

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

Taylor LaRese MS3

Radiograph of Knees



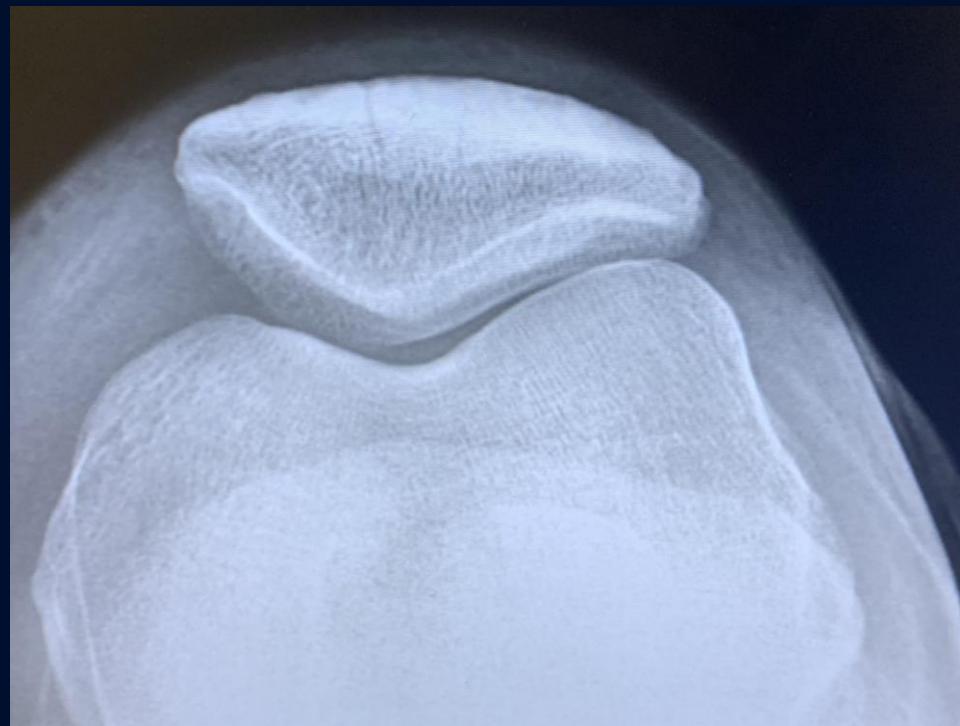
Frontal View

Radiographs of Knees

