

Case 2

Rotator Cuff Arthropathy



Patient Information

- » **Patient Name:** Jane Smith
- » **Date of Birth:** 07/15/1965
- » **Gender:** Female
- » **Patient ID:** 2048573021
- » **Admitting Physician:** Dr. Thomas Grant, MD

Admission Information

- » **Admission Date:** 10/28/2023
 - » **Visit Type:** Inpatient
 - » **Admission Diagnosis:** Right shoulder rotator cuff arthropathy with posterior glenoid wear (B2)
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Clinical Indication

- » **Reason for Surgery:** Right shoulder pain and limited movement due to rotator cuff arthropathy and posterior glenoid wear
 - » **Planned Procedures:** Right pectoralis major release, augment reverse total shoulder arthroplasty, biceps tenodesis
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History and Physical (H&P)

- » **Chief Complaint:** Right shoulder pain with restricted motion
 - » **History of Present Illness:** Patient reports a gradual increase in shoulder pain over the past year, limiting ability to perform daily tasks. Pain exacerbated by movement and unresponsive to conservative treatment.
 - » **Past Medical History:** arthritis
 - » **Surgical History:** Left knee replacement in 2018
 - » **Family History:** Mother (osteoporosis), Father (cardiovascular disease)
 - » **Social History:** Non-smoker, denies alcohol use, retired
 - » **Physical Exam Findings:**
 - » **Vitals:** BP 135/85, HR 78, RR 16, Temp 98.1°F
 - » **General:** Alert, oriented x3, in mild distress due to shoulder pain
 - » **Musculoskeletal:** Right shoulder with limited range of motion, tenderness, and moderate swelling
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Orders

1. **Preoperative Preparation:** NPO after midnight, IV fluids, Type and Cross for blood
 2. **Anesthesia:** Sedation and upper extremity block
 3. **Pain Management:** Morphine 2 mg IV PRN for pain, Tylenol as needed
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Operative Report (10/29/2023)

- » **Procedure(s):**
 - » Right shoulder pectoralis major release
 - » Right augment reverse total shoulder arthroplasty
 - » Biceps tenodesis
 - » **Diagnosis:** Right shoulder rotator cuff arthropathy with posterior glenoid wear
 - » **Surgeon:** Dr. Michael James, MD
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Postoperative Diagnosis(es):

- » Same
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Operative Procedure(s):

- » Right shoulder pectoralis major release
 - » Right augment reverse total shoulder arthroplasty
 - » Biceps tenodesis
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Implants

- » Tornier reverse total shoulder arthroplasty #2B non cemented stem, 6 mm Polyethylene spacer, 36 mm + 3 mm lateralized glenosphere, 25 mm baseplate with 15 degree wedge (performed glenoid)
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Description of Procedure:

- » **Right shoulder pectoralis major release:**
- » A standard deltopectoral approach was utilized. We incised the clavipectoral fascia, developed a space under the conjoint tendon and inserted a link retractor, spacer developed underneath the deltoid and the subacromial space. We then identified the biceps tendon which was significantly adherent and partially torn at the level of the bicipital groove. This was unroofed from distal to proximal through the rotator interval. I was unable to externally rotate the shoulder due to extensive osteophyte or exostosis around the humeral head. For this reason, a pectoralis major release was performed. A partial release of the pectoralis major tendon was performed. This was then repaired at the end of the procedure. A 5 mm stump of tissue was left for repair and a figure-of-eight Maxon suture was used to repair the tendon at the completion of the case.
- » **Reverse total shoulder arthroplasty:**
- » Next, the humerus was prepared by first releasing the subscapularis. The subscapularis was very unhealthy with extensive fatty atrophy and a repair was not possible. The supraspinatus was torn, retracted, and had a similar appearance. The subscapularis tendon was extremely thin and demonstrated evidence of severe degenerative changes.
- » The humerus was gradually externally rotated. The interior capsule was released, and the humerus was exposed. We then determined the superior entry point on the humeral head and inserted the version guide which was dialed in to 20° of retroversion based on the forearm. A saw was then used to make the proximal humeral cut and the humeral proximal metaphysis was prepared. Sounding was performed on the proximal humerus and the metaphyseal planer was used to optimize the cut on the metaphysis. The #2 trial component was inserted, and a cut protector was placed over the humerus.

