

SHOULDER INJURIES: DISLOCATION VS. SEPARATION

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Upper extremity injuries are very common among winter sports enthusiasts. In general, snowboarding results in significantly more upper extremity injuries than alpine skiing. The reason is fairly obvious. Snowboarders have their feet pinned to their board, and when one catches their toe side edge, their upper body is launched toward the ground, and the first response instinctively is to break one's fall with their arms. Most snowboarders have experienced this "ruler slap" phenomenon.

Shoulder dislocations and shoulder separations are two of the more common upper extremity injuries. These terms are often wrongly used interchangeably. In fact, these are two very different patterns of injury, with very different consequences. A shoulder separation involves an injury to the acromioclavicular (AC) joint, that is, the joint at the outer end of the clavicle (collar bone). A shoulder dislocation involves an injury to the glenohumeral joint, that is, the ball-and-socket part of the shoulder joint. With a shoulder separation, the AC joint is injured/disrupted/dislocated to some degree. With a shoulder dislocation, the ball of the shoulder joint pops out of its socket.

Shoulder separations occur when an individual lands forcefully on the top of their shoulder. Shoulder separations are classified according to the degree to which the lateral clavicle is displaced (out of position) at the AC joint. This in turn is a reflection of the amount of damage to the two stabilizing sets of ligaments. Technically, there are 6 grades of shoulder separations, of increasing severity from grade 1 to grade 6. By far, types 1-3 are the most common. In a grade 1 injury, the ligaments are simply sprained/stretched, but not torn. Though these injuries are acutely painful, there is no resulting deformity and rarely any long term issues. These usually heal within 2-3 weeks. In a grade 2 injury, the AC ligaments are torn and the CC ligaments remain intact. There is typically more pain with Grade 2 injuries and a mild amount of deformity at the AC joint. These typically heal within 4-6 weeks. Grade 3 injuries involve a disruption of both the AC and CC ligaments. These result in more pain, more deformity and a longer time for healing. Grade 3 separations typically heal in 6-8 weeks.

Approximately 90% of Grade 1-3 shoulder separations heal uneventfully with non-operative treatment and leave patients with no functional limitations. 10% of patients develop ongoing shoulder symptoms, for which surgery is then an option. Grade 4-6 shoulder separations are bad injuries with dramatic amounts of displacement of the clavicle. These injuries require surgical repair in nearly all cases.

On average, shoulder dislocations are more serious injuries than shoulder separations. The shoulder can dislocate in any of four directions: anterior (out the front), posterior (out the back), superiorly (upward) or inferiorly (downward). By far, the most common direction of dislocation is anterior, followed not so closely by posterior dislocations. These injuries usually occur when the arm is forcefully pulled/pushed away from the body, as in a fall on an outstretched hand. Once dislocated, the ball may spontaneously reduce (pop back into place) or require the help of a medical professional. Most patients recover from the acute injury within 6-8 weeks, however, dislocations are much more likely to become a surgical problem than shoulder separations. Following a first time traumatic dislocation, there is a significant risk for recurrent dislocations in the future. This can be a disabling problem. The risk of recurrence is largely based on the age of the patient at the time of the initial episode. The younger the patient, the higher the likelihood of recurrent dislocations. The recurrence risk approaches 100% in individuals younger than 20, and drops to 25-30% in individuals over 40. The rule of thumb is, "two strikes your out". That is, after a second dislocation, surgical repair is warranted.

People sustaining either a shoulder separation or a shoulder dislocation should be evaluated by a physician and have a set of X-rays taken. In doing so, associated soft tissue injuries and fractures can be ruled out. Hopefully this information will quench your thirst for knowledge, but not be put to practical use this winter. Enjoy the powder.