

Is the Use of Short Cephalomedullary Nails a Risk Factor for Thigh Pain and Re-fractures?

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Purpose: Our objective was to determine whether the use of short cephalomedullary nails (170 mm and 200 mm) for intertrochanteric fractures in elderly patients is associated with increased rates of thigh pain and peri-implant fractures.

Methods: This was a prospective observational study conducted at a Level I trauma center. 122 patients with intertrochanteric fractures who were operated on using short cephalomedullary nails (170-mm and 200-mm lengths) between January 2018 to June 2019 were included in the study. Main outcomes measured were the functional outcomes and the incidence of thigh pain and peri-implant fractures.

Results: At the time of final follow-up (mean follow-up 14.1 months), fracture union occurred in all patients. Out of the 122 patients, only 12 patients had thigh pain at last follow-up. Six patients had the helical blade protruding from the lateral cortex, which may explain the cause of their pain. Only two patients had pain for which no other obvious cause was found and had to be attributed to the nail length. There were no cases of peri-implant fractures in our study, even though five of the patients had sustained re-trauma during the follow-up period.

Conclusion: Short (170 mm and 200 mm) cephalomedullary nails were not associated with increased risk of thigh pain and refractures. Thigh pain associated with these nails is often unrelated to nail length and can be prevented by using proper surgical technique.

Details of patient with thigh pain at follow up

S No.	Age	Sex	Nail Size	Pain score (using Visual analogue scale)	Associated radiological findings	Activity level and mHHS at follow up
1.	64 yrs	M	170mm	3	Long blade	68
2.	70 yrs	F	170mm	2	Long blade, Proud nail	77
3.	70 yrs	M	170mm	3	Long blade, Proud nail	83
4.	67 yrs	M	170mm	3	Posterior entry point	77
5.	75 yrs	M	170mm	4	Long blade	81
6.	78 yrs	M	170mm	3	Long blade, Excessive bowing of femur	68
7.	72 yrs	F	170mm	3	Excessive bowing of femur, Proud nail	63
8.	65 yrs	M	200mm	3	No specific finding	87
9.	72 yrs	F	200mm	4	Long blade, posterior entry	55
10.	65 yrs	F	200mm	4	Proud nail	83
11.	74 yrs	M	200mm	3	No specific finding	87
12.	76 yrs	M	200mm	4	Excessive bowing of femur	83
Associated radiographic findings					Number of cases	
Improper blade length (Lateral soft tissue irritation)					6	
Proud nail segment proximally					4	
Excessive bowing of femur					3	
Posterior entry point					2	
No immediate cause found					2	

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