



**ROTHMAN**  
ORTHOPAEDIC INSTITUTE



**Sidney Kimmel  
Medical College**  
at Thomas Jefferson University

# Debate: Argument for Inset

Surena Namdari MD, MSc

Associate Professor of Orthopaedic Surgery

Co-Director of Shoulder & Elbow Research

Philadelphia, PA

# Disclosures

- Research Support

- **3M**
- **Aesculap**
- **AO Spine**
- **Biomet**
- **Cempra**
- **CeramTec**
- **DePuy**
- **Integra**
- **Myoscience**
- **NDRI**
- **NIH**
- **Novartis**

- **OREF**
- **Pfizer**
- **Rotation Medical**
- **Simplify Medical**
- **Smith and Nephew**
- **Stelkast**
- **Stryker Orthopedics**
- **Synthes**
- **TissueGene**
- **Tornier**
- **Orthospace**
- **Zimmer Biomet**



**ROTHMAN**  
ORTHOPAEDIC INSTITUTE



**Sidney Kimmel  
Medical College**  
at Thomas Jefferson University

# Disclosures

- **Consultant**

- DJO Surgical
- Miami Device Solutions
- Depuy Synthes
- Flexion Therapeutics
- InGeneron
- Vivo Capital

- **Royalties**

- DJO Surgical
- Miami Device Solutions
- Aevumed
- Elsevier
- SLACK
- Wolters Kluwer

- **Intellectual Properties**

- Miami Device Solutions
- DJO Surgical
- Aevumed

- **Ownership/Stock**

- Parvizi Surgical Innovations
- MD Live
- MD Valuate
- Force Therapeutics
- Aevumed
- Tangen
- Orthophor
- RubiconMD
- Rothman Orthopaedic Institute

