

Total Elbow Arthroplasty

Distal Humerus Fractures

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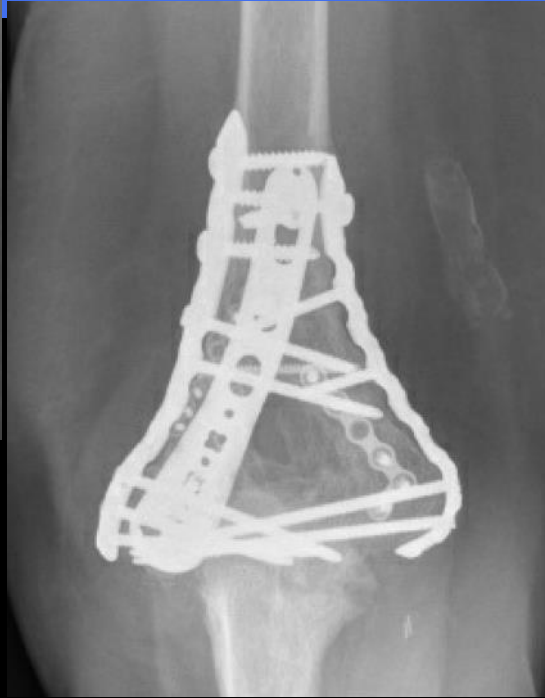


Indications of TEA

- ▣ ACUTE
- ▣ DELAYED
 - Non reconstructable joint associated with failure of fixation/AVN
 - PTOA



Delayed – 55 yo, RA on DMARD



Indications of TEA

- ACUTE FRACTURE

- Fix vs Replace



>65 yo

A multicenter, prospective, randomized, controlled trial of open reduction—internal fixation versus total elbow arthroplasty for displaced intra-articular distal humeral fractures in elderly patients

McKee et al., JSES 2009

Long-term outcomes of total elbow arthroplasty for distal humeral fracture: results from a prior randomized clinical trial

Dehghan et al., JSES 2019

Conclusions: TEA is an effective and reliable procedure for the treatment of comminuted distal humeral fractures in the elderly patient. Our study reveals reliable implant long-term survival, with no patient requiring a late revision. For the majority of these patients, a well-performed TEA will give them a well-functioning elbow for life and will be the last elbow procedure required.

>65 yo

Outcomes of AO/OTA C-type fractures of the distal humerus after open reduction and internal fixation with locking plate constructs in patients at least 65 years old

