



# Anatomic Inlay Resurfacing in Osteoarthritis of the Humeral Head

*Clinical Results in a Consecutive Case Series*

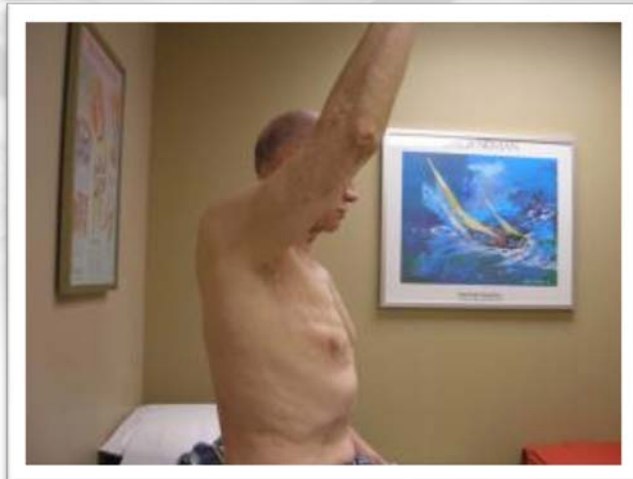
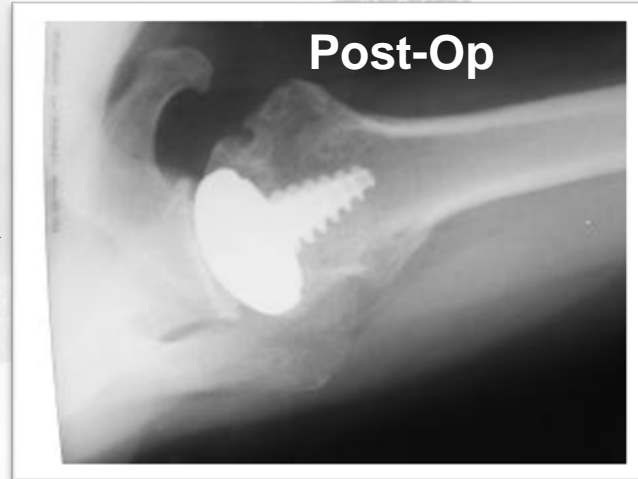
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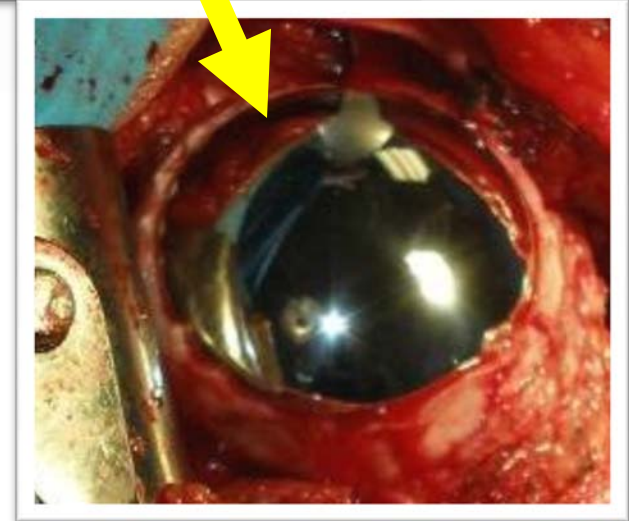
# Disclosure

The author is a consultant to Arthrosurface, Inc.



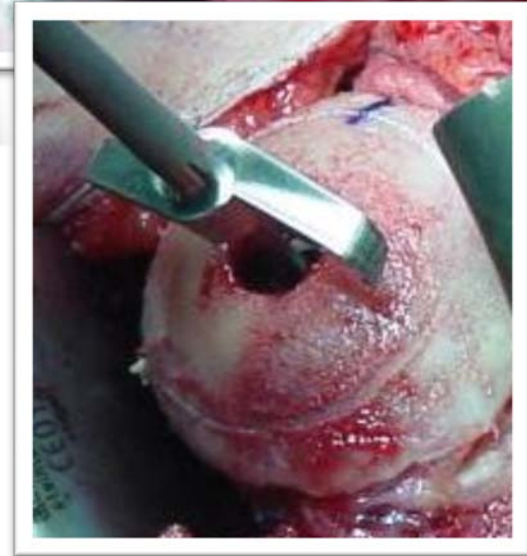
# Introduction

- A novel anatomic joint resurfacing technology
- Intraoperative mapping of the native surface geometry and restoration of the humeral head with an inlay articular component



