

A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide, partially overlapping the text.

7 y/o M presents after a recent fall

Samantha Huq, MD, MPH









?

Salter-Harris fracture (type II)



Frontal radiograph of the ankle does not demonstrate an obvious fracture



Oblique radiograph of the ankle demonstrates faint periosteal reaction (arrow) though no definite fracture is identified



Lateral radiograph of the ankle shows a fracture line extending from the growth plate to the metaphysis consistent with a Salter-Harris fracture (type II)

Salter-Harris Fracture (type II)

Physeal fractures (also known as Salter-Harris fractures) are important childhood fractures that involve the physal plate. They are relatively common and important to identify because the involvement of the physis may cause premature closure resulting in limb shortening and abnormal growth.

Most common in 10-15 year old children. Most commonly occur following trauma.

Salter-Harris classification is used to describe physal fractures:

Type I (fracture plane extends along the growth plate); type II (fracture extends along the growth plate and proximally through the metaphysis); type III ((fracture plane extends along the growth plate and distal through the epiphysis); type IV (fracture plane extends through the metaphysis, physis, and epiphysis); type V (crushing type injury with direct compression of the growth plate).

Radiographs are required to make diagnosis. Complex metaphyseal or epiphyseal fractures can be further assessed using CT. MRI is useful if physal injury is suspected as it will show bone edema adjacent to the injured physis.

References

- Leary JT et al: Physeal fractures of the distal tibia: predictive factors of premature physeal closure and growth arrest. J Pediatr Orthop. 29(4):356-61, 2009
- Mubarak SJ et al: Classification of proximal tibial fractures in children. J Child Orthop. 3(3):191-7, 2009
- Shi DP et al: Epiphyseal and physeal injury: comparison of conventional radiography and magnetic resonance imaging. Clin Imaging. 33(5):379-83, 2009