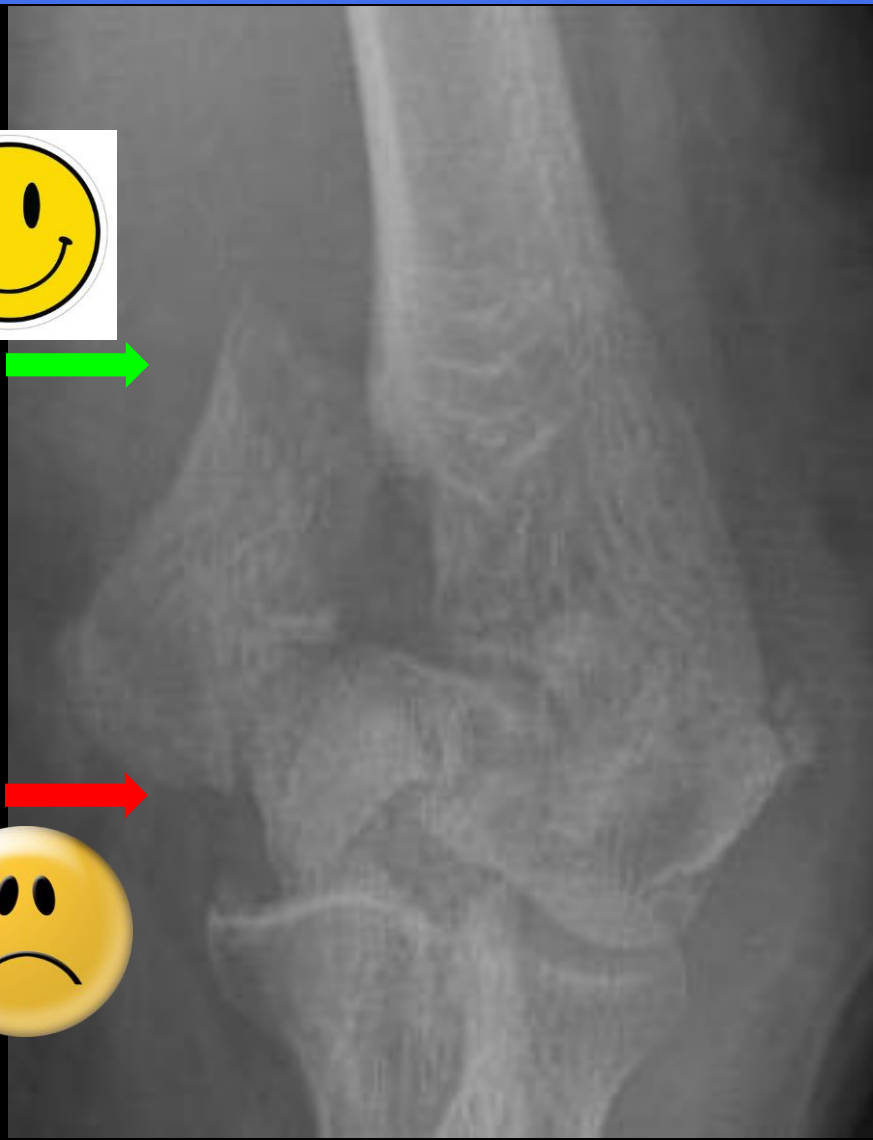
Kervinen et al., BMC Musculoskeletal Disorders 2022

Conclusions: Distal AO/OTA C-type distal humerus fractures in older adults can be treated reliably and with good outcomes with ORIF using modern locking plates. The mean qDASH scores are similar to population normal values, but when compared to the healthy arm, single-arm outcomes indicated somewhat impaired function. About 1 in 4 patients had at least one revision surgery.

94 y/o, s/p fall, independent



94 y/o, s/p fall, independent

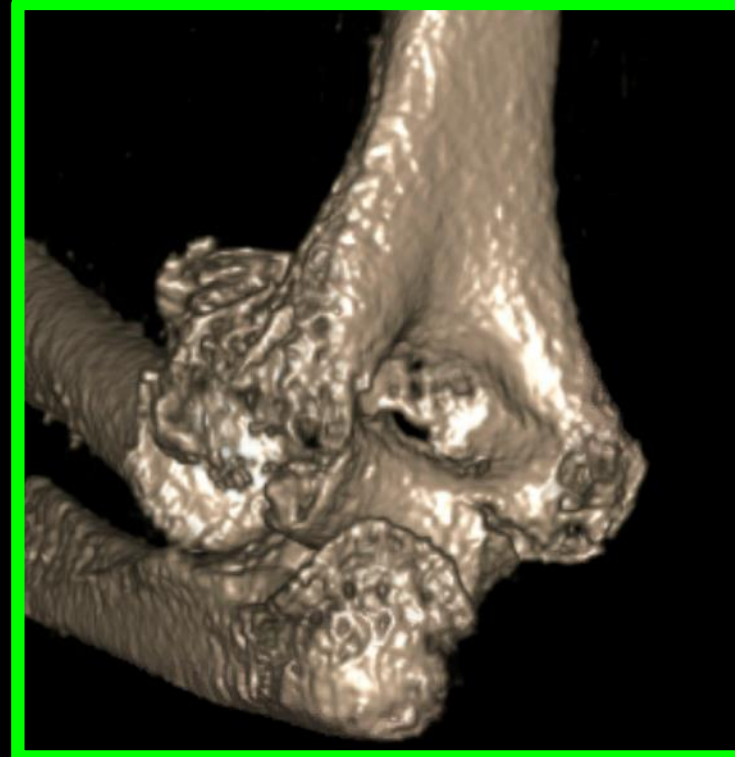
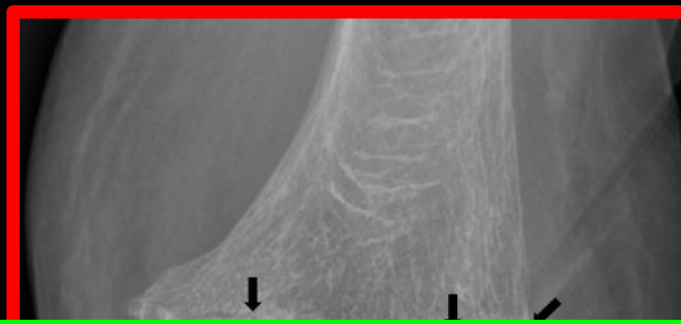


