Skeletally immature patient with left hand pain after a fall

Jessica Malcolm
Elizabeth Wolfe
Atul Kumar, MD, MS
Idiopathic short 4th and 5th metacarpals
Positive metacarpal sign: yellow line tangent to the heads of the 4th and 5th metacarpals intercepts the third metacarpal.
Oblique view demonstrates shortened 4th and 5th 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


