

## **Snowboarding Susan Findlay**

Snowboarding is often associated with the young and reckless, but as its' popularity rises it is being taken up by a more diverse group of active people. Most associate snowboarding with skiing, but freestyle is closely related to skateboarding. For a Sport & Remedial Massage therapist, it is important to understand the different styles and equipment in order to evaluate injuries.

Although you may never see a snowboarder as a client, there are common injuries incurred in snowboarding that are typical of many mainstream sports. The intrinsic and extrinsic factors that influence the risk of injury will not be the same, but the remedial massage treatment and the rehabilitation goals will be similar.

### **Equipment**

**Boards:** there are a few types of boards that encourage different types of movement. Traditionally boards were symmetrical thus allowing the snowboarder to travel backwards. Recently asymmetrical boards have been introduced to enhance freestyle, slalom and giant slalom events.

**Boots:** come in three styles; soft, hard and hybrid. Traditionally, snowboarders use soft boots, as they allow moderate stability while allowing increased maneuverability, but of course vulnerability to the ankle joint is also increased. Hard boots provide greater ankle support and increased control, and are primarily worn by racers. Hybrid is the combination of soft outer shell and a stiff inner boot. Each boot style places the body under different stresses, therefore it is important to understand which type they are using.

### **Incidence of Injuries**

Although advanced snowboarders may try more dangerous maneuvers such as jumps and other aerial tricks, beginning snowboarders are the most frequently injured. Typically snowboarding injuries occur during a person's first experience and almost one half occur during the first season of snowboarding. Wrist and ankle are a couple of the common injuries but others include knee, head, shoulder, trunk and elbow.

### **Increased risk of injury due to Intrinsic & Extrinsic factors specific to Snowboarding**

- No professional instruction
- Doing too much too soon
- Unfamiliar with board and non-release bindings
- Increased risk of injury due to type of boot worn – soft versus hard
- Unfamiliarity when demounting from a chair lift with one foot out of the binding
- Lack of protective equipment
- Unfamiliar environment
- Venturing away from the designated area – avalanches, tree well deaths

### **Decreased risk of injury compared to skiers**

- Torsion injuries to the knees due to both feet being attached to one board
- Only two edges that catch unexpectedly on the snow
- Shorter lever arm as snowboards tend to be shorter than skis

### **Wrist Injuries**

Unlike skiing, the feet are fixed onto the board by non-releasable bindings. This often leads to

problems initially with balance. There are also no poles in which to stabilize your movement. Typically with the loss of balance your hand will automatically try to stop the fall. This is probably the most common form of injury in snowboarding especially with those that are not properly trained and who have not learned to fall correctly. Therefore along with professional training it is equally important to encourage the use of wrist guards.

### **Ankle Injuries**

While hard boots place the snowboarder at risk for fractures of the tibia and fibula at the level of the boot top, called "boot-top" fractures, soft boots increase the risk of ankle injuries of which a high percentage are snowboarders' ankle (fracture).

If the injury does not appear to settle but remains persistently painful with a limited range of motion, and fails to improve with the appropriate management, there should be a suspicion of a fracture of the lateral process of the talus.

The trauma from repetitive falls on the skeletal structure affects them in later life leading to conditions such as osteoarthritis. As in all sports there is a repetitive element with movement, and the demands required to perform the various aerodynamic moves.

### **Rehabilitation of Wrist and Ankle Injuries**

Treatment of fractures includes casting for 6 weeks, and or possible surgery for more complicated conditions. During this period of immobilization, the biomechanical function of the surrounding areas change, it is important to address the structures that are compensating for these changes and minimize the stresses placed on them.

As with all joint injuries, after the removal of the cast, it is necessary to focus the remedial soft tissue work on maintaining range of motion in the joint, and proprioception to the surrounding areas.

### **Soft Tissue Stresses**

As a therapist it is essential that you have an understanding of how the snowboarder positions himself and moves with the board.

Most snowboard riders use their left foot as the forward foot and face toward the right side of the board. This places different demands on both legs, and right up through the whole of the body. Related to this is the natural direction the rider will rotate or spin. This will further influence the rotational demands on the soft tissue. It is important to maintain suppleness within the tissue without removing the necessary spring like strength that is required to do some of the tricks.

### **Skeletal Stresses**

A frequent impact area in the beginning snowboarders is the back of the head. Fortunately, the force load on the head is usually relatively mild as most of the force is initially absorbed by the buttocks, back and upper extremities, and impact usually results only in a headache. It is recommended that beginning snowboarders wear a helmet during their initial attempts at the sport to prevent or reduce the severity of head injuries.

The effect of the regular impact and trauma on the pelvis, shoulder and spinal column is not necessarily considered an immediate injury, but does lead to future problems i.e. the increased risk of suffering osteoarthritis and skeletal displacement conditions. Encouraging clients to have regular massage can minimize this risk.

## **Styles of Snowboarding**

Freestyle snowboarders approach is similar to skateboarding. It involves a variety of tricks and jumps in specially constructed terrain parks, rails and halfpipes (a large and deep U-shaped ramp).

Freeriding, as its name sounds encompasses the spirit of exploration where snowboarders trek through a variety of powder fields, trees, steeps and anything else the mountain has to offer.

Alpine / Race the primary focus is speed, this is where riders race through wide open terrain or racecourses made from hard packed snow.

## **Terminology**

Goofy footed is when a rider has the right foot closest to the nose of the snowboard.

Duckfoot is when the stance angles of the toes are pointing outward like a duck

Fakie - refers to riding in a backward direction on your board i.e. with your rear foot leading.

Tip Rolls - involves flipping or rolling your board over 180 degrees to change from forward to fakie while the board's tip remains on the snow.

Grabs - when jumping, snowboarders can grab their board while in mid-air (catching air). Grabbing the board allows extra stability in the air while also helping snowboarders to perform spins and inversions more effectively.

Spins – are the basis from which the more freestyle tricks to be performed.

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