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# In Motion

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## What You Need to Know about Shoulder Instability and Bracing

By Michael Elsenbeck, MD and Jonathan Dickens, MD

The shoulder joint is one of the most mobile joints in the body and as a result is one of the most commonly dislocated. Young athletes participating in football and other contact or collision sports are particularly prone to experiencing a shoulder dislocation. Bracing may help stabilize a shoulder by limiting motion that would place it in a vulnerable position.

While surgical management has had positive results regarding return to sport and decreased recurrent instability, it is often a season ending treatment for the athlete.<sup>1</sup> Nonoperative management could be an option in select athletes wishing to return to in-season competition. Bracing contributes to pain control and supplements stability.<sup>2</sup> There are three primary categories of action by which functional shoulder braces provide stability:

- Harnesses or straps that limit extension and rotation
- Indirect force on the shoulder
- Direct force on the shoulder<sup>3</sup>

Braces with harnesses or straps serve as a restraint and are inherently more motion limiting than braces that apply directed forces.

Ideally, functional bracing serves to provide stability without limiting function. Unfortunately, functional bracing may hamper certain sport-specific skills, and therefore may not be applicable for all athletes. Specifically, motion limitation would be unfavorable for throwing or overhead athletes. Additionally, braces that provide directed forces might interfere with aerobic capacity and upper extremity motion. A variety of braces are available, and athletes should focus on which type best provides stability without inhibiting competition.

Following a traumatic dislocation, patients often continue to experience apprehension with arm extension and rotation. Functional bracing may serve as a useful tool to nonoperative management by means of

limiting motion that places the arm in a vulnerable position. However, limitation of overhead activity may not be suitable for throwing or overhead athletes. Consequently, athletes should focus on functional bracing that provides stability without sacrificing sport-specific skills and return to competition.

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# SLAP TEARS 101

By Grant Jones, MD

The superior labral tear was first described in throwing athletes by Dr. James Andrews in 1985. In 1990, Dr. Stephen Snyder coined the term “SLAP” lesion (Superior Labrum, Anterior and Posterior) and the diagnosis and treatment of SLAP lesions from there has grown exponentially. Most people involved with sports, including coaches, players, and players’ families, have at least heard of the term or are very familiar with it.

**When an overhead athlete has a shoulder injury, the first thing that everyone worries about is whether the athlete has a SLAP tear. While this can be a true, symptomatic injury in many athletes, it can also be over-diagnosed and/or over-treated.**

The labrum is a rim of cartilage that surrounds the shoulder joint, and the superior labrum is the upper portion of the labrum which is the attachment for the biceps tendon. It can be torn in a traumatic fashion when the arm gets caught out to the side, or when the arm is jammed against the shoulder joint socket. It can also be injured as a result of repetitive wear-and-tear to the shoulder, as seen in the overhead athlete. The injured athlete will complain of pain in the front of

the shoulder along the course of the biceps tendon or sometimes a pinching type sensation in the back part of the shoulder. The person may also complain of popping or instability in the shoulder. The throwing athlete may report decreased speed with their pitches or the arm “feeling dead.”

The diagnosis of this injury is often not straightforward, as many other conditions can cause similar symptoms. There have been many physical examination tests described to diagnose a SLAP lesion; however, several studies have shown that each of the tests, by themselves, are not very specific and could be positive in someone without a SLAP tear. So, sports medicine physicians utilize combinations of these tests to help diagnose the problem. An MRI is the most definitive, non-invasive measure to diagnose a SLAP tear. However, a sports medicine professional should be careful in interpreting the results of the MRI because, even though, a SLAP lesion is present, it may not be the cause of the pain. In fact, in an MRI study done on 21 professional baseball pitchers who did not have any shoulder problems, it was found that 10 of the players had SLAP tears and that there was no correlation between the presence of a SLAP tear and having to go on the disabled list at any point in the players’ careers. When making the diagnosis of a SLAP tear,

it is important to correlate the findings on the MRI with the athlete’s history and physical examination.

A trial of non-operative management, particularly in the throwing athlete, is recommended first. Many athletes, including throwers, respond well to physical therapy, including strengthening and stretching exercises and evaluation of throwing mechanics. Another reason to avoid surgery as a first line treatment is that the return to throwing sports, in particular pitching, is low, with less than 50% of pitchers returning to play and only 7% returning to their previous level of play according to one study. So, only after a throwing athlete fails extensive non-operative management is surgery discussed. Overall, a SLAP lesion is often a difficult problem to diagnose and treat. It is important to seek help from medical care providers who regularly treat athletes and have an understanding of the complexity of the problem.

