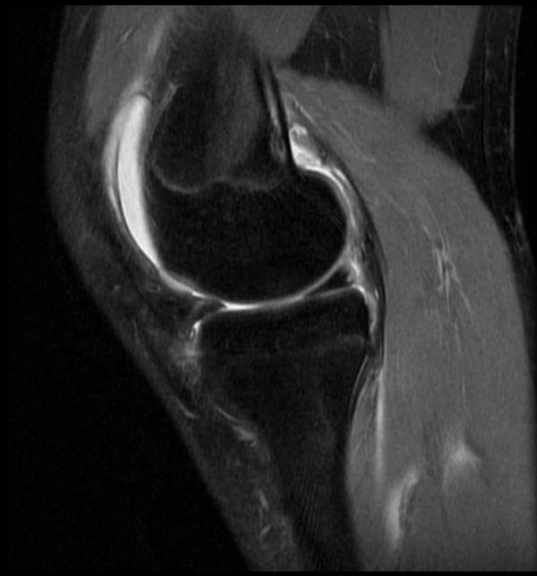
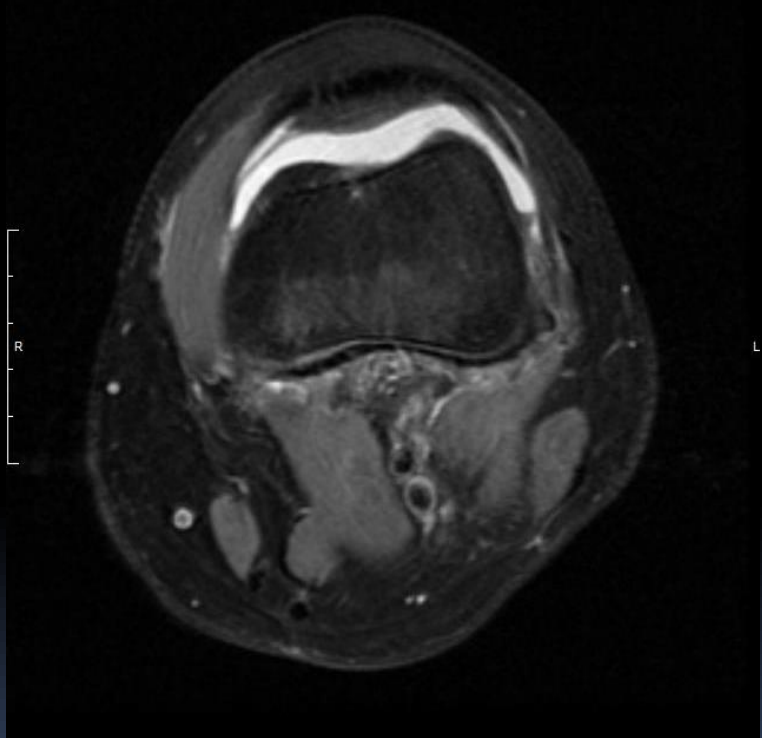
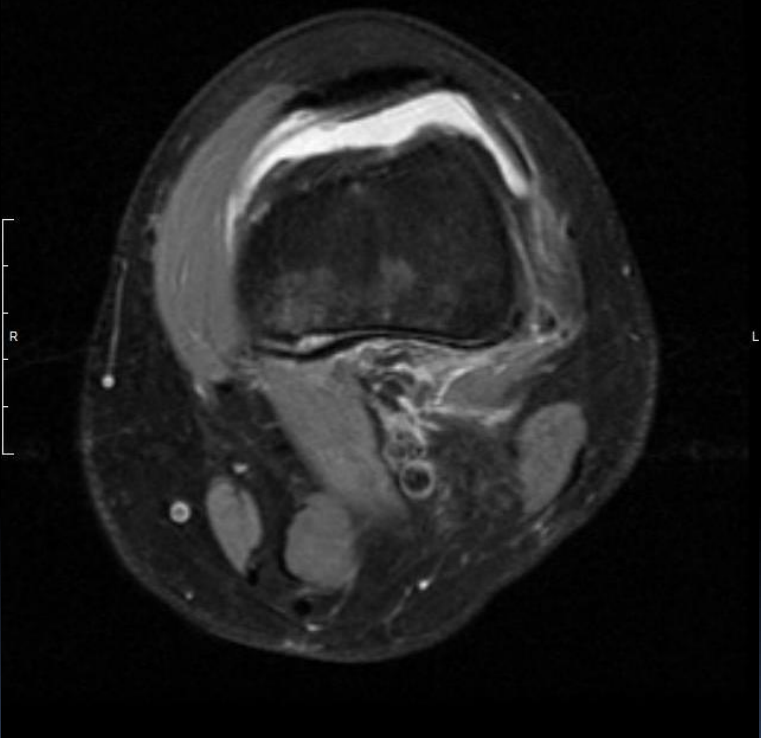