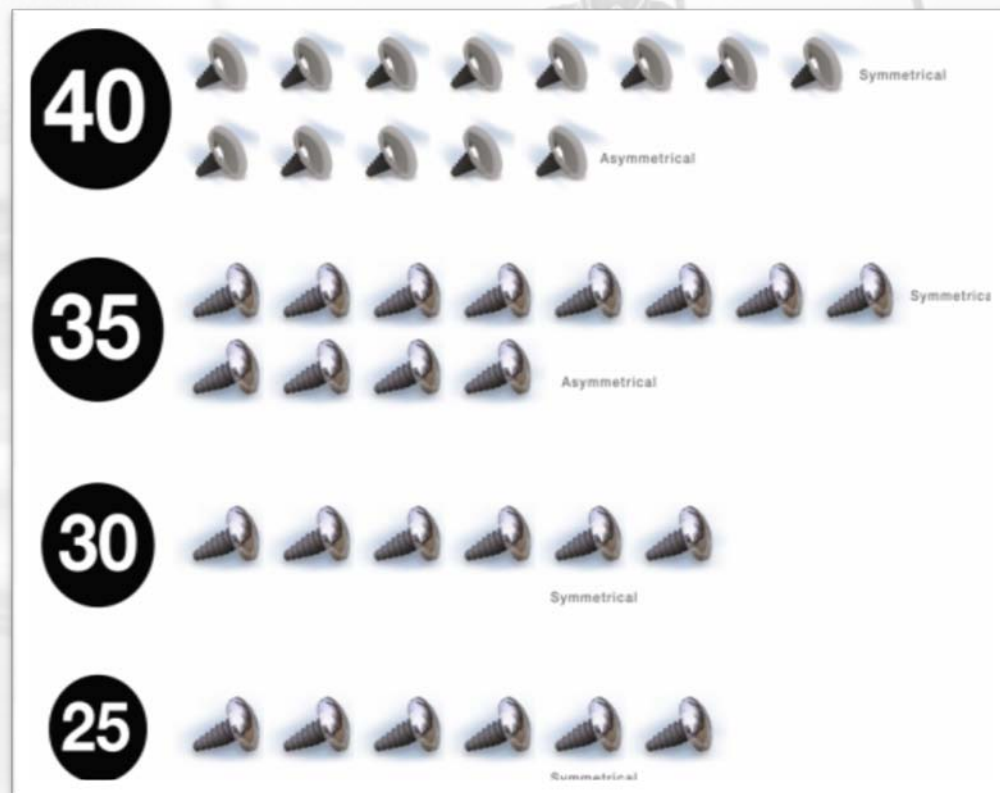
# Objective

- The objective of this investigation is to quantify the outcomes of the HemiCAP<sup>®</sup> inlay shoulder prosthesis in the treatment of glenohumeral osteoarthritis



# Methodology

- 49 shoulders, 48 patients
- Mean age, 61 years
- Mean follow-up 28 mos.
- Component diameters:
  - 40mm (n=21)
  - 35mm (n=15)
  - 30mm (n=1)
  - 25mm (n=1)

