Management of arthritis of the shoulder

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Diagnosis

- **Pain** - with activity initially. As disease progresses night pain is common and sleep difficult
- **Stiffness** – trouble with daily activity
- **Mechanical symptoms** - grinding, catching, locking

- **History / Examination / Investigations**

- **Sternoclavicular joint**
- **Acromioclavicular joint**
- **Glenohumeral joint**
Shoulder Arthritis

- Osteoarthritis
- Inflammatory Arthritis
- Cuff Tear Arthropathy
- Osteonecrosis
- Post traumatic
- Septic Arthritis
Sternoclavicular arthritis

- Pain medially
- Associated with bony lump

- Xrays
- CT

- Exclude
  - Sepsis
  - Tumour
Sternoclavicular arthritis

- **Conservative treatment**
  - Nonsteroidals
  - Activity Modification
  - Steroid injection

- **Operative treatment**
  - Joint resection
  - Not as successful as ACJ
Acromioclavicular Arthritis

- **Bad X-rays are not always symptomatic**

- **Osteolysis of distal clavicle**
  - Repetitive overhead activity can lead to microtrauma.
  - Most often occurs in weightlifters/body builders and football players. Also occurs in hockey players and has been reported in lacrosse players.
  - More often occurs in men, but has been reported in female bodybuilders.

- **Beware MRI report**
Acromioclavicular Arthritis

- **Conservative treatment**
  - Nonsteroidals
  - Activity Modification
  - Steroid injection

- **Operative treatment**
  - ACJ resection
Glenohumeral Arthritis

- Osteoarthritis
  - Posterior glenoid erosion
  - Flattening of the humeral head
  - Rotator cuff tears are uncommon in OA
Glenohumeral Arthritis

- **Inflammatory Arthritis**
  - Peri-articular erosions and osteopenia
  - Adjacent joint involvement (elbow, C-spine)
  - Cuff function

- **Cuff Tear Arthropathy**
  - Superior migration of humeral head
  - Articulates with acromion as well
Glenohumeral Arthritis

- **Osteonecrosis**
  - Consider causes
    - Corticosteroids
    - Alcoholism
    - Sickle cell disease
    - Lupus
    - Idiopathic

- Usually younger patients with adequate bone stock.
Glenohumeral Arthritis

- Post Traumatic
  - May have mal-union of tuberosities, distorting normal anatomic landmarks
  - May have axillary nerve palsy.
  - Many have soft-tissue contractures and muscle weakness
  - Age of patient
Glenohumeral Arthritis

- **Conservative**
  - Activity modification
  - Physiotherapy
    - Maintains range of motion
    - Strengthens surrounding musculature
    - Decreases inflammation
  - Oral medication
  - Injection
    - Steroids vs Hyaluronic acid
Glenohumeral Arthritis

- Operative
  - Arthroscopic debridement
  - Arthroplasty
    - Hemi
    - Total
    - Resurfacing
    - Reverse
Arthroscopic Debridement

- Arthroscopic debridement of synovium, labrum and loose articular cartilage
- Biceps tenotomy
- Subacromial decompression
- Rotator interval and capsular release
- ACJ excision

Arthroscopic Debridement

- Young and active patients
- Elderly with significant comorbidities
- Early disease
- Short term benefit
Which implant?
Total Shoulder vs Hemi vs Resurfacing

- Better functional scores with TSR than Stemmed Hemi
  - Glenoid component remains an issue
- Better results with Copeland resurfacing hemiarthroplasty than Stemmed Hemi

- Kirkley et al, 2000 – better pain relief with TSR
- Gartsman, 2000 - better pain relief with TSR
- Bunker T. Shoulder & Elbow. 2011 April; Vol 3 (2): 64–73. Stemless shoulder replacement, the best of both worlds: a personal view
Which Glenoid

- Poly vs metal backed
- Flat back or curved
- Pegs vs keel
- Cemented vs uncemented

Surface replacement

- **Pros:**
  - Bone conserving
  - Restores anatomy
  - Easy to perform
  - Good results

- **Cons:**
  - Overstuffing joint
  - Glenoid erosion
  - Difficult to expose glenoid
Anatomical shoulder

- **Pros:**
  - Standard
  - Good if not enough bone stock

- **Cons:**
  - Wrong alignment
  - Overstuffing
  - Bone loss
  - Fractures
Reverse shoulder

- **Pros:**
  - Restores movement with CTA

- **Cons:**
  - Scapula notching
  - No way back
Contraindications to Shoulder Arthroplasty

- Active or recent shoulder joint infection
- Paralysis with complete loss of rotator cuff and deltoid function
- A neuropathic arthropathy
- Irreparable rotator cuff tear is a contraindication to glenoid replacement.
Complications

- Dislocation
- Rotator cuff tear / dysfunction
- Glenoid wear / loosening
- Infection
- Stiffness
- Heterotrophic ossification
- Fracture
- Nerve injury
Ultimate bail-out

- Excision arthroplasty
- Shoulder arthrodesis
  - Also considered for Septic arthritis
My philosophy

- Bone conserving
- Right implant for right diagnosis
- Plan B – intraop and in failure
- Backed by evidence
- Small learning curve (for surgeon and theatre staff)
- Company support
- ???Cost
The Future

- Stemless systems
- Universal systems
- Biological resurfacing and interposition arthroplasty
  - Meniscal allograft / Graft Jacket
  - Microfracture / ACI
- Navigation
- Robotics
THANK YOU