

The Loose Glenoid

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Disclosure

- Design Surgeon for Exactech
- Institutional research support

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Introduction – Loose Glenoid

- Radiographic – loosening very common
- Clinical - loosening relatively uncommon

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Keel

- Radiographically loose
- Clinically not loose



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Radiographic Loosening

- Progressive lucent lines
- Fractured cement or poly
- Shift in position

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Lazarus Score - Pegs



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Loose Glenoid

- Double shadow sign
- Cracked cement sign
- V-Sign superior joint subluxation



Really Loose Glenoid



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Clinical Loosening

- Start up pain
- Pain with load
- Feeling of instability
- Frank instability

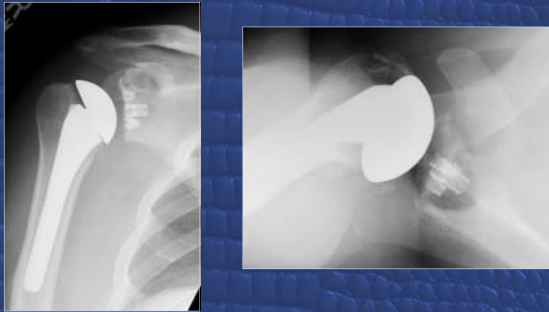
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Why Do Glenoids Loosen?

- Eccentric loading
 - Cuff failure
- Poor Technique
 - Cement
 - Off centered
 - Not supported
 - In Growth not consistent but evolving

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64 year old male TSA cage 8 degree for B2 glenoid – 3 months postop



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1 year post op doing well very happy Constant 90

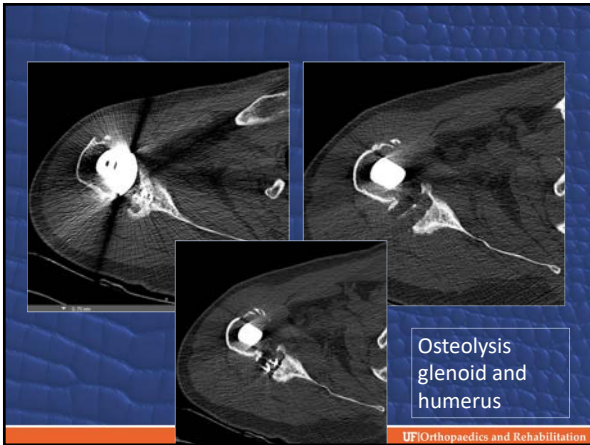


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15 months postop car wreck 2 months earlier hurt shoulder



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Why Do Glenoids Loosen?

- Humeral head too thick
 - Overstuff
- Humerus placed too high
- Subscap repair failure
- Trauma

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Loose Glenoid

- Humeral head cut insufficient – head too high
- Cuff failure
- Superior migration
- Eccentric loading glenoid
- Glenoid loosening



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What to Do - Radiographic Loosening?

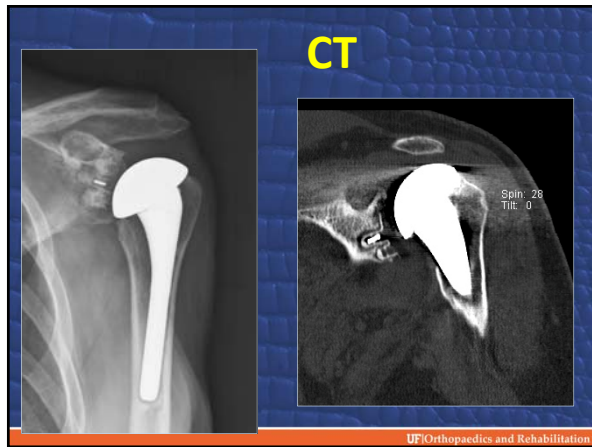
- Asymptomatic and no osteolysis
 - Routine follow-up

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What to Do - Clinical Loosening?

- CT scan
- If effusion aspiration and culture
- Serologic – ESR, C-reactive protein, others?

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Treatment

- Nonoperative
 - Bad host
 - Minimal symptoms
 - No osteolysis
- Operative
 - Good host
 - Significant symptoms
 - Osteolysis

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Operative Treatment

- Remove glenoid +/- bone grafting, hemiarthroplasty
 - Open
 - Arthroscopic

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Arthroscopic Treatment Loose Glenoid

- Abildgaard et al Arthrosc Tech 2017
 - Removed poly glenoids arthroscopically
 - Bone grafted defect
 - Covered glenoid with dermal graft

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Loose Glenoid and Infection

- Lucas et al JSES 2016
 - 221 revision shoulders
 - 53% positive cultures
 - P. acne
 - Coagulase negative Staph
 - Loose glenoids – 54% positive cultures
 - Non-loose glenoids – 51% positive cultures
 - Infection not associated glenoid loosening

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Antibiotic Spacer - Definitive Treatment



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Surgery – Revision Arthroplasty

- TSA - rare due bad subscap/cuff, lack bone support
- RTSA – common
 - Contained defect – non structural graft
 - Non Contained –
 - Structural graft – allo/autograft clavicle/crest
 - Metal augments
 - Custom implant
 - Two stage

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Loose Glenoid Treatment

- Aibinder et al – JSES 2017
 - 34 revisions
 - 20 shoulders glenoid reimplanted
 - 10 years reoperation 21%
 - 11 bone grafting and hemi
 - 10 years reoperation 16%
 - Preoperative instability bad prognosis

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Loose Glenoid Treatment

- Hawkins et al Orthopedics 1999
 - 9 revision loose glenoid
 - 7/9 revised with another cemented glenoid
 - 2/7 of these loose again
 - Recommended strong consideration for hemi

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Treatment Loose Glenoid

- Flurin et al Bull hosp Jt Dis (2013)
 - Failed glenoids
 - Removal - grafting
 - Augmented TSA
 - RTSA +/- augment

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Conclusion

- Radiographic loosening common
- Clinical loosening less common
- Revision - clinically loose and osteolysis
- Revision with RTSA promising

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