

Sports Shorts

GUIDELINES FOR PHYSICIANS

Winter Sport Injuries

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The winter months bring more than just snow. As winter sports gain more and more popularity, people are spending more time participating in various recreational activities throughout the winter season. Winter sports injuries are getting a great deal of attention at hospital emergency rooms and doctor's offices. In 2007, the U.S. Consumer Product Safety Commission reported:

- **139,332** injuries from snow skiing
- **164,002** injuries from snowboarding
- **133,551** injuries from ice skating
- **53,273** injuries from ice hockey

SKIING

Lower extremity:

- MCL injuries are the most commonly reported lower extremity injury.
- ACL injuries have increased and now account for almost 20% of skiing injuries.
- Commonly described mechanisms include:
 - Valgus external rotation occurs when the ski edge catches.
 - The "phantom foot" is the most common mechanism for ACL injuries. This occurs when the skier's weight is posterior and the hips drop below the level of the flexed knees, resulting in greater edge pressure causing an abrupt internal rotation force on the knee and the ACL usually gives. Teaching skiers to fall forward can prevent this.

Upper extremity:

- "Skier's thumb" (ulnar collateral ligament tear or "Gamekeeper's thumb")
 - Most common single injury of the upper extremity.
 - Occurs when the thumb is forcefully hyperextended or abducted, usually when the skier falls on a planted ski pole and hyperabducts the thumb that is caught in the strap.
 - Treatment typically includes short arm thumb spica splint/cast. The main complication is failure of the ligament to heal resulting in instability of the joint and potential requirement for surgery.

ICE SKATING

Lower extremity:

- Tendonitis of the tibialis anterior and toe extensors also known as "lace bites" can happen when the tongue of the skate is improperly positioned.
- Malleolar bursitis can occur when friction from the skate against the medial or lateral malleolus takes place.
- Haglund's deformity or "pump bumps" is a bony enlargement of the back of the heel where the Achilles tendon attaches and causes a painful bursitis. Occurs when the back of the skate fits improperly and causes repeated friction with the back of the heel.

- Patellofemoral syndrome is a common problem in figure skating.

SNOWBOARDING

Upper extremity:

- The shoulder is particularly vulnerable in snowboarding and common injuries include subluxations, dislocations, clavicle fractures and acromioclavicular joint separations.
- Wrist injuries are involved in 20% of all snowboarding injuries.
 - Fractures of the distal radius are common. Almost two-thirds are intra-articular or comminuted fractures and require surgery.
 - Carpal fractures of the scaphoid and lunate are also frequently seen and present with point tenderness over these bones.

Lower extremity:

- There are fewer pediatric knee injuries seen in snowboarders vs. skiers due to less torsional forces. ACL injuries are uncommon.
- Fracture of the lateral process of the talus, also referred to as "snowboarder's ankle/fracture" is fairly unique to snowboarding.
 - Occurs as a result of sudden dorsiflexion and hind foot inversion with axial loading. Often while landing a jump.
 - Present similar to lateral ankle sprains and are often missed.
 - Important to obtain a mortise view with X-rays.

ICE HOCKEY

Head injuries:

- Concussions account for 8% to 14% of all hockey injuries. Almost half of these occurred after collision with another player.

Upper extremity:

- "Skier's thumb" can also be seen in hockey when a player falls on an outstretched hand with the hockey stick still in possession.
- Metacarpal fractures occur due to "slashing" or stick trauma.

Preventing winter sports injuries

Injuries vary from sprains and strains to fractures and dislocations. Head injuries are also a frequent concern in all winter sports. Many of these injuries can be prevented when taking the proper precautions prior to participation. The following information can be followed and adhered to in order to prevent injuries sustained during the winter season:

- Develop and maintain **a good general fitness level.**
- **Warm up** prior to participation
- **Helmets should be encouraged for all snowboarders and skiers.** Children should wear appropriate-sized helmets and not just one that they will "grow into" as they mature.
- **Protective equipment** is recommended. Wrist guards are especially useful in snowboarders.
- **Check all equipment** to be certain it is in good working order.
- **Appropriate winter clothing** should be worn to prevent frostbite or hypothermia. Wear several layers of water- and wind-resistant

GUIDELINES FOR PARENTS

Winter Sports Injuries

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The winter months bring more than just snow. As winter sports gain more and more popularity, people are spending more time participating in various recreational activities throughout the winter season. Winter sports injuries are getting a great deal of attention at hospital emergency rooms, doctor's offices, and clinics.

