

**Displaced Femoral Neck Fractures in Workers' Compensation Patients Aged 45-65 Years: Is It Best to Fix the Fracture or Replace the Joint?**

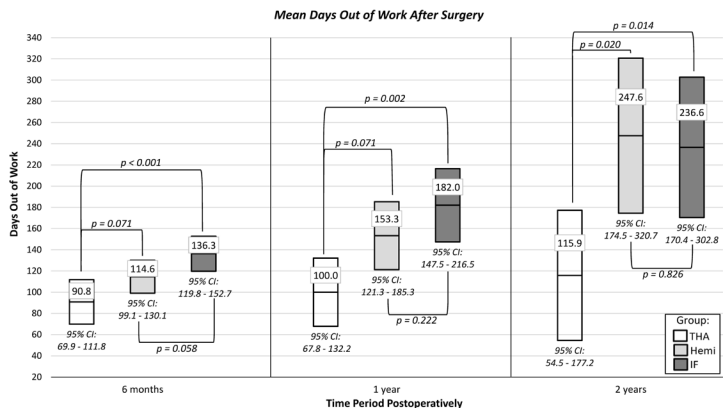
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**Purpose:** Optimal surgical management of displaced femoral neck fractures (dFNFs) in patients 45-65 years old is poorly understood. We evaluated how treatment selection between internal fixation (IF), hemiarthroplasty (HA), and total hip arthroplasty (THA) impacted days out of work (dOOW), indemnity, and medical costs at 2 years within a Workers' Compensation (WC) population with dFNFs.

**Methods:** Using the Ohio Bureau of WC's database, we retrospectively reviewed patients with subcapital dFNFs aged 45-65 years, with 2 years follow-up and no additional injuries. 105 patients who underwent IF (37), THA (23), or HA (45) from 1993-2015 were included. dOOW was compared between each group using t-tests. Linear regression was used to determine if a specific treatment choice was predictive of dOOW. dOOW was evaluated at 6 months, 1, and 2 years postoperatively. Gamma regression was used to evaluate net medical and indemnity costs paid by the Bureau adjusted to 2017 Consumer Price Index at 2 years.

**Results:** Subjects who underwent THA had the lowest mean dOOW at 6 months, 1, and 2 years postoperatively. At each time point, THA means were significantly lower than IF. THA had a lower mean dOOW than HA at 2 years (see attached figure). Using linear regression, relative to THA, IF was a significant predictor of higher dOOW at 6 months ( $P < 0.001$ , beta coefficient ( $\beta$ ) 45.4), 1 year ( $P = 0.002$ ,  $\beta$  82.0), and 2 years ( $P = 0.032$ ,  $\beta$  120.7). HA was a significant predictor of higher dOOW at 1 ( $P = 0.039$ ,  $\beta$  53.3) and 2 years ( $P = 0.016$ ,  $\beta$  131.7). At 2 years, mean medical costs were not different. Relative to THA (mean \$4213.3), IF ( $P < 0.001$ , mean \$12,546.5) and HA ( $P = 0.007$ , mean \$9909.1) were predictive of higher indemnity costs with gamma regression. Within 2 years, nonunion and avascular necrosis (AVN) rates in the IF group were 10.8% and 16.2%. The IF group had a 5.4% rate of conversion to THA. 11.1% of HAs were revised to THA for pain. One THA was revised for dislocation perioperatively.

**Conclusion:** Treatment of WC patients aged 45-65 years with dFNFs with THA was associated with fewer dOOW, lower indemnity, and similar medical costs at 2 years. Long-term follow-up is lacking.



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