RTSA
- Sit on Top Humerus -

Thomas W. Wright MD
University of Florida
Department of Orthopaedics

Disclosure

- Design surgeon for Exactech Equinoxe System
  - –Royalties
  - –Research institutional support

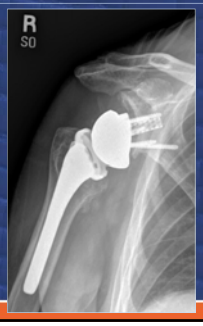
Sit On Top VS Sit Inside

U Florida Gators **VS** **U South Florida Bulls**

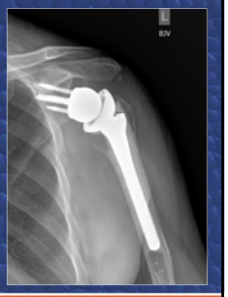
Introduction

Sit On Top Humerus

Sit Inside Humerus



VS

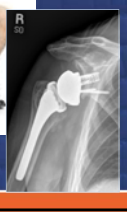


UF|Orthopaedics and Rehabilitation

Sit on Top Humerus

VS

Sit Inside Humerus



UF|Orthopaedics and Rehabilitation

Premise

- Do you like looking at world from sitting on the toilet versus sitting in the toilet.
  - If so you will like the sit on top humeral implant

UF|Orthopaedics and Rehabilitation

Why sit on Top?

- Easy
- Fast
- Lateralizes humerus
- Can be used common platform stem
- Minimizes bone resection

Easy

- Anatomic head cut but not more than 30 degrees retroversion.
- If no cuff may add 2 mm to resection

Fast

- Free hand or guide anatomic cut
- No secondary metaphyseal reaming
- Lightly ream diaphysis, broach and done

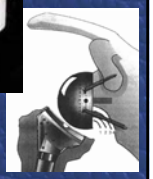
Four Classes of RTSA

Lateralized Humerus - Advantages

- Better tension remaining cuff
- Better deltoid wrapping angle
- Greater stability
- More efficient deltoid – better moment arm
- Low notching rate

Scapular Notching 50-96%

- Vanhove Acta OB 2004, Boileau JSES 2006, Levigne JSES 2008, Kalouche Acta OB 2009
  - Incidence & extent of notching increases with f/u (7 yrs)
- Simovitch JBJS 2007
  - 77 shoulders, 2 yrs f/u
  - 44% notching
    - Lower Constant scores
    - Less ROM
- Cristofari JBJS 2010
  - 36 shoulders 6.6 yrs f/u
  - 53% notching
    - 64% baseplate loosening
    - 2.7% revision
- Sirveaux JBJSBr 2004
  - 77 shoulders, 3.7 yrs f/u
  - 63.6% notching
    - 6.2% baseplate loosenig
    - Lower Constant scores



Lateralized Humerus-Disadvantages

- More difficult to repair subscapularis without tension
  - –Repair tight subscap create iatrogenic Horn Blower's sign
  - –Solution do not repair subscap – Horn Blower's very rare

Sit On Top

- Common platform stem
  - –Quick revision
  - –Decrease blood loss
  - –Less cost
  - –Less morbidity

Minimizes Bone Resection

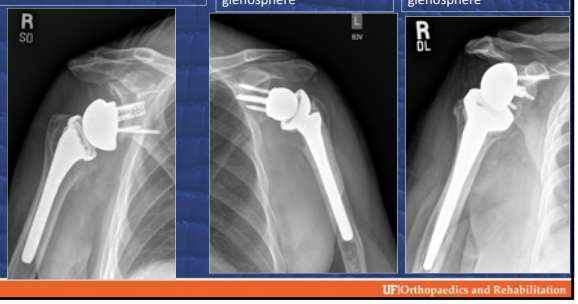
- Sit on Top humeral implant removes less bone than sit inside
  - –Sit on Top Equinoxe - 32mm bone removed
  - –Sit inside
    - DJO – 38mm bone removed
    - Delta – 47mm bone removed
  - – Roche et al Bulletin of the Hospital Joint Diseases 2013;71(Suppl2):S36-40

Types of Humeral Implants

Sit on Top lateral humerus (low neck angle), medial glenosphere

Sit inside medial humerus (low neck angle), lateral glenosphere

Sit inside medial humerus (high neck angle), medial glenosphere



Types of Humeral Implants

Sit on Top lateral humerus (low neck angle), medial glenosphere

Sit inside medial humerus (low neck angle), lateral glenosphere

Sit inside medial humerus (high neck angle), medial glenosphere

Maximizes Deltoid Wrapping angle

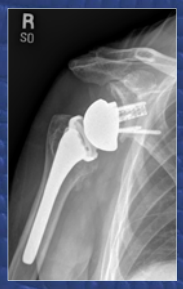
Decreased Deltoid moment arm

Minimal Deltoid wrapping angle

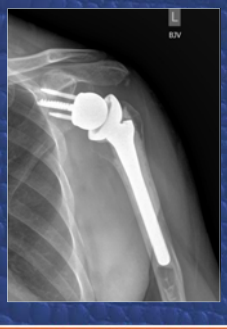
Conclusion – If U Like

- Easy
- Fast
- Lateralized humerus
- Common platform stem
- Minimal bone resection

Dry Bottom – Sit On Top

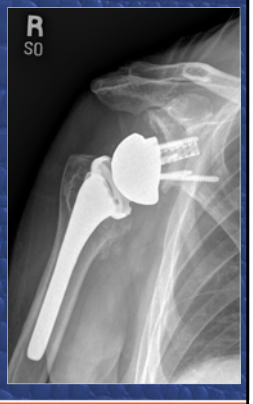


And Hate a Wet Bottom – Sit Inside



Be a Winner!!!

- Sit on Top
- Go Gators




UF College of Medicine
Department of Orthopaedics & Rehabilitation
UNIVERSITY of FLORIDA