placing protection. Each technical transition requires a reciprocal non-technical transition to fully adapt to the new conditions. Each decision point requires a recalibration to changing circumstances. Without taking the time to fully transition, climbers are exposed to additional subjective and objective hazards.

Practice

Ample practice is required to maintain any skill set. The technical and non-technical skills required in climbing are no exception. Because all skills are ultimately perishable, practice is a requirement and not a suggestion. Most climbers gravitate to the practice of technical skills. This skill set is often the introduction and the initial attraction to any sport. However, it is often the non-technical skills that set elite athletes apart. Thankfully, more and more resources are now dedicated to the soft skills of climbing. Mindset shifts are typically now credited as the factor that tips the scale in human performance or helps a climber break through a perceived barrier.

Practice requires effort and is greatly assisted by motivation. Motivation can come from a variety of intrinsic and extrinsic sources. Making training for all aspects of climbing a habit will help reduce the effort required. A habit is solidified when it simply becomes what a climber does. When this occurs, practice requires far less effort. Climbers should fit training habits for technical and non-technical skills into their rest days, warmups, cool-downs, or debriefs on the tailgate. Two other key elements can help with motivation: 1) Setting ambitious (but attainable) goals and 2) finding and choosing highly motivated partners.

Team Dynamics

A key factor in climbing transitions is the dynamics present within climbing teams. There is rarely an accident report that does not include one—or multiple—team dynamic issues as causal factors. It is imperative to select climbing partners that will foster healthy group dynamics.

When choosing climbing partners, many characteristics should be considered. Climbing ability, although likely one of the primary considerations, should realistically be further down the list of selection criteria. Select partners based on their rescue abilities and their demeanor in the midst of adversity. Other positive attributes in partners include those that embrace change, are open to learning, are competent communicators, that engage in risk management decisions, that practice all climbing skills, and are ready to rescue their companions.

Much goes into forming a solid climbing partnership. However, most of the important characteristics and behaviors can be identified. Partners should have similar risk acceptance, compatible communication styles, share the effort during the planning and the climbing, and agree about bail thresholds along a climbing route. Climbing partners need to be just that: equal partners.

Prevention

The ultimate goal of any climbing outing should be to return home without incident. A few basic practices will help climbers avoid costly mistakes. Climbers should plan ahead, be well-practiced, pay attention, and be efficient. Every climber should strive to be the partner who flows through varying terrain like a seasoned mountain guide. Effort is well spent developing into the climber who executes technical and non-technical transitions before partners are even aware of the need to shift. Much of the effortless progression through a climb happens because of seamless transitions.

Seamless and error-free transitions are facilitated by keeping a few principles in mind:

1. Anticipate change
2. Recognize change
3. React with an effective and efficient transition
4. Recalibrate for the next change
5. Listen to intuition—it is often correct

Conclusion

The first and most important transition that climbers must make is in their mindset. During the first climbs of the season, practice actively looking ahead and trying to recognize change early and react effectively. Think about the climbers in your circle that are a good match for your skills and your communication style. These characteristics will foster positive climbing team dynamics.

Ultimately, prevention is the goal. Since transitions are the time and place in which many accidents occur, I encourage readers to think about transitions in their own climbing and the ideas and practices highlighted above.

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Images

Accidents often result from missed, delayed, or poorly executed transitions. Switching from ascent to descent requires proper tools, well-practiced techniques, and unwavering focus.

Following a pitch on the Direct South Buttress of Mt. Moran in the Tetons. This passage requires a transition from free climbing to belaying, then from belaying to a lower-out, and then to ascending the fixed lead rope.

Alpine climbing calls upon every skill acquired on rock, ice, and snow—and requires the ability to

smoothly transition between those mediums. Mature team dynamics can be a lifesaver in this environment.

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