



ROTATOR CUFF ARTHROPATHY

Definition:

A condition of the shoulder that consists of arthritis associated with an irreparable rotator cuff tear. This condition usually occurs in older individuals and results in a painful shoulder with loss of motion and strength. Often, individuals can not raise the arm to shoulder level making it difficult to perform routine activities of daily living including personal hygiene. This condition can be the result of degenerative conditions of the bone and rotator cuff as well as after fractures, failed rotator cuff surgery or failed partial/ total shoulder replacements.

Treatment options:

Non-operative treatment includes anti-inflammatory medications (ibuprofen, naproxen, diclofenac), physical therapy exercises to improve motion and strengthen the remaining healthy muscles around the shoulder and possibly an occasional steroid injection to decrease pain.

Operative treatment depends on the age of the individual, range of motion and strength of the shoulder and imaging studies including x-rays, CT or MRI scans. Individuals younger than 65 to 70 years of age with good motion, satisfactory strength and remaining joint space on x-rays, may respond to arthroscopy. Patients less than 50 years of age may be a candidate for a muscle/tendon transfer. If there is significant loss of joint space, then a partial joint replacement of the shoulder may be a better option. In older individuals with significant loss of motions and weakness, a reverse shoulder replacement may be the only option with predictable pain relief and improvement of function. A standard total shoulder replacement is not an option because the total shoulder requires a functioning rotator cuff for stability and function. The reverse total shoulder reverses the ball and cup position and allows the deltoid muscle to compensate for the rotator cuff deficiency.

Reverse Total Shoulder Replacement:

The surgery involves making an incision in the front or side of the shoulder. The surgery lasts 2-3 hours and requires a nerve block of the arm and general anesthesia. A metal stem with a socket is placed in the upper arm with or without bone cement and a ball is secured to the patient's own socket with screws (see Figure 2). The patient is placed in a sling with a pillow after surgery and wears this for 4-6 weeks except for planned



exercises. A shower may be taken when the incision is dry which is usually 48-72 hours.

Physical therapy begins the first day after surgery and continues as an outpatient 2-3 days a week for 6-12 weeks. The patient is usually discharged the second day after surgery. A blood transfusion is usually not needed unless the patient has pre-existing anemia (low red blood count).



The expected result of surgery is significant improvement of pain. The ability of the patient to use the arm and shoulder for routine of activities of daily living including personal hygiene is usually much improved with the goal of the patient reaching the top of their head.

Complications of Reverse Shoulder Replacement are similar to other joint replacements and include: dislocation of the prosthesis, loosening of prosthesis over time, fracture of bone around the prosthesis requiring placement of wires, screws or plates, infection requiring repeat surgery and possible removal of the prosthesis, nerve or vessel injury, and blood clots in the arm or lung. The reported complication rate of the Reverse Shoulder Replacement is higher than the standard shoulder replacement but often is the only surgical option remaining for the patient seeking an improvement of the quality of life.

Post-operative physical therapy for Reverse Total Shoulder Replacement:

Phase I: Weeks 1-4

- sling with abduction pillow except during planned exercises
- scar massage, decrease swelling of extremity, modalities and muscle stimulation
- no range of motion of shoulder unless instructed by physician; patient may dangle arm and do active range of motion and strengthening of elbow, wrist and hand;
- isometric strengthening of shoulder and arm to include deltoid and parascapular muscles

Phase II: Weeks 5-8

- discontinue sling
- active and passive range of motion as tolerated
- continue isometric strengthening
- precaution: do not use extended arm to rise from seated position

Phase III: Weeks 9-12

- continue range of motion as tolerated
- isometric and isokinetic strengthening
- gradual return of activities of daily living and recreational activities as directed by physician

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