Rotator cuff Partial-Thickness Tear

- **95% supraspinatus tendon**
- **Articular:bursal surface tears = 3:1**
- **Usually in lateral 1.5 cm of supraspinatus tendon**
- **Other partial-thickness tear types**
  - **Rim rent tear at supraspinatus insertion**
  - **Also called partial articular surface tendon avulsion**
  - **Intratendinous/intrasubstance partial tear or fissure**
  - **Posterior cuff articular surface partial tears in throwers with internal impingement**

Cont

- **Most common signs/symptoms**
  - Pain, especially at night
  - Positive impingement tests
- Many progress to full-thickness tear within 2 years
- May stabilize and become asymptomatic with physical therapy
- Report size, depth, and articular or bursal surface involved

MR

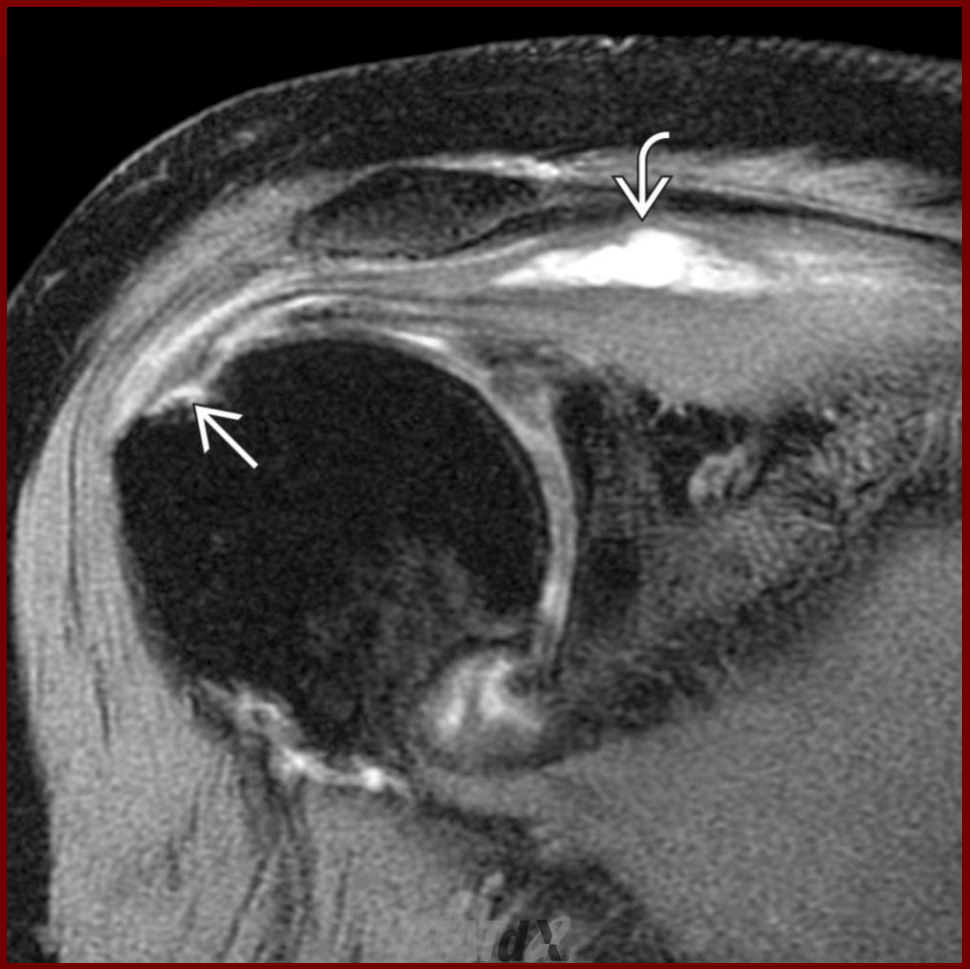
- Focal increased T2WI signal extending to surface of rotator cuff, but not extending across thickness of cuff
- Often fluid signal intensity; this may be obscured by granulation tissue/fibrosis within tear
- May appear as thinned tendon

Rim Rent

- Specific subtype of partial thickness rotator cuff tear that involves the articular surface footprint at the site of tendon attachment into the greater tubercle.
- This sort of tear is relatively common and also can involve the infraspinatus tendon [3]