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# Shoulder Replacement Does Not Mean Goodbye to Sports

By Madison Argo, BS and Michael Khazzam, MD

Shoulder replacement surgery has dramatically increased over the past few decades, today nearly 53,000 shoulder replacement surgeries are performed annually in the United States.<sup>1</sup> The substantial rise can be attributed to the procedure's success rate with most patients (as high as 92%) describing their shoulder as "better," with the majority of patients pleased with their overall daily quality of life following surgery.<sup>2</sup>

Individuals with chronic shoulder pain from degenerative arthritis, rotator cuff tears that are not repairable, and fractures are the most common candidates for shoulder replacement. Most often, individuals undergo a variety of conservative treatment options as a first line of pain/injury management. These include activity modification, anti-inflammatory medications, physical therapy, and steroid injections. If no successful progress has been made, an orthopedist may discuss shoulder joint replacement as an option. The surgeon will choose the most appropriate type of shoulder replacement based on the patient's shoulder pain, including total shoulder replacement, or reverse shoulder replacement.

## Recovery

The standard recovery period following shoulder replacement surgery is six months. Initially, patients are asked to wear a protective sling, but as early as one week after surgery, physical rehabilitation is introduced. In the beginning, there are restrictions regarding specific movements to ensure adequate healing time. Gradually more flexibility and strengthening is introduced while the individual is monitored by both their physical therapist and orthopedist. A standard follow-up visit to the surgeon occurs at six months post-operatively, when most patients are cleared to return to their normal daily activities. This



could include their profession, gardening, housework, or recreational activities such as golf, swimming, and tennis.

Patients should gradually return to their desired activity, and report any pain or mobility issues. Multiple studies have monitored shoulder replacement patients for short- and long-term outcomes and have reported exceptional results.<sup>3,5</sup> Various studies report between 75–90% return to their exercise of choice; specifically research indicates the highest return to swimming, fishing, golf, and tennis. Additionally, research has shown an improvement in performance postoperatively.<sup>3</sup> High demanding sports such as bowling, softball, and basketball have lower postoperative return percentages (between 20–40%) and are not encouraged in individuals with

shoulder prostheses.<sup>3,4</sup> Instead of limiting patients' activities, shoulder replacement surgery has proven to be tremendously successful at returning individuals to their activities and passions they were once unable to enjoy due to pain.

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### About AOSSM and *In Motion*

As a world leader in sports medicine education, the American Orthopaedic Society for Sports Medicine (AOSSM), we have designed the publication to highlight relevant information for multiple age groups from exercise and rehabilitation to nutrition and psychology.

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## Don't Call the Tooth Fairy on the Field

By Lee H. Diehl, MD

**More than five million teeth are knocked out every year in children and adults, according to the American Association of Endodontists. Even if teeth are not completely dislodged, they can be loosened or dislocated as well as broken. Many of these incidents occur during sporting events, especially contact sports.**

If a dental trauma has occurred, a team physician or athletic trainer should inspect the teeth for any obvious loss or lack of symmetry and then check for tenderness or abnormal motion. An emergency dental visit should be scheduled right away.

If the tooth is completely dislodged from the mouth, current recommendations include the following:

- If the athlete is a young child with complete loss of a primary (baby) tooth, dentists should not replace the tooth. This is because replacing the tooth and the associated healing response may interfere with development of a permanent tooth. For loss of a permanent tooth, the athlete should act quickly, the sooner the tooth can be placed back in the socket, the better the chances of survival.
- Pick up the tooth by the chewing surface (crown) not the root, to avoid damage to the tooth.
- Gently rinse the tooth with clean water or saliva to remove any dirt and immediately place it back into the socket if possible, holding it there with a clean finger or by gently biting down.

- Current guidelines suggest getting in to see a dentist for an emergency appointment within 30 minutes, if possible. Sometimes the tooth will still survive even if it has been out of the mouth over an hour.
- Teeth need to be kept moist. If you cannot put the dislodged tooth back and need to transport it to the dentist appointment, it's best not to wrap it in cloth or tissue paper.
- After rinsing, put the loose tooth in the athlete's mouth if possible, between the cheek and gum, or carry it in a clean container with the athlete's saliva, milk, or saline (not regular tap water). There are also commercially available "emergency tooth preservation kits," which include a container filled with an approved transport solution.

At the appointment, the dentist will typically X-ray and examine the teeth. They may clean and replant the tooth (if not already done), splint the loose tooth, and then monitor over the ensuing weeks or months to see if the tooth survives.

It is often said that "an ounce of prevention is worth a pound of cure," so while wearing a protective mouth guard during sports may not prevent all dental trauma, it is the most effective way an athlete can reduce their risk of a significant injury.

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