

# INQUIRING MINDS WANT TO KNOW

Avalanche safety questions, answers

By mid-January more than 2,400 people attended one of our 35 avalanche classes. Grade school and graduate students, skiers and snowmobilers, search and rescue groups, ski patrols and businesses attended classes, all there for the same thing — to learn about avalanches. Regardless of the user group, during the Q&A sessions people asked similar questions. Here's an attempt to answer the most common ones.

## What do I need to know about beacons before buying one?

All avalanche transceivers work on the same frequency of 457 kHz. All brands are compatible with each other and digital models work with analogs. The newer digital models have multiple antennas and are intuitive to use. Practice is still essential for a speedy rescue, but they are light years better than older models. For batteries, use alkaline only. Lithium batteries do not discharge at an even pace and the beacon's battery meter will give erroneously high readings. They stay powerful until the bitter end, and then die quickly leaving a rescuer with a worthless piece of electronics. Rechargeable batteries should be avoided at all costs since they do not hold a charge for very long. Get a good, new beacon and don't skimp on batteries. Once my beacon falls below 80 percent capacity I replace the batteries.



BY DOUG CHABOT

## If a slope has previously avalanched, is it safe with new snow on it?

The simple answer is no. Weak layers are not easily destroyed, especially thick ones, and new snow would only bury this layer creating instability and future avalanches. This winter our New Year's weekend avalanche cycle broke on a 1-2 foot thick layer of weak snow called depth hoar. Since this layer is thick, all of it did not get swept away. New snow might avalanche again, and again on this layer. Many years ago another forecaster and I were in the middle of an avalanche cycle at Cooke City. We investigated a few slides and that night it stormed. In the morning I skied onto a 30-degree slope that appeared unscathed, but I found the freshly buried crown indicating it avalanched yesterday. I called my partner over since I figured the slope was safe. As we dug our pit the entire slope cracked and moved a few inches right at the pit wall. The weak layer was still there, as unstable as ever, and we were lucky the slope didn't avalanche again.



PHOTO COURTESY GALLATIN NATIONAL AVALANCHE CENTER

Doug Chabot and Mark Staples Investigate an avalanche on the west side of the Bridger Range.

## Is a slope more stable after it collapses or "whumps?"

The whumps we hear and feel are buried weak layers collapsing in the snowpack. When they collapse but don't avalanche it doesn't mean they are stable. Slopes have avalanched after collapses. Two years ago a Montana ski patroller got a large slope to crack 1.5 inches wide with explosives, but it did not avalanche. Another shot was placed in the crack and moments later the entire slope released. Treat slopes that have fractured or collapsed with caution. They may not be immediately safe and should not be trusted.

## Isn't avalanche terrain big and obvious?

We typically think of avalanche terrain as big open bowls or long chutes. We disregard the smaller hills on the ski in, yet any open, snow covered slope over 30-degrees steepness can slide. And it doesn't take much snow to bury or kill a person. Recent data shows that almost 50 percent of all avalanche accidents happen in slides that ran less than 500 vertical feet. Sure, your partner will find you quickly in a small avalanche, but don't ever forget that even though 90 percent of folks dug up in 15 minutes survive, 10 percent don't. If I had a 1 in 10 chance of winning the lottery I'd play it every day. But dying? I think I'll pass.

## Can I ski out of an avalanche?

If the slide is small and you're at the top when it breaks and you're an expert and your bindings don't release and your skis are pointed toward the side — maybe, just maybe. But maybe isn't definitely. An avalanche can accelerate to well over 80 mph in seconds, too fast to outrun. If caught in an avalanche, something has gone terribly wrong. Even with a perfect plan, expert ability and a cool head, once caught, unmanageable outside forces strongly influence life or death.

## Don't ski tracks on a slope mean it's safe?

Ski tracks on a slope give a false sense of security. Many people have been caught and killed in avalanches on heavily tracked slopes. In order to avalanche, a slope must be steeper than 30 degrees, have a slab of snow over a weak layer and, finally, a trigger. If a person cuts an unstable spot on the slope it can initiate fractures which will propagate outward avalanching all previous tracks. A uniform weak layer buried deep in the snowpack can fail and create a slide, no matter how chopped up the slab above it is. ♦

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