

Staying safe in the winter hills

On a cold clear day with firm snow, winter walking can be safer than in summer, because, walking is easier and stone fall is small. But this can all change in the blink of an eye - A sudden rise in temperature, a maelstrom of gale force winds, blizzards, zero visibility and numbing cold and of course the threat of avalanches, can turn a pleasant day out into a miserable experience for the uninitiated. It has been said that there is no such thing as winter walking only winter mountaineering because the planning, preparation, and the judgement skills required, are far more serious than for summer walking.

The recent tragic deaths of four hill walkers in an avalanche in Glencoe have highlighted the need for all those venturing into the winter hills to pay close attention to the previous days weather and the avalanche conditions.

A good winter mountaineer plans their day, prepares their gear; looks after their hands/feet, and retreats when the conditions on the route are poor. To help make my winter mountaineering, not only safer, but more enjoyable planning and preparations start days before check the previous day(s) weather forecast paying particular attention to wind speed and direction, temperature and whether rain or snow has fallen. Also keep your eyes on the previous days avalanche reports. Are they getting better or worse?

Based on the information gained, consider at affect these reports have on the walk. Have a few alternatives up your sleeve so that your mind is not fixated on a particular route that may not be in condition when you arrive. If the venue is new, phone a friend who has been there and ask questions about the venue and route especially the descent. The night before take important compass bearings especially for the descent in the comfort of your home and write them on the map for when the weather turns bad. I sometimes draw arrows showing the prevailing wind direction to help me see which slopes are likely to be loaded with snow and therefore avalanche prone.

Food and drink is prepared the night before and then, using a pre-prepared laminated list I pack my rucksack. I then unpack it again with the contents laid out in a corner of the room...why? Because in the morning I know that I will unpack my rucksack to check I have everything! Finally, crampons and ice axes are checked to see that they are sharp.

In the morning wake early and have a hearty breakfast, a few cups of tea or coffee and a pint of fluid. Plan to start walking as early as possible to make the best of the short winter days and to avoid people above you in the gully. Re-pack your rucksack, but keep your ice axe free so you can tuck it away safely in the car. I usually let someone know where I am going or leave a note in my car windscreen.

During the drive talk through the day with your partner(s), ensuring you have got all your gear and agree on your interpretation of the weather and avalanche report. Then talk through the route and agree a plan of action.

During the walk in slot your ice axe down the compression straps of the rucksack not the purpose-built carriers on the rear as it is easier to keep sharp points away from other people and it is more accessible. As you enter snowy or icy terrain tuck it down between your back and the rucksack for even easier accessibility.

Set off cool, you will warm up as you start moving and it will help to avoid sweating. Set off slowly, gradually increasing the pace as you warm up. Take in your surroundings. Feel the ground with your feet - is it frozen? Where is the snow line? Is there ice along the river? Can you see wind being blown from the ridges? Is it staying cold, as you get higher? These and many other questions will help you to make the correct decisions about your chosen route.

To help with balance use ski poles that collapse small enough to fit inside your rucksack and have large baskets, but remember they are not a substitute for an ice axe.

Don't put crampons on if the walking is easier without them on, and safety is not compromised. The reason for this is that they are heavy and slow you down by 10/15%. However, it is always better to put crampons on before you need to use them. Ice axe arrests are usually necessary because winter mountaineers have delayed putting on their crampons!

Understanding how snow forms and subsequently changes on the ground plays a big part in keeping you safe. Experienced winter mountaineers seem to have a 'feel' for avalanche conditions, but its not magic, they are simply combining the previous day's weather and the information from the avalanche report, with the conditions they meet during the walk. This level of expertise is only achieved by experiencing winter in all its guises, but here are some things that will help:

Watch the weather: The previous day's weather will tell you the amount of snow fallen and where the wind may have blown the snow. Look at the last few days avalanche reports, but remember the actual weather on the mountain may have been very different and any predictions should be adapted according to the conditions found on the mountain.

During the walk/climb: As soon as you leave your car, question the predictions made at home. Can you see any avalanche activity on slopes with the same aspect as your journey? Can you see the current wind direction from snow being blown from the ridges? Where is the snow accumulating? Are slopes loaded with fresh (bright) or drifted snow (dull)? How much has it snowed? Do you feel unsafe: the gut instinct of the experienced mountaineer should not be underestimated; it usually means the subconscious has spotted something.

Avoid avalanches

The majority of avalanches are triggered by the people that get caught in them or by someone in their group. It is possible to travel safely in the mountains by avoiding lee slopes, plateau rims or open slopes and choosing a route that keeps to gentle slopes or sharp ridges and the crests of mountain ridges however, even small slides of snow can take you off your feet and down a cliff. Travel on the windward side of ridges to avoid wind blown snow and cornices. Gullies are natural accumulation zones and should be avoided when the avalanche risk is high. Look above you because it is often the slopes above that are triggered which then swoop down onto the slope you are on. Beware of blind faith - tracks on the slope do not mean it is safe and just because you crossed it earlier in the day does not mean it is still safe. Beware of cornices, climbing below them should be avoided during a heavy thaw or sudden temperature rise, and 24-48 hrs after snowstorms or heavy drifting. Also take care walking above them

- **What is the angle of the slope?** Most large slab avalanches occur on slopes between 30° and 45°
- **What is the orientation of the slope to the wind?** Lee slopes, including the sheltered side of ridges and plateau rims, become loaded with snow after a storm or heavy drifting.
- **What surface is the snow resting on?** Smooth ground is more likely to result in full-depth avalanches whereas rough ground, or large boulders, will tend to anchor the base layers in position. However, once the boulders are covered, surface avalanche can continue unhindered.
- **What is the shape of the slope?** The convex part of a slope is more hazardous because the point of maximum convexity is a frequent site of tension fracture.
- **What is the orientation of the slope?** The majority of avalanche accidents occur on N and E facing slopes because they exhibit more persistent weak layers. The opposite is true when it is warm and sunny and S and W facing slopes will produce more wet avalanches.

What to do if you must cross or descend a dangerous slope

Every slope is a potential avalanche slope, so consider the following and if you have doubt go another way:

- What will happen should the slope avalanche?
- Belay someone on a rope to check it out.
- What is the depth of any layer?
- Is it likely to be a slab or loose snow avalanche?
- What is the terrain like - are you going to be swept over a cliff or will it pile up at the bottom?
- Cross one at a time and in the same track.
- Zip up, wrap a scarf round your mouth and nose and wear a hat.
- Undo rucksack waist belts and take your hands out of any leashes on poles and ice axes

- Direct descent or ascent of a potential avalanche slope is safer than traversing.

It is never over until the 'calorifically challenged' lady sings, so put as much effort into planning your descent as you have into the ascent. Keep crampons and rope on until you are sure they are no longer necessary. Make sure you tell relevant people that you have returned safely and then enjoy a well-earned whisky!

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