- **Board Member/Adviser**

- Biedermann Lab for Orthopaedic Research
- Aevumed

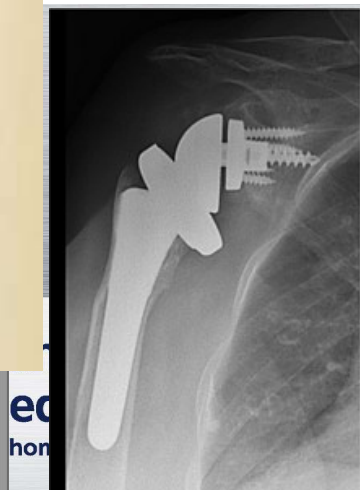
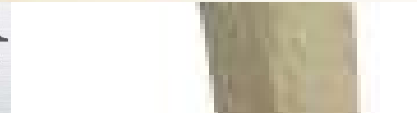
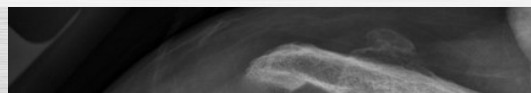
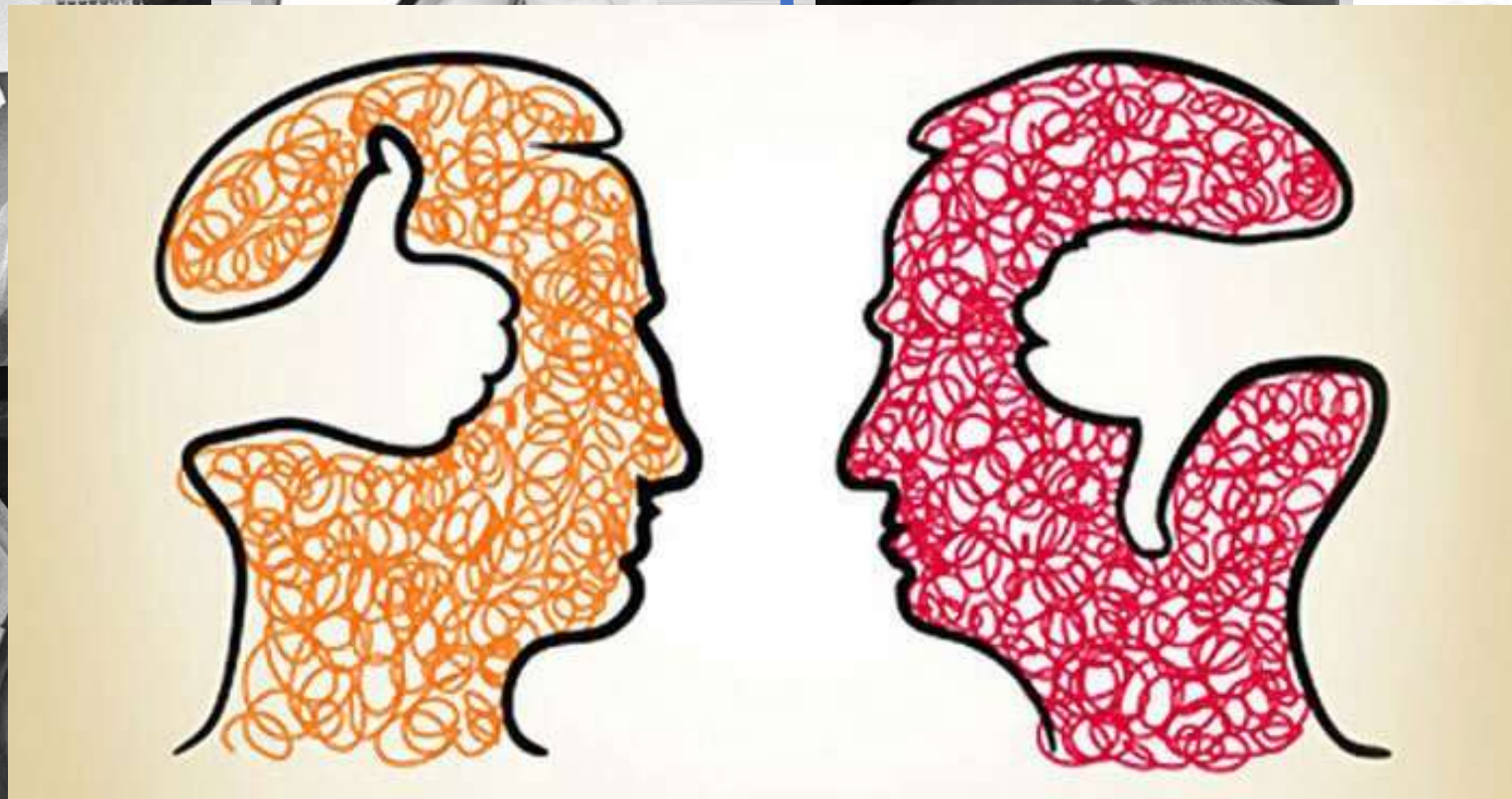


