



## GUIDELINES FOR PARENTS, COACHES, AND ATHLETES Shoulder Injuries Issue 11

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The shoulder is the loosest joint in the body and is mostly supported by muscles, tendons, ligaments, and a joint capsule. However, to function properly in overhead activities and in sports, the shoulder needs to be stable. **Acute** injuries occur as a result of trauma (eg, falls), and **overuse** injuries occur as a result of a combination of excess looseness in the shoulder, improper form during sports activities, or excessive repetition of an aggravating activity (eg, pitching).

### ACUTE

Acute injuries include **fractures** or broken bones such as the collarbone and the humerus (upper arm). **Shoulder separations** are injuries to the acromioclavicular (AC) joint (where the scapula and collarbone meet at the point of the shoulder). **Shoulder dislocations** occur when the humerus “pops” out of the shoulder socket. A **subluxation** refers to a partial dislocation that usually pops back into place on its own. Growth plate injuries require special consideration in the preteen and teenaged athlete. A significant injury results in pain, limited range of motion, and/or muscle weakness. A medical professional should evaluate **all** traumatic shoulder injuries. **X-rays** are often needed. Treatment includes short-term rest plus physical therapy to ensure proper healing and safe return to sports.

### OVERUSE

Overuse injuries include **rotator cuff/biceps tendonitis**, impingement syndrome, and inflammation or **growth plate fracture** to the upper arm. Overuse injuries are **overstress injuries**. They are caused by **constant** repetition of the same overhead activities (such as swimming freestyle or pitching a baseball). Other contributing factors include being “loose jointed,” having loose ligaments, and having weak muscles. **Improper technique** during sports activities or use of **improperly sized** athletic equipment (an oversized tennis racquet, etc) can also cause injury and pain. **All** overuse shoulder injuries need some form of physical therapy for treatment. Changes in equipment, adjustments in sport mechanics (technique), and limitations in the numbers of acceptable repetitions of a sports activity (eg, throwing) all contribute to recovery.

### MEDICAL CARE

Any acute injury or any overuse injury resulting in loss of function, weakness, deformity, popping, **and/or** persistent pain lasting more than 3 weeks should prompt immediate evaluation by a medical professional. Risks of permanent injury to growing bones, cartilage, and soft tissues exist if problems are not properly evaluated and treated in a timely fashion. **X-rays** are often an important part of the initial evaluation. In certain circumstances, additional testing may be needed for accurate diagnosis.

### REHABILITATION: READINESS TO PLAY

Most shoulder injuries are treated with therapy exercises aimed at improving the strength and stability of the shoulder. Additional exercises to strengthen back, buttock, and abdominal muscles can help provide secondary stability to the shoulder and are believed to also help **prevent** shoulder injury or reinjury. In general, exercises performed as 2 to 3 sets of 10 to 15 **pain-free, full range of motion** repetitions are recommended. Push-ups followed by rotator cuff exercises against resistance using elastics bands or tubing are helpful. Sport-specific exercises (such as long tosses or pitches) should be performed properly demonstrating full, painless motion and normal strength while under supervision before full return to competitive activities occurs.

### SAMPLE REHABILITATION EXERCISES

**Push ups:** Progress through wall, modified floor and floor, depending on initial strength to stabilize the scapula and strengthen the rotator cuff muscles.

**Empty Can Raise:** Stand on one end of the band and grasp the other end thumb down. Bring arm forward 45 degree angle and slowly raise arm to shoulder level and then back to starting position.

**Internal Rotation:** Attach band to door and stand with injured shoulder toward door, bend elbow to 90 degrees. Keep elbow at your side, forearm parallel to floor and rotate arm inward to stomach. Slowly return to starting position.

**External Rotation:** Attach band to door and stand with uninjured shoulder toward door, bend elbow to 90 degrees. Keep elbow at your side, forearm parallel to floor against stomach. Slowly rotate your arm outward to the side and then return to starting position.



Wall Push-up



Empty Can Raise



Internal Rotation  
(endpoint)



External Rotation  
(endpoint)

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