

33-year-old female with acute left knee pain and instability following exercise

Taylor LaRese MS3

Radiograph of Knees

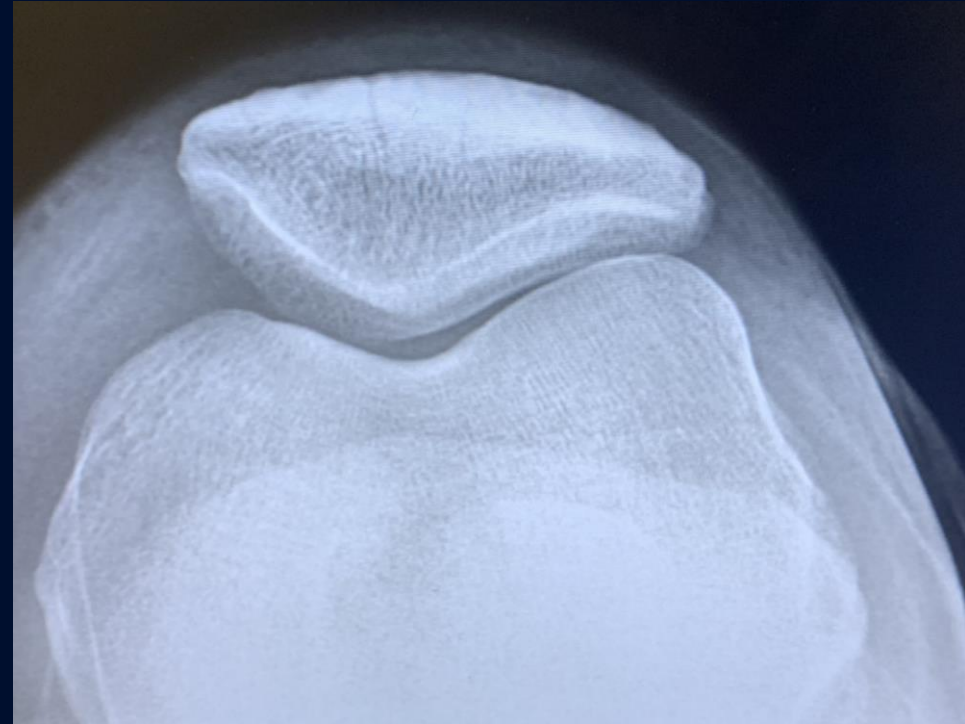


Frontal View

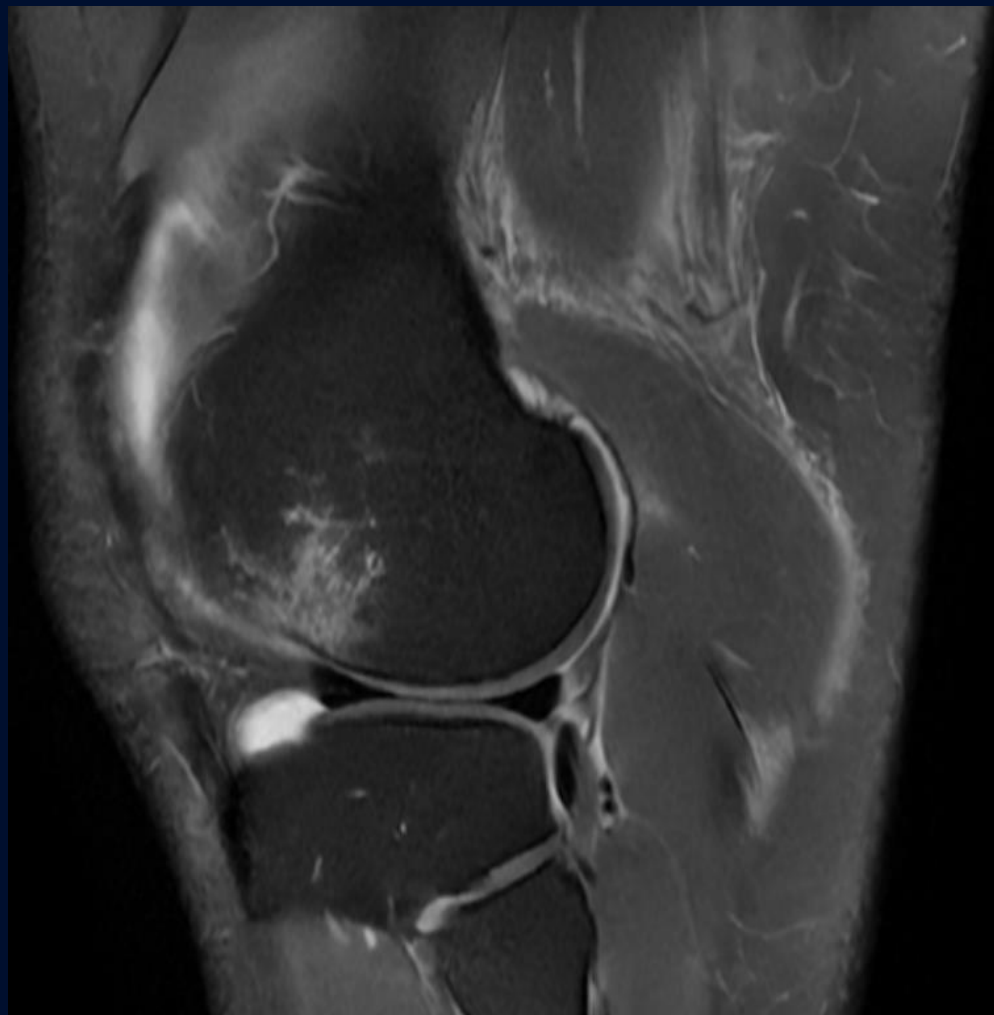
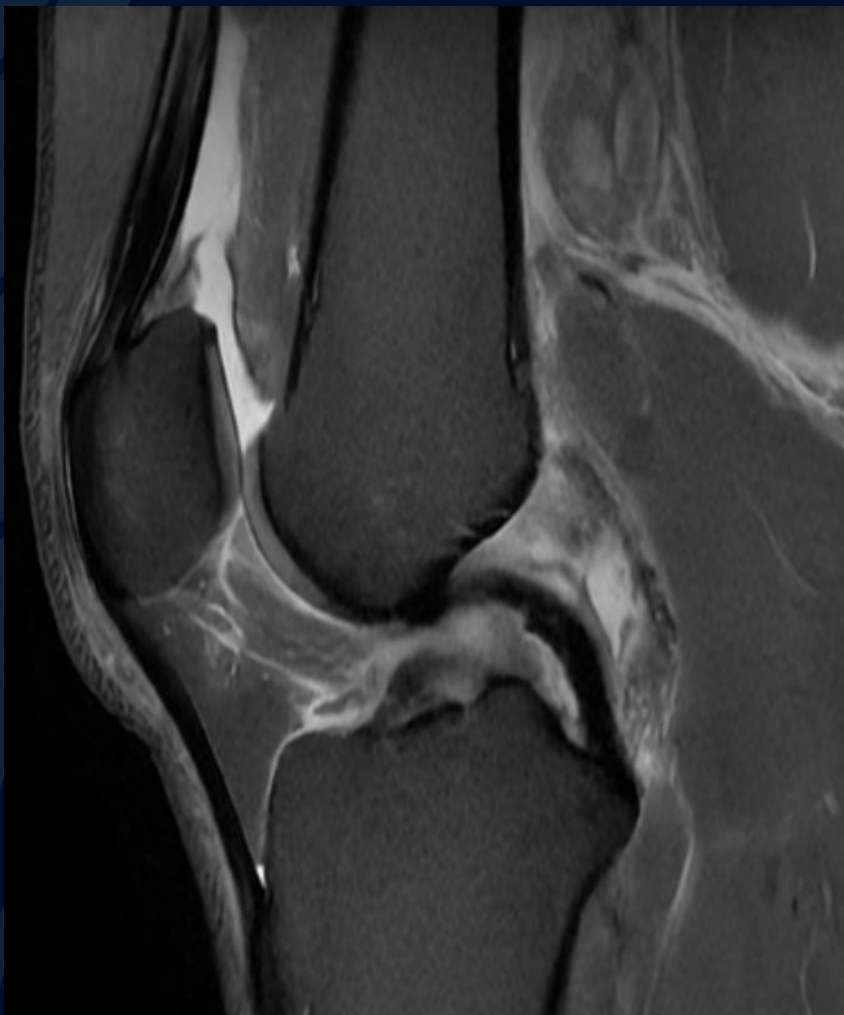
Radiographs of Knees

