

OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Wayne Terai

Prevent Skiing and Snowboarding Injuries With Chiropractic

Hitting the slopes, whether on skis or a snowboard, is a popular winter pastime. According to the American Journal of Sports Medicine, it also happens to be “the riskiest sport undertaken by adults on a routine basis.” (Am J Sports Med 1999;27:381-9). Fortunately, many skiing and snowboarding injuries can be resolved with chiropractic care. Dr. Terai works with skiers and snowboarders to prevent injury before it occurs, and hasten recovery when it does.



worst (*Am J Surg* 2009;197:560-4).

While beginners endure fewer severe accidents than seasoned skiers and snowboarders, they are in greater danger of localized injury. Dr. Terai explains that this is primarily due to a lack of proper conditioning, equipment and technique.

Dr. Terai emphasizes education, physical conditioning and regular chiropractic care for preventing skiing and snowboarding injuries.

Common Skiing Injuries

The most common anatomical location of skiing injuries has changed since the 1970s, moving from the ankle and lower leg to the knee and upper extremities (*Ann Chir Gynaecol* 1991;80:110-5). This is the result of industry-wide improvements in equipment, particularly in boots and bindings.

“Early ski bindings were crude cable mechanisms, which did not release reliably. New designs have incorporated sturdier construction and multiple release mechanisms. Concurrently, leather alpine boots have been superseded by higher, stiffer, heavier plastic boots, which better protect the ankle and lower leg.” (*Sports Med* 2002;32:785-93.)



Today’s shorter, parabolic-shaped skis also provide more control, especially in turns. Despite these technological advances, however, skiing injuries have increased drastically.

Recreational skiers are most susceptible to serious knee sprains, often involving the anterior cruciate ligament (ACL), a major ligament in the knee connecting the femur to the tibia and stabilizing the joint against excessive forward motion and severe rotation. In fact, several studies have shown that “injuries of the anterior cruciate ligament increased 280 percent” between 1970 and 1990 (*J Bone Joint Surg Am* 1998;80:25-32).

Knee ligament injuries, accounting for 30 percent of all skiing injuries, typically occur during one of three scenarios: when a skier tumbles forward, falls backward, or lands forcibly following a jump.

The failure of bindings to release the boot from the ski in these situations exacerbates injury rates, 2.3 times when only one ski discharges and 3.3 times when neither does (*Sports Med* 2002;32:785-93).

Overview

The popularity of skiing rocketed in the 1970s and 1980s. In the 1990s, it played second fiddle to snowboarding, which became fashionable as not only a new Olympic sport but also as a less expensive, more “youthful” alternative for winter recreation.

Rather than completely supplanting its predecessor, however, snowboarding’s popularity, culture and stunt-like maneuvers reinvigorated skiing. Today, both are flourishing with more than 200 million participants worldwide.

Regardless of skill, both novice and advanced skiers and snowboarders are most likely to experience injury mid-season. Injury is also more likely to occur in the afternoon hours, when fatigue, conditions and crowds are

Dr. Wayne Terai, Burtch Chiropractic (250) 860-4518
229-1634 Harvey Avenue, Kelowna, BC V1Y 6G2 www.burtchchiropractic.com

“Skier’s thumb” (tearing of the ulnar collateral ligament in the first joint of the thumb) and shoulder injuries (such as clavicular fractures and rotator cuff strains) also plague skiers, comprising approximately 7 percent (*Am J Sports Med* 1995;23:597-600) and 11 percent (*Br J Sports Med* 2009;43:987-92) of all injuries, respectively. Both can occur during falls or from improper, prolonged planting of ski poles.

Back and hip pain is also typical in skiers. This is often due to misalignment of the bones of the spine (vertebrae). This common condition is known as **vertebral subluxation**. Chiropractors correct vertebral subluxations with gentle and effective maneuvers called **chiropractic adjustments**.

Common Snowboarding Injuries

Amateur snowboarders are more susceptible to upper extremity injuries, particularly in the thumb, fingers, wrist and shoulders. Shoulder injuries “account for 8 to 16% of all injuries and 20 to 34% of upper-extremity injuries” in snowboarders. Falls and aerial maneuvers are most often to blame (*Br J Sports Med* 2009;43:987-92).

Because of the frequency of falls during snowboarding, whiplash-type neck injuries and harm to the hips and coccyx (small triangular bone at the base of the spinal column) are rampant. Falls often spawn vertebral subluxations and misalignments in the hip and spine. These dysfunctional areas trigger hip pain, back pain, neck pain and headache.

Chiropractic Care

Regular chiropractic care is key to avoiding skiing and snowboarding injuries. Chiropractic resolves vertebral subluxations, keeps the spine in alignment and the body in balance, fundamental factors for preventing sports injuries. That’s why Olympic skiing and snowboarding teams rely on chiropractors to help them achieve optimal performance.

Keep an Eye on Equipment

Using proper equipment — and maintaining it — is vital. Even though boots and bindings have improved over the years, many skiers do not realize they must be correctly fitted and routinely adjusted.

“The optimal adjustment of bindings using a testing device has been shown to be associated with a reduced risk of lower extremity injury,” particularly for women (*Clin J Sport Med* 2008;18:355-7). However, many ski shops do not own such devices. Children remain particularly susceptible, as they often wear rental or “hand-me-down” skis (*Sports Med* 1998;25:407).



Wearing a helmet can prevent injuries — especially during falls and collisions. Research has demonstrated that helmets offer protective benefits against head, face and neck injuries as well as “a significantly lower incidence of loss of consciousness.” (*Wilderness Environ Med* 2009;20:234-8.)

Take Lessons

Instruction by a professional — including learning how to fall as safely as possible — may prevent skiing and snowboarding injuries. Consider lessons as an investment in your health. The expense and time commitment accrued by lessons is far less than the expense and time taken up by injury.

Physical Conditioning

A “conditioning program before skiing that focuses on strength and endurance components particularly of the legs and back” is crucial for injury prevention (*Am J Sports Med* 1999;27:381-9).

Training should focus on the muscles of the back, legs and buttocks. Core strength training, such as Pilates, is also extremely helpful for skiers and snowboarders. Physical fitness provides balance, which can prevent falls. It also provides stamina against fatigue. Conditioning should take place prior to and during ski season, as well as during the off-season.

Choose Slopes at Your Level and Avoid Jumping

Choosing slopes that are at your skill level prevents injuries.

Whether skiing or snowboarding, injuries rates quadruple because of jumping (*Am J Sports Med* 2008;36:943-8). So, avoid jumping. Or, if you must, make sure to receive instruction from a professional.

Don’t Hit the Slopes Without a Chiropractic Checkup

Before hitting the slopes, make sure to schedule an appointment with the doctor. During this appointment, the doctor will address any risk factors specific to your situation, and provide additional tips on how to avoid skiing- or snowboarding-related injury. In addition, the doctor will detect and correct vertebral subluxation, ensuring that your spine is in optimal alignment, which will further prevent injury.

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