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Rotator Cuff Arthropathy (are-throp'-a-thee)

By: David J. Gibbons, MD

What is rotator cuff arthropathy?

A condition of the shoulder that involves both a massive rotator cuff tear and debilitating arthritis with loss of cartilage. The failure of the rotator cuff causes the humeral head (ball) to lose its normal orientation on the glenoid (cup) and become "high-riding." Figure 1. This is different from osteoarthritis of the glenohumeral (shoulder) joint. As a different disease process, the treatment may seem similar, but is actually quite different.

Figure 1

What are the causes?

- The rotator cuff muscles may be torn due to an injury (fall, accident), aging, overuse (sport or occupational) or severe arthritis.
- Rotator cuff tears that go untreated can also lead to arthritis as the lack of muscular support allows the bones to rub against each other.

What are the symptoms?

- Severe shoulder pain with rotation and lifting of the arm
- Pain can radiate down the arm to the hand or even up into the neck
- Often inability to lift arm above chest level
- Weakness of the arm

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What treatments are available?

Non-surgical treatments are available, and for selected patients, these may be effective for varying periods of time, from weeks to months to even years. Most non-surgical treatments focus on physical therapy. The goal of therapy in rotator cuff arthropathy is not to strengthen the rotator cuff, because of the large tear. Rather, the goal of therapy is to maintain as much motion as possible, as well as helping strengthen the muscles around the rotator cuff to help with shoulder function.

Along with therapy, we will often offer a cortisone injection. This injection is a local anti-inflammatory agent used to help with pain control. When the injection is effective, we will offer a second and sometimes a third injection, at intervals of three months apart. In this case, the rotator cuff is already weakened beyond reparability, but if too much cortisone is given (more than three injections), it can potentially weaken the bone, or have other side effects.

If non-surgical treatments fail, or become ineffective over time, surgical options are available. In the past, these focused on the debridement (cleaning the torn edges) of the rotator cuff tendon, or on shoulder hemiarthroplasty (partial shoulder replacement). These treatments are still used in selected patients, but the results can sometimes be unpredictable. For the appropriate patient, a reverse total shoulder replacement may be offered.

What is a reverse total shoulder replacement?

As shown in the pictures (Figure 2a and 2b), the reverse total shoulder changes the anatomy of the shoulder. In a normal shoulder, the ball (humeral head) is on the humeral side of the joint, and the cup (glenoid) is on the shoulder blade side of the joint. With the reverse total shoulder, after the arthritis is removed, the ball (glenisphere) is placed on the shoulder blade (glenoid) side of the joint, and the cup (plastic) is placed on the humeral side of the joint. This allows the deltoid (the big muscle of the shoulder) to “take over” for the non-functioning rotator cuff, to lift the arm, improving shoulder function.

Figure 2a

Figure 2b

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When is a reverse total shoulder replacement used?

- Non repairable massive rotator cuff tear arthropathy.
- When pain and immobility prevent even minimal activities of daily living
- Failed previous shoulder surgery or replacement.

Advancements in technology continue to revolutionize medicine. Surgery is now more precise and more specialized than ever before resulting in streamlined procedures, improved outcomes, and shorter recovery time.

Shoulder surgery represents just this kind of specialization. Thanks to a new prosthesis and new surgical techniques, shoulder surgery has become a boon to patients by dramatically reducing pain and discomfort and returning substantial movement to the shoulder.

Over 14 million people a year visit doctors for shoulder problems. In the last decade, shoulder surgery technology and techniques have made significant advancements, and now surgeons are able to treat conditions that were considered inoperable not very long ago. Rotator cuff arthropathy is one of these conditions.

We have studied the outcomes of patients who received reverse total shoulder arthroplasty, and have found that the large majority of patients attain excellent pain relief, have improved function, and are satisfied with their post-operative result.

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.

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