

# T Ski

BY LIAM BAILEY, FORECASTER, KIRKWOOD SKI PATROL

**As I look** at articles like “Ski Patroller Avalanche Causes” (TAR 33.3 – Bergeron and Johnson) or “Professional Avalanche Near Misses” (TAR 28.1 Savage/Simenhois), and I examine my personal experience, I think the range of incidents that has been encompassed by “near miss and close call” is quite broad.

At one of my now sister resorts a patroller reported being caught in a slab that was approximately fifteen feet wide by twenty feet long by four inches deep. No injury.

### **Verdict? Near miss.**

Should being caught or nearly caught in an area that is effectively a test plot be that big of a concern? Is it automatically a big deal just because it is avalanche-related even if there is an extremely minimal or no chance of burial and no greater risk for injury than anything else you’re doing on the job? And if you have effectively assessed and managed the avalanche risk, but happened to sustain an injury, what’s the difference? Professional patrolling is a dangerous job; many more are injured in non-avalanche related accidents at resorts than avalanche related and you are likely going to be injured on the job if you do it long enough. Perhaps a better skier would not have had a problem and we should think about hiring, retaining and striving for better skiers rather than solely focusing on whether or not there was moving snow.

Test plot ski cutting has been used since the beginning for good reason. There’s minimal chance of getting buried and great opportunity to feel what the snow is doing without assuming great risk. It is a very important tool for forecasting and one of the best ways to gain experience. And often, patrollers performing ski cuts is akin to test plot work, which is done any day it snows in order to keep the resort open. If we’ve done our job with explosive control work, addressing lingering snowpack problems and closing areas as required, then any avalanches we get ski cutting should be new snow accumulation only. While we have many areas with terrain problems (cliffs, trees), there are still plenty of slopes and conditions with minimal risk of burial and no more risk of injury than anything else a patroller might do that day.

Conversely, prior to (and occasionally after) Atwater made an appearance with recoilless rifles and explosives, Dick Reuter was ski cutting large avalanches on belay (sometimes) at Squaw Valley. He was, by his description, once caught in a class 5 slide in the Headwall path (considering the stories from that era of 20’ crowns in that path, for Reuter to call it a class 5...) that inexorably ejected him out on the surface at the bottom, uninjured. I think his words were ‘spit out like a watermelon seed’ or something to that effect. **Verdict? Near miss.**

I once fell off a very large cornice in a whiteout with my partner about to place a shot in an adjacent path. I was able to contact him before he lit the shot and climb back up the slope/slab and over the cornice. We then shot it, which resulted in a R3/D3/HS in a path that would bounce you off immovable objects the entire way down. On my hike back up I stepped over the future crown where the slab had released but only moved downhill about six inches. Had that triggered completely with the cornice fall or while I was hiking back up I would not have been ok. **Verdict? Near miss.** But nonetheless a very significant incident.

The only way to be absolutely certain no one is injured by any incident (avalanche or otherwise) at your ski resort is to not open it. Patrols have been attempting to perfect their programs since their resorts opened and rarely are the problems with the snow safety plans themselves. I think it makes sense for all involved if the quality assessment of a near miss or injury is weighted more heavily to quantify the gap between “I fell over and there might even have been a tiny avalanche somewhere around me” and “I should have died.” Just because there was an injury with something avalanche related does not make it a big deal. Just because there wasn’t an injury doesn’t make it ok. My cited incident was not a single mistake of falling off, but a cascade of errors that required examination. There are no absolutes, but if someone triggers an R5 avalanche with a ski cut, there were likely penultimate errors, mistakes or failures. I think these quality assessments are being included for the most part, the important thing is to promote an environment that fosters discussion and not fail to look at the big picture during review of these incidents.

