

# **Predictors for major reoperation in patients younger than 70 years of age with a displaced femoral neck fracture**

## **A two-year follow-up study**

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### **Background and purpose**

The recommended treatment in younger patients is fracture reduction and internal fixation (IF) but there's a tendency choosing a total hip replacement and the reason is the well-known risk for re-operation. The primary aim of this study was to investigate factors associated with re-operation caused by fracture healing complications due to nonunion (NU) and avascular necrosis (AVN) in patients 20-69 years with a displaced femoral neck fracture (FNF) treated with (IF).

### **Patients and methods**

128 patients, 20-69 years with a displaced FNF treated with IF were prospectively included and followed up at 4, 12 and 24 months. Gender, age, smoking, alcohol consumption, general physical health according to ASA score, BMI, Bone Mineral Density (BMD, T and Z-score), fracture reposition, fracture healing, and major re-operations were recorded.

### **Results**

Re-operation rate due to NU or AVN at 4, 12 and 24 months was 6%, 16% and 28%. With logistic regression analysis only two predictors; Osteoporosis or osteopenia, (OR 4.9, CI (1.03-23.4), p=0.046) and good fracture reduction (OR 0.4, CI (0.15-0.98), p=0.047) were significantly associated with a re-operation.

### **Discussion**

This study showed that more than two thirds of the patients <70 years with displaced FNF had healed after one operation. Good fracture reduction decreased the odds for major re-operation while a low BMD increased the odds for major re-operation.

### **Conclusion**

The study suggests that IF may still be recommended for the majority of younger patients with displaced FNF. It shows the importance of good reposition and BMD in fracture healing.