Total Shoulder Arthroplasty

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Incidence of TSA

– The Number of arthroplasties has slowly increased in the last 10-15 years leading up to 2004

– Then a statistically significant jump occurred in the following years.

– More total shoulder arthroplasties than hemiarthroplasties have been performed annually since 2006

– Approximately 27,000 total shoulder arthroplasties and 20,000 hemiarthroplasties were performed in 2008.
Osteology

- Diarthrodial, ball and socket joint
- Humeral head atop the humeral shaft
- Glenoid socket centered in the scapula
Indications

- Osteoarthritis
  - Idiopathic
  - Post Traumatic
    - Sports, Dislocation, Subluxation, RTC Tears, labral pathology
- Rheumatoid Arthritis
  - Other Auto Inflammatory diseases
- Chronic Irreparable RTC Tear
  - Reverse TSA
- Fracture
  - Hemiarthroplasty
- Tumor
Clinical

• Pain
  • With ROM
  • At rest
  • Night

• Loss of ROM
  • IR first > ER > Abduction and FF

• Crepitation

• Loss of Strength in some cases
Imaging

- Plain X-ray
  - AP, Outlet (Y), Axillary
- MRI
  - Evaluation of the RTC +/- rTSA
- CT Scan
  - Boney deficit of the glenoid
Hemiarthroplasty

- Rarely for 2 part fractures
- Frequently but not always for 3 part fractures
- Almost always for 4 part fractures.

- Poor results in the face of RTC tear.
- Poor results if there is poor healing of the Greater and Lesser tuberosity.
- Can be converted to rTSA, Not a standard TSA
3 Part Fracture
Hemi Arthroplasty
Total Shoulder Arthroplasty

- Significant Glenohumeral Osteoarthritis
- Fracture with pre-existing OA
- Intact and functioning RTC
  - OA with repairable RTC tear
- Reasonably good Shoulder ROM

- Can be revised with component exchange or conversion to rTSA in most cases.
Arthritis
Reverse Total Shoulder Arthroplasty

- Severe OA with Chronic RTC Tear or dysfunction
  - Rotator Cuff Arthropathy
  - Brachial Plexus or Suprascapular nerve injury
  - Severe chronic RTC atrophy
  - Multiply failed RTC repair
  - Intractable recalcitrant shoulder pain

- Limited good long term studies
- Poor options for revision or reconstruction after failed rTSA
RTC Arthropathy
Rehabilitation

- Time required for full recovery is 9-12 months.
- Accelerating rehabilitation for “fast healers” may inhibit results and lead to recurrent problems or complications.
- Patients may never regain full, normal motion, but patients will be encouraged to reach their maximal level of function.
Percautions

• Delto-pectorial Approach
  • subscapularis is detached
  • internal and external rotation protection
• Sling should be worn for the first 48-72 hours.
• After 3 days, sling can be removed for light activity such as desk work.
• Sling should be worn as needed during the day, whenever the patient is active or in an unprotected environment
Early Goals

- Soft tissue healing
- Range of Motion without risking subscapular repair
- Rotator Cuff Strengthening while maintaining stability.
- Global strengthening of the shoulder girdle muscles.
Expected Outcomes

• Relief of pain
• Functional Range of Motion
  • Forward Flexion and Abduction above the plane of the shoulder (overhead)
  • Internal Rotation to the belt line or mid lumbar level
  • External Rotation ~ 20 – 30 degrees
• Strength to tolerate ALDs overhead
• longevity
Thank You