



Safety Tips for Skiing and Snowboarding

Tracy Zaslow, MD

Medical Director, Sports Medicine Program in Children's Orthopaedic Center (COC) at Children's Hospital Los Angeles

It's that time of year—Temperatures have fallen and more than 78 million people heading out to the slopes this winter. Skiing and snowboarding are popular recreational activities for children and adults. And, while keeping active in the mountains is a great way to bond as a family, skiing and snowboarding do have their risks. These winter sports are the second-leading cause of sports-related injury hospitalizations in the winter and responsible for many trips to the emergency department. Skiing and snowboarding injuries include:

- Leg and wrist injuries
- Head and neck injuries (most serious)

Here are some tips about how you can help keep you and your patients safe during their winter wonderland adventures.

Factors that Increase Risk for Injury

It's important to understand the risk factors for skiing and snowboarding injuries.

- Children are at higher risk than adults
- Males are most at risk for more severe injuries to the head and neck
- Experience matters—40 to 50 percent of injuries occur among beginners, often on their first day skiing or snowboarding.

Equipment

Over the past several decades, binding technology has been a huge factor in decreasing lower-extremity, equipment-related injuries including knee sprains and leg fractures. Release bindings should be adjusted based on their weight and height of the skier. When bindings are adjusted, mounted and maintained well, lower extremity injuries occur less frequently. Did you know children using rented equipment are more likely to sustain injuries than those using their own equipment? This may be due to lack of quality control at ski shops providing rentals. Campaigns

have been launched to establish worldwide standards for boot-binding fitting, but restrictions are currently not in place.

Slope Conditions

Slope conditions also play a role in injuries. Poor grooming, ice and narrow, overcrowded trails all increase the risk of injuries. Additionally, trails are loaded with safety hazards, such as trees, ski lift poles and other skiers and snowboards. It's important to always be aware of the surroundings and ski and snowboard in control. And, while trails do have obstacles, "out-of-bounds" skiing and snowboarding is even more risky as trails are not patrolled and snow packs are variable and more vulnerable to avalanches.

Tips to Prevent Skiing and Snowboarding Injury

The following tips will help prevent injury to your patient and even yourself!

1. Wear a helmet. Helmets significantly reduce the risk of head injury including skull fractures and bleeds in the brain. Helmets are an easy addition to any skiing and snowboarding outfit especially because it helps keep your child's head covered and warm.

Although helmet use is not currently required by law in California, helmets are strongly recommended for skiing and snowboarding by multiple national organizations including the Centers for Disease Control and Prevention, American Medical Association, American Academy of Orthopedic Surgeons and more!

Helmets should be fitted to be snug on the skier/snowboarder's head with the chin strap in place. Loose and unstrapped helmets do not protect the head if a fall or accident occurs. Some friendly reminders about helmets:

- Helmets decrease injury but do not prevent concussion. Keep an eye out for signs and symptoms of a concussion if your child experiences a head injury.
- While some helmets have built-in headphones, listening to music through head phones while skiing and snowboarding decreases awareness of the surroundings and increases risk for accidents and injury.

2. Wear wrist guards: Wrist fractures and sprains are some of the most common injuries among snowboarders and wrist guards significantly reduce the rate of wrist injuries. Wrist guards can be worn under gloves and many snowboarding gloves are now actually made with built in wrist guards.

3. Sun protection: Just because it's cold outside doesn't mean that ultraviolet (UV) light is not shining. Even on cloudy days and in the shade, UV intensity can be deceptively high because of the sun's reflection off snow and high altitude where there is less atmosphere to absorb the sun's damaging rays. Sun glasses or goggles with UVA/UVB protection and a broad spectrum sunscreen of SPF 30 or higher are essential items on the slopes. A full coat of sunscreen should be applied in the morning before hitting the slopes and then one of the many ski coat pockets can be used to stash away a small bottle of sunscreen for re-application during lift rides and hot cocoa breaks.

4. Formal instruction. Medical research studies have shown that first-time skiers and snowboarders benefit greatly from having instruction, even if it's just a video prior to hitting the slopes, but more ideally formal teaching from an experienced instructor.

5. Follow the rules (Alpine Responsibility code): The Alpine Responsibility code is a set of rules that are aimed at injury prevention and is part of snow sport injury prevention all over the world. The code reinforces many of the points already discussed:

- a. Beginners should take lessons from a certified instructor
- b. Never ski or snowboard alone
- c. Maintain and check all equipment and make sure it is fitted appropriately
- d. Warm-up prior to hitting the slopes each day
- e. Stay on marked trails—avoid “out-of-bounds” skiing and snowboarding
- f. Be alert to you and your child’s surroundings
- g. Wear appropriate protective gear such as helmets, wrist guards and sunscreen
- h. Ski and snowboard on runs that are appropriate for you and your child’s skill level
- i. Discontinue skiing and snowboarding when you or your child is worn out because injuries always seem to happen on that last run of the day.

Remember to keep these safety tips in mind when providing anticipatory guidance to the slope-bound families so they can safely enjoy an exhilarating escape in the fresh mountain air and wonders of winter