Lateral View

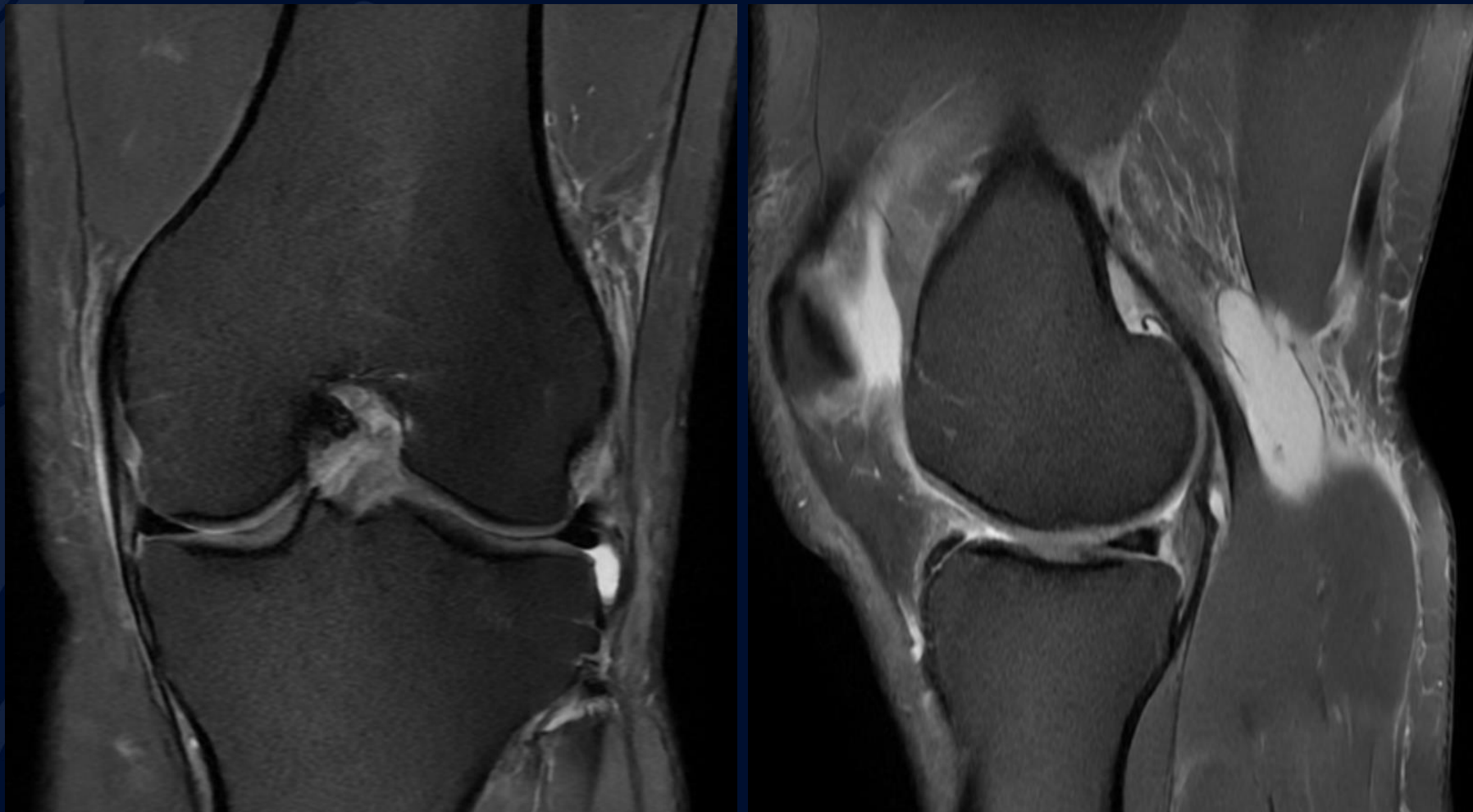
Sunrise View



MRI



MRI

