

ID: 886

Title: Occurrence of secondary fracture around intramedullary nails used for trochanteric hip fractures; a systematic review of 13,568 patients.

Abstract: We analyzed data related to 13,568 patients from 95 studies, focusing on the incidence of post operative secondary femoral shaft fracture following the use of intramedullary nails in the fixation of trochanteric hip fractures. The overall reported incidence of secondary fracture around the nail was 226/13,568(1.7%). The incidence of fracture has reduced in the 3rd generation Gamma nails when compared to the older Gamma nails [36/2129(1.7%) versus 131/5099(2.6%) p value 0.03]. Long nails had a slight tendency towards a lower risk of fracture although the difference was not statistically significant [7/659(1.1%) versus 210/12909(1.7%), p value 0.28]. There was a significantly lower risk of fracture for those nails with a biaxial fixation as opposed to uniaxial fixation [14/2425(0.6%) versus 212/11143(1.9%), p value <0.0001]. Secondary fracture around a proximal femoral nail is one of the most significant of fracture healing complications and this study suggests that continuing design changes to this method of fixation has reduced the risk of this complication occurring.