“People do tend to learn better from failure than success, but we do not recommend building expertise by attempting to make every mistake in the avalanche field”

(TAR 28.1 ‘Professional Avalanche Near Misses’). At the spring SAC workshop, I was talking with Simon Trautman after his very good ‘work-play’ talk that discusses causes of self-blinding to dangers and the need to openly discuss mistakes. He was battling with the idea of whether one can learn enough without assuming risk and without making mistakes. He (as well as the authors quoted above) was hopeful; I am less convinced. The question I pose is whether operating in a relatively risk free zone, as detached from avalanches as possible, just sets you up for the greatest mistake.

An explanation I’ve used roughly grades the experience anyone who deals with avalanches gets. I view there being a white area, where you see avalanches, but are never really at any risk and aren’t that close to them. The extreme example would be a gunner, who gets to see avalanches, but is never close, never feels the snowpack and should never be in danger. You absolutely will learn from this, but your rate of learning may be so slow and your experience may be detached enough that it does not help you much (or enough) when you are in danger. On the other end of the spectrum is the black area, where you or someone else directly associated with you or your area of work was injured or worse. You may learn the most from this, but that’s obviously never worth the injury or worse and it may also be a black area because if the incident is bad enough, one may be too traumatized to learn from it?

The white and the black bookend a grey area, what I consider to be the sweet spot for professional avalanche workers. The closer you get to the black without crossing the line the more your learning curve will rise. Please don’t try to go pull a Reuter (see anecdote above); that’s a recipe for disaster. In my example above, I was much closer to the black than I would ever intend, but I did benefit from exponential learning curve growth. Ideally you have a feel for what part of the grey area you’re operating in or, early in your learning curve, you can work with a partner/mentor who provides insight and helps you plan in a margin for error. Even if you’re closer to the white zone, your learning curve is still rising at a more useful rate. You have to be confident to do the job and I try to err on the side of always assuming a slope will avalanche. If you’re overly confident or too scared to go out the door, you need a re-assessment at least and maybe a change of profession. A healthy amount of time spent in the grey area where you’re triggering avalanches and seeing and feeling them first hand can only be a help in the battle against complacency. Don’t ski check alone, choose your test plots wisely and don’t separate yourself from avalanches so much that you risk falling into the mouth of the dragon.

### **Patrollers and Complacency: Part 2- Learning from Someone Else’s Experience**

According to Webster’s Dictionary, complacency is “self-satisfaction accompanied by unawareness of actual dangers or deficiencies.” I stumbled recently on an older Simenhois/Savage article, “Professional Avalanche Near Misses” (TAR 28.1). I will start by saying I absolutely agree with them that “debriefing incidents, openly discussing near misses, and participating in decision-making exercises...could aid in preventing near misses.” You would be missing a great opportunity if you don’t attempt to learn from other’s mistakes or mistakes you witnessed but weren’t directly involved in.

The problem with this is human nature. If you can’t admit there was a problem or listen to anyone else’s analysis of your situation/event then not only will you not learn anything from it but your potential for complacency is level at best and may even increase. Further, your self-justification affects how much anyone else learns from it. Rather than hearing a lot of potential solutions and lessons learned, patrollers who were not directly involved hear a little bit of assessment and analysis and then a lot of defense of actions, which makes it more difficult for others to learn from the incident. As our culture becomes more and more politically correct, it is much more likely that a person will simply back off so as not to offend or cause further discomfort to a co-worker. The best situation is objective self-criticism of an incident with following discussion, but that is probably the hardest to achieve, as it requires self-awareness, situational awareness, and lack of ego.

Does operating in a relatively risk free zone, as detached from avalanches as possible, just set you up for the greatest mistake?

NO RISK SLOW LEARNING	SOME RISK MAXIMUM LEARNING	HIGH RISK HIGH PRICE
--------------------------	-------------------------------	-------------------------

I can tell you stories all day about the many times I've triggered cornice (large, extensive, over exposure, all of the above...) collapse with a ski pole probe, and even if you absolutely take my experience to heart, it will never carry the same weight for you as your own experiences. I think about it in terms of generations of knowledge. First generation is something you've been a party to and that will always be the most upfront and vivid in your mind. Second generation is something you've heard first hand, which is important, especially when you are early in the process of gaining experience yourself. Third generation is something person x witnessed, then told me about it and I told you. This can be useful information, but the farther from the source you get, the less effective the knowledge is, the more gets lost in translation and the less likely it is to carry the kind of weight it needs to keep us on our toes.

