

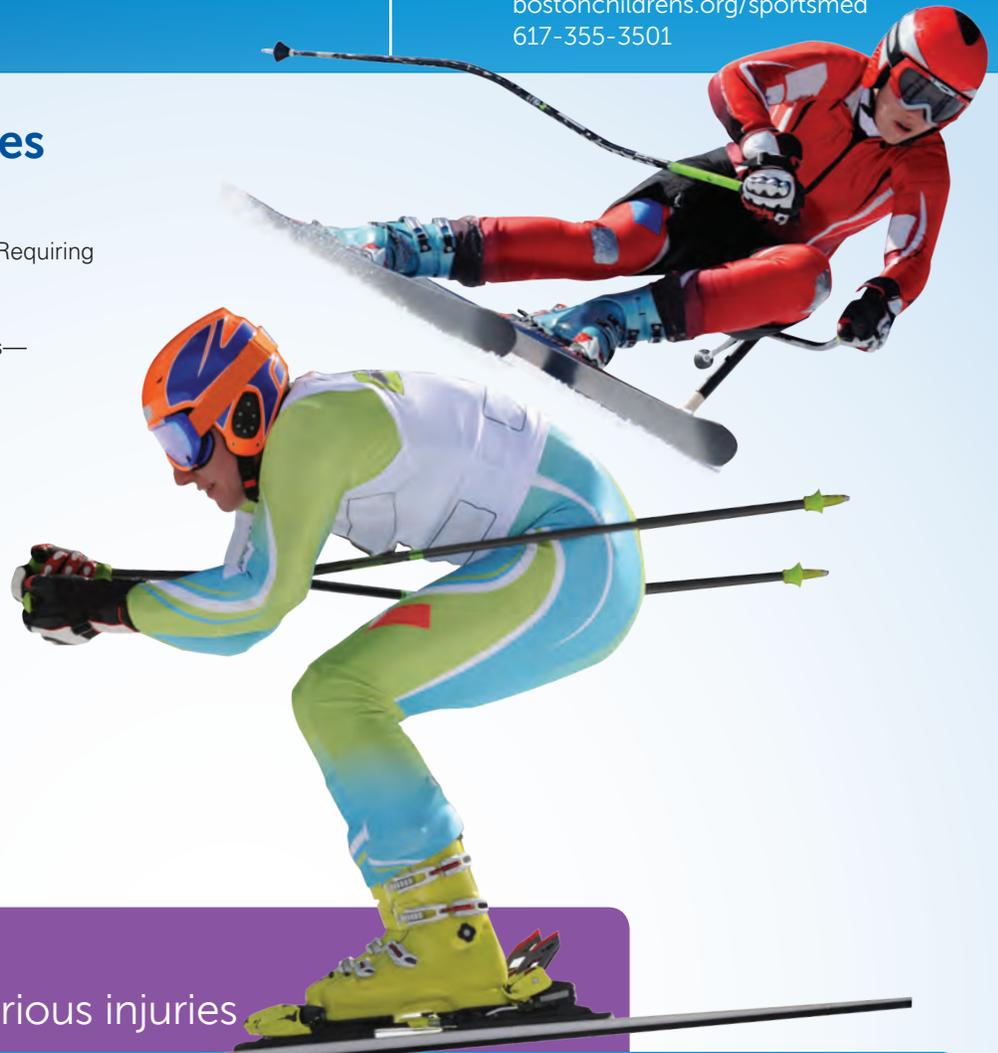


Common skiing injuries

Staying safe on the slopes

Skiing is an exhilarating sport, but fairly risky. Requiring strength, endurance and skill, skiing is ideal for staying in shape during the cold winter months. To stay safe, all snow sports athletes—downhill skiers, cross-country skiers and snowboarders—need to use proper equipment, train to build strength and flexibility and always be aware of the hazards they may encounter on trails and runs.

The most common injuries in skiing affect the knee joint. Cuts to the head and face are also common, with most occurring during falls. Collisions with trees and other skiers may cause bruises, fractures, concussions and, on rare occasions, life-threatening injuries.



Skiing Safety

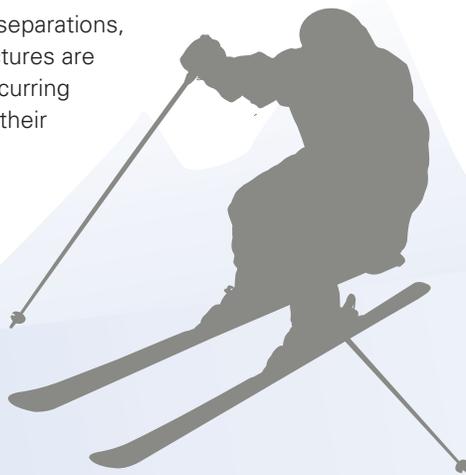
Common accidents, serious injuries

Anterior cruciate (ACL) ligament Injuries to this ligament inside the knee joint are the most common injuries in skiing. Typically, ACL injuries happen when a fall increases the torque absorbed by the knee.

