



## Olecranon Fractures: All the Ways to Fix Them

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Emory University / Grady  
Atlanta Trauma Symposium 2016

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- 20 year follow-up
- Arc of motion 142 degrees
- Flexion contracture: 2 degrees



Flinterman+ CORR 2014

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## Re-Operation

- 25%
- Painful hardware
- Women
- Older patients
- Tension band?



Femke+ CORR 2016; Snoddy Int Orthop 2014

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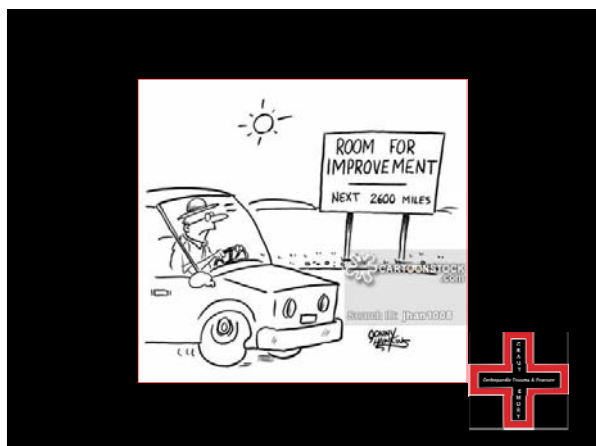
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### Goals of Treatment

- Extensor function
- Articular reduction
- Restoration of joint stability and motion
- Prevention of stiffness



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## Techniques

- Non-operative
- ORIF
  - Tension band
  - Plate-and-screw
  - Medullary Screw
  - Suture repair
- Excision with triceps advancement



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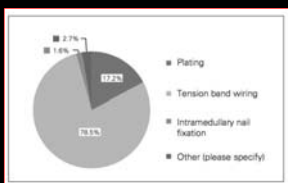
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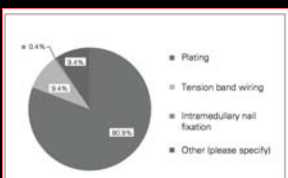
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## Displaced Non-Comminuted



## Displaced Comminuted



Wood J Can Surg 2015



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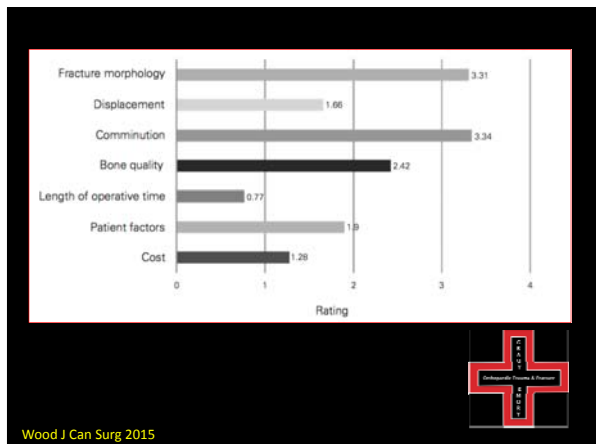
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- 6 trials (RCTs), 244 patients
- Plate vs. tension band
- Modified tension band techniques
- **INCONCLUSIVE OUTCOMES**

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Am J Orthop (Belle Mead NJ). 2015 Jul;44(7):E211-6.  
**Comparison of Outcomes and Costs of Tension-Band and Locking-Plate Osteosynthesis in Transverse Olecranon Fractures: A Matched-Cohort Study.**  
 Arini MH, Azar FM, Wilson BR, Smith RA, Mauk BM, Throckmorton TW.

- Tension Band: \$6598, 55 min
- Locking Plate: \$14,333, 85 min

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Non-operative, suture anchors, excision and triceps advancement

## OTHER OPTIONS

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### Non-Operative Management

- Mean age = 76 years
- Low energy falls, displaced > 2mm
- 91% patient satisfaction at 6 years



Duckworth+ JBJS 2014

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### Non-Operative Management



Symes et al. BMC Musculoskeletal Disorders (2015) 16:224  
DOI 10.1186/s12913-015-0789-6

**STUDY PROTOCOL** **Open Access**

**BMC Musculoskeletal Disorders**

**SOFIE: Surgery for Olecranon Fractures in the Elderly: a randomised controlled trial of operative versus non-operative treatment**

Michael Symes<sup>1\*</sup>, Ian A. Harris<sup>2</sup>, John Limbers<sup>3</sup> and Mithun Joshi<sup>4</sup>

Duckworth+ JBJS 2014

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**Suture Anchor  
Fixation in Elderly  
Patients**

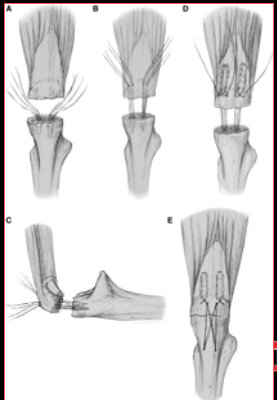
Bateman+ JSES 2015

Mean Age = 73 years

8 patients

5 year follow-up

100% union, good  
functional outcome



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30M, laborer, from AL, 2 months s/p  
injury



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45F, polytrauma, MVC



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### Conclusions

- Long-term follow-up is GOOD
- Re-operation rate is HIGH
- No consistent difference between different fixation strategies
- Locking plates COST more
- Future directions: cost cutting, decrease symptomatic hardware, identify possible non-operative cohorts



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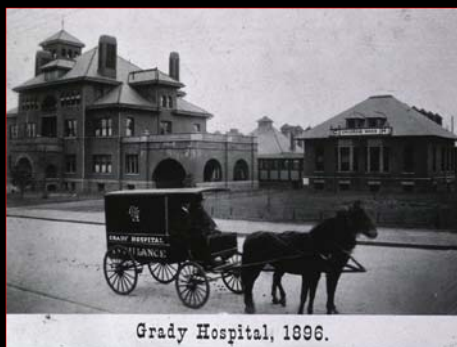
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Grady Hospital, 1896.

**THANK YOU.**

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