

## Failed Internal Fixation Proximal Humerus: Now What?

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## Disclosure

- Studies supported by:
  - OTA, COA, ASES
  - Zimmer Inc.
  - Stryker, Olympus Biotech, AO
- I am a consultant for Stryker, Acumed, Zimmer, ITS
- Receive royalties from Stryker (plates), LWW, Springer (publishers)

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## Case Presentation

- 68 yr old retired nurse
- Fall from a standing height
- Isolated injury to left shoulder
- Closed, NV intact, no prior injuries

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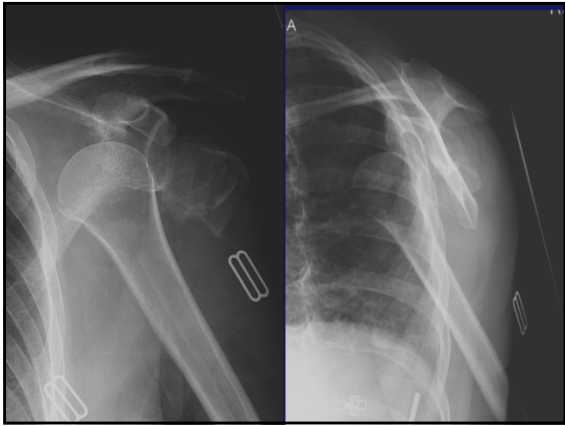
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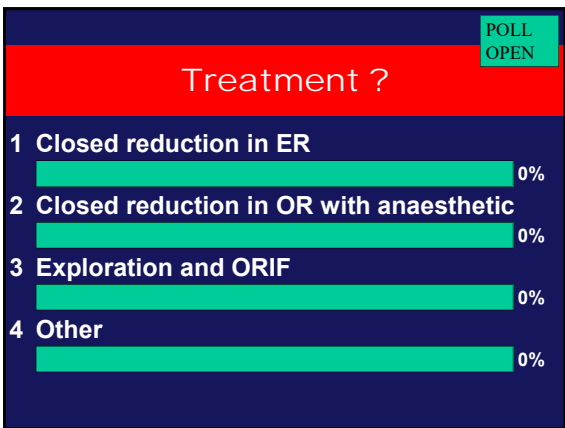
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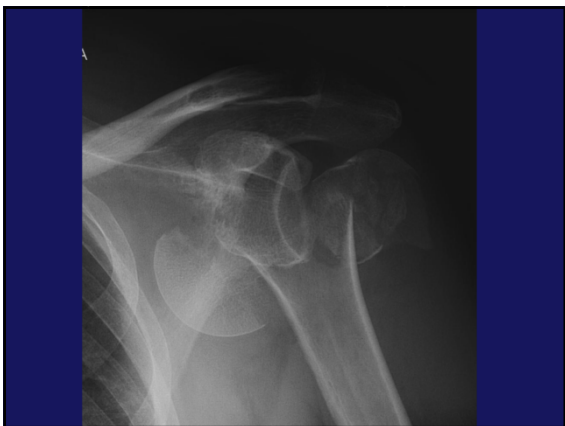
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### Iatrogenic Humeral Head Fracture

- Atoun E, et. al.
- Management of First-Time Dislocations of the Shoulder in Patients Older Than 40 Years: The Prevalence of Iatrogenic Fracture. JOT 2013
  
- 92 patients, 19 had associated GT fracture
- 5 / 19 had head sheared off with closed redn
- All 5 had a terrible result

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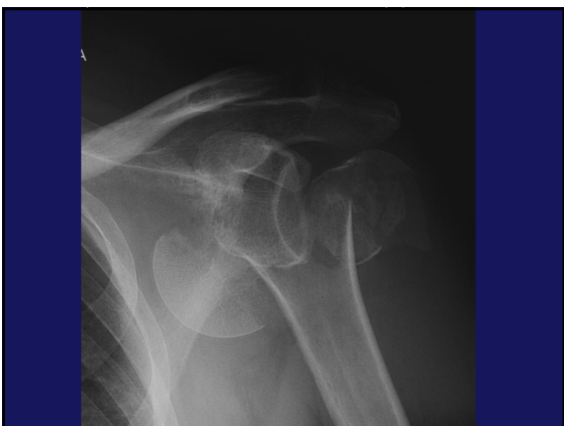
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### Treatment ?

