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ELDER CARE

A Resource for Interprofessional Providers

Four Common Shoulder Problems in Older Adults

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Shoulder pain is common in older adults. The four most common shoulder problems are (1) rotator cuff tendinitis or impingement, (2) rotator cuff tear, (3) osteoarthritis, and (4) frozen shoulder. While distinguishing these syndromes from one another may be difficult, deciding on the best treatment for each problem also presents a challenge. In addition to inferior biologic healing tendency of musculoskeletal tissue with increasing age, older adults often have comorbidities or concomitant pathologies that can decrease healing potential, thus making treatments more challenging.

This issue of Elder Care discusses those four common shoulder problems in older individuals and provides recommendations on how to diagnose them. In addition, common treatment options appropriate for older patients are also discussed.

Rotator Cuff Tendinitis or Impingement

Patients with rotator cuff tendinitis or impingement often notice pain when reaching overhead, such as when putting on a sweater or placing a dish in a cupboard. They may also find it painful to sleep on the affected side. Examination shows full passive and active range of motion, but active motion may be painful at the extreme end ranges. Patients may have pain with shoulder abduction, most typically between 60-120° of the arc. Plain x-rays should be obtained and may show an offending bone spur on the undersurface of the acromion. An MRI is the best test to visualize tendons of the rotator cuff and should be obtained if surgical repair is being considered.

Treatment options consist of both non-operative and surgical treatment. Non-operative treatment is the preferred initial treatment strategy and involves icing the shoulder for 15-20 minutes 2-3 times daily, non-steroidal anti-inflammatory drugs (NSAIDs) as needed, and physical therapy that focuses on range of motion, centering of the humeral head in the glenoid cavity, and rotator cuff strengthening. Corticosteroid injections are also helpful, although they sometimes only provide transient pain relief without long-term benefit. In selected cases of recalcitrant tendonitis, platelet rich plasma (PRP) injections may be beneficial. Surgery may be considered for patients who do not respond to these measures.

Rotator Cuff Tear

Older adults are three times more likely to experience rotator cuff tears compared to younger individuals. Patients with this condition often present with pain over the lateral deltoid, particularly at night. They may also have weakness and are typically unable to lift even small (2 lb) weights overhead. Normal motion of the shoulder, however, does not preclude a rotator cuff tear. In fact, subtle weakness and pain may be the only signs.

In patients with massive tears, physical examination may demonstrate “lag sign” and/or have a positive “drop arm” test. The “lag” sign is the difference between passive range of motion, which is typically unrestricted, and active range of motion, which is limited. For the “drop-arm” test, the patient’s shoulder should be passively abducted to 90 degrees. With the arm at shoulder level, the patient is then asked to keep the arm in that position as the examiner lets go. If the patient is unable to support the arm and the arm drops, a large or massive rotator cuff tear is likely.

With larger tears, plain x-rays will show upward displacement of the humeral head. MRI is the most accurate imaging modality, however, and will not only demonstrate the size of the tear but also the degree of muscle atrophy and fatty infiltration, all of which affect the prognosis for successful surgical repair.

Conservative management with physiotherapy and corticosteroid injections can be attempted, however, functional limitations and pain are likely to persist. Surgical management is another option for these patients.

Excellent clinical results have been shown following rotator cuff repair in elderly patients, despite concerns about re-tear rate and low bone density. The best results are achieved when acute rotator cuff tears are repaired surgically within 6 weeks of injury.

Treatment for chronic and massive/irreparable tears are more challenging, and depend on the activity level of the patient. While a partial rotator cuff repair may be attempted, large/irreparable tears can be treated with a procedure called superior capsule reconstruction (SCR).

