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When kicking
steps, keep the
other climbers
in mind.
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A basic principle
of snow travel is
that parties move in
single file when
ascending. If you're
in the lead, you will
be doing by far the
hardest work.
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SNOW CLIMBING

Techniques

Ascending snow



Snow Climbing: Techniques: Ascending Snow

Climbing up and down snow slopes takes a set of special skills. Different techniques come into play depending on how hard or steep the slope is. 1. **Climbing in Balance:** As with rock climbing, staying in balance while moving on snow is less tiring, more efficient, and safer than struggling to keep from falling only by clinging to something - in this case, the ice ax or the snow. Snow climbers move from one balanced position to another, avoiding any prolonged stance in an unbalanced position.

- *On a diagonal uphill route:* the most balanced position is with the inside (uphill) foot in front of and above the trailing outside (downhill) leg, which is fully extended to make use of the skeleton and minimize muscular effort. In that position, let the trailing leg bear most of your weight. Always grip the ice ax with your uphill hand.
- *If you're heading straight up the fall line:* there's no longer an uphill or downhill leg or an uphill or downhill hand. So carry the ax in the hand that feels most comfortable and climb in a steady, controlled manner. Regardless of the direction of travel, placing the ax firmly before each move will provide self-belay protection.

2. **The Rest Step:** The rest step is a technique that conserves energy as it moves you methodically forward. It allows you to find a pace you can maintain and then maintain it. Use the rest step whenever legs or lungs need a bit of recuperation between steps. At lower elevations, it's usually the leg muscles that require a break. At higher elevations, the lungs need the pause.

- The rest takes place after one foot is swung forward for the next step. Support all body weight on the rear leg while the unweighted forward leg muscles relax.
- During each rest phase, the weighted rear leg must be straight (locked at the knee) so that the bony structure, not muscle, carries the load.
- The climbing pace is slow, because for every step there is a pause. Synchronize breathing with the sequence. At higher elevations, make a conscious effort to breathe forcefully and deeply.

3. **Stepkicking:** Stepkicking allows you to create a path of upward steps that provides the best possible footing with the least expenditure of energy. It is all that's needed for footing when the snow is yielding enough to permit security without the help of crampons or chopped steps.

- The definition of a secure step varies with the climber's skill and strength and with the effects of such factors as wind, altitude, and the weight of the pack. An average climber probably needs steps deep enough to take the ball of the foot when going straight up and at least half of the boot on a diagonal ascent.
- Steps that are kicked level or tilted slightly into the slope are more secure. The less space there is on a step, the more important it is that the step slope inward.

4. **Direction of Ascent:** You can either go directly up a snow slope or ascend it diagonally. If you're in a hurry, a direct ascent is usually the way to go. Speed is a primary consideration on a long snow climb, and a fast, direct ascent is the order of the day if you face bad weather, avalanche or rockfall danger, poor bivouac conditions, or a difficult descent. When time permits, most climbers prefer a diagonal ascent, switchbacking up moderately angled slopes.