

Orthopaedic Surgery Resident Exposure to Sliding Hip Screw Fixation for Intertrochanteric Femur Fractures: A Multicenter Study

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INTRODUCTION: There is a significant trend toward the use of intramedullary nail (IMN) over sliding hip screws (SHS) for the treatment of intertrochanteric (IT) femur fractures despite no evidence to support superiority of one implant over the other and a significant cost difference. Several studies have suggested limited exposure to SHS in residency as one contributing reason for this trend. Therefore, this study aimed to determine the level of exposure to SHS among orthopaedic surgery residents.

METHODS:

Data was collected from five orthopaedic surgery residency programs through the case log system of the accreditation council for graduate medical education (ACGME) based on current procedural terminology codes (CPT). The rates of IMN for treatment of IT fracture (27245) were compared to SHS fixation (27244) for the period of 2017-2021. The location of the procedure was also logged as either a level one trauma center, non-trauma hospitals, and a veteran's affairs hospital (VA). Rates of SHS usage were compared by year and location type using a combination of Student's T tests and ANOVA tests.

RESULTS:

A total of 5,910 IT femur fractures were treated by orthopaedic residents during the time period. IMN was utilized for 88.8% of cases. The highest usage of SHS was 15.6% in 2017 with a statistically significant decrease to 9.2% in 2021 ($p < 0.001$). (Figure 1) SHS utilization was lowest at non-trauma centers (5.4%) and highest at level one trauma centers (11.7%).

DISCUSSION AND CONCLUSION:

Residents get a much more limited experience with SHS than they do IMN in their training programs, and there is a significant trend toward fewer SHS implants being used by residents over the past 5 years. Residents' limited experience with SHS during residency may account for the trend toward IMN use that has been shown throughout the field of orthopaedic surgery. Surgeons at academic institutions ought to recognize this trend and strongly consider their implant choice when treating intertrochanteric femur fractures for fear of sliding hip screws becoming a lost art.

Year	Total Cases	Sliding Hip Screw (27244)	Intramedullary Nail (27245)	P-Value	Odds Ratio [95% CI]
2017	1091	170 (15.6%)	921 (84.4%)	--	--
2018	1018	131 (12.9%)	887 (87.1%)	0.087	0.807 [0.63, 1.03]
2019	1192	124 (10.4%)	1068 (89.6%)	< 0.001	0.639 [0.50, 0.82]
2020	1201	104 (8.7%)	1097 (91.3%)	< 0.001	0.528 [0.41, 0.68]
2021	1408	130 (9.2%)	1278 (90.8%)	< 0.001	0.560 [0.44, 0.72]
Total	5910	659 (11.2%)	5251 (88.8%)	--	--