SKIING

- Lower extremity injuries are the most commonly reported and outweigh upper extremity injuries by a ratio of 2:1.
- The majority of these injuries are to the knee.
 - Teaching skiers to fall forward instead of leaning back or squatting can help prevent knee injury.
- Head injuries account for a small portion of injuries, however, they represent the majority of severe injuries sustained.
 - Concussions are common, especially in adolescents.
- Upper extremity injuries do occur with the most common being called a "skier's thumb" or "gamekeeper's thumb."
 - Occurs when a child falls on a planted ski pole or when the child's thumb is caught in a strap causing the thumb to be bent awkwardly away from hand.

ICE SKATING

- Many injuries in ice skating are the result of overuse or improperly fitting skates.
- Friction from the skate against the inside and outside ankle bones may result in swelling and irritation.
- A painful enlargement on the back of the heel or "pump bump" occurs when the back of the skate fits improperly and causes repeated friction.

SLEDDING

- Many items are used to perform this activity, ranging from sleds with runners and toboggans to inner tubes and cardboard boxes. All share common design flaws such as little to no steering and no restraint system.
- Collisions with stationary objects account for at least half of major injuries.
- Head injuries are common, particularly in "head-first riding" and carry an increased risk for poor outcomes.
- Children younger than 6 have three times the number of head injuries as compared to those older than 12 years.
- Icy conditions increase both the speed of the sled and the number of injuries.
- Adult supervision has a profound effect on safety when sledding, as it prevents hill overcrowding and collisions.
- Ensure a proper run-out area (an area of sledding course that allows for deceleration and safe stopping) away from roads and frozen water
- Proper lighting should be provided for evening sledding to avoid collisions with stationary objects or other sledders.
- Sledding should be done in open, well-groomed areas that are free of obstacles.
- The safest sledding position is sitting while facing forward.

SNOWBOARDING

- Snowboarding is one of the fastest growing sports worldwide.
- Compared with skiing, there is a higher incidence of upper extremity injuries.
 - Wrist injuries are the most common, making up 20% of all snowboarding injuries.
- Head injury rates are three times higher in snowboarders than in skiers.
- Lower extremity injuries do occur with a unique fracture known as "snowboarder's ankle/fracture" occurring while landing jumps.

MEDICAL ISSUES

- 85% of ultraviolet waves reflect off the snow surface, increasing the effect of sun on exposed areas of skin and eyes.
- Cold injuries such as frostnip (redness, numbness, and burning pain of outermost skin) and frostbite are best treated with prevention by minimizing exposure of skin to cold environmental conditions.
 - If concerned about frostbite, place area in warm water or cover with warm washcloth. If numbness continues, call your pediatrician.
- There is a known increased prevalence of exercise-induced airway narrowing or "bronchospasm" in winter sport athletes.
 - The prevalence ranges from 11-50% and is thought to be due to the cold and dry air associated with most winter sports/recreation.
 - 90% of asthmatics will have exercise-induced bronchospasm (EIB).
 - If a child is diagnosed with asthma, **wearing a face mask or breathing through the nose** will help moisten and warm the air to prevent symptoms.
 - Follow your pediatrician's recommendations for proper use and timing of prescribed inhalers.

Preventing winter sports injuries and medical issues

Injuries vary from sprains and strains to fractures and dislocations. Furthermore, medical issues may arise with exposure to the cold environment. Taking the proper precautions prior to participation may prevent many of these concerns.

- **Helmets should be encouraged for all snowboarders and skiers.**
 - Children should wear a properly fitted helmet and not one that they will "grow into."
 - Children younger than 12 years should wear a fitted helmet while sledding.
- **Protective equipment** is always recommended.
 - Wrist guards are useful especially for snowboarders.
- Allow children to skate only on approved surfaces.

This information is available on the Ohio AAP website www.ohioaap.org Sports Shorts is provided by the Home and School Health Committee.