POLL  
OPEN

1 Non-operative treatment	0%
2 ORIF	0%
3 Hemiarthroplasty	0%
4 Anatomic total shoulder arthroplasty	0%
5 Reverse total shoulder arthroplasty	0%

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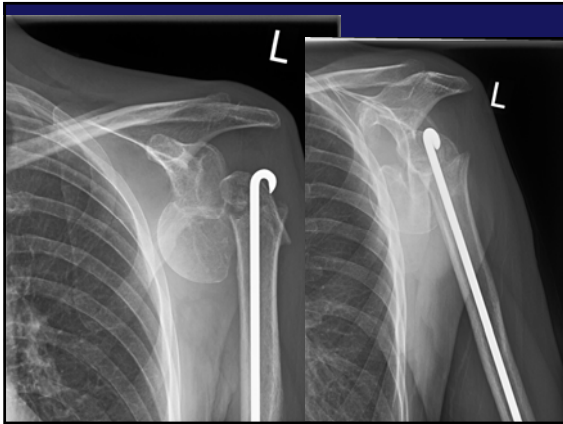
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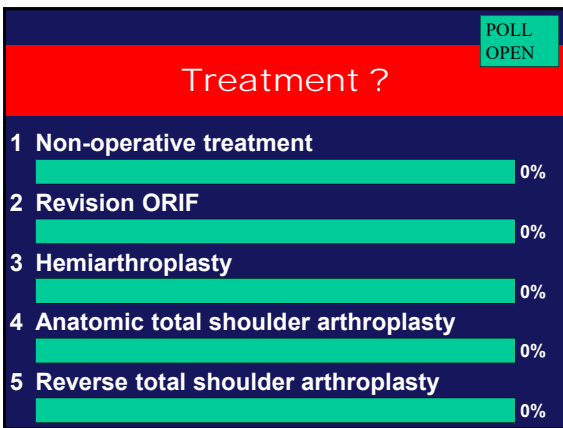
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### Iatrogenic fracture

- HerscheE, Gerber C.
- Iatrogenic displacement of fracture-dislocations of the shoulder. A report of seven cases.
- J Bone Joint Surg Br. 1994 Jan;76(1):30-3.

- 5 treated with ORIF - nonunion, AVN
- 2 treated with hemi-arthroplasty - stiff

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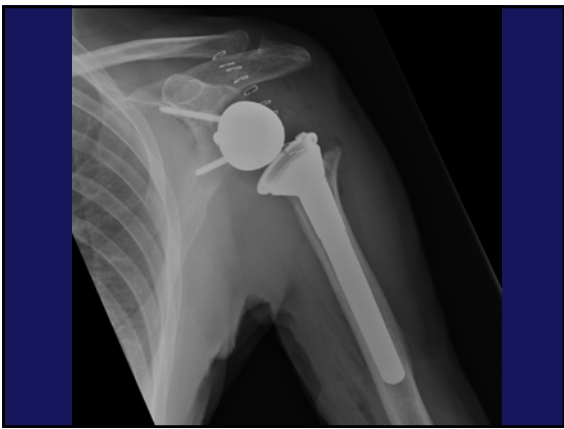
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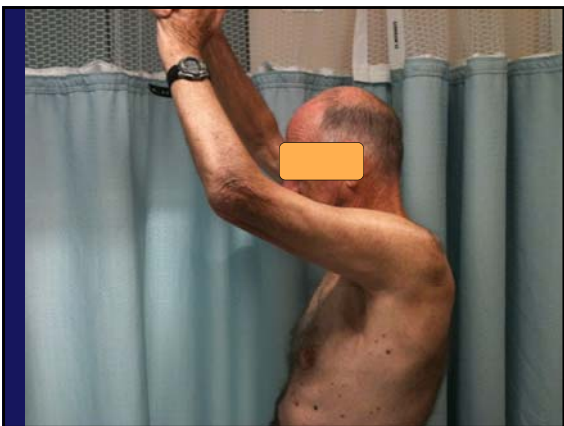
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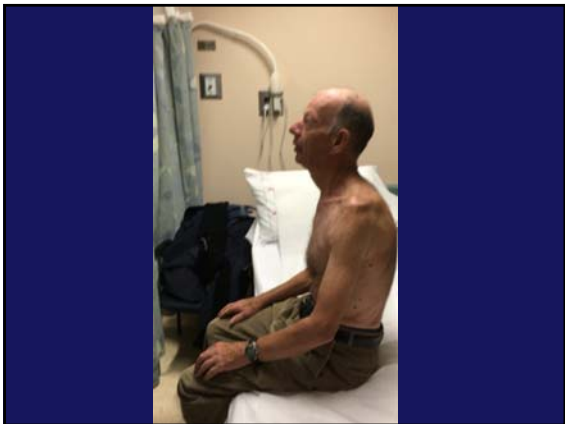
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**Results: Conversion of failed ORIF to reverse TSA**

- Sanchez-Sotelo et. al. J Shoulder Elbow Surg 2016
- Compared primary RTSA to RTSA after failed fracture repair
- Good overall results (ASES score 71 vs 65) but higher complication rate in "salvage" RTSA

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**Summary**

- Beware the older first time dislocator with a GT #
- There is a significant failure rate with ORIF of proximal humeral fractures in patients > 65 years of age
- Reverse TSA as a salvage has significant advantages when there is cuff / tuberosity deficiency

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