

Review of Posterior Shoulder Instability

In this article, a surgeon from the University of Michigan Medical School presents a review of a shoulder condition known as posterior instability. The term posterior instability tells us the shoulder has too much slide, glide, or movement backwards. Subluxation (partial dislocation) and even complete dislocation are often the end results of posterior instability.

Another name for this condition is glenohumeral instability. Glenohumeral refers to the shoulder joint where the round head at the top of the humerus (upper arm bone) inserts into the glenoid fossa or shoulder socket.

Incidence, cause, evaluation, diagnosis, and treatment of posterior glenohumeral (shoulder) instability are the main topics. Specific clinical and imaging tests are discussed. Conservative care and surgical management are also included.

The basis for this information comes from 107 studies on the topic published between 1950 and 2010. Shoulder instability is a fairly common problem, especially among athletes but also in the general population. Most of the time, the shoulder moves too much forward (anterior instability). Posterior instability is much less common accounting for only up to 10 per cent of all shoulder instabilities.

The main cause of posterior shoulder instability is overuse or trauma (fall, injury). Repeated motions in athletes who participate in overhead throwing actions, swim, or lift weights commonly contribute to posterior shoulder instability. Volleyball players, football players, and tennis players are also at increased risk for this problem.

Damage to the soft tissue around the shoulder (e.g., capsule, ligaments, rotator cuff, labrum) contributes to the problem. And it doesn't take much to create instability since the shoulder socket is shallow enough to allow for all the movement we need to move the arm around in a complete circle.

There are lots of ways to describe or classify posterior shoulder instability. Some of the different methods include by degree (mild to severe), direction (single or unidirectional versus multidirectional), mechanism of injury, and by timing (acute versus chronic).

Mechanism of instability tells us whether there was an injury or if the person might have had some abnormal anatomy contributing to the problem. Soft tissue laxity, unusual angle of the humeral head as it sits inside the fossa, or an excessively shallow socket may be factors leading up to the problem of instability.

How do you know if you have posterior shoulder instability? A very telling symptom is movement of the humeral head backwards either partially or fully out of the socket. Aching pain along the back of the shoulder is common.

But a true tell tale sign is the posterior drawer test. Pain and symptoms of instability are seen when the shoulder is flexed (bent forward), elbow bent to 90 degrees, and palm facing down. An examiner applies pressure over the shoulder in a downward motion to feel for any movement called translation which should not be present.

Follow-up imaging studies such as X-rays, CT scans, and MRIs may be ordered. Each one of these tests offers a little different piece of information. X-rays show the bone anatomy, any defects in the bone, and the condition of the joint space. Other types of imaging studies give the surgeon an idea of the size and shape of

the shoulder socket as well as any disruption in the soft tissues.

Once the diagnosis has been made and all the information gathered about the instability, then treatment can be planned. Most of the time, conservative (nonoperative) care is tried first.

Three to six months of Physical Therapy (aided by a home exercise program) is the first-line of treatment. The therapist identifies which muscles to strengthen and helps the patient regain normal rhythm of motion and motor control. This is especially important with the coordination of movement between scapula (shoulder blade) and humerus (upper arm).

If the instability persists, then surgery may be needed. There are some cases where surgery is recommended right away. This plan of care is most likely when there has been a traumatic injury. Damage severe enough to alter the bone or pull the soft tissues away from the joint may require immediate surgical intervention.

The type of surgery done depends on all the factors reviewed when classifying the lesion. For example, the surgeon may repair a torn labrum (fibrous rim of cartilage around the shoulder socket). Or it may be necessary to reconstruct the head of the humerus. Bone grafting, tightening the posterior capsule, or wedge osteotomy (to change the angle of the humeral head or shoulder socket) are additional types of surgery performed for posterior shoulder instability.

Some patients just aren't good candidates for surgery. This includes people with uncontrolled seizures (even with medication) and folks who don't follow their Physical Therapist's advice or who don't do their exercises. The postoperative rehab program is long and requires daily attention.

After surgery, patients can expect six weeks in a sling and an exercise program no less than three months long. Athletes or patients with work duties that require specific arm motions can count on a full year of rehab.

Reference: Eric Tannenbaum, BS, and Jon K. Sekiya, MD. Evaluation and Management of Posterior Shoulder Instability. In Sports Health. May/June 2011. Vol. 3. No. 3. Pp. 253-263.