

# ISOLATED TRIPLANE FRACTURE OF DISTAL TIBIA IN ADOLESCENT

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## INTRODUCTION:

Triplane fracture is a traumatic ankle fracture seen in children 10-17 years of age. Name derives from the fact that the fracture exists in the frontal, lateral, and transverse planes and considered as transitional injuries because occur during the period of distal tibial physeal closure, It results from supination- external rotation injury, same as tillaux fracture.

## REPORT:

We presented a case of 14 years old female with right ankle pain after fall with twisted position while running. Examination revealed tenderness on his right ankle, and radiograph showed Salter-Harris IV of tibial epiphysis. CT scan was performed to determine fracture configurations.

Open reduction and internal fixation were done using posterolateral approach using T buttress plate 6 holes to fix the metaphysis fracture. Subsequently anterolateral incision was done to assess epiphysis fracture however fracture site not displaced thus lag screw was abandoned. Postoperatively, the ankle was protected in a backslab for 2 weeks; thereafter, the ankle was mobilized and subjected to progressively increasing motion. Weight bearing was allowed to resume at 6 weeks postoperatively. A normal gait had been achieved by 12 weeks postoperatively.

The diagnosis of Triplane fracture poses a diagnostic challenge and often missed in healthcare centres. On standard AP and lateral radiographs, the fractures cannot be easily detected because of superimposition as radiographic sensitivity for Triplane fracture is only 50%. CT scan of the ankle is recommended if clinical findings are suggestive. The treatment of the Tillaux fragment with compression screws in the case of displacement of >2 mm

which achieves anatomical reduction, rigid fixation and early mobilization gives good prognosis.



**Figure 1 & 2 :** CT scan view

**Figure 3 :** Xray post fixation

## CONCLUSION:

Displacement of >2 mm in any plane is an indication for surgery for both triplane and tillaux fracture, to prevent persistent pain and osteoarthritis in the future. CT scan of the ankle is necessary prior to surgery.

## REFERENCES:

1. Crawford, Alvin H Triplane and Tillaux fracture : Journal of Pediatric Orthopaedics : June 2012 - volume 32 pg S69-S73.