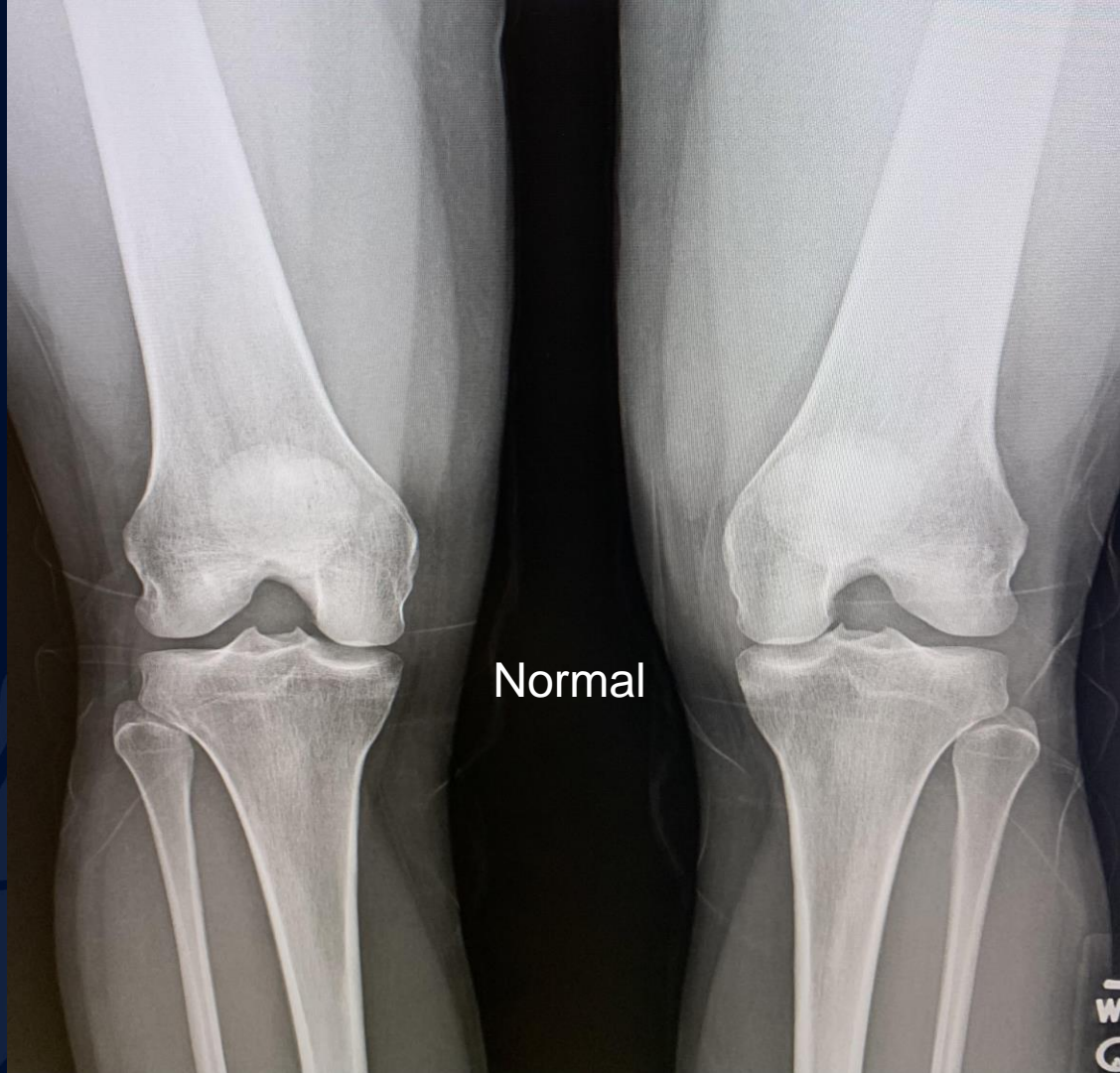


A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

?