94 y/o, s/p fall



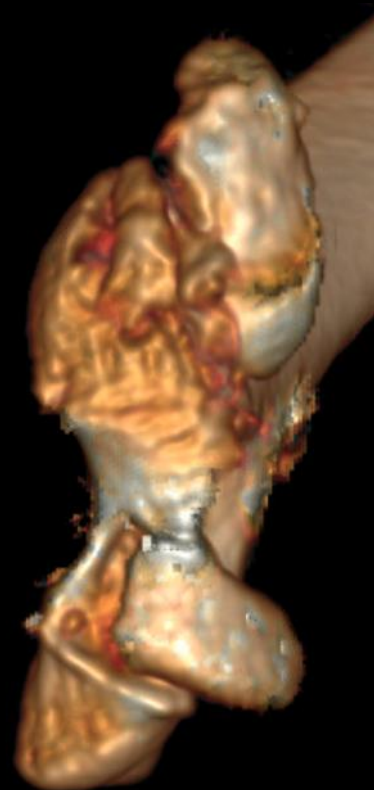
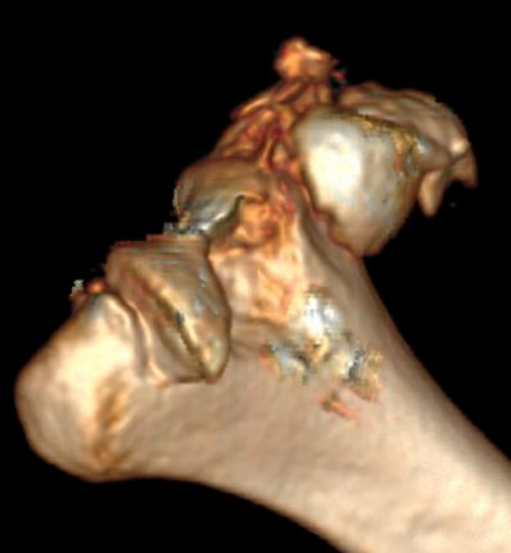
TEA for Acute Fx

- ❑ FRACTURE PATTERN
 - Low transcondylar fx AND Articular Comminution
- ❑ BONE QUALITY
 - Severe Osteoporosis
- ❑ AGE: >75 ?
- ❑ Comorbidities
 - Healing potential





76 yo
-Fx pattern
- Age
- Bone
quality



Survival of TEA

- ❑ RESTRICTION: 5lbs for life

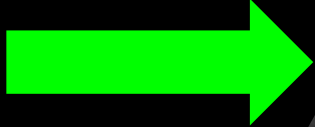
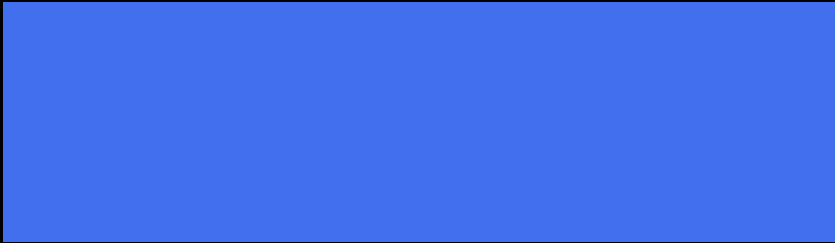
A survivorship study of 838 total elbow replacements: a report from the Norwegian Arthroplasty Register 1994-2016