In the West we're currently also dealing with another difficulty. As everyone is aware, it hasn't been snowing much around Tahoe. At some point it will. We're getting patrollers into mid to senior levels who have very minimal experience with avalanche control. At many resorts where only a small percentage of the patrol performs avalanche control and they can cherry pick the most experienced people to do this work, this is significantly less problematic. We don't have that luxury - everyone we have is involved in avalanche control operations. My estimates are that a patroller on our crew who has completed four years probably has 10-20% of the avalanche control hours I did after four years. And even a patroller who just completed eight years probably has 20-40% of the experience performing avalanche control that I did after my first four years, when it used to snow. This is a problem, although maybe the most for/from those who cannot dissociate total experience and avalanche control experience. But that might be almost everyone. It might be more accurate for me to say I see it as a significant potential problem. As long as we don't fall into the trap of assumption and force responsibility in the avalanche control realm onto patrollers who at another time would have been more prepared for greater responsibility, it should be controllable. Opening times at the resort will suffer, but safety should not because of the recent lack of snow. But that is a very theoretical and optimistic "should" that doesn't account for realities of human nature. It may be difficult for an individual to limit themselves in regards to avalanche control when they may expect more of themselves than their actual avalanche control experience may warrant. It likely is also very easy for them to think others expect more of them and push farther trying to meet expectations that may or may not be reality. Every patroller on our crew is well aware that for most of the resort's history, six to eight years of work history was a standard amount of time to have gained enough experience on all 18 of our control routes to lead them. But those generations of patrollers might have 250-300+ days out on one or more control routes, therefore pushing the experience level of the patrol to a much higher plateau.

What do you do when you've worked six years and you have maybe 50 days where you did a control route and most of those in 2010-11? How do you separate your total experience from specific experience with avalanche control? It is difficult, and all that being said, my even greater worry is the specifics of the experience the new patrollers are getting. These severely low snow levels are prompting those of us with experience to constantly be saying a version of "Normally, I wouldn't go/be here..." This is just a function of the snow levels we're experiencing. I might be walking down on rocks to get to where I need to be for shot placement purposes. On a normal year, those rocks might be buried in a start zone. It's not that we're doing anything unsafe in the realm of the snow levels we have, it's that "Do as I say, not as I do" doesn't generally work in my experience. And what you can very safely do in a low snow year with minimal buildup in the start zones can get you caught in other years.

Who really knows what will sink in when you bombard someone with inclement weather, ski mountaineering and explosive use, each of which is intimidating on its own, let alone in conjunction? Odds are and history proves they're likely to remember most clearly what they actually did and where they actually went and less clearly what they were told. How do you combat this with patrollers who have now



Greg Cunningham performs an aggressive grey zone ski cut with moderate risk. Photo Liam Bailey

# Patrollers

## and Complacency

### Thoughts from the Front Lines

worked four seasons and all they've seen is low tide? My best answer is repetition and inculcation. I have to hope that if we keep talking about it and all of us who have the experience keep talking about it then we can break from the normal rule and make what we're saying the memory they take away from a situation. I think the normal rule can be bucked, I think if someone hears your commentary a hundred times but they only see you do something else a few times, that you can ingrain what you're saying as the lesson, not what you're doing. At least I have to believe that because that is what we can control. We will also need to all be hyperaware when it does start snowing again. ▲

*Any mistakes or offense caused by these articles is mine alone. Credit should go to Simon Trautman and Adam Ikemire for influencing me to write down parts of our discussions and other things I've thought about for some time now.*

Heather Dent contemplating a test slope. Photo Liam Bailey