Complete ACL Tear with Grade I MCL Injury

Radiograph of Knees



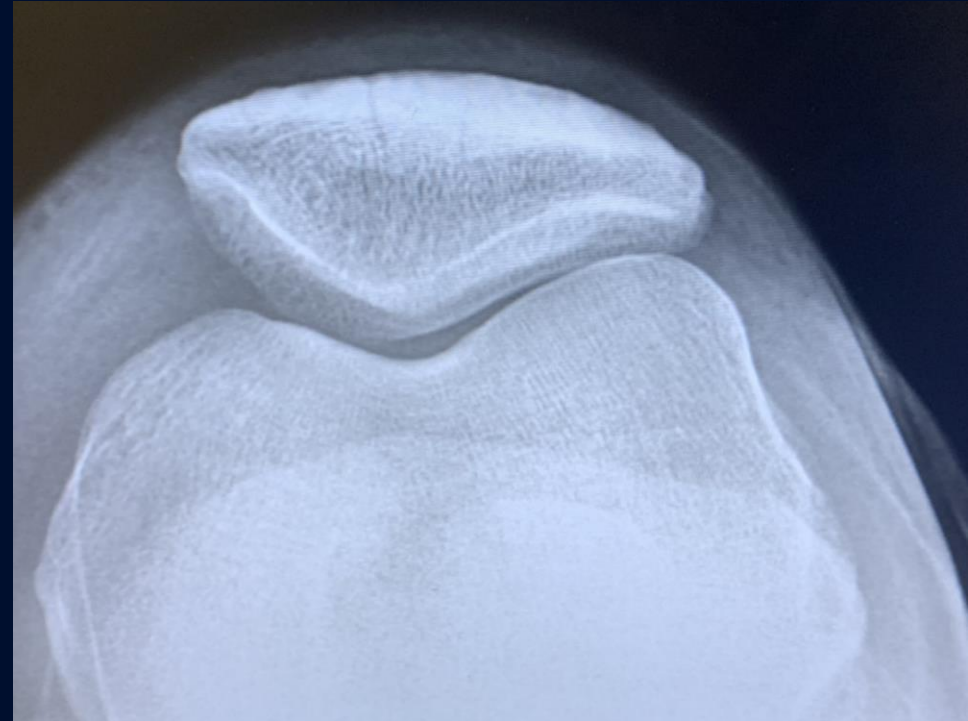
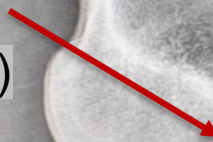
Frontal View