History

- 15-year-old male status post soccer game injury 3 days prior to imaging; rule out medial meniscal tear.






Avulsive Cortical Irregularity

- Definition: Irregularity of posterior, medial distal femoral cortex deep to attachments of medial gastrocnemius or distal adductor magnus muscles
- Synonyms
 - Cortical desmoid
 - Benign cortical irregularity of distal femur
 - Medial distal femoral metaphyseal irregularity
 - Periosteal desmoid
 - Subperiosteal desmoid
 - Cortical abrasion
 - Subperiosteal cortical defect
 - Periostitis ossificans



Avulsive Cortical Irregularity


- Differential Diagnosis
 - Osteosarcoma
 - Osteomyelitis
 - Langerhans Cell Histiocytosis
 - Fibroxanthoma
 - Leukemia
 - Neuroblastoma Metastases
- 

Avulsive Cortical Irregularity

- Most common signs/symptoms
 - Asymptomatic usually
 - Local pain an uncommon presentation
- Age
 - Pediatric (immature skeleton) population
 - Range: 3-17 years; most common 10-15 years
 - Uncommonly persists into adulthood
- Gender: M:F = 1.4-3:1



Avulsive Cortical Irregularity


- Etiology
 - Most likely chronic microtrauma
 - Natural History & Prognosis
 - Often disappears after physeal closure
 - Treatment
 - None if asymptomatic
 - If symptoms localize to this level without other etiologies (uncommon), conservative therapy may relieve repetitive stress injury
 - Avoid unnecessary biopsy (“Don’t touch” lesion)
- 

