

# *Smiler Cuthbertson*

## **Avalanche Notes**

All of what you are reading can be found in many guidebooks, training manuals and the like. So there'll be nothing new in what you are seeing.

All I've done is repeat, in a readable way, what other experts have said.

By far the most common cause of avalanches in Scottish mountains is **windslab** - that windblown snow settling on the lee side of a ridge, slope or face, creating a new layer of a different consistency to that of the snow it has landed on. The greater the depth of this new layer, the greater the risk. If you can see spindrift, it's likely that where that snow is landing, windslab could be forming. Remember that snow won't usually settle on a slope of over 60°, therefore slopes at around 25/45 ° present the most suspect situations.

**Read (and study) the avalanche & weather forecasts of previous days as well as the current day.**

### The snow pit

Creating a vertical wall, excavating the side walls, and removing the snow at the base, provides a means to do a quick examination of a slope lying in the same general direction to the one you want to venture on to. A visual inspection of the back wall of the pit, followed by exerting gradual weight above the pit (pressure as if you were walking on the slope) will indicate whether any visual layers (or invisible) slide off too easily for comfort. Practice at creating and testing the snow pit will allow you, in a few minutes, to assess the level of risk you may encounter. It is only a guide though. Certainty in avalanche prediction is extremely difficult. The experts are still trying to establish hard and fast rules. When they achieve these rules, the mountains could be a lot safer in winter, but until then you must make your own effort to analyse the slopes to be crossed (justifying the risk of you being there).

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**There are some general points to consider:**

- Is your choice of crag suitable in light of the recent wind direction and any known recent avalanche activity?
- Is the route you've chosen approachable without creating a threat of an avalanche, knowing that the base of all cliffs gather the most snow?
- Is there a fresh layer on the top of old snow? Dig a pit and analyse the situation.
- Is the finish to your proposed climb safe, especially if there's a cornice? Recall the many tales of climbers getting avalanched from the very tops of their climbs.
- Don't depend entirely on avalanche reports. Very useful as the reports are, even the experts are still learning.
- Please remember that, apart from windslab, other types of avalanche do occur e.g. wet snow avalanches (during a thaw period especially).

**Some more important points to consider:**

Before you go out to climb a route, ask yourself:-

- Did more than 5cms of new snow fall in the last 3 days?
- Was it windy in the last 3 days?
- Has the weather turned mild (even temporarily) in the last 3 days?
- Has the weather been overcast for the last day or more?
- Is snow sliding from roofs or water dripping from icicles?

If the answer is YES to these questions, think carefully about avalanche risk, avoidance and precautions before you proceed.

**Before you traverse, climb or cross under a slope longer than 25 meters, ask yourself:**

- Is the slope steeper than 15°?
- Are you on or below a convex slope bulge?
- Has the slope been in the sun for more than a couple of hours that day?
- Are you on the lee slope or under a cornice?
- Does the snow make hollow settlement noises when you stamp on it? (Don't do this on the slope!)
- Does the snow crack or break away below your boots?

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- Have natural snowballs run down the slope recently?
- Is there grass beneath the snow (as opposed to scree or broken ground)?
- Is the young snow cover lying on *neve* or an icy crust?
- Can you make well-cemented snowballs or squeeze water out of the snow in your fist?
- Have you heard of avalanches taking place or can you see recent avalanche debris or slab avalanche headwalls on the slopes around the area you are in?
- Can you push your ice axe head more than half a metre into the snow without too much effort?
- Do you encounter any spaces (sections of reduced resistance) when you push your ice axe into the snow?

If the answer is YES to any of these questions, think carefully about avalanche risk, avoidance and precautions before you proceed.

Don't forget that the danger is greater if it is snowing, cloudy, windy, or worst of all, raining, and, at all times, WEAR YOUR HELMET!

**If you have any doubt about snow stability, or have to cross a suspect slope:**

- Stay in the pub, or chose a ridge to traverse and never travel alone.
- Choose low stress areas and islands of safety (rock bluffs etc).
- In having to continue your direction, as a last resort, walk or climb straight up or down the slope.
- Don't walk or ascend slopes closer than 20 metres apart.
- Don't walk or climb along a traverse under the line of your climbing partner in front of you.
- Move one at a time.
- Move quickly - don't loiter on the slope.
- Slacken off any rucksack straps and take your hands out of your axe wrist loops.

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- Fasten up your clothes, make sure your gloves are on and pull your balaclava or scarf over your nose and mouth. (Many victims die from asphyxiation by inhaled snow in the nose and mouth.
- Carry some basic safety equipment i.e. shovel, probe, first aid kit, as well as map/compass and the usual climbing equipment.
- Remember that small areas of snow can slough off and dislodge you. These incidents are also classed as avalanches and can be very serious, as the injuries received from falling over rocky ground are often worse than those when caught in a deep snow avalanche.

Finally - should you be unlucky and: -

**If you are caught in an avalanche:**

1. Shout to attract attention in the first instance.
2. Try to discard rucksacks.
3. Try to stay on the surface and get to one side.
4. Cover your mouth and nose.
5. Try to clear a breathing space as soon as you come to rest.
6. Avoid panic and conserve energy.
7. If you can dig out, ensure that you dig UPWARDS (saliva test).
8. Don't waste energy shouting when buried.

**If you are the survivor:**

1. Don't panic - Check for further slides.
2. Mark the point at which the victim was last seen.
3. Mark the point from which the victim was swept away.
4. Mark the position of any equipment found.
5. Thoroughly search.
6. If many survivors, one could be despatched for help.
7. Probe with axes, ski sticks etc.
8. Ensure first aid is available for use.

**REMEMBER - THE IMMEDIATE SEARCH FOR SURVIVORS IS ESSENTIAL AS THE CHANCES OF BEING FOUND ALIVE DIMINISH WITH TIME.**

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