Radiographs of Knees

Lateral View

Sunrise View

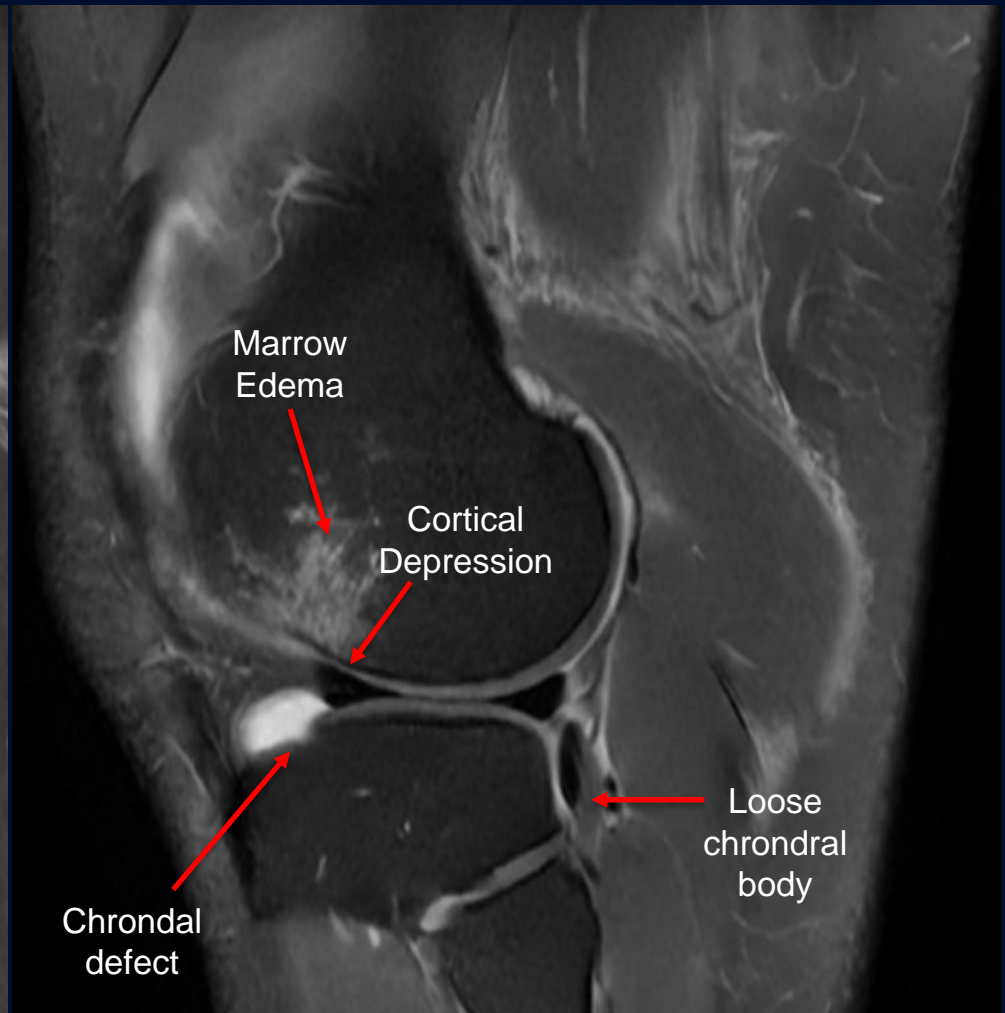
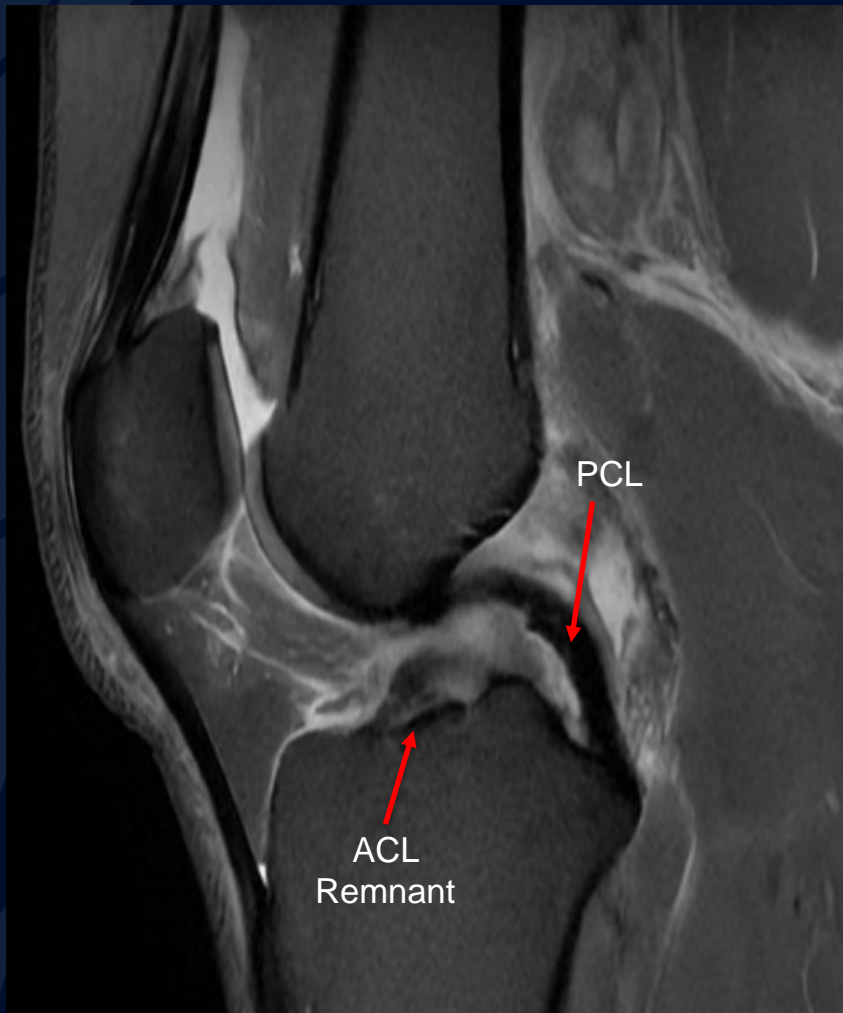
Subtle depression
along the lateral
femoral condyle at
sulcus terminalis:
lateral femoral
notch sign (LFNS)



