Glenoid Exposure for Shoulder Arthroplasty: Technique and Pearls

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1. Background
   a. Glenoid exposure difficult – historically primary reason for hemiarthroplasty over TSA for some surgeons
   b. Arguments not to resurface the glenoid have become less relevant.
      i. Improved glenoid implants
      ii. Low risk of need for revision for aseptic glenoid loosening

2. Advantages of Glenoid Preparation
   a. Allows resurfacing of the glenoid
      i. TSA provides better outcomes than hemiarthroplasty for glenohumeral OA. More reliable pain relief and better ROM (1-4)
      ii. TSA more durable than hemiarthroplasty with need for revision surgery as the endpoint (4,5)
         1. Revision of hemiarthroplasty to TSA produces inferior clinical results (6,7)
   b. Balancing of the Shoulder – combination of asymmetric contracture release, reestablishing the glenohumeral joint line and recreating the boney anatomy with correctly sized and positioned arthroplasty components
      i. Optimizing ROM
         1. Complete subscapularis/anterior capsular releases
         2. Inferior capsular release
      ii. Full capsular release required to restore stability and minimize risk of subluxation

3. Steps to Optimize Glenoid Exposure
   a. Difficulty related to patient size/build and glenoid deformity
      i. Most difficult patients are muscular/stocky males
      ii. Glenoid
         1. Severe medialization
         2. Posterior erosion
   b. Adequate length deltopectoral incision
   c. Release of upper pectoralis major tendon
      i. Facilitates humeral extension
      ii. Aids glenoid exposure
      iii. Helpful for muscular patients
d. Subscapularis management
   i. Subscapularis tenotomy vs peel
   ii. Lesser tuberosity osteotomy
      1. Facilitates glenoid exposure
      2. Lesser tuberosity out of the way
      3. Less tension on axillary nerve to achieve glenoid exposure

e. Glenoid retractors
   i. Small and large bankart retractors
      1. Posterior glenoid retractors placed initially
      2. Arm abducted 70-80 degree
      3. Shoulder externally rotated
   ii. Fukuda retractor – optional posterior glenoid retractor
   iii. Darrach retractor
   iv. Lamina spreader – between humerus and glenoid
      1. Facilitates deep glenoid exposure
      2. Better visualization of inferior capsule for tough cases
f. Anterior capsular release
   i. Complete subscapularis releases
      1. Release rotator interval – all tissues connecting the coracoid to the rolled upper edge of the subscapularis
      ii. Release middle glenohumeral ligament on deep surface of subscapularis
      iii. Knife can be used along anterior glenoid neck to release glenoid origin of the middle glenohumeral ligament
      iv. Next, place posterior glenoid retractors

   g. Inferior capsular release
      i. Release inferior capsule at junction of SSC and lateral glenohumeral ligaments
      ii. Place Darrach retractor over the axillary nerve angled anterior to posterior
      iii. Sharp division of inferior capsule with scissor to the posteroinferior glenoid rim

h. Glenoid exposure
   i. Place large Bankart on anterior glenoid rim
ii. Readjust posterior retractors
iii. Complete labrectomy and removal of long head of biceps
iv. Minimize tension of posteroinferior retractor when possible
v. Tension on the axillary nerve is not fully relieved until BOTH retractor removal and shoulder brought back to neutral position

References: