

# Gymnast wrist

Heather Borders, MD

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## History

12 year old gymnast. The patient continued to perform despite abnormal radiographs in 2008. Returned for repeat radiographs in 2010.

## Diagnosis

Gymnast wrist

## Discussion

Gymnast wrist represents a chronic physeal stress injury. This is manifested on radiographs as physeal widening and metaphyseal irregularity. The radius is primarily involved as the ulna does not bear much of the loading forces.

Metaphyseal injury likely results in ischemia to the zone of hypertrophy, disruption of the ZPC and metaphyseal cartilage rests which contribute to the metaphyseal undulation and irregularity.

The changes may result in premature physeal closure, ulnar overgrowth and ulnar impaction syndrome or madelung type deformity.

Differential includes rickets, SH I injury.

## Findings

Initial study shows widening of the distal radial physis and irregularity of the distal radial metaphysis. Follow up study 17 months later shows further widening and irregularity with a scalloped appearance of the metaphysis.

The way the images loaded, follow up films are displayed first and initial films are second.

## Reference

Pediatric and Adolescent MSK MRI. J Herman Kan. pp. 60-62.

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