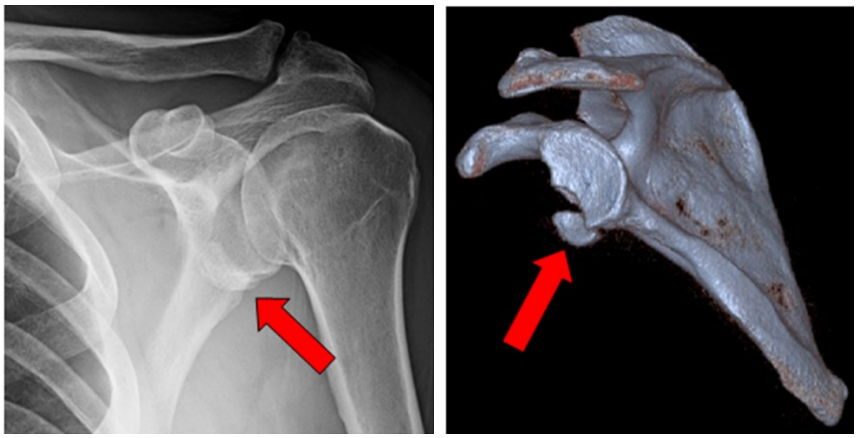
Return to sport test now available following shoulder dislocation surgery

by James Wolf, PT, DPT, OCS



Left, an X-ray of a patient with a bony Bankart facture of the glenoid (socket), secondary to shoulder dislocation. Three-D scan of the same patient, right, more clearly recreates the fracture.

Shoulder dislocations are common injuries resulting from contact sports. Most shoulder dislocations are anterior (moving forward out of the socket). When a dislocation occurs, the soft tissue that stabilizes the shoulder can be torn and the bone that forms the glenoid (socket) also can be fractured resulting in a bony Bankart lesion. The mechanism for injury is frequently diving or sliding head first with the arm overhead. Occasionally this same injury can occur with blocking in volleyball or basketball. The shoulder can "pop" back in on its own right away, or you might need to have a doctor manually move it back into position (reduction). Regardless of how the injury happens or if it reduces on its own, you need to seek medical attention for a proper evaluation and diagnosis.

Once you have dislocated your shoulder, you are at much higher risk to dislocate it again. People with frequent shoulder dislocations are said to have an unstable shoulder. They can become apprehensive about certain activities due to fear of recurrence. These injuries, or even apprehension of re-injury, can lead to difficulties in sports participation or lifting and reaching tasks at home. Multiple dislocations can lead to increased risk of severe joint injury, which may require a more complex surgery and increases the risk for post-traumatic arthritis.

Risk of a second, or subsequent shoulder dislocation is dependent on age and activities. If your first dislocation happens after age 40, you don't play contact sports and you don't do much overhead throwing, then your risk of re-dislocation is five to 10 percent. However, if you are a young athlete under age 30 who participates in contact or overhead throwing sports, then your risk of a second dislocation is much higher—near 100 percent. Additionally, every subsequent dislocation is associated with further injury to the labrum, cartilage and bone of the shoulder joint.

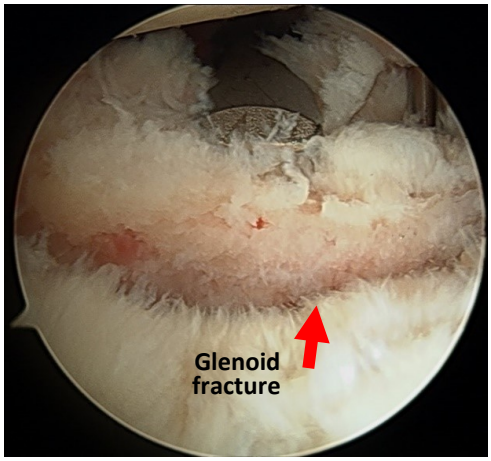
Given the high rates of re-injury after a first dislocation, and the increased risk for poor outcomes with reoccurrence, the current standard of practice is to recommend surgery for a young athlete after

Continued on next page

Continued from previous page

a first time dislocation. Typically, this would be a surgical procedure called a Bankart repair. The goal of surgery is to repair the damaged structures and stabilize the shoulder to prevent further instability or dislocations. This may involve labrum (Bankart) repair, capsular ligament repair, or glenoid bone fracture repair.

Dr. Chudik performs arthroscopic surgery using a camera that allows him to view the shoulder through small incisions and repair the labrum, capsular ligaments or glenoid fracture. Dr. Chudik reattaches the torn labrum, capsular ligaments or the bony fractured fragments by placing absorbable anchors with sutures in the glenoid, passing the sutures connected to the anchors through the fragment and pulling it back into proper alignment. He then ties the sutures to repair the injured structures. In cases with a larger fracture, it may be necessary to stabilize the fracture using screws to restore the glenoid socket.



Like any surgery, the road to full recovery after a Bankart repair is not quick. Following surgery, patients are in a sling for six weeks and continue physical therapy and training for four to six months. The risk of an additional dislocation after a Bankart repair ranges from four to 19 percent. While this is certainly much better than almost 100 percent risk without surgery, we are striving to do even better than that.

