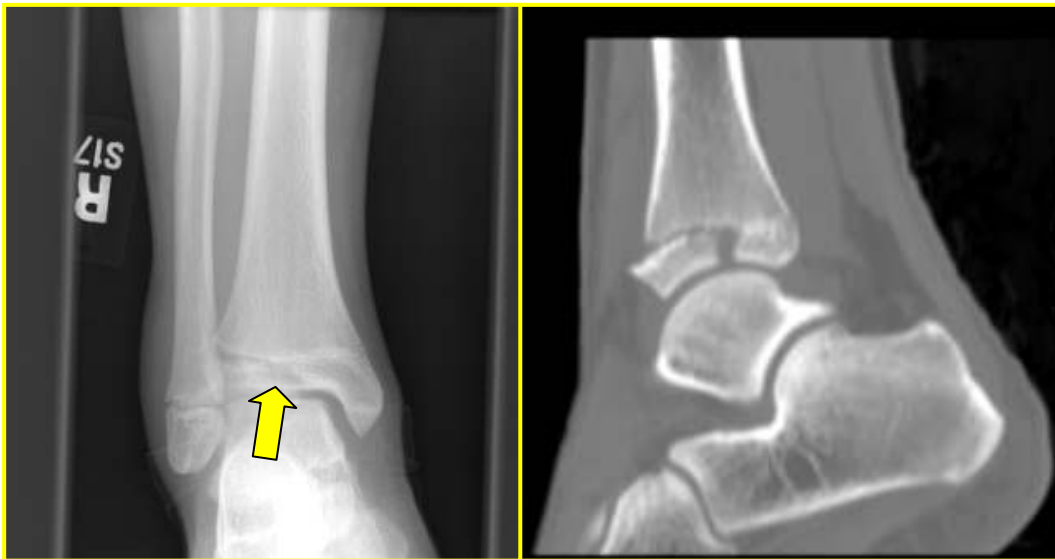


November 2011 Case Study: Juvenile Tillaux Fracture Distal Tibia

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History of Present Illness: The patient is a 13 year-old female who fell while running towards first base playing softball yesterday. She had immediate pain and swelling in her right ankle and she was unable to put any weight on the right leg. She iced her ankle the rest of the game and she then presented to the emergency room later that night. She had x-rays that showed a distal tibia SH III fracture and then a CT scan was done for further evaluation of the fracture.



Physical Examination: The patient is a well appearing 15 year-old female in no acute distress. Vital signs are stable. Examination focused on the right ankle demonstrates significant soft tissue swelling over the medial and lateral malleolus. Skin remains intact, no fracture blisters and no break in skin. She has tenderness to palpation over the medial malleolus and the distal tibia. There is no obvious rotational or angular deformity at the ankle. She is neurovascularly intact with normal pulses, normal sensation, normal capillary refill. She is unable to put weight on the right leg.

Brief Discussion: The patient has a juvenile Tillaux fracture of the distal tibia which is a Salter-Harris III (growth plate fracture). These fractures generally require operative

fixation if there is 2mm or more of displacement at the articular surface of the distal tibia epiphysis. Juvenile tillaux fractures only occur during the time period when the physis (growth plate) has started to close. The fracture occurs after the medial part of the growth plate has closed but the lateral part remains open (and becomes the weak link). Growth disturbance/arrest is not a significant issue in these patients as the physis is already in the process of closing. It is far more important to obtain normal joint surface congruity to avoid arthritis.

