Skeletally immature patient with left hand pain after a fall

Jessica Malcolm
Elizabeth Wolfe
Atul Kumar, MD, MS
Idiopathic short 4\textsuperscript{th} and 5\textsuperscript{th} metacarpals
Positive metacarpal sign: yellow line tangent to the heads of the 4th and 5th metacarpals intercepts the third metacarpal.
Oblique view demonstrates shortened 4\textsuperscript{th} and 5\textsuperscript{th} metacarpals with no evidence of fracture.
Short 4th and 5th metacarpals

- Radiographic imaging features:
  - Line drawn across heads of 4th and 5th metacarpals, should not intersect the 3rd metacarpal. If it does, this indicates that the 4th metacarpal is shortened.
  - Metacarpal sign may be positive in up to 10% of normal individuals
- 4th and 5th metacarpals can be shortened in many conditions.
- Idiopathic is most common
- Differential includes infection, trauma (premature growth plate closure), pseudohypoparathyroidism, Turner Syndrome, and Albert’s hereditary osteodystrophy
References


