

Long Leg Splinting for Pediatric Femur Fractures

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Purpose: Spica casts for pediatric femur fractures can be burdensome to patients’ families and are frequently applied in an operating room, increasing health-care costs. An alternative to spica casting is long leg splinting, which can be applied in clinic and may be easier to maintain than a spica cast. This study compares long leg splinting to spica casting with respect to union rates and final radiographic alignment.

Methods: Patients aged 6 months to 5 years treated for a femoral shaft fracture with a long leg splint were identified. Each of these patients was matched for age and fracture pattern with a patient treated for a femoral shaft fracture with a spica cast applied in the operating room. Demographic and outcomes data from the 2 groups were compared.

Results: 26 patients treated with long leg splinting and 26 matched controls treated with spica casts were included in the study. On presentation, there were no differences between the groups with respect to any of the alignment parameters. Following initial reduction the spica cast group had significantly better alignment with respect to all alignment parameters except shortening. At the time of healing, the alignment in the spica cast group was only significantly better with respect to coronal angulation. There were no differences between the groups with respect to union rate or time to union (Table 1).

PAPER ABSTRACTS

Table 1- Outcomes				
Alignment		Splint (N=26)	Cast (N=26)	p-value
Presentation	Sagittal Angulation (deg)	8.15	6.88	0.56
	Coronal Angulation (deg)	9.42	5.50	0.18
	Shortening (mm)	8.50	12.40	0.09
	Coronal Translation (%)	33%	23%	0.24
Post-splinting v casting	Sagittal Angulation (deg)	7.88	4.16	0.03
	Coronal Angulation (deg)	8.33	4.08	<0.01
	Shortening (mm)	8.42	11.80	0.11
	Coronal Translation (%)	29%	10%	0.01
Union	Sagittal Angulation (deg)	8.96	7.96	0.63
	Coronal Angulation (deg)	8.64	5.32	0.04
	Shortening (mm)	9.08	11.70	0.22
	Coronal Translation (%)	32%	18%	0.10
	Secondary Procedure (%)	4%	4%	>0.99
	Time to Union (days)	44.58	40.83	0.28

Conclusion: Long leg splinting may be a reasonable alternative to spica casting for pediatric femur fractures.

See the meeting app for complete listing of authors’ disclosure information.