

Fixation Using Alternative Implants for the Treatment of Hip Fractures: A Large, Blinded, International Multicenter Randomized Trial

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Purpose: Worldwide, 4.5 million persons are disabled from hip fractures yearly with an expected increase to 21 million persons living with disability in the next 40 years. The optimal fracture fixation technique for low-energy femoral neck fractures remains controversial. A lack of consensus regarding the optimal approach for fixation of femoral neck fractures fueled the design and execution of the Fixation Using Alternative Implants for the Treatment of Hip Fractures (FAITH) randomized controlled trial (RCT). This RCT evaluated the impact of cancellous screw fixation versus sliding hip screws on rates of revision surgery at 24 months in individuals with femoral neck fractures.

Methods: This was a large, blinded randomized trial enrolling patients across 81 centers with displaced and undisplaced femoral neck fractures requiring internal fixation. Participants were randomized to one of two fixation strategies. The first strategy involved fixation of the fracture with multiple small diameter cancellous screws (cancellous screw group). The second treatment strategy involved fixation of the fracture with a single larger diameter screw with a sideplate (sliding hip screw group). The primary outcome was revision surgery within 2 years of the initial surgery. Patients and data analysts were blinded to the treatment groups.

Results: 1111 participants were enrolled into the trial over a 6-year period from 2008 to 2014 at 81 clinical sites in the United States, Canada, Australia, the Netherlands, Norway, and India. Baseline characteristics are presented in Table 1. The results will be released in a symposium presentation at the OTA annual meeting

Conclusion: This study represents major international efforts to definitively resolve the treatment of low-energy femoral neck fractures. The rigor of the FAITH trial, and its size, ensures that, given the current variability in use of internal fixation methods of femoral neck fracture, the results will change practice in the management of these challenging fractures.

Table 1. Baseline Characteristics

Age (mean ± SD)	72.0±12.2
Male	435 (39.7%)
Ethnicity	
Caucasian	891 (81.4%)
South Asian	145 (13.2%)
Black	40 (3.7%)
East Asian	10 (0.9%)
Hispanic of Latino	5 (0.5%)
Native or Aboriginal	4 (0.4%)
Mechanism of Injury	
Fall	1060 (96.9%)
Spontaneous	20 (1.8%)
Other	14 (1.3%)
Fracture Displacement	
Undisplaced	747 (68.1%)
Displaced	350 (31.9%)
Level of the Fracture Line	
Subcapital	627 (57.2%)
Midcervical	376 (34.3%)
Basal	94 (8.6%)
Pauwel’s Classification	
Type I	203 (18.5%)
Type II	675 (61.5%)
Type III	219 (20.0%)

SD=Standard deviation