

## Extracapsular Proximal Femoral Fractures (OTA/AO 31-A) in Young Adults Have Surprisingly Poor Outcomes

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**Background/Purpose:** Proximal femoral fractures in adults under 50 years are not as common as in the elderly population, but may have just as significant an impact. In this age group, the majority of fractures are extracapsular and are due to high-energy trauma. Our aim was to assess the outcome of operative management of extracapsular proximal femoral fractures (OTA/ AO 31-A) in the young adult (<50 years).

**Methods:** Consecutive skeletally mature patients 50 years or younger presenting to our institution requiring operative management of extracapsular proximal femoral fractures during the period August 1999- August 2011 were obtained from a prospective database. Outcome scores were obtained via postal questionnaires. Demographic and mortality data for patients older than 50 years undergoing fixation for the same fracture types in the same period were also obtained and analysed for comparison.

**Results:** For the under-50-years-old group, a total of 88 patients were included with a mean age of 38.5 years (range, 17-50). There were 3939 patients over 50 years treated for these fractures in the same time period. In the younger group, a majority of these patients were males (73.8%) and were involved in high-velocity injuries (road traffic accident or fall from a height) in comparison to the older group where there was a female preponderance (74.8%) and the main cause was a fall (81%). 43.1% of patients in the younger group had no comorbidities compared to 29.1% of the older group. In both groups the majority had pertrochanteric fractures but in the older group there was a higher prevalence of more comminuted (3- and 4-part) fractures. Most fractures in the both groups were treated with a dynamic hip screw (84.1% and 77.6%). The mean hospital stay was 13.5 days (range, 2-94) for the under-50-years-old group and 21.2 days (range, 1-169) for the older group. One-year mortality for the under-50-years-old group was 4.5% and for the over-50-years group was 33.3%. 17 (19.3%) patients in the under-50 group had died at a mean of 40 months from their operation date. All deaths resulted from other injuries or comorbidities. The complication rate in the younger group was 5.7% and in the older group 25.7%. Outcome scores (<50 years group): Most patients had returned to near-normal function as assessed by Short Form (SF)-36 and EuroQol EQ-5D but 5-10% had severe problems and there was overall an almost 20% decrease in quality of life compared to population norms with the biggest differences in the physical function modalities. One third of patients had fair to poor hip function as assessed by the Oxford Hip Score.

**Conclusion:** Young patients sustaining extracapsular hip fractures have a significant mortality and length of hospital stay reflecting a higher energy of injury than in older patients rather than frailty. These injuries are rare and complex due to associated injuries. Although overall functional recovery is reasonable, a significant percentage do have problems especially in the physical modalities and hip-specific function.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.