TIPS FOR EVALUATING SHOULDER PROBLEMS IN OLDER ADULTS

- If pain occurs at 60-120° of abduction, a rotator cuff problem - either tendinitis/impingement or a tear – is the likely diagnosis.
- Passively abduct the patient’s arm to 90° and ask the patient to hold the arm in that position when you let go. If the arm sinks (positive drop-arm sign) or there is weakness, rotator cuff tear is the likely diagnosis. Obtain MRI to confirm rotator cuff tear. Acute complete tears should be repaired within 6 weeks of injury.
- If crepitus or grinding occurs when moving the arm against resistance, osteoarthritis is the likely diagnosis.
- If both active and passive movement is restricted, frozen shoulder or osteoarthritis are the likely diagnoses. X-ray can help distinguish between the two conditions.

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SCR uses donor tissue to realign the humeral head. It preserves the joint while still providing excellent function and pain relief. SCR is ideal for patients who want to postpone or even avoid total shoulder arthroplasty. More information about SCR, including a video, can be found on the website listed in the references/resources list.

Less active patients, or those who also have osteoarthritis in the shoulder, can be treated with reverse total arthroplasty (RTSA). RTSA is a shoulder joint replacement procedure that uses the deltoid muscle, rather than the rotator cuff, to align and move the humerus. Compared to the rotator cuff repair and SCR, recovery may be faster. More information about RTSA, including a video, can also be found in a link on the references/resources list.

Preliminary studies have shown improved healing of rotator cuff muscles using biologic agents such as platelet-rich plasma (PRP) and others. While more research is needed before these agents can be considered standard care, an application of PRP as an adjunct can be discussed with the elderly patient, particularly in cases associated with inferior biology such as chronic rotator cuff tears or revision surgery.

Osteoarthritis

Osteoarthritis of the shoulder often presents with posterior shoulder pain that can extend to the muscles of the arm. Patients may feel pain and crepitation or grinding when lifting objects. Examination shows loss of both active and passive motion, sometimes with audible or palpable crepitus during movement against resistance. Strength is usually preserved, though limited by pain. Plain x-rays show osteoarthritic changes such as joint-space narrowing, sclerosis, and bone spurs on the glenoid and humerus.

Non-operative treatment consists of ice, NSAIDs, acetaminophen,

and corticosteroid injections. Surgical treatment includes both joint-preserving options and total shoulder arthroplasty. For highly active individuals the comprehensive arthroscopic management (CAM) procedure is an ideal treatment option (see link to video in reference/resources list). This approach not only preserves the joint, but also offers pain relief, improves function, and delays arthroplasty by comprehensively addressing the pathology in the glenohumeral joint. Total shoulder arthroplasty is also an effective treatment for this condition and has shown a high rate of return to various recreational sporting activities postoperatively.

Frozen Shoulder

Patients with frozen shoulder have stiffness and difficulty with all motion. Both active and passive motion are severely limited, distinguishing frozen shoulder from the other conditions discussed thus far. Patients often cannot put on a coat or scratch their back and are unable to touch their scapula from above or below. Plain x-rays should be obtained but are typically normal and show a preserved joint space.

Physical therapy is crucial for patients with frozen shoulder. Most patients will improve with physical therapy focusing on range of motion and strengthening as well as anti-inflammatory medication. In the inflammatory stage of the pathology, systemic intake of corticosteroid may favorably influence the course of the disease. Corticosteroid injections into the glenohumeral space as well as the subacromial space are beneficial as well. If function does not improve, patients can undergo surgical treatment to break up the scar tissue and adhesions. The most common option is an arthroscopic capsular release with manipulation under anesthesia, to target scar tissue and restore mobility of the shoulder.

References and Resources

WEBSITES/VIDEOS

American Academy of Orthopedic Surgeons. Reverse Total Shoulder Replacement <https://orthoinfo.aaos.org/en/treatment/reverse-total-shoulder-replacement/>.
The Steadman Clinic. Superior Capsular Reconstruction. <https://drmillett.com/massive-rotator-cuff-tear-ascr-arthroscopic-superior-capsular-reconstruction-procedure/>.
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