

## A Case Report: Femoral Valgus Deformity Correction and Lengthening with Intramedullary Nail and Limb Reconstruction System (LRS)

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### INTRODUCTION:

A valgus leg alignment can be present congenitally or occur after lateral meniscectomy, growth plate disturbances, and/or post-traumatically<sup>1</sup>. The valgus alignment will contribute to the development and progression of lateral compartment osteoarthritis.

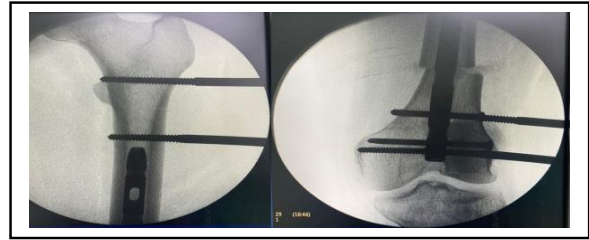
### REPORT:

A 37-year-old woman was referred to us for post-fall left distal femur valgus deformity with primary complaint of left knee pain. A scanogram study of the deformity revealed that the Valgus Mechanical Axis Deviation of  $26^{\circ}$ . She consented to femoral deformity correction and lengthening with nail and LRS.

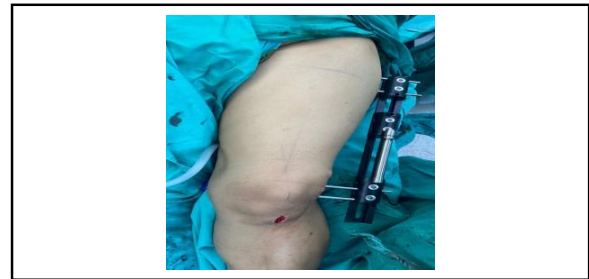
The osteotomy was performed at the CORA, which is about 8 cm from the knee joint. A 11mm intramedullary nail was selected and retrogradely introduced from the distal femur after canal preparation. Two screws were used to lock the distal portion of the nail at the distal bone fragment. The external fixator; LRS was placed over the proximal and distal bone fragments. After surgery, the femur's valgus deformity is corrected, yielding an anatomical lateral distal femoral angle (aLDFA) of  $80^{\circ}$ .

The patient is planned for 3 weeks of LRS lengthening to achieve a 2 cm increase in bone length. She will have another surgery following the satisfactory bone lengthening to remove the LRS and lock the proximal nail with screws.

### Figure 1: Intraoperative Images



### Figure 2: Left thigh post Nail and LRS



### CONCLUSION:

External fixator-assisted acute deformity correction and consecutive lengthening over the intramedullary nail are able to address two pathological entities at the same time<sup>2</sup>. It has a number of benefits over the standard Ilizarov external fixator alone, including a shorter time of external fixator, protection against fracture of regenerated bone, prevention of loss of deformity correction, and earlier rehabilitation<sup>2</sup>.

### REFERENCES:

1. Van Heerwaarden R, et al, Correction of Femoral Valgus Deformity, J Knee Surg. 2017.
2. Mehmet Kocaoglu, et al, Fixator-assisted Acute Femoral Deformity Correction and consecutive lengthening over an Intramedullary nail, Journal of Bone & Joint Surgery. 2009.