

## Dual Locking Plate Fixation in Tackling a Complex Distal Femur Fracture – A Case Report

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### INTRODUCTION:

Distal femur fractures are a relatively common problem that orthopaedic surgeons deal with today. Lateral distal femoral locking plate is commonly used for fixation. However, certain fracture configurations may render fixation by a single lateral LCP as unstable and prone to varus collapse. Dual locking plate fixation of the distal femur has been proposed to achieve stable fixation but the lack of anatomically designed pre-contoured plates poses a problem to surgeons.

### REPORT:

A 16 years old boy presented to us with left knee pain and deformity after a fall at a waterfall. He was diagnosed with a closed fracture of left distal femur. Radiograph of his left knee and femur revealed an extra-articular distal femur oblique fracture with the fracture line exiting laterally at the physeal scar as well as medial metaphyseal comminution. CT scan of his left knee revealed a narrow window of bone for bicondylar screw fixation below the physeal scar and above the intercondylar notch. Lack of distal screw purchase laterally as well as medial metaphyseal comminution meant that a single LCP would not be a stable fixation. We used an ipsilateral proximal lateral tibia LCP to achieve dual plating. Medial approach to the distal femur was used via the interval between sartorius and vastus medialis and the plate applied in a buttress fashion followed by MIPO technique for the lateral plating. The stability offered by the dual plating allowed for immediate partial weight bearing for the first 2 months followed by full weight bearing. At 4 months' post operatively, patient had achieved clinical and radiological union with a knee range of motion of 0-130 degrees.



**Figure 1:** Radiograph and CT knee image shows a distal femur fracture with comminuted metaphysis.



**Figure 2:** Post fixation radiograph taken immediately post op (LEFT) and at 4 months post op (RIGHT) shows anatomic reduction achieved via double locking plate.

### CONCLUSION:

Dual plating of distal femur is a good option in managing certain distal femur fractures. The proximal lateral tibia LCP fits anatomically well for the contour of the ipsilateral medial femoral condyle making it a good option for fixation. The stability provided by dual plating also allows for early weight bearing and faster rehabilitation leading to excellent outcomes.

### REFERENCES:

1. Jang, Se-Ang & Byun, Young-Soo & Han, In-Ho & Shin, Dongju. (2016). Medial Plating of Distal Femoral Fracture with Locking Compression Plate-Proximal Lateral Tibia: Cases' Report. Journal of the Korean Fracture Society. 29. 206. 10.12671/jkfs.2016.29.3.206.