



Downhill Ski/Snowboarding Injuries

Skiing and snowboarding continue to grow as popular recreational sports among people of varying age and athletic ability. Although advances in equipment and technology have reduced the incidence of various traumas, if preventative measures are not taken, these sports carry a high risk of injury. It is imperative that injuries are evaluated by the ski resorts' medical staff and the need for further medical evaluation can be accurately determined. Injury rates for snowboarding and skiing are similar at 3 per 1000 exposures, although snowboarding requires hospitalization 3-4 times as often as skiing.

Common Injuries: Snowboarding injuries occur more often to the wrist and ankle, rather than the thumb and knee in the skier.

- Leg
 - Tibia/Fibula fractures
- Knee
 - ACL, MCL sprains
 - Meniscal tear
- Upper extremity
 - Shoulder dislocations
 - Shoulder separations
 - Distal radius fractures
 - Clavicle fractures
- Ankle
 - Ankle Sprain
 - Lateral process of talus fractures
- Head/neck
 - Concussions, Facial lacerations, neck sprain

Snow Conditions and Affect on Injuries

- 1 Hard/ Icy Snow

- Greater incidence of impact injuries
 - Head injuries more prevalent (i.e. Concussions, Facial Lacerations)
- 2 Powder and Soft Snow
- Great cushion for impact
 - Increased risk for rotational knee and ankle injuries
- 3 Groomed
- Less rugged terrain allows for better ski/board control
 - Be aware of increased downhill velocity as this may increase the risk of collisions with obstacles (i.e. people, rocks, trees)

Prevention:

Equipment:

- Height, weight, and ski ability are all factors to be considered when selecting proper skis or snowboard; therefore beginners should consult with a professional
- Annual inspection of boots and bindings
- Waxing/ sharpening of blades helps to reduce drag and frictional forces
- Helmet designed specifically for downhill skiing/snowboarding
- Wear goggles/sunglasses for protection and to enhance visualization of terrain
- Sunblock SPF 15 and Lip balm
- Ideally wrist splints should be worn as they have been shown to reduce the rate of wrist injuries by half
- The American Academy of Pediatrics recommends that children under age 7 should not snowboard, as they have not developed the strength necessary to control the board safely
- Boot selection
 - Hard shell boots: Provide greater responsiveness, injuries to ankle less prevalent
 - Soft shell boots: Less responsive, and more mobility can lead to greater incidence of ankle injuries
- Discard your pole in a fall to prevent ligament injuries to the thumb

Training:

- Engage in year-round fitness which emphasizes strength, flexibility, endurance and balance
- Participating in ski/snowboard performance/safety courses
- Adequate warm-up and stretch prior to skiing/snowboarding
- Maintain level of hydration to prevent muscle cramps
- Frequent breaks while skiing and snowboarding to prevent fatigue

On the Slope:

- Avoid treacherous conditions and areas of low visibility

- Navigate slopes, which suit your skill level
- Exercise caution when passing skiers/snowboarders from behind
- Never ski or snowboard alone
- Ski Lift Safety
 - Review loading and unloading procedures prior to use
 - Ensure loose clothing is not caught on chair prior to unloading
 - Do not ride lift with safety bar in raised position
 - Upon unloading make sure ski tips/ board is tilted up to prevent catching
- Children beginning skiing should master the “Snow-Plowing” or “Wedge-Christie Method” before being given ski poles

References:

Mellion, M. Sports Medicine Secrets 2nd Edition. Hanley & Belfus, Inc. Philadelphia. 1999

National Ski Areas Association

www.nsaa.org

Lids on Kids

www.lidsonkids.org

Alpine Safety Awareness Programs

www.alpinesafety.org

The British Columbia Injury Research and Prevention Unit (BCIRPU)

www.injuryresearch.bc.ca

Ski- Injury.com

<http://www.ski-injury.com>

**For more information contact the athletic training staff at
Towson Sports Medicine, 410-828-4TSM (4876).**