

**Cemented versus Cementless Hemiarthroplasty for Femoral Neck Fractures:  
A Meta-Analysis of Randomized Controlled Trials**

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**Purpose:** The purpose of this study was to perform a meta-analysis of the randomized controlled trials (RCTs) to compare the outcomes following cemented and cementless hemiarthroplasty for femoral neck fractures.

**Methods:** A literature search of 3 databases was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. RCTs comparing cemented and cementless hemiarthroplasty for femoral neck fractures were included. Clinical outcomes were compared using Revman, and a P value <0.05 was considered to be statistically significant.

**Results:** Nine RCTs with 3177 patients were included. Overall, 24.2% of patients treated with a cemented hemiarthroplasty and 28.6% of patients treated with cementless hemiarthroplasty died within 1 year ( $P = 0.01$ ), but there was no significant difference in perioperative mortality or mortality at 30 days ( $P > 0.05$  for both). There was also a significantly lower rate of periprosthetic fractures with cemented hemiarthroplasty (0.9% vs 4.8%,  $P < 0.0001$ ), but there was no significant difference in the rate of revision surgery, dislocations, or wound infections between groups ( $P > 0.05$ ). Cementless hemiarthroplasty resulted in significantly faster operative times (61.7 vs 69.5 minutes,  $P = 0.007$ ).

**Conclusion:** The current Level I evidence in the literature shows that cemented hemiarthroplasty for femoral neck fractures offers results in lower mortality at 1 year than cementless hemiarthroplasty, improved 1-year mortality rates, and less periprosthetic fracture compared to press-fit hemiarthroplasty. Despite the increase in operative time, cemented hemiarthroplasty offers compelling clinical advantages compared to cementless hemiarthroplasty for surgical management of displaced femoral neck fractures in the elderly.