

## Triplane Ankle Fracture in a 14 Years Old Boy

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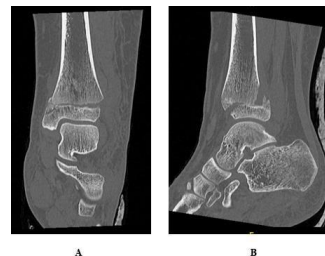
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### INTRODUCTION:

Growth plate fractures are common injuries in children and adolescents. Most fractures involve the physis which is the weakest part of the bone and susceptible to injury. Triplane ankle fractures are complex traumatic Salter-Harris IV fractures involving the metaphysis, physis and epiphysis. The term “triplane” refers to the different orientations of the fracture lines in the distal tibia and represents a frequent diagnostic challenge.

### REPORT:

A 14-year-old boy alleged fall sustained pain at left ankle. Patient’s left foot was externally rotated and developed swelling. At emergency department, noted swelling and tenderness at left ankle with normal neurovascular findings. Plain radiograph showed a triplane fracture. Closed manual reduction of left ankle was done under procedural sedation and applied on backslab. Patient was admitted for close monitoring and prepared for surgery. Computed tomography (CT) image of the patient’s ankle were obtained to look for fracture configuration. An open reduction and internal fixation of the left ankle was approached through an anteromedial incision. After achieving anatomic reduction, definitive fixation was obtained with two 40 mm headless compression screw in the distal tibial metaphysis. The patient was placed in backslab post-operatively and made non- weight bearing. At the patient’s 4 week follow- up visit, wound was well healed with full range of motion of left ankle and he was advised for non weight bearing. At twelve weeks, the patient was transitioned from non weight bearing to weight bearing as tolerated.



**Figure 1:** Coronal(A) and sagittal (B) CT images of the left ankle



**Figure 2:** Post operative X-ray of left ankle (Ap/Lateral) at 12 weeks

### CONCLUSION:

Triplane fractures account for 5% to 15% of paediatric ankle fractures. Clinician should not assume a pediatric ankle injury is simply a ligamentous sprain and should further evaluate by plain radiograph and CT scan to avoid missing a more significant Salter-Harris IV triplane ankle fracture. The prognosis is excellent, given the triplane ankle fracture is identified and appropriately treated.

### REFERENCES:

1.Blackburn EW, Aronsson DD, Rubright JH, Lisle JW. Ankle fractures in children. J Bone Joint Surg Am. 2012 Jul