One key to reducing this risk is to ensure full recovery of shoulder strength, range of motion, and dynamic stability before an athlete returns to sport. Building on the success of the ACL functional capacity evaluation (FCE), Dr. Chudik and the OTRF sports performance team developed a similar test for patients who had arthroscopic Bankart repair surgery.

According to Dr. Chudik, although there have been many technical advances in arthroscopic Bankart surgical repair and post-operative rehabilitation, there still remains a significant re-injury rate which most surgeons consider to be related to the strength of the repaired tissues. However from personal observation and experience, Dr. Chudik has seen increased performance and possibly joint awareness following a more advanced, progressive balance and stability training program.

With this in mind, the OTRF team felt it was necessary to create an advanced shoulder dynamic stability training program and shoulder FCE. This would help ensure the athlete regained better

Continued on page 8

FCE shoulder exam

Continued from page 7

strength, stability and position sense, and had the best opportunity to pass the FCE and also return without re-injury.

"We've been using the training program and FCE since the spring of 2017 and it definitely helps us identify specific deficits and weaknesses that may remain," Dr. Chudik explained. "It works like the ACL test and it provides us with simple 'PASS' or 'FAIL' grade to let us know if the athlete is ready to return to sport."

Orthopaedic Surgery & Sports Medicine
Teaching & Research Foundation

Shoulder strengthening, conditioning program following RCR surgery

Whether played on the beach or in the gym, volleyball's popularity continues to grow. It ranks second in global participation behind soccer. Incorporating an in-season, plyometic strength and conditioning program into players' training routines will improve endurance and power for both men and women while helping to prevent injuries commonly associated with the sport—ankle and anterior cruciate ligament (ACL) sprains, patellar tendinitis (jumper's knee) and shoulder tendinitis.

Dr. Steven Chudik, orthopedic surgeon and sports medicine physician with the Steven Chudik Sports Medicine Injury Clinic and founder of the Sports Medicine Teaching/Research Foundation (OTRF), along with Larana Stropus, MS, ATC/L, and Keith Tesch, CSCS, CNT, developed a research-based, in-season exercise program designed specifically for volleyball. It reinforces proper jumping and landing mechanics, helps maintain jumping power throughout the season and reduces the likelihood of knee injury and overuse shoulder injuries. It also will help keep athletes from missing training and/or competition because the program targets areas that account for more the majority of volleyball injuries, as reported in published orthopaedic studies.

This in-season program begins with a dynamic warm-up—research shows benefits over static stretching—followed by only five different exercises with medicine balls alternating exercises every other day. The goals of the program are:

- To be easy to incorporate into a busy in-season schedule
- Avoids overuse by limiting repetitive movements
- Builds and maintains muscle mass without overloading the joints
- Limits the amount of additional jumping on hard surfaces

Common volleyball injuries

- Shoulder multidirectional instability (MDI): shoulder instability and discomfort result from laxity (looseness) of the supporting ligaments of the glenohumeral (shoulder) joint aggravated by repetitive overhead use of the shoulder.
- Rotator cuff tendinitis and impingement: an overuse injury caused by repeated contact of the rotator cuff tendons on the underside of the coracoacromial arch (bony and ligamentous roof of the shoulder).
- Suprascapular neuropathy: pain and weakness of shoulder results from compression or traction to the suprascapular nerve from repetitive overhead activity.
- Jumpers knee (patella tendinosis): pain and tenderness in the patella tendon where it attaches to the lower end of the patella resulting from repetitive jumping and overuse
- ACL tear in the knee (anterior cruciate ligament): typically caused by a jump landing on one leg.
- Ankle sprain: tearing of ligaments off the ankle joint after "rolling" the ankle

Precautions

As with any exercise program, it is essential to maintain proper technique during the warm-up and exercises to receive maximum benefits and prevent injury. Professional coaching on overhead and landing mechanics also can further reduce the risk for injury.

1010 Executive Court · Suite 250 · Westmont · Illinois · 60559 · 630-794-8668

Similar to the ACL functional capacity evaluation, Dr. Chudik and the OTRF Sports Performance Team are investigating this new test and hope to determine whether or not it helps reduce the re-injury rate.

Additionally, OTRF created a return to sport training *Upper Extremity Advanced Strength and Conditioning Program* designed for the final stages of rehabilitation after a shoulder injury. It is for athletes who have good strength and range of motion, but still need a little more work on dynamic shoulder stability. For information on the return to sport FCE testing, please contact Dr. Chudik's office at 630-324-0402 to schedule an appointment or go online to http://www.stevenchudikmd.com/schedule-online/.

Low rate of return to sport

Continued from page 2

Dr. Chudik and his OTRF sports performance team have developed return to play tools/evaluations to provide objective measures to determine when return to sport is safe following arthroscopic and open knee or shoulder surgery. This provides an objective measure for both the athlete and Dr. Chudik to know when it safe to return and also what else needs to be worked on if the athlete fails to pass the exam.