**ROTHMAN**  
ORTHOPAEDIC INSTITUTE



**Sidney Kimmel  
Medical College**  
at Thomas Jefferson University

# Inlay versus Onlay



© M.L.R. 2014

H  
IC

ed  
hor

# 3 points to victory

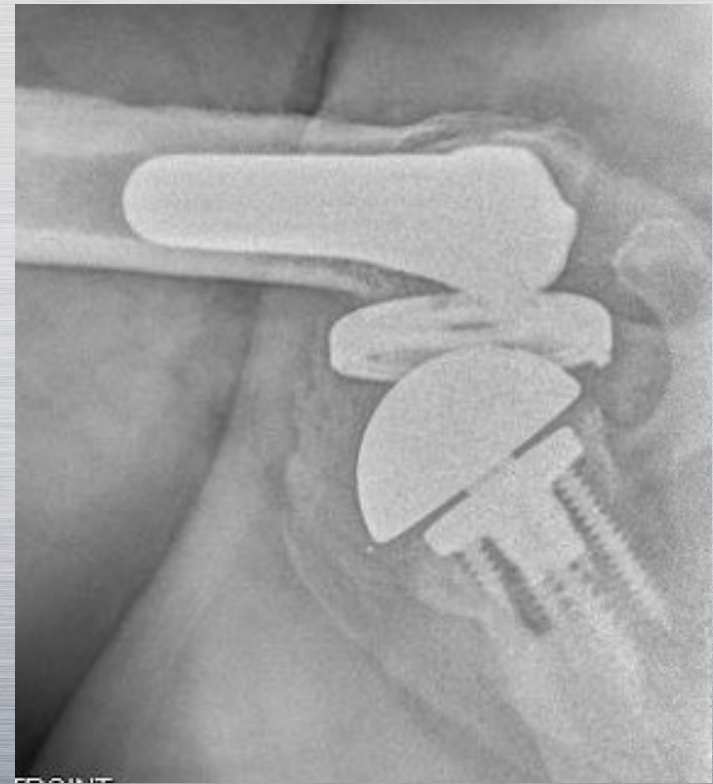


**ROTHMAN**  
ORTHOPAEDIC INSTITUTE



**Sidney Kimmel  
Medical College**  
at Thomas Jefferson University

# 1. Modular Joints Fail



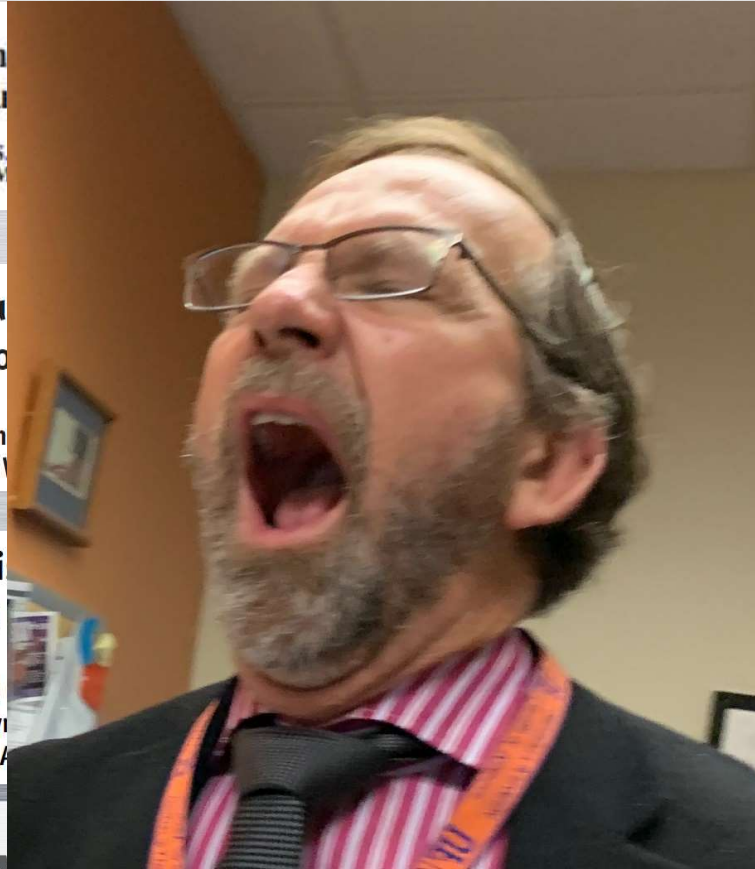
# 1. Modular Junctions Fail



Hum  
Shou  
Lucas S  
David M

Fatigu  
compo  
Kathleen  
Douglas V

Revi  