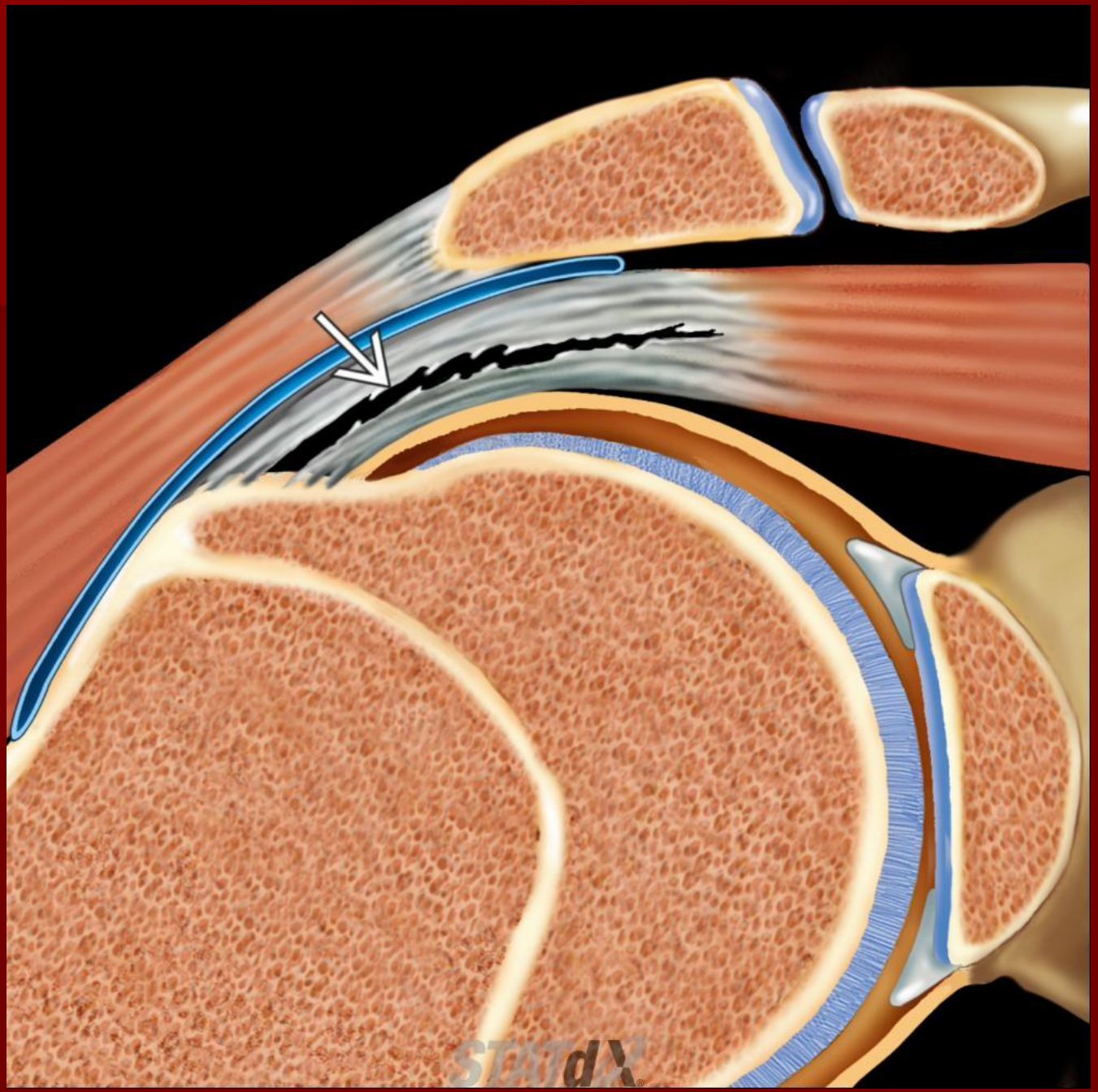
Rim Rent

- Rim-rent tear (white solid arrow), an articular surface partial tendon avulsion at the insertion.
- This patient also has an intramuscular cyst (white curved arrow), a finding associated with partial-thickness tears.



Coronal oblique T2WI FS MR shows high signal in a tear extending to the bursal surface of the supraspinatus tendon (white curved arrow). The articular surface of the cuff (white solid arrow) was intact at surgery, although the original MR reading questioned a small articular surface tear. Bursal partial tears are less common than articular partial tears.

Coronal oblique T2WI FS MR shows a patient with articular and bursal partial tears of the supraspinatus tendon. There is high signal involving both the articular (white solid arrow) and bursal surfaces (white curved arrow) of the tendon, with a thin strip of intact cuff midsubstance (white open arrow).



AP graphic of the shoulder shows an intrasubstance or interstitial fissure/tear (white solid arrow) of the rotator cuff. Some authors call these intrasubstance partial-thickness tears, while others consider these severe tendinopathy.

Coronal oblique MR arthrogram T2WI FS in a patient with an intrasubstance fissure/tear (white solid arrow) is shown. The articular (white curved arrow) and bursal surface (white open arrow) fibers of the cuff are intact, so these interstitial (intratendinous) tears are not seen at arthroscopy or bursoscopy.