

# ORTHOARIZONA

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## Reverse Total Shoulder Arthroplasty Protocol

### General . . .

- Primary indications for this procedure include severe degenerative joint disease and rotator cuff insufficiency, irreparable rotator cuff tears (often associated with anterosuperior instability), complex and/or irreparable fractures, or sequelae from revision shoulder surgery.
- The protocol is very patient-specific based not only on the underlying diagnosis but also patient-specific factors (i.e. strength, bone quality, other comorbid diagnoses, et al). Thus, always consult the surgeon, PA, and/or RN with any questions / concerns regarding proper rehabilitation
- Deltoid function is the key to obtaining optimum clinical results with this prosthesis.
- Dislocation of the prosthesis has been reported by the designing French surgeons as the most common complication, often occurring during the first 4-6 weeks postoperatively. These surgeons' experience of minimizing shoulder motion for the first 4-6 weeks to allow time to have the shoulder "heal" and "normalize" in the proper location has been shown to substantially decrease this incidence of postoperative instability. Hence, the rationale for the conservative nature of the first postoperative month of our rehab protocol.
  - The shoulder should also be taken through range(s) of motion while maintaining active deltoid contraction. Thus, active and active-assisted range of motion should always be performed. The shoulder should not be taken through passive stretches, especially at the extremes of motion.
- This is a salvage procedure. Gradual resumption of ADL's is the goal. Thus, a "limited goals rehabilitation program" should be the focus as opposed to our other, more lofty-goaled postoperative shoulder rehab protocols that follow rotator cuff repairs, standard shoulder arthroplasties, et al.

### Postoperative protocol . . .

#### 0-5 weeks

- No shoulder range of motion (active or passive)
  - The arm should be held in a position of "comfort", avoiding the extremes of extension, flexion and rotation
  - The Ultrasling should have the pad prominence anteriorly, avoiding having the arm wrapped tightly against the body in internal rotation
  - Cryotherapy as needed
- Deltoid isometrics as tolerated with the arm in a functional, comfortable position. If the patient has focal acromial-based pain, please contact the MD/PA/RN with this information and avoid deltoid isometrics until this pain has subsided.

- ER and IR isometrics as tolerated with the arm in a functional, comfortable position.
- Elbow flexion and extension prn
- Forearm pronation / supination prn
- Wrist, hand and finger ROM and use prn

5-8 weeks

- Initiate closed-chain AAROM in the scapular plane
  - Emphasize raising the hand in the air rather than shoulder abduction and/or shoulder shrug
  - Start with sliding the hand across a table-top, stretching the shoulder in the scapular plane while maintaining active deltoid contraction. Emphasis is placed on this activity being active, but not “weight bearing”.
  - Progress thereafter with wall slides in the scapular plane with a low-friction cloth between the patient’s hand and the wall. This activity is preferred over pulleys and finger-climbing.
- Decrease the use of the sling prn
- No shoulder CPM
- Progress ADL’s as tolerated
- Avoid weight-bearing through the shoulder.
- Water therapy if available

Thereafter . . .

- Progress AAROM and AROM as tolerated
- Avoid the temptation to passively stretch the Reverse shoulder to improve range of motion.
- Ultimate goals are restoration of ADL’s, improvement in shoulder pain, and improvement in the quality of life.

Reference . . .

### **Results of Reversed Prosthesis in Glenohumeral Joint Arthritis Associated with Rotator Cuff Tear**

Pascal Boileau, MD Nice, France

Presented at the American Shoulder and Elbow Surgeons Annual Meeting, Washington, DC, March 2005.

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Combined glenohumeral arthritis and rotator cuff tear lead to painful shoulder impairment. Non-constrained prosthesis result in limited functional improvement and/or are contraindicated. This study reports results of the Reverse prosthesis in which the principle is to restore shoulder function relying solely on the deltoid muscle.

45 patients were operated consecutively with a Reverse prosthesis and were followed clinically and radiographically at a mean of 38 months (24-72). Three groups were analyzed: osteoarthritis with massive cuff tear (21 cases), fracture sequelae with migration or nonunion of tuberosities (5 cases), and revision shoulder arthroplasty with deficient rotator cuff function.

A significant improvement was found in both forward active elevation (from 55° to 121°) and Constant score (from 17 to 59 points). There was no improvement in active external rotation (7° to 11°) and active internal rotation (S1 to S1). 78% of patients were satisfied and 67% had little or no pain. At last follow up, Constant score and age-adjusted Constant score, sex and ASES score were all significantly better in osteoarthritis with massive cuff tear group than in the revision group (p=0.01, 0.004, and 0.002). Complication and revision rate were higher in the revision group (47% and 26%).

In patients with combined glenohumeral arthritis and rotator cuff tear, the Reverse prosthesis improves function, restores active forward elevation but not active rotations. Improvements are superior in osteoarthritis with massive cuff tears. Results are less predictive and complication/revision rates are higher in fracture sequelae and revision surgery.