of a  
Brent  
Kaitlyn  
Mark A



Total  
arren, MD •

CrossMark

CrossMark  
b  
, MD<sup>a</sup>,

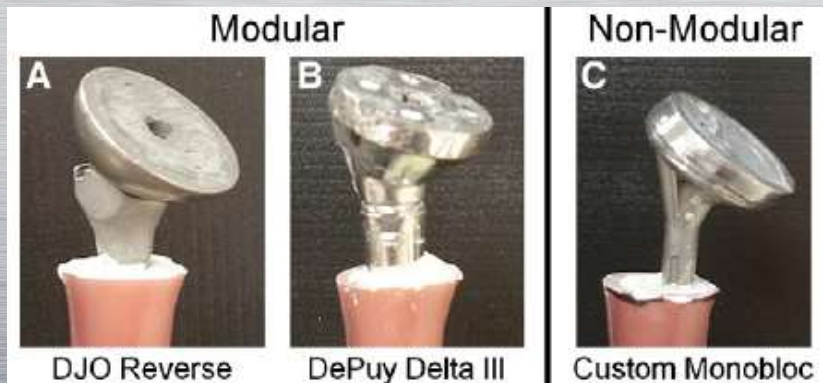


# 1. Modular Junctions at Greater Risk W/ Bone Loss

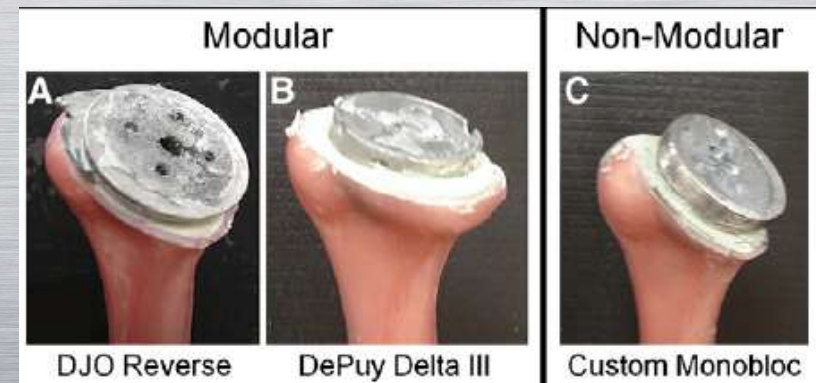
**Torsional stability of modular and non-modular reverse shoulder humeral components in a proximal humeral bone loss model**

JSES 2011

Derek Cuff, MD<sup>a</sup>, Jonathan C. Levy, MD<sup>b</sup>, Sergio Gutiérrez, PhD<sup>c</sup>,  
Mark A. Frankle, MD<sup>d,\*</sup>



