17 year old male with 2-3 months of right elbow pain, clicking, and weakness

Jeremy Grubin
Olecranon stress fracture

- Incomplete, oblique, non-displaced
- Deep aspect of olecranon at trochlear groove
Other findings

• Diffuse cortical thickening of distal humeral shaft
• Minimal thickening of the anterior band of the medial collateral ligament
More history

• HS senior baseball pitcher
• Felt fatigue in arm at first
• Began feeling pain and clicking
• TTP at triceps tendon insertion, posterior olecranon
Olecranon stress fracture

- Occur predominantly in throwing and overhead athletes
- Fourth most common location in athletes (case series, n=196)

Mechanism

- Elbow hyperextension and valgus forces prior to ball release

- Hyperextension and valgus drives capitellum into lateral aspect of the trochlear groove

- Results in tensile forces at medial aspect of trochlear groove

- Chronic overload leads to stress fracture at medial aspect of trochlear groove

- Medial trochlear notch is structural weak point

- Cortical bone more likely to fail with tensile forces

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• Fracture line appearance based
  – Physeal
  – “Classic”
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Treatment

• Initial treatment is nonoperative
  – Rest
  – Immobilization for 4 weeks
  – Throwing cessation
  – Rehab at 6 weeks
  – Throwing program at 8 weeks
• Failure -> operative treatment
  – Cannulated screws favored
  – Dr. James Andrews:

  “We have found that olecranon stress fractures in the competitive overhead throwing athlete often fail to respond to extended nonoperative treatment and require surgical fixation, similar to stress fractures at the proximal diaphysis of the fifth metatarsal (Jones fracture). Therefore, we have been aggressive at performing early internal fixation of these lesions.”
Follow-up

• Obtained after four weeks of conservative treatment
• Plan – continued conservative treatment
References