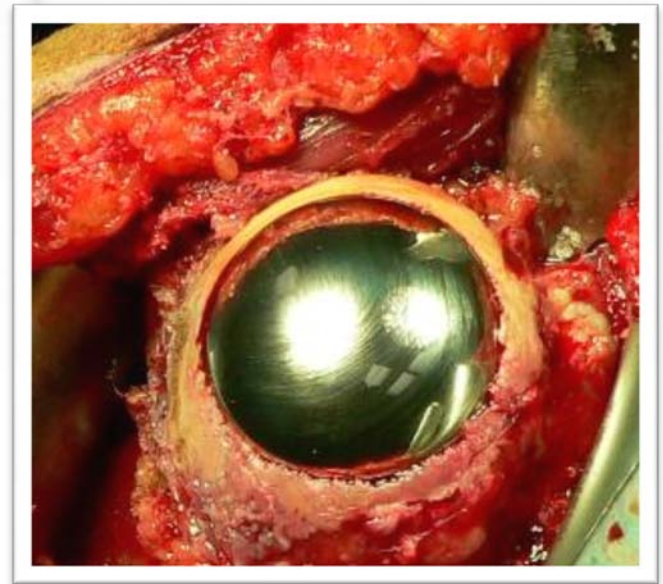
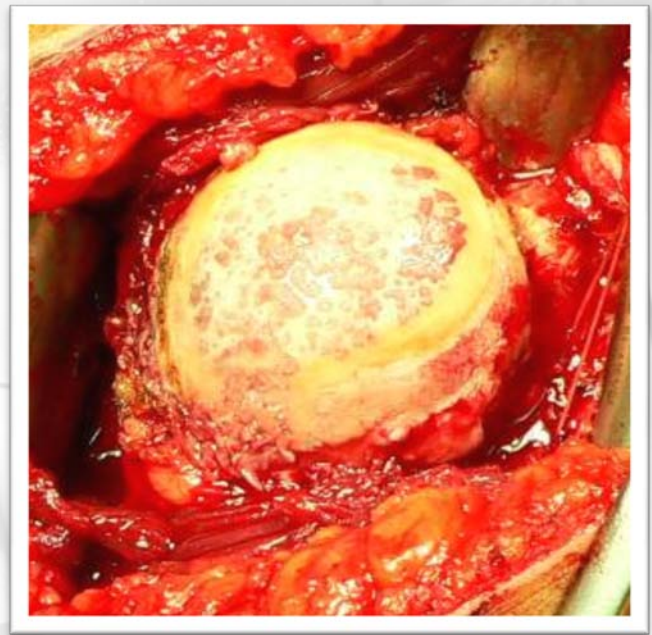


# Surgical Technique

- Anterior approach
- Subscapularis take down
- Capsular releases
- Osteophyte resection on both humerus and glenoid
- NO glenoid resurfacing or reaming

# Concurrent Procedures

- Rotator Cuff Repair - 12
- Subacromial Decompression - 25
- Distal Clavicle Resection - 21
- Biceps Tenodesis - 2
- Biceps Tenotomy - 21
- Capsulolabral Repair - 5
- Hardware Removal - 1



# Results

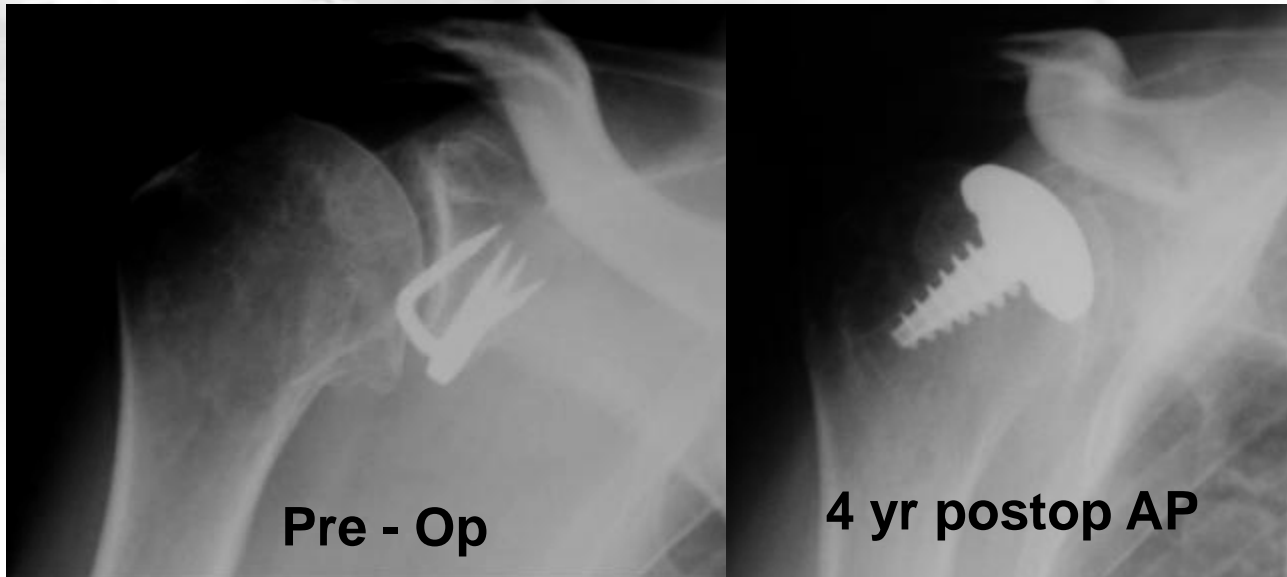
- **Mean SST score**
  - Pre: 3.7 Post: 10.3  
( $p < 0.0001$ ),
- **VAS pain with activity**
  - Pre: 7.5 Post: 1.3  
( $p < 0.0001$ )
- **SF-36 (Physical)**
  - Pre: 36 Post: 47 ( $p < 0.01$ )
- **SF-36 (Mental)**
  - Pre: 49 Post: 57 ( $p < 0.001$ )
- **Mean active forward elevation**
  - Pre: 110° Post: 130°  
( $p < 0.06$ ),
- **Mean external rotation**
  - Pre: 30° Post: 40°  
( $p < 0.01$ ),
- **Mean internal rotation**
  - Improved by 3  
spinal levels.



