

Appendix 4 – Summary of studies reporting TEA in trauma sequelae

Study	Study Design	Intervention (s)	Outcome	Results
Celli et al. 2016 [31] N=20	Retrospective case-control study	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	ROM MEPS Complications	Mean flexion arc 45° to 109° Mean MEPS 41.3 to 94.3 30% Complications – 10% ulna neuropathies, 20% HO
Koddle et al. 2015 [32] N=17	Prospective cohort study	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	ROM MEPS Complications Revisions	Mean flexion arc 67° to 105° Mean MEPS 54 (30-80) to 93 (60-100) 29% Complications 17.6% Revision – 5.9% fracture, 5.9% aseptic loosening, 5.9% infection

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Kho et al. 2015 [33] N=8	Retrospective case series	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R O M M E P S D A S H B u s h i n g w e a r s C o m p l i c a t i o n s R e v i s i o n	Mean flexion arc 99° to 103° Mean MEPS 85 +/- 21 Mean DASH 70 to 28 Bushings wear 63% 50% Complications 0% revisions
Pogliacomi et al. 2015 [34] N=20	Retrospective case series	Coonrad-Morrey (n=10) Latitude, Tornier (n=10)	M E P S C o m p l	Mean MEPS 51.3 to 86 30% Complications: 15% transient ulnar neuropathy, 5% superficial infection, 5% deep infection, 5% aseptic loosening.

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Ersen et al. 2015 [35] N=7	Retrospective case series	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R O M M E P I Q u i c k- D A S H C o m p l i c a t i o n R e v i s i o n	Mean flexion arc 30° to 90.7° Mean MEPI 24.2 (15-45) to 80 (50-95) Mean Quick-DASH 93.2 to 34.5 14.2% Complications 14.2% Revision 28% bushing wear
Barthel et al. 2014 [36] N = 19	Retrospective multicentre study	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R O M M E P S Q u i c	Mean Quick-DASH Post trauma 34 (5.8 – 73.3), Non-union 39 (19.2-68.3) Mean MEPS Post trauma 86 (45-100), Non-union 86 (45-100) Complications; Post-trauma 58%, Non-union 28% Revision rate; Post trauma 25%, Non-union 14%

			k-DASH Complications Revisions	
Giannicola et al. 2014 [26] N= 14	Prospective case series	Discovery Elbow System (DES; Biomet Orthopedics, Warsaw, IN)	ROM MEPS QuickDASH ASES ESS score	Mean Flexion 96° to 135°, Mean Extension 53° to 18° Mean MEPS 39 (15-65) to 93 (56-97) Mean QuickDASH 71 to 22 Mean ASES score 30 to 82 21.4% Complications; 14.2% ulna neuropathy, 7.1% infection

			m pl ic at io ns	
Prasad et al. 2008 [37] N = 17	Retrospective case series	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R O M M E P S C o m pl ic at io ns	Mean flexion arc 30° to 120° Mean MEPS 80 (55 to 100) 29.4% Complications; 11.8% ulna nerve palsy, 5.9% CRPS, 5.9% infection
Schneeberger et al. 1997 [38] N=41	Consecutive prospective cohort study	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R O M M E P S C o m pl ic at io ns R e vi si o n	Mean flexion arc 40° to 118° Mean MEPS 44 (15-75) to 82 (20-100) 34% Complications; Ulnar component fracture 12%, Worn bushings 5%, Infections 5%, Triceps rupture 2%, Haematoma 2%, Intra-op fracture 2%, Ulna neuropathy 2%, Stiffness 2%, Radial head impingement 2% 22% revisions; 10% ulnar component revision in 4, 4.9% change of bushings, 4.9% deep infection, 2.4% triceps repair
Morrey et al.	Retrospective consecutive case	Coonrad-Morrey (Zimmer, Warsaw, IN, USA)	R	Mean flexion arc 41°-111° to 34°-128°

1991 [39] N=53	series		O M C o m p l i c a t i o n R e v i s i o n	18.9% Complications; Infection 5.7%, Humeral fracture 5.7%, Triceps rupture 3.8%, Ulna fracture 1.9%, Radial nerve 1.9%. 30% Revisions; 26.4% aseptic loosening and 3.8% infection
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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.