5/12 failed



2/12 failed

## 2. Arm Lengthening

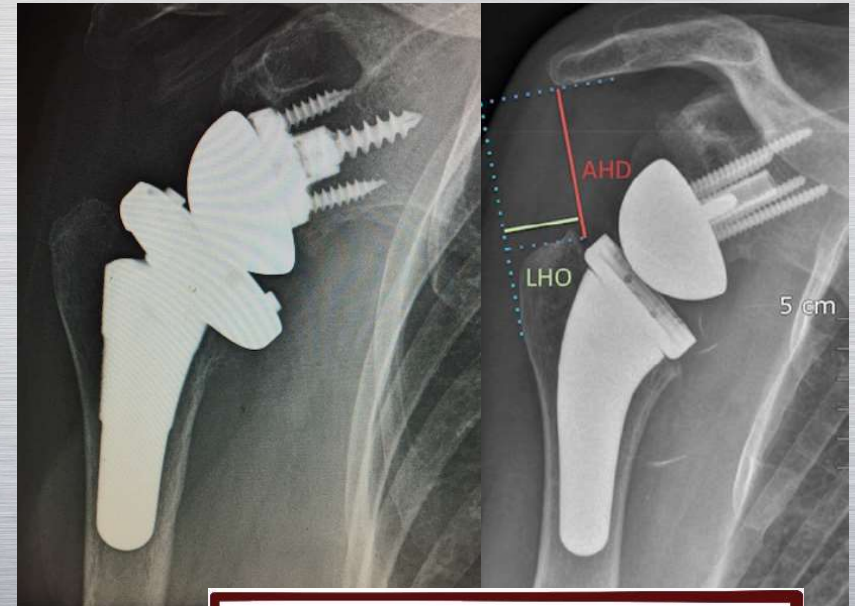


## Does arm lengthening affect the functional outcome in onlay reverse shoulder arthroplasty?

J Shoulder Elbow Surg 2017

Birgit S. Werner, MD<sup>a,b,\*</sup>, Francesco Ascione, MD<sup>b</sup>, Giulia Bugelli, MD<sup>c</sup>, Gilles Walch, MD<sup>b</sup>

- Average arm lengthening 2.2cm(-2.3 to 5.2cm)
- Sweet Spot: 1-2.5cm
- Arm lengthening >2.5cm → decreased anterior elevation



**ROTHMAN**  
ORTHOPAEDIC INSTITUTE

el  
ge  
ersity



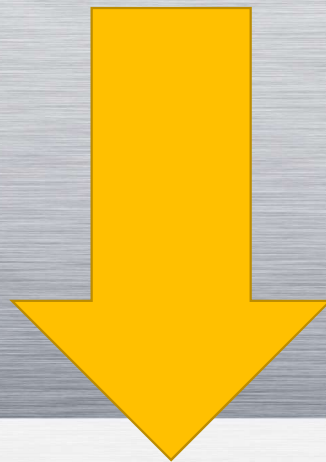
## Conversion of Stemmed Hemi- or Total to Reverse Total Shoulder Arthroplasty: Advantages of a Modular Stem Design

Karl Wieser MD, Paul Borbas MD, Eugene T. Ek MBBS, PhD,  
Dominik C. Meyer MD, Christian Gerber MD, FRCS

Clin Orthop Relat Res (2015) 473:651–660

2005 - 2011, 56 shoulders

- Conversion: 13 (23%)
- Stem Revision: 43 (77%)



Blood Loss

Operative time

Intraoperative  
Complications

AN  
TITUTE

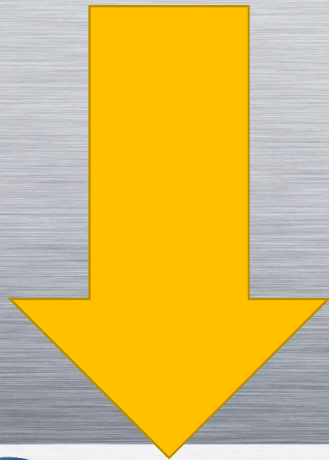


# Conversion to Reverse Total Shoulder Arthroplasty with and without Humeral Stem Retention: The Role of a Convertible-Platform Stem

JBJS 2017

Lynn A. Crosby, MD, Thomas W. Wright, MD, Stephen Yu, MD, and Joseph D. Zuckerman, MD