# Radiographs

## No signs of

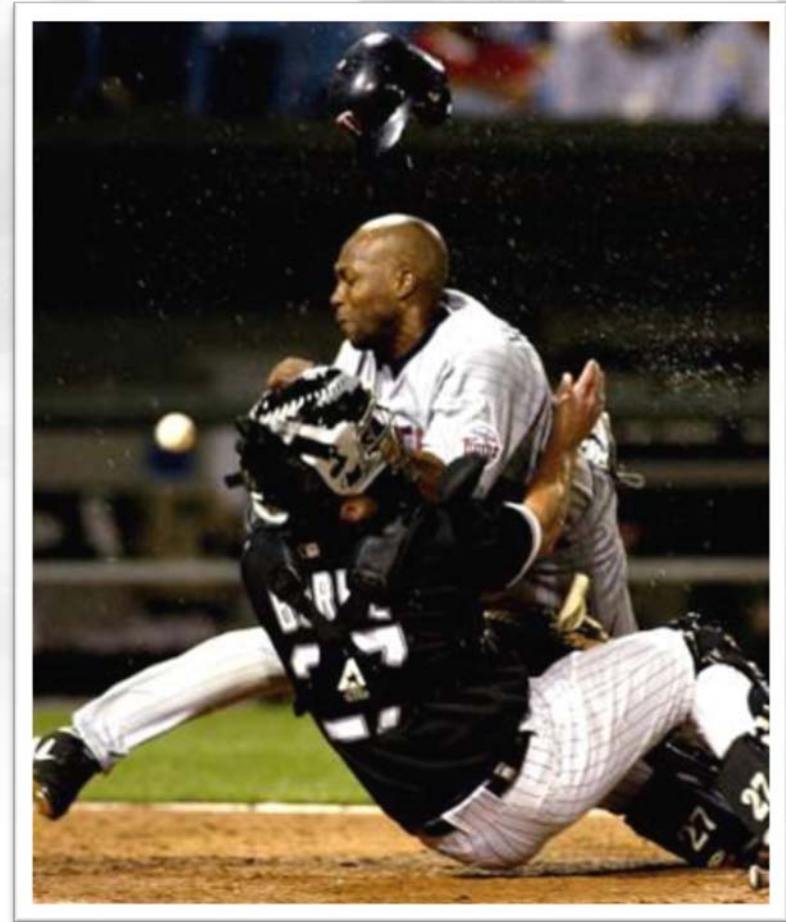
- Prosthetic disengagement
- Implant migration
- Progressive periprosthetic radiolucency



- Female patient
  - Fulltime nurse
- 4 year results**
- No pain at rest and with activity
  - SST=11

# Complications

One patient suffered a traumatic, high-energy injury 3 months postoperatively, subsequently resulting in revision surgery



# Osteoarthritis

*Perhaps a prime indication for the HemiCAP*

- How much pain from glenoid??
- Surprisingly little!!!
- Removal of Osteophytes critically important
- Soft tissue releases
- Treat concurrent pathologies



# Discussion

## Potential Advantages of Inlay Arthroplasty for GH – OA

- Immediate, excellent pain relief
- Simple, canulated, reproducible, yet elegant surgery
- Very few soft tissue balancing challenges
- Minimally bone sacrificing
- Minimal blood loss, can be outpatient
- Can easily convert to traditional arthroplasty
- Patient acceptance
- Allows concurrent soft tissue procedures
- Maintain cartilage restoration principles
- Based on patient, or ambient anatomy
- Solid implant fixation on radiographic follow-up



# CONCLUSIONS

- **Early (3 year) results very encouraging**
- **Significant relief of pain**
- **Significant functional improvement**
- **No apparent implant failures or related complications**
- **Joint preserving, reproducible, anatomic procedure**
- **Minimal bone stock removal preserves healthy tissue and avoids overstuffing**
- **Surgical technique is canulated and highly reproducible**
- **Continued studies needed, to monitor progress with time in decades**



Thank You  
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