

Supplementary article data

Conversion to below-elbow cast after 3 weeks is safe for diaphyseal both-bone forearm fractures in children

A multicenter randomized controlled trial involving 127 children

Joost W Colaris¹, Jan Hein Allema², L Ulas Biter³, Max Reijman¹, Cees P van de Ven¹, Mark R de Vries⁴, Rolf M Bloem⁴, Albert J H Kerver³, and Jan A N Verhaar¹

¹Department of Orthopaedic Surgery, Erasmus Medical Center, Rotterdam; ²Department of Surgery, Haga Hospital, the Hague; ³Department of Surgery, Sint Franciscus Hospital, Rotterdam; ⁴Department of Surgery, Reinier de Graaf Hospital, Delft, the Netherlands.

Correspondence: j.colaris@erasmusmc.nl

Submitted 12-11-04. Accepted 13-07-04

Table 4. Data on secondary outcomes. Unless otherwise stated, values are mean (SD)

	AEC	AEC + BEC
VAS cast comfort ^a	4.4 (2.3)	8.1 (1.8)
VAS cosmetics fractured arm by parents	7.8 (2.2)	8.6 (1.9)
VAS cosmetics fractured arm by orthopedic surgeon	8.0 (2.0)	8.9 (1.6)
Total ABILHAND score at final clinical examination	40 (7.5)	41 (5.3)
Total complications, %	52	39
Secondary dislocation, %	37	31
Secondary reduction, %	11	3
Days in cast	44 (8)	44 (5)
Days until first clinical examination	79 (26)	78 (26)
Days until final clinical examination	211 (43)	208 (38)
Referral to physiotherapy, %	59	38
Number of visits to physiotherapy	4.1 (5.8)	2.2 (4.0)
Limitation of wrist flexion-extension of the fractured arm (degrees)	3.4 (6.9)	1.6 (3.8)
Limitation of elbow flexion-extension of the fractured arm (degrees)	1.2 (4.4)	0.5 (1.9)

^a Significant difference ($p < 0.001$) after correcting for imbalance of baseline variables, namely age, dominant arm, and type of fracture radius.

Table 6. Radiographic outcomes

	AEC				AEC + BEC			
	Trauma	After reduction	Removal of cast	Final	Trauma	After reduction	Removal of cast	Final
Angulation								
AP ulna	13 (9)	3 (3)	4 (3)	6 (4)	13 (12)	4 (4)	6 (4)	6 (4)
AP radius	14 (8)	5 (3)	6 (4)	6 (4)	12 (10)	6 (3)	7 (5)	7 (5)
Lateral ulna	25 (18)	6 (5)	5 (5)	4 (4)	26 (16)	6 (4)	7 (5)	6 (4)
Lateral radius	28 (17)	9 (5)	10 (6)	8 (5)	28 (16)	7 (5)	9 (5)	8 (5)
Translation								
AP ulna	7 (20)	3 (8)	a	a	3 (9)	3 (9)	a	a
AP radius	3 (8)	5 (11)	a	a	11 (21)	11 (19)	a	a
Lateral ulna	10 (27)	7 (17)	a	a	9 (23)	11 (24)	a	a
Lateral radius	9 (25)	4 (10)	a	a	9 (26)	13 (23)	a	a
Shortening of radius and/or ulna, %	14				14			
Rotation of radius and/or ulna, %	6.2				1.7			

Angulation: radioulnar angulation (AP ulna, AP radius) and sagittal angulation (lateral ulna, lateral radius) presented in degrees as mean (SD). Translation: radioulnar translation (AP ulna, AP radius) and sagittal translation (lateral ulna, lateral radius) presented in percentage of the width of ulna or radius as mean (SD).

^a Translation not relevant because of formation of callus.

No significant differences were found between the AEC group and the AEC + BEC group.