Bifid Epiphysis of the Great Toe Proximal Phalanx:

A Justification for Comparison Radiographs

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Disclaimer

- Parisa Morris MD
  - My disclosure is in the Final AOFAS Mobile App.
  - I have no potential conflicts with this presentation.

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Introduction

- Recently in our clinic, two skeletally immature patients were referred for second opinions regarding a great toe proximal phalanx epiphyseal fracture.

- Both patients sustained an injury during sports with great toe pain.

- When seen by their PCP, a diagnosis of “growth plate fracture” was made.

- We hope to emphasize the importance of comparative films, especially in the skeletally immature patient, to help ensure correct diagnosis and treatment.
Methods

- Charts and radiographs of two patients were reviewed.
- Literature search for bifid epiphysis was performed and reviewed.
Case 1

A 15 year old male sustained a hyperflexion injury to his right great playing baseball. He underwent right sided radiographs and a CT scan by his PCP for diagnosis and throughout treatment for a presumed proximal phalanx fracture. He was referred to our office after multiple months of restricted activity without full improvement and bilateral radiographs were performed for the first time confirming diagnosis of bifid epiphysis. He was prescribed a graphite plate and returned to full activity without complication.
Case 2

An 11 year old female injured her right great toe in a sports related activity. Radiographs of the injured side only were taken and she was diagnosed with a proximal phalanx epiphyseal fracture. She underwent serial radiographs and limited activity for over a year due to lack of radiographic evidence of union. When she was referred to our clinic for a 2nd opinion contralateral radiographs again confirmed bifid epiphysis. Her only physical exam finding was limited 1st metatarsophalangeal range of motion. She was released to full activity without complication.
Results

- Two skeletally immature patients sustained sports related injuries and preliminary radiographs of the involved side only.

- Both patients were diagnosed with a great toe proximal phalanx epiphyseal fracture.

- In our office, comparison radiographs were obtained and revealed bilateral bifid epiphysis.

- Patients were released to activity as tolerated and encouraged to range the great toe with successful return to activity.
Conclusion

- The importance of comparison radiographs is demonstrated with the findings in our study.

- Both children refrained from activities, underwent multiple studies, and were treated for a normal variant.

- Parent and patient education is helpful when explaining such findings.