

TABLE E-1 Patient Characteristics at Baseline

	Total (N = 194 Fractures, 189 Patients)	Elastic Nail (N = 105 Fractures, 104 Patients)	External Fixation (N = 33 Fractures, 32 Patients)	Rigid Nail (N = 37 Fractures, 37 Patients)	Plate (N = 19 Fractures, 17 Patients)	P Value
Age (yr)						<0.001*
Mean	13.2	12.9	12.9	14.5*	13.3	
Stand. dev.	1.4	1.2	1.1	1.5	1.6	
Range	11.0-17.6	11-15.8	11-15.7	11.6-17.6	11.2-16.1	
Sex						0.396
M:F	145:44	77:27	27:5	26:11	15:2	
% boys	77	74	84	70	88	
Weight (kg)						0.001†
Mean	49.5	47.6	46.8	55.2†	54.4	
Stand. dev.	11.5	10.8	12.9	9.8	12	
Range	23-84	25-80	23-80	38-84	34-70	

*The rigid nail group was significantly older than all other groups (Bonferroni adjusted $p < 0.01$ in pairwise comparisons). †The rigid nail group was significantly heavier than the elastic nail and external fixation groups (Bonferroni adjusted $p < 0.02$) but not significantly different from the plate group.

TABLE E-2 Injury Characteristics*

	Total (N = 194 Fractures, 189 Patients)	Elastic Nail (N = 105 Fractures, 104 Patients)	External Fixation (N = 33 Fractures, 32 Patients)	Rigid Nail (N = 37 Fractures, 37 Patients)	Plate (N = 19 Fractures, 17 Patients)
Mechanism of injury					
Pedestrian/bicyclist struck by motor vehicle	46 (24%)	28 (27%)	8 (24%)	7 (19%)	3 (16%)
Motor-vehicle accident	36 (19%)	18 (17%)	3 (9%)	11 (30%)	4 (21%)
Fall	25 (13%)	13 (12%)	6 (18%)	4 (11%)	2 (11%)
Winter sport injury	44 (23%)	24 (23%)	9 (27%)	6 (16%)	5 (26%)
Other sports injury	38 (20%)	20 (19%)	6 (18%)	9 (24%)	3 (16%)
Other mechanism	5 (3%)	2 (2%)	1 (3%)	0 (0%)	2 (11%)
Other injury characteristics					
Polytrauma	69 (36%)	32 (30%)	16 (48%)	13 (35%)	8 (42%)
High energy	103 (53%)	54 (51%)	16 (48%)	21 (57%)	12 (63%)

*Column percentages are provided to allow comparison of the rates of injury characteristics among the treatment groups.

TABLE E-3 Fracture Characteristics*

	Total (N = 194 Fractures, 189 Patients)	Elastic Nail (N = 105 Fractures, 104 Patients)	External Fixation (N = 33 Fractures, 32 Patients)	Rigid Nail (N = 37 Fractures, 37 Patients)	Plate (N = 19 Fractures, 17 Patients)	P Value
Level						0.3
Proximal 1/3	61 (31%)	30 (29%)	12 (36%)	12 (32%)	7 (37%)	
Middle 1/3	112 (58%)	65 (62%)	18 (55%)	22 (59%)	7 (37%)	
Distal 1/3	21 (11%)	10 (10%)	3 (9%)	3 (8%)	5 (26%)	
Pattern						0.001†
Spiral	50 (26%)	15 (14%)	18 (55%)†	11 (30%)	6 (32%)	
Transverse	97 (50%)	60 (57%)	11 (33%)†	17 (46%)	9 (47%)	
Oblique	47 (24%)	30 (29%)	4 (12%)†	9 (24%)	4 (21%)	
Comminution						<0.001‡
0%	74 (38%)	40 (38%)	10 (30%)	16 (43%)	8 (42%)	
<25%	62 (32%)	42 (40%)	6 (18%)	8 (22%)	6 (32%)	
25%-<50%	21 (11%)	15 (14%)	3 (9%)	1 (3%)	2 (11%)	
50%-<75%	14 (7%)	6 (6%)	3 (9%)	5 (14%)	0	
≥75%	23 (12%)	2 (2%)	11 (33%)	7 (19%)	3 (16%)	
Open fracture	13 (7%)	2 (2%)	8 (24%)§	2 (5%)	1 (5%)	<0.001§

*Column percentages are provided to allow comparison of the rates of fracture characteristics among the treatment groups. †As compared with the other treatment groups, the external fixation group had a significantly different distribution of fracture patterns (more spiral and fewer transverse and oblique fractures). ‡As compared with the elastic nail group, the external fixation group and rigid intramedullary nail group had a significantly higher proportion of comminuted fractures (≥25%). §As compared with the other treatment groups, the external fixation group had a significantly higher proportion of open fractures.

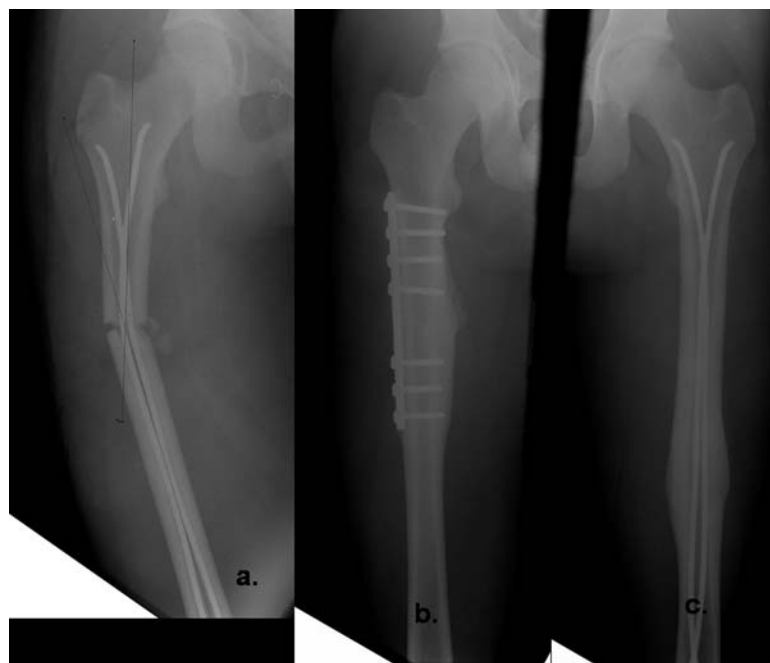


Fig. E-1

Loss of reduction after elastic stable intramedullary nail fixation. a: Loss of reduction one week after elastic stable intramedullary nail fixation of a right femoral fracture. b: The fixation was revised to a compression plate, and healing occurred. c: The contralateral side healed uneventfully after the elastic stable intramedullary nail fixation.