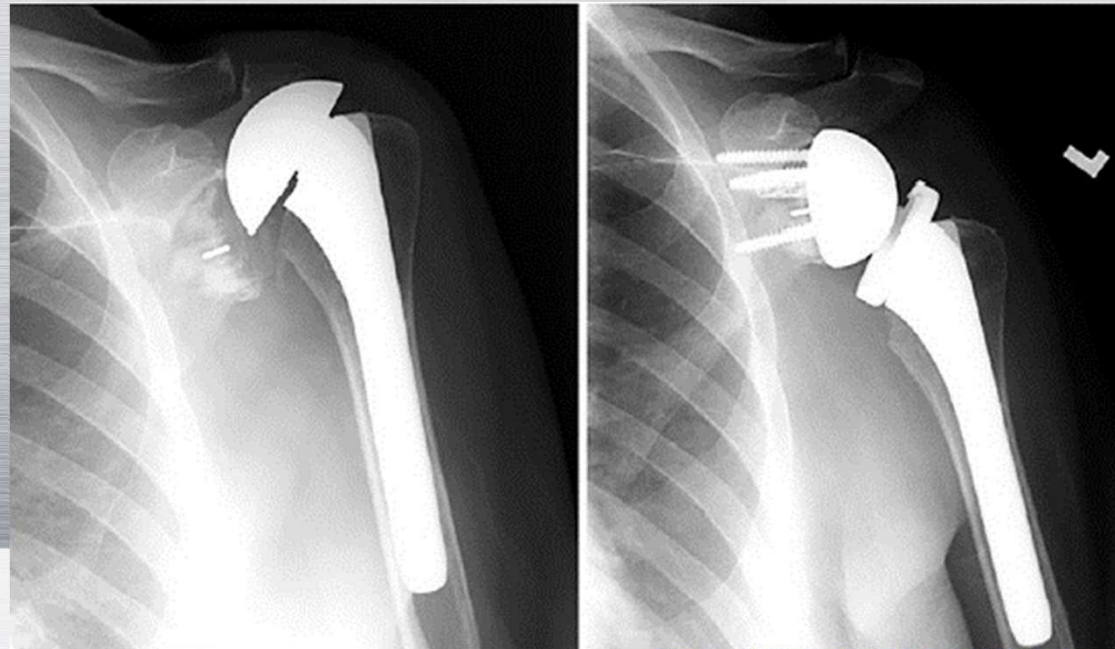
- 73 exchanged, 29 retained
- 78% of stems retained



Blood Loss

Operative time

Intraoperative Complications



 **Medical College**  
at Thomas Jefferson University

## Platform shoulder arthroplasty: a systematic review



J Shoulder Elbow Surg 2018

Jacob M. Kirsch, MD<sup>a,\*</sup>, Moin Khan, MD, MSc, FRCSC<sup>b</sup>, Patrick Thornley, MD<sup>b</sup>,  
Mark Gichuru, BSc<sup>b</sup>, Michael T. Freehill, MD<sup>a</sup>, Andrew Neviasser, MD<sup>c</sup>.

