



Look Out Below!

Here Comes the Snow

An avalanche occurs when a mass of snow breaks free from a mountaintop and slides to the valley below. The snow buries everything in its path—trees, animals, people, and towns. No one knows how often they race down the world's many mountains. Scientists estimate that a million occur each year. Fortunately, most of these are minor. But when a really big avalanche happens, many people die because they strike with little warning.

During World War I the Italians and Austrians fought each other in the mountain passes of the Alps. Sometimes troops bombed mountaintops above enemy soldiers in order to start deadly avalanches. In one report, this killed 3,000 Austrians in just two days.

An earthquake caused the worst avalanche in recorded history. Around 3:30 P.M. on May 31, 1970, many people in Yungay, Peru, were listening to the World Cup soccer game. Suddenly a strong earthquake shook the city. Streets cracked and buildings fell down, but most of the people survived. Then they heard a low rumble from the slopes of Nevado de Huascarán, the nation's tallest mountain. Millions of tons of snow and ice had torn loose. It slid down and smashed into lakes above the city. The lakes burst from their banks and sent a wave of mud, ice, and rocks careening 180 miles per hour toward the city. In just three minutes, it reached the valley 10 miles below. No one had time to escape. More than 100 million cubic yards of ice, mud, and rubble buried Yungay and its 20,000 citizens. Just 92 people who lived on the outskirts of the city survived.

Warfare and earthquakes don't start most avalanches. Heavy snowfall is the most apt to do so. The weight of the snow makes it unstable. Even a loud sound can make snow start sliding. And once a slab of snow starts to slide, it's like a rolling snowball—it picks up speed and more snow as it roars down the mountain. The only thing to do once an avalanche begins is get out of its way!

Avalanches typically begin at or near the tops of ridges. The snow rushes down the hillside, creating a track. Such tracks make ideal ski runs. But after one avalanche has cleared a way through trees, others will use the same path. The snow moves fastest where there is the least resistance, so it goes fastest in the tracks. This is one of the main reasons why skiers and snowboarders get caught in avalanches.

Now experts patrol mountains with a history of avalanches. They stop traffic and clear the area. Then they drop explosives near a ridge to cause a "controlled" avalanche. By causing small snow slides, they keep the snow from building up and causing a bigger one.

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✚ SKI SAFETY TIPS ✚

Heaven's Valley Ski Resort Safety Brochure—Avalanche Survival Tips

Here at Heaven's Valley Ski Resort, we take precautions to ensure your safety and prevent avalanches. Whenever you are on the mountain, you must wear the rescue beacon given to you at check-in. Violators of this policy will have their lift pass privileges revoked.

We have a daily patrol that monitors the mountain ridges. They report to a helicopter crew that drops explosives just after daybreak. This creates controlled slides to prevent more major ones. However, snow sports involve risk, and we cannot control nature. So, if an avalanche begins while you are on the mountain, here's what to do:

- 1. Get Out of the Way!** Get off the ski run and move perpendicular to the slide to get into the trees. Even if the snow overtakes you there, it will be moving more slowly. The trees will also trap much of the snow.
- 2. Take Shelter!** Get off the ski run and get under a rock shelf perpendicular to the slide.



Even if the snow buries the shelf, the area beneath it will have an air pocket. This will let you breathe until you or rescuers can dig you out.

- 3. Abandon Your Equipment!** Once you're caught in the sliding snow, kick off your skis or snowboard or snowshoes. Drop your poles. Otherwise your equipment will cause you to twist and probably break a bone.
- 4. Grab an Anchor!** If you can, grab a tree and hold on tight. That way, when the snow stops, you'll know where the surface is—up the tree. People trapped under the snow can get confused about which way to dig and waste precious time digging themselves deeper into the snow!
- 5. Stay on Top of the Snow!** If you're caught in the open in the fastest moving snow, use your arms and legs to "swim." Make strong strokes as if you're coming up from a dive. When the snow stops, the closer to the surface you are, the better your chances of survival.
- 6. Move Around!** As the snow begins to slow down, move your arms and legs as much as possible. This will create a small air pocket for you once the slide stops.
- 7. Stay Calm!** If the sliding stops but you can't move, don't waste energy struggling. You must stay calm or you will use up your air too rapidly.
- 8. Turn on Your Rescue Beacon!** That's why we provide it. By following its signal, we can find you fast.



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1. Most avalanches begin from
 - a. loud noises.
 - b. the weight of heavy snow.
 - c. earthquakes.
 - d. bombs.
2. Many ski trails are actually
 - a. avalanche-proof.
 - b. designed to run perpendicular to typical avalanche paths.
 - c. closed during avalanche season.
 - d. avalanche paths.
3. What made using avalanches to kill enemy troops in the Alps dangerous to the men starting the slide?
 - a. An avalanche cannot be controlled, so it might bury the army that started it.
 - b. It gave away the location of the army starting the slide to the enemy.
 - c. It was an ineffective way to kill lots of soldiers.
 - d. It would infuriate the surviving troops into using nuclear weapons.
4. The best thing to do if you see an avalanche coming toward you is to move as fast as you can in a perpendicular direction to the avalanche's path. True or False? Explain.

5. Could the survival information given in the Heaven's Valley Ski Resort Safety Brochure have saved the lives of many people in the Yungay, Peru, avalanche?

6. Do you think it's fair for a ski resort's management to take away a patron's lift pass (which the person paid for) if that person refuses to wear a rescue beacon on the mountain? Defend your stance.