Shoulder Shoulder separations, dislocations and fractures are common, usually occurring when skiers extend their arms to break a fall.

Head Concussions may result from hard falls or contact with trees and poles. Collisions may lead to facial cuts, bloody noses, knocked out teeth and eye injuries.

Skier's thumb When a wrist strap on a ski pole pulls the thumb away from the hand during a fall, the ligaments can be injured.



How can you prevent skiing injuries?



Instruction By learning proper technique, skiing can be more fun, and falls and slips that can lead to injuries can be reduced. Young skiers are encouraged to take lessons to learn the basics of balance, turning, stopping and preventing falls. Good instruction can emphasize the importance of warming up, cooling down and taking regular breaks during a long day of activity.

Conditioning To stay in control on the trail, skiers and snowboarders need to build strength and flexibility. Be sure to talk to coaches and trainers before beginning a conditioning program.

- Prepare during the warmer months for the ski season. Try running up hills or stairs or biking on hilly terrain to increase endurance and leg muscle strength.
- Leg squats are another great way to build lower body strength.
- Agility exercises like high steps and lunges may help improve side-to-side movement and maintain control and proper positioning on skis and boards.

Rules and etiquette Safe skiers and snowboarders follow rules and a code of conduct to stay safe.

- **Don't ski alone** Safe skiers and snowboarders usually ski in groups so they can help out in case of injury.
- **Stay within your limits** If you're just starting out, stay on beginner trails and courses. Don't move up to more advanced trails until you have the proper skills and experience. Pay attention to trail markers: beginners (green circles), intermediate (blue squares) and expert (black diamond).
- **Stay on the trail** Inside the boundary, trails are monitored by the ski patrol. Outside the boundary, areas are not patrolled. So, stay on marked trails, and watch for warning signs like "slow skiing area" or "cliff."
- **Learn about lifts** It can be difficult to master the techniques and timing for getting on and off ski lifts. Instructors can help you learn to use lifts safely.
- **Know the code** Etiquette is important for safe skiing and snowboarding.
 - **Skiers in front of you or below you on the trail have the right of way.**
 - **Don't stop in the middle of a trail or where you can't be seen.** You'll create a hazard for other skiers.
 - **When merging onto a new trail, look uphill to see if skiers are coming down** and leave plenty of room before you merge.
 - **Let skiers and boarders know when you're about to pass them.** Call out "on your left" or "on your right" so everyone can stay safe.

Clothing/Equipment

Dress for the weather and use well-made, well-maintained equipment to reduce the risk of injury.

Skis Buy or rent skis that match your skill level. Remember: the longer the skis, the faster you'll go. Also, have your skis fitted and tuned at a professional ski shop.

Bindings These devices release during a fall to prevent leg injuries. Have them adjusted by a professional and make sure they do not release too easily.

Boots Boots should be snug but not too tight, so make sure they are buckled up all the way for proper ankle and foot support.

Poles Ski poles should match a skier's height: turn a pole upside down and hold it by the tip, with a hand resting on the basket. Your elbow should be at a right angle with the handle of the pole touching the ground.

Helmet All skiers, especially kids, should consider wearing a helmet to prevent serious head injuries. Make sure it fits comfortably, has a chin strap and allows space for goggles.

Goggles and sunglasses When the sun bounces off the bright white snow, visibility becomes a challenge. Wear sunglasses to protect against the sun's rays and improve visibility on the trail. Also, consider wearing goggles to further protect the eyes from flying snow, tree branches and other hazards.

Gloves or mittens It's important to keep hands warm while skiing or snowboarding, so wear warm, waterproof gloves or mittens. If it's particularly cold out, consider mittens or gloves with pockets for hand warmers.

Cold weather clothes To stay warm and dry, many skiers and snowboarders wear thermal underwear and socks, intermediate layers under their jackets, waterproof ski pants and warm jackets made of down or fleece. Some skiers use neck gaiters that cover the neck, but these also can be pulled up to cover the face. Some gaiters have hoods that fit under helmets.



**Reviewed by Mininder S. Kocher, MD, MPH,
Boston Children's Hospital**

This piece is part of an informational series on sports injury prevention produced by the Orthopedic Center/Sports Medicine Division at Boston Children's Hospital. For materials on preventing injuries in other sports, call 617-355-3501 or visit bostonchildrens.org/sportsmed.



**Boston
Children's
Hospital**

Until every child is well™