

Wrist & Hand Injuries

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The advent of the X-Games, Terrain Parks, and the insatiable desire for airborne acrobatics comes with a price. Wrist and hand injuries are common in today's snow boarders and skiers. The three most common injuries are: wrist fractures (also known as distal radius fractures), scaphoid fractures, and thumb sprains (also known as "skier's thumb").

The majority of skiers and snow boarders do not wear wrist guards for protection. A fall onto an outstretched hand (also known as FOOSH) places tremendous force on the distal radius. This mechanism can lead to two types of fractures, one to the distal radius and the other to the scaphoid. The distal radius fractures will end with a deformity and pain at the distal end of the wrist. Early splinting is done in the position of the deformity by placing any splinting material to immobilize it. Ice is extremely helpful to improve the swelling, as is elevating the arm to prevent swelling. Many distal radius fractures can be treated with a cast. However, we are seeing more significant injuries, and commonly these are treated with surgical intervention. This involves a 1 to 1 1/2 hour surgical procedure, and scheduled within 5 to 10 days from the injury. The newer techniques of surgery involve locking plates, which allow the screws to lock into the plates, creating a very rigid construct. Within 5 to 7 days the patient is out of the cast, and then begins an aggressive early range of motion protocol. Most patients get 80% to 90% of their overall arc of motion back after surgical intervention for a distal radius fracture. Skiing or snow boarding is not recommended for 6 weeks to allow for healing. Once healed a custom made brace is worn underneath the ski gloves for protection.

Scaphoid fractures tend to cause significant pain over the base of the thumb and dorsally over the "snuffbox" where the scaphoid sits between the tendons that go to the thumb. Often times this is thought to be a sprain. Obvious pain and deformity associated with a scaphoid fracture are typically picked-up on the radiographs. However, non-displaced fractures of the scaphoid are commonly picked-up at two weeks after the date of injury. Displaced scaphoid fractures typically require surgical intervention. Non-displaced scaphoid fractures can be treated in a cast, and may take 2 to 3 months for healing. The newer techniques of percutaneous versus open reduction internal fixation of scaphoid fractures with fully threaded cannulated screws has improved the speed with which these fractures heal. The surgery takes about 1 hour. Often it can be done with a small 1 to 2 millimeter incision, where guide wires are placed across the fracture and then screws advanced across the guide wire. Often times the patient is placed in a removable wrist splint to remind him or her that the healing process is on going. Most often at 6 weeks they can return to skiing or snow boarding with a custom brace underneath their gloves.

"Skier's Thumb" is an injury that is imparted to the ulnar collateral ligament of the thumb. Often as the skier falls forward the thumb digs into the snow and puts tremendous stress on the ulnar collateral ligament that is at the basil joint of the thumb. This is a critical ligament for pinch, because as the fingers pinch against thumb there is instability and laxity and pain. Very rarely is there is a fracture associated with this. To help confirm the diagnosis stress radiographs are done, putting pressure on the contra-lateral side of the thumb to see if the ligament opens up or if the joint space opens up on that side due to a complete tear of the ligament. Minor sprains are treated with casting or splinting for up to 2 months. Complete tears to the ulnar collateral ligament of the thumb are treated surgically. Typically the torn ligament is re-attached to the bone using a bone anchor. The patient is then placed in a cast for about 4 weeks. After that they are placed in a custom-made thumb spica splint that is worn for an additional 4 to 6 weeks. Patients can return to skiing and snow boarding activities at about 6 weeks post operatively wearing the custom made brace for the thumb underneath the glove.