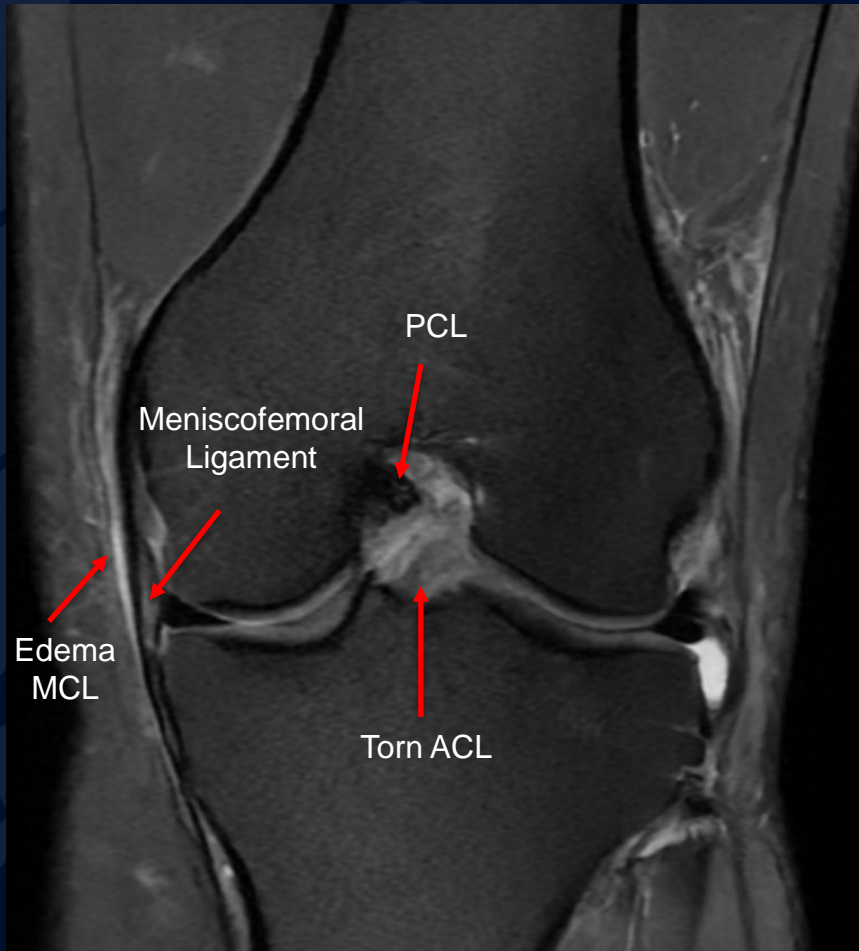
No dislocation or displacement of patella

No acute fractures or avulsions

MRI



MRI



Anterior Cruciate Ligament Tear

Clinical presentation

- Younger age, athletes, females > males
- Feeling of instability, hearing a “pop” or a “snap” at time of injury, +/- weight bearing
- Significant soft tissue swelling
- Increased anterior translation (Lachman or anterior drawer, \geq 93% sensitivity)

Lateral Femoral Notch Sign

- Depression on the lateral femoral condyle at sulcus terminalis
- Depth has been shown to correlate with ACL tear (notch depth of 1.5mm useful additional sign of torn ACL)
- Usually first appreciated on lateral radiograph
- Usually due to hyperextension or impaction injury (collisions of femoral condyle and posterior tibial plateau)

References

- DeGrace, D. M., Gill, T. J., & Gill, T. J. (2013). *Analysis of Medial Collateral Ligament Injuries of the Knee*, 15(12), 13–24.
- DiFelice, G. S., Villegas, C., & Taylor, S. (2015). Anterior Cruciate Ligament Preservation: Early results of a novel arthroscopic technique for suture anchor primary anterior cruciate ligament repair. *Arthroscopy: The Journal of Arthroscopic & Related Surgery*, 31(11), 2162–2171. <https://doi.org/10.1016/j.arthro.2015.08.010>
- Kabbani, A. A. (2022, July 30). *Lateral femoral notch sign (knee): Radiology reference article*. Radiopaedia Blog RSS. Retrieved April 16, 2023, from <https://radiopaedia.org/articles/lateral-femoral-notch-sign-knee?lang=us>
- Moran, J., Katz, L. D., Schneble, C. A., Li, D., Kahan, J. B., Wang, A., Porrino, J., Jokl, P., Hewett, T. E., & Medvecky, M. J. (2021). Injury to the meniscofemoral portion of the deep MCL is associated with medial femoral condyle bone marrow edema in ACL ruptures. *JBJS Open Access*, 6(4). <https://doi.org/10.2106/jbjs.oa.21.00069>
- Rock, P. J. (2021, May 6). *Medial collateral ligament injury grading: Radiology reference article*. Radiopaedia Blog RSS. Retrieved April 16, 2023, from <https://radiopaedia.org/articles/medial-collateral-ligament-injury-grading?lang=us>
- Vadera, S. (2022, November 28). *Anterior cruciate ligament tear: Radiology reference article*. Radiopaedia Blog RSS. Retrieved April 16, 2023, from <https://radiopaedia.org/articles/anterior-cruciate-ligament-tear?lang=us>