

Appendix 3 – Summary of studies reporting TEA in acute fractures

Study	Study Design	Population	Intervention (s)	Results
Prasad 2016 et al. [23] N=19	Retrospective	Mean age 68 (40 to 80) 63% female	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	Mean flexion 34° to 118° Mean MEPS 90 (50 to 95) Median OES 40 (16 to 48) 15.8% Complications – 10.5% HO, 5.2% radial neuropraxia, 2 HO 10.5% revisions – 5.2% aseptic loosening, 5.2% exchange bushings Survivorship 89.5% at 10 years
Tian et al. 2015 [24] N = 8	Retrospective	Mean age 66.5 (60-81) 88% female	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	Mean flexion arc 103.5° (73° to 118°) Mean MEPS 85.2 (75-95) 50% Complications; 2.5% ulna neuropathy, 1.3% infection, 1.3% HO

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Ellwein et al. 2015 [25] N=9	R e t r o s p e c t i v e c a s e s e r i e	Mean age 70 (41-85) 89% female	Latitude, Tornier, Bloomington, USA	Mean flexion arc 111° +/- 13 Mean MEPS 94 +/- 11 Mean DASH 24 +/- 12 Complications; 33% minor and 11% major

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Giannicola et al. 2014 [26] N= 10	P r o s p e c t i v e c a s e s e r i e s	Mean age 78 (66-89)	Discovery Elbow System (DES; Biomet Orthopedics, Warsaw, IN)	Mean MEPS 99.5 (95-100) Mean QuickDASH - 17 (9.1-22.7) Mean ASES score - 87 (78-94) ROM mean Flexion 138°, extension 13°, pronation 83°, supination 84° 10% Complications; 10 % intra-op fracture
Mansat et al. 2013 [27] N = 87	R e t r o s p e c t i v e m u l t i c e	Mean age 79 (65-93) 92% female 9.2% RA and 5.7% OA	97.7% Coonrad-Morrey 1.1% Discovery 1.1% Latitude	Mean flexion Arc 97° +/-22 Mean MEPS 86 +/- 14 Mean Quick-DASH 24 +/- 19 Mean Katz score 5 +/- 1.5 Complications 23%; 8% neuropathy, 5.7% haematoma, 2.3% CRPS

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Ducrot et al. 2013 [28] N=20	R e t r o s p e c t i v e c o n t i n u o u s s t u d	Mean age 80 (65-93) 90% female 15% RA	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	Mean flexion arc 97° (60°-130°) Mean MEPS 83 (60-100) 35% radiolucent lines Complications; 30% HO, 10% ulnar neuropathy

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Lee et al. 2006 [29] N = 7	R e t r o s p e c t i v e c a s e s e r i e s	Mean age 72.9 (55-85) 71% female 29% RA	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	Mean flexion arc 88.6° (70°-120°) Mean MEPS 94.3 (85-100) No significant complications
Garcia et al. 2002 [30] N=19	R e t r o s p e c t i v e c o n s	Mean age 73 (61-95)	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	Mean flexion 24° to 125° Mean DASH 23 (0.92 to 63.3) Mean MEPS 93 (80 to 100) 10.5% Complications; 5.2% superficial infection, 5.2% neuropraxia

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RA – rheumatoid arthritis, ROM – range of motion, QuickDASH - Quick Disabilities of the Arm, Shoulder and Hand Score, MEPS – Mayo Elbow Performance score, DASH - Disabilities of the Arm, Shoulder and Hand Score, HO – heterotopic ossification, ASES – American Shoulder Elbow Society score, OES – Oxford Elbow Score.