Distal Posterior Femoral Metaphyseal Lesions

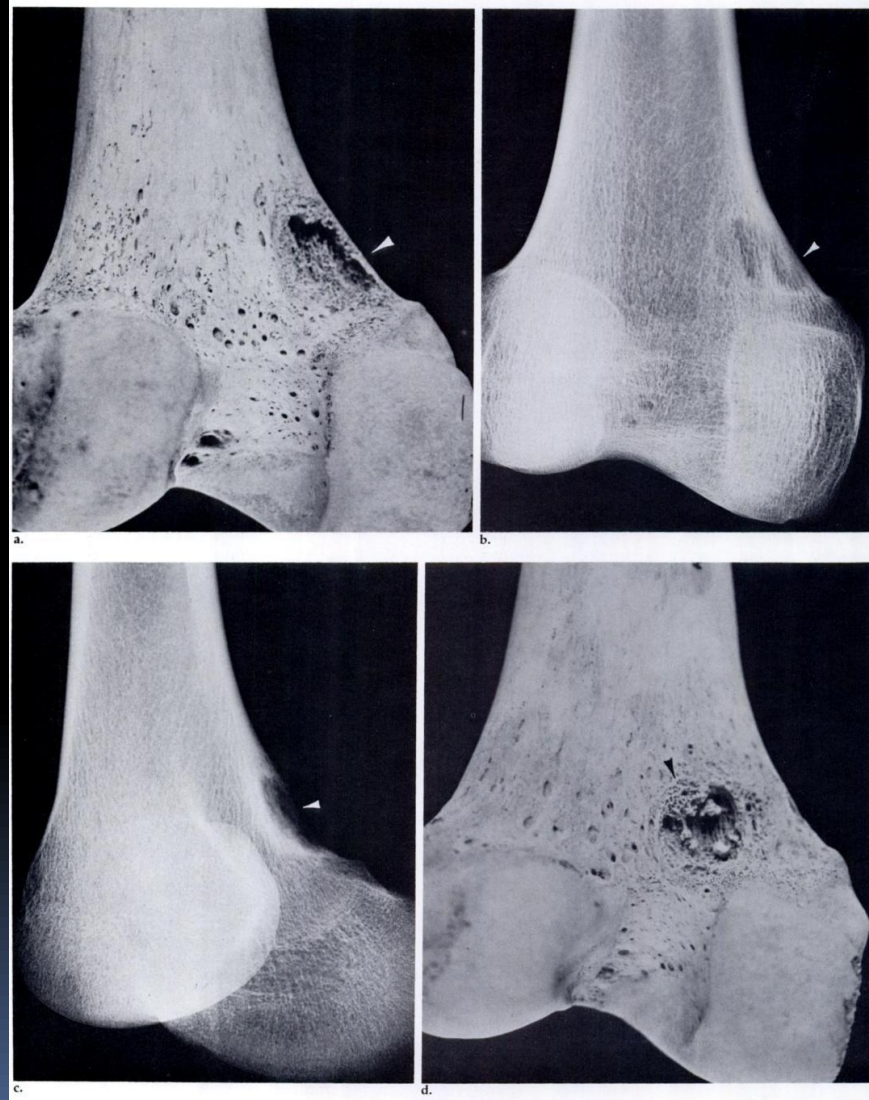
- Distal femoral cortical irregularity (ie avulsive cortical irregularity) > Proliferative
 - Slightly older patients
 - Appears as cortical spiculation or irregularity that may simulate neoplasm
 - Occurs along the medial supracondylar ridge
- Cortical excavation > Cystic
 - Predominates in children and adolescents
 - Presents as cortical lucency or excavation
 - Occurs lateral to medial supracondylar ridge of femur



Femoral Cortical Excavation

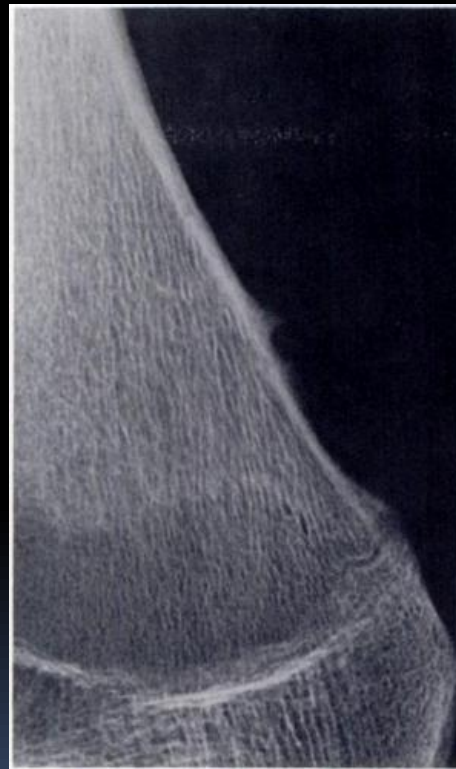
- Occurs at osseous site of attachment of the medial head of the gastrocnemius
 - Supports a stress-related pathogenesis
 - Relationship with fibrous cortical defects not clear
- 

Femoral Cortical Excavation



Resnick D, Greenway G. Distal femoral cortical defects, irregularities, and excavations. *Radiology* (1982), 143(2): 345-54.

Distal Femoral Proliferative Cortical Irregularity



Resnick D, Greenway G. Distal femoral cortical defects, irregularities, and excavations. Radiology (1982), 143(2): 345-54.



References

- Resnick D, Greenway G. Distal femoral cortical defects, irregularities, and excavations. *Radiology* (1982), 143(2): 345-54.
 - Stat DX
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