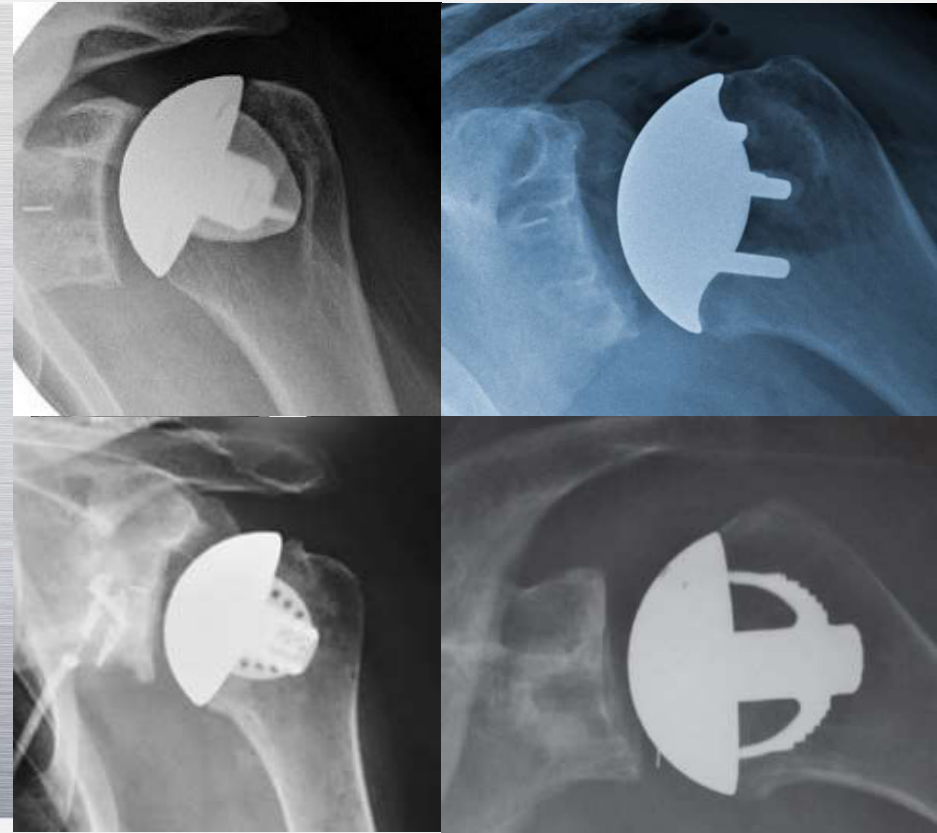
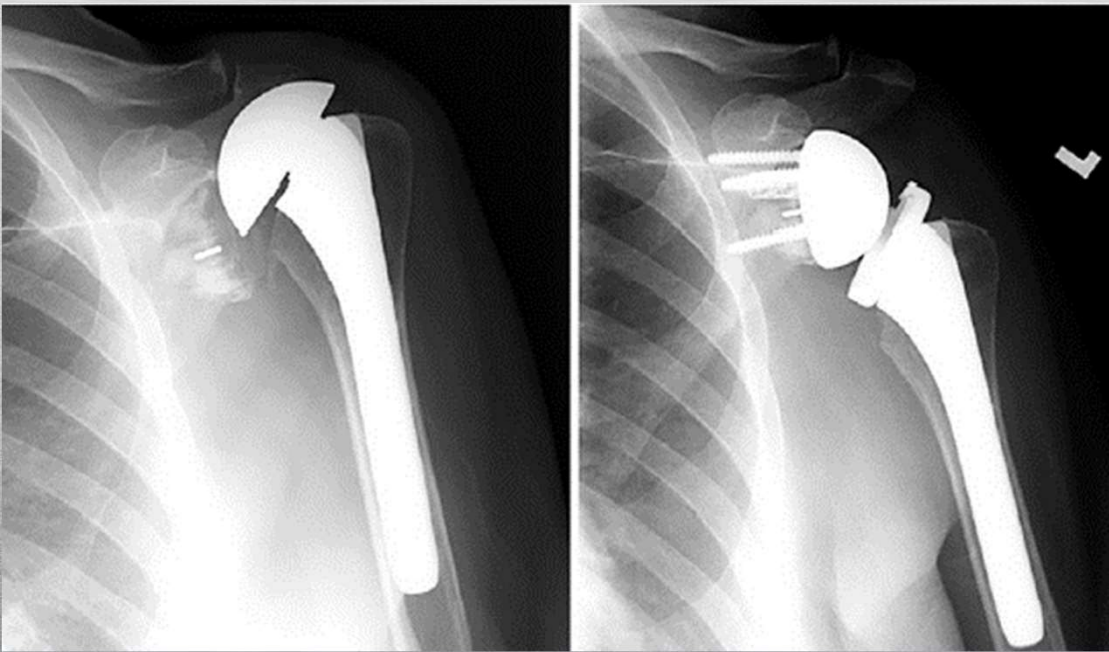
# How is this data misleading?

● Fracture (Δ62.1min)  
(RO 4.6)

● Complications  
(OR6.9)



# Data is misleading



## Final Th

1. Modular Junctions
2. Arm Lengthening
3. "Convertibility"



**ROTHMAN**  
ORTHOPAEDIC INSTITUTE

Thank You

Deltoid  
Wrap...Blah  
blah blah



**ROTHMAN**  
ORTHOPAEDIC INSTITUTE



**Sidney Kimmel  
Medical College**  
at Thomas Jefferson University