- ❑ 10 yrs: 80%
- ❑ Another 10 % loss every 5 yrs: 60% in 20 yrs

Krukhaug et al., JSES 2018

64 y/o





4 year 10 months



Case

71 yo, LHD, fall onto L elbow



71 yo, LHD: Treatment ?



71 yo, LHD

- s/p Fall
- c/o Left elbow pain, swelling, tingling on 5th finger
- CAD , Aortic stent on Plavix, Renal Artery Stenosis, Peripheral Vascular Disease



71 yo, LHD, 4 weeks post-injury





71 yo, LHD, 4 weeks post-injury: Treatment?



71 yo, 4 weeks post-injury

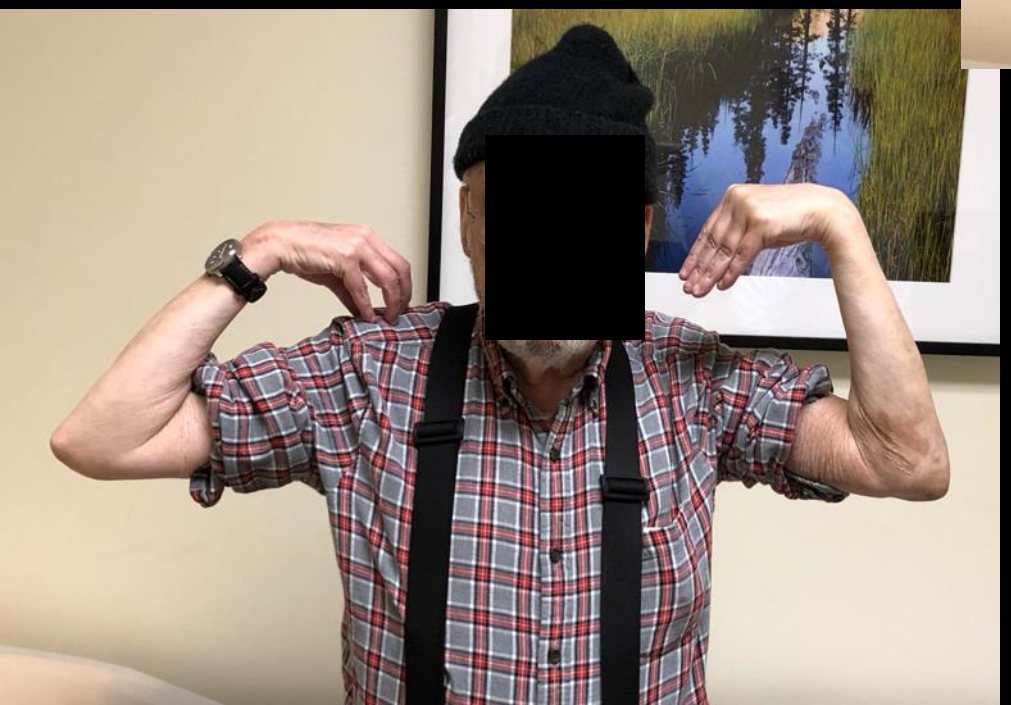


1 yr f/u





1 yr f/u





Pitfalls

- ❑ Save the columns
- ❑ Linked vs unlinked
- ❑ Ulnar preparation
- ❑ Component positioning
 - ROTATION!!!!
 - Sagittal plane: ulna



Current Trend

□ 77 yo



THANK YOU



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