

The Bottom-Up Plate; A Case Report on A Pediatric Subtrochanteric Femur Fracture

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INTRODUCTION:

Pediatric subtrochanteric fractures are a peculiar type of fracture due to limited options for internal fixation due to the presence of epiphyseal growth plate compounded by the displacing forces acting across the hip joint [1]. There have been many case reports on using different implants to address this fracture. [2]

REPORT:

An 11-year-old boy weighing 50 kg presented to us with a subtrochanteric femur fracture due to a motor vehicle accident. The decision was made to fix the fracture with plating. Intraoperatively, a short oblique fracture was seen, and multiple plates were tested intraoperatively (PHILOS, reversed distal femur, and reverse distal tibia locking plate). The reversed distal tibial locking plate was the best option as it has the best contour according to the bone and its screw does not violate the epiphyseal plate. Post-op radiographs were satisfactory, the patient was allowed non-weight-bearing ambulation.



Figure 1: Pre-operative x-rays



Figure 2: Post-operative x-rays

CONCLUSION:

Plating was chosen over nailing due to the deforming forces across the hip joint leading to a high postoperative failure of the TENS implant which also has a high reoperation rate. Since there is no anatomical plate for subtrochanteric fractures in pediatrics we tested locking plates that closely resemble the proximal femur. The reversed distal tibia locking plate used has a low tapering profile over the malleolar region and is best seated over the greater trochanter with no additional plate bending. As screws were able to be inserted into the proximal fragment it gives inherent stability that conventional straight locking plates cannot achieve. Hence this plate is an excellent option to address this fracture with almost anatomical contact and exemplary stability.

REFERENCES:

1. Seeley M, Caird MS, Li Y. Subtrochanteric Femur Fractures in Children. In Pediatric Femur Fractures 2016
2. Jindal M, Garg K, Kumar N, Agarwal S, Gandhi V. Management of a Pediatric Subtrochanteric Fracture with PHILOS Plating - A Case Report. Orthoplastic Surgery & Orthopedic Care International Journal 2018;1(5):1-3.