

# Glenohumeral Arthritis

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## What is glenohumeral arthritis?

Simply put, the glenohumeral joint is the shoulder joint, and arthritis is the loss of articular cartilage. There are varying stages of this condition, with different treatments depending on the severity of the arthritis. See figures 1a and 1b.

Figure 1a



Figure 1b



## What treatments are given?

As with all shoulder conditions, we first offer a course of non-operative care. Depending what treatments have been previously given, this may include non-steroidal anti-inflammatory medications, relative rest from the activities that aggravate the condition, and other activity modification. Often, patients have already tried many of these, with varying results, and we then offer other treatment modalities. Before any further treatment, however, we will obtain plain Xrays of the shoulder, to aid in the diagnosis of glenohumeral arthritis, and to evaluate the severity of the arthritis.

One of the treatment modalities we recommend is physical therapy. In the case of arthritis, the goal of therapy is to maintain the shoulder motion a patient already has, and to help strengthen the shoulder musculature, including the rotator cuff, that may be deconditioned from decreased use due to pain. The most successful portion of therapy is a home program that patients are taught, and when done on a regular basis, can be quite helpful in achieving the treatment goals.

Another treatment we offer is a cortisone injection. Cortisone is an injectable anti-inflammatory medication which is often very effective in helping with pain relief. In glenohumeral arthritis, we inject

the cortisone directly into the shoulder joint, where the medication can help decrease the inflammation, and thus decrease the pain, associated with the arthritis. If an injection is effective, some patients may request a repeat injection. We feel that a second injection and possibly a third may also be beneficial, but any more than three injections may actually cause some harm. Too much cortisone in the shoulder joint may actually cause the rotator cuff tendon to weaken, and may cause some further problem with the cartilage.

Finally, if nonsurgical treatments fail, or become less effective over time, we may offer surgical treatment. Surgery is reserved for patients who are experiencing pain on a regular, if not constant basis, who have limited ability to use the shoulder, due to pain or loss of motion, and whose quality of life has decreased to the point where they would consider surgical intervention.

## What are the surgical treatment options?

The basis for surgical treatment of arthritis is to remove the arthritis, and replace it with biologic, metal and/or plastic parts to help regain function of the joint. Hip and knee replacements are quite common, and shoulder replacement is becoming more common. In the past, shoulder replacement surgery has been more difficult, with less predictable results, but over the last two decades, technology and technique of shoulder surgery have significantly improved, and now we can offer shoulder replacement surgery with more reliable outcomes.

Each patient who elects to undergo shoulder replacement is evaluated on the basis of the arthritis and the rotator cuff. When the patient's arthritis is severe, throughout the entire joint, a total shoulder replacement is the best treatment option, if that patient has a functioning rotator cuff. See figure 2. In this case an incision is made on the anterior shoulder, carefully sparing the muscles of the shoulder and the shoulder joint is approached. The tendon of the front rotator cuff muscle (the subscapularis) is cut to get into the shoulder joint. This is repaired back to the bone at the end of the procedure. We remove the arthritic humeral head, and replace it with a metal ball. The ball is attached to a stem that is put down inside the humerus for stability. The glenoid (cup) is also prepared. Here, the arthritis is also removed, and the glenoid is resurfaced with a plastic cup.

If the patient has severe arthritis, but has a large, non-repairable rotator cuff tear, the best treatment option may be a reverse total shoulder replacement.



In some patients, the arthritis is localized to one side of the joint, either the humeral head (ball) or the glenoid (cup) side. In these cases, the surgery may be less involved, but still involves removing the arthritis and resurfacing the joint. In isolated humeral head arthritis, we approach the joint in the same way, and will often do a hemiarthroplasty, or partial shoulder replacement. This can involve placing a similar ball and stem as the total shoulder, or in young patients, with stronger bone, it may involve placing a "hemi-cap," which is a metal cap shaped like the humeral head, over the arthritic area. Figures 3a and 3b.

Figure 3a



Figure 3b



When the arthritis is isolated to the glenoid (cup) side, this may be approached in an open, similar fashion, to the total shoulder, or in select patients, it may be approached arthroscopically. In either case, the glenoid is prepared by removing the arthritis, and a biologic implant, such as a meniscus allograft or a dermal patch, is shaped to the glenoid and secured in place with anchors similar to the ones used for labral repair.

## What is the post-operative protocol?

Post-operatively, patients are placed into a sling and advised to do only gentle pendulum exercises. Each patient is admitted to the hospital overnight, and will stay from one to two days. At home, patients use a continuous passive motion (CPM) machine as tolerated to help with motion and pain. No active motion is allowed, to protect the repaired subscapularis tendon, and allow this to heal. Patients return to the office between 10 and 14 days for a wound check, suture removal, and at that time, physical therapy is prescribed. For the first six weeks patients focus on passive and active assisted motion, and at six to eight weeks after surgery, active motion is started with some gentle strengthening. If all goes as anticipated, the total recovery time is between three to four months. Unfortunately, some patients have some postoperative stiffness, or even other problems, which may increase the time of recovery.

Xrays are taken at the first postoperative visit, as a baseline, and again at three and six months after surgery followed by yearly on the anniversary of the surgery. These xrays are taken yearly to ensure that the shoulder replacement remains in good position, without failure. If there is evidence of early failure, the xrays will help us see this, and any repeat surgery that may be necessary is less complex and has a better recovery time.

We have studied the outcomes results of large numbers of patients who underwent total shoulder replacement. In doing so, we have found that most patients (90%-95%) are very satisfied with their results in regards to pain relief and improved function. Most of the remaining patients (who are less satisfied), still have an improved result, but are not fully satisfied because they may have some residual pain or decreased motion.

Our goal at Northwest Orthopaedics is to provide high quality care, both non-surgical and surgical, that will allow patients to experience pain relief and regain lost function resulting in the improvement of their quality of life. Through state of the art care, our ultimate aim is to facilitate our patients' return to a satisfactory level of function.