

## Comparison of Results of Distal Femoral Fractures Treated by Internal Fixation with Locking Compression Plate and Retrograde Femoral Nail

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### Abstract

**Background:** The femur (thigh bone) is the longest, strongest, largest and heaviest tubular bone in the human body. Rapid industrialization and the fast pace of life have brought both comforts and catastrophe like road traffic accidents which are crippling many young lives. Supracondylar and intercondylar femoral fractures are often difficult to treat and they are notorious for many complications. **Methods:** In this study 40 patients with supracondylar fracture of femur with or without inter condylar extension were studied. The method used for fracture fixation was closed or open reduction and internal fixation with retrograde intramedullary supracondylar nail (Group-A) and locking compression plates (Group-B). All the fractures in this series were post-traumatic. No pathological fracture was included in the study. The study was restricted to fractures occurring at the region 9 cm proximal to lower end of the femur. **Results:** 75% of Group A patients underwent closed reduction remaining 25 % undergone open reduction due partial articular extension (AO type B ) 80% of group b patients underwent open reduction in order to fix the plate properly and due to complex nature of fracture (AO type B and C). Average radiological union time was weeks in group A was 10.95 weeks in group-B it was 14.0 weeks. Long-term final results were rated using the Neer's rating system, Mean Group-A 79.25 points Group-B 74.15 points which is in good category for both groups. **Conclusions:** Retrograde intramedullary supracondylar nail is a good fixation system for distal third femoral fractures, particularly extra-articular type and partially articular type. Locking plates are very good fixation types in all types of supracondylar fractures including severely comminuted type c fractures. The mean operative-time is equal in both types of fixations, only difference is we need to open the fracture site in plating and fracture hematoma is disturbed, and need to open the knee joint in supracondylar nailing. Risk of infection is almost same in both groups.