

THE SAFETY SITE

... by Monica Palmer, Safety Administrator

Recreational **S**afety takes **R**esponsibility and **C**ontrol

DEEP SNOW AND TREE WELL SAFETY

Deep Snow and Tree Well Safety

Skiing and snowboarding in deep powder is awesome. However, tree wells, areas of loose, unconsolidated snow at the base of trees, can be extremely hazardous, and can even cause death from Snow Immersion Suffocation (SIS). In studies, 90 percent of those who were voluntarily buried in a tree well could not dig themselves out without assistance. When skiing in areas where tree wells and deep snow are a potential hazard, always ski with a buddy.

On Saturday, January 11, 2014, a 63-year-old man died after falling head first into a tree well while skiing on Whistler Mountain.

In March, 2018, a snowboarder and skier died on Mt. Bachelor in separate incidents on the same day after each fell into holes at the base of trees and were covered by snow, Central Oregon authorities said.

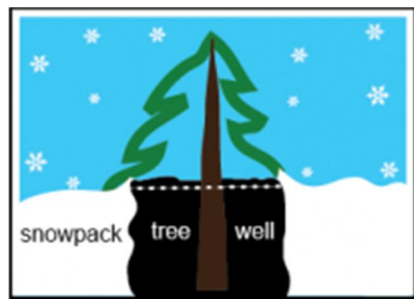
What is a Tree Well and Snow Immersion Suffocation (SIS) Accident?

A tree well/ snow immersion suffocation accident can happen when a skier or snowboarder falls – usually headfirst – into a tree well or deep loose snow and becomes immobilized and trapped under the snow and suffocates. In an inverted position you can become trapped under the snow. Breathing becomes difficult as the loose snow packs in around you. Without immediate help from your partner, you may suffocate.



Prevention of falling into a tree well, or areas of deep snow is all-important because the odds of surviving deep snow immersion are low. **Ninety percent of people involved in Tree Well/ SIS hazard research experiments could NOT rescue themselves.** If a partner is not there for immediate rescue, the skier or rider may die very quickly from suffocation - in many cases, he or she can die as quickly as someone can drown in water.

What is a Tree Well?



A tree well is a void or depression that forms around the base of a tree and can contain a mix of low hanging branches, loose snow and air. Evergreen trees in particular (fir, hemlock, etc) can have large, deep tree wells that form when low hanging branches block snow from filling in and consolidating around the base of the tree. These voids can be hidden from view by the tree's low hanging branches.

There is no easy way to identify if a particular tree has a dangerous tree well by sight. Therefore, treat all tree wells as dangerous. In simple terms, a tree well is a hole or void in the deep snow, which is clearly marked by a tree. You can easily identify and avoid these areas. The picture from the site of a fatal Tree Well/ SIS accident demonstrates that even very small trees with just their tops visible can be lethal.

Most all Tree Well/ SIS accidents happen in ungroomed terrain. A groomed run is a ski or snowboard run that has been driven on by a snow machine to compact and consolidate the snow. Most Tree Well/ SIS accidents happen where there are combinations of deep powder and trees and where lots of powder skiers and snowboarders are seeking powder snow. Lots of deep loose snow makes for the best powder skiing conditions. Unfortunately these conditions also significantly increase the chance of a Tree Well/ SIS accident.

Seventy percent of all Tree Well/ SIS accidents involve tree wells. Deep snow Tree Well/ SIS accidents occur in areas of deep snow, deep snow pockets or terrain that concentrates deep snow such as steep drops, and creek beds.

The risk of a Tree Well/ SIS accident is greatly reduced just by staying on groomed runs.

What if you go down?

- Yell or use whistle to get your partners attention.
- Do whatever you can to keep your head above the surface of the snow including rolling, grabbing tree branches or the tree trunk. If possible, keep your feet below level of your head.
- If you become immersed, make a space around your face and protect your airway – resist the urge to struggle, it could compromise your airspace and entrap you further.
- Stay calm to conserve air.
- Trust your partner is on their way.
- If possible, use your cell phone to call ski patrol or the resort's emergency number.

Keep your partner in site at all times. What if your partner goes down? More than half of all SIS victims were with partners that did not see them go down. Lose sight of your partner and you could lose your friend. If you lose contact with your partner, assume they need help. **Many SIS victims have died while their partners were waiting at the bottom of a lift.**

TIP: In dense tree areas or in poor visibility, ski or ride short pitches and stop to regroup often - stay within sight of your partner!

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