- » Next, glenoid rim retractor was placed behind the glenoid. This was very difficult to achieve due to the tightness in the shoulder. An extensive release was performed. The glenoid retractors were then placed and we were gradually able to achieve sufficient exposure. Based on the preoperative scan, there was approximately 20 degrees of glenoid retroversion. We decided to use a 15 degree posterior augment from the perform glenoid side.
- » The glenoid was just reamed to the subchondral level where there was bleeding bone. The glenoid baseplate was inserted using the 6.5 mm compression screw. The baseplate was then secured with 1 nonlocking compression screw and 3 additional locking screws. Excellent fixation was achieved. I then trialed the humerus with a 6 mm liner. The 6 mm liner fit nicely with appropriate tension and stability.
- » I should also mention that we used pulse lavage irrigation on numerous periods during the case to provide thorough irrigation. The trial stem was removed from the humerus. The area was cleaned with a pulse lavage and then dried with a sponge placed down the humeral diaphysis. The final implant was assembled on the back table, then inserted to 20° of retroversion and impacted into the humeral metaphysis. We then trialed the components and again selected a 6 mm polyethylene insert based on intra-operative tension and stability.
- » **Biceps tenodesis:**
- » Next, the biceps tendon was tenodesed to the pectoralis major which was repaired back to its insertion using the 1 cm cuff of tissue that was left for repair. A #2 Maxon suture was used to repair these structures. The residual proximal biceps tendon, which demonstrated significant tendinopathy, was discarded. A secure biceps tenodesis was achieved.
- » The area was copiously irrigated again with pulse lavage (2.5L). A #1-0 Maxon suture was used to close the deltopectoral interval, #2-0 maximum was used for the subcutaneous layer, and 3-0 The wound was then dressed with Bactigras gauze and a Mefix dressing. The arm was placed in a sling, and the patient was transferred to recovery room in stable condition.

Postoperative Notes

- » **Date:** 10/29/2023
 - » **Pain Level:** Patient reports 6/10 pain, managed with IV acetaminophen and morphine as needed
 - » **Wound Assessment:** Clean, dry dressing, no signs of infection
 - » **Instructions:** Continue non-weight-bearing on right arm. Monitor for signs of infection, maintain sling immobilization
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Progress Notes

Orthopedic Progress Note (10/30/2023)

- » **Subjective:** Patient is experiencing moderate pain in the right shoulder but states it is improving
 - » **Objective:** Mild swelling in the right shoulder, stable dressing
 - » **Assessment:** Postoperative status post-shoulder arthroplasty and biceps tenodesis, stable
 - » **Plan:** Continue pain management, monitor vitals, and prepare for discharge planning
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Nursing Progress Note (10/30/2023)

- » **Patient Status:** Alert, oriented, reports pain of 5/10 with occasional discomfort when moving
 - » **Interventions:** Administered Tylenol as ordered, provided assistance with activities of daily living
 - » **Plan:** Monitor pain, assist with mobility, assess for signs of infection
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Discharge Summary

- » **Date of Discharge:** 11/02/2023
- » **Discharge Diagnosis:**
 1. Right shoulder rotator cuff arthropathy
 2. Status post-augment reverse total shoulder arthroplasty with biceps tenodesis
- » **Discharge Condition:** Stable, pain managed
- » **Discharge Instructions:**
 - » Continue wearing sling at all times
 - » Avoid lifting with the right arm
 - » Follow-up with Orthopedics in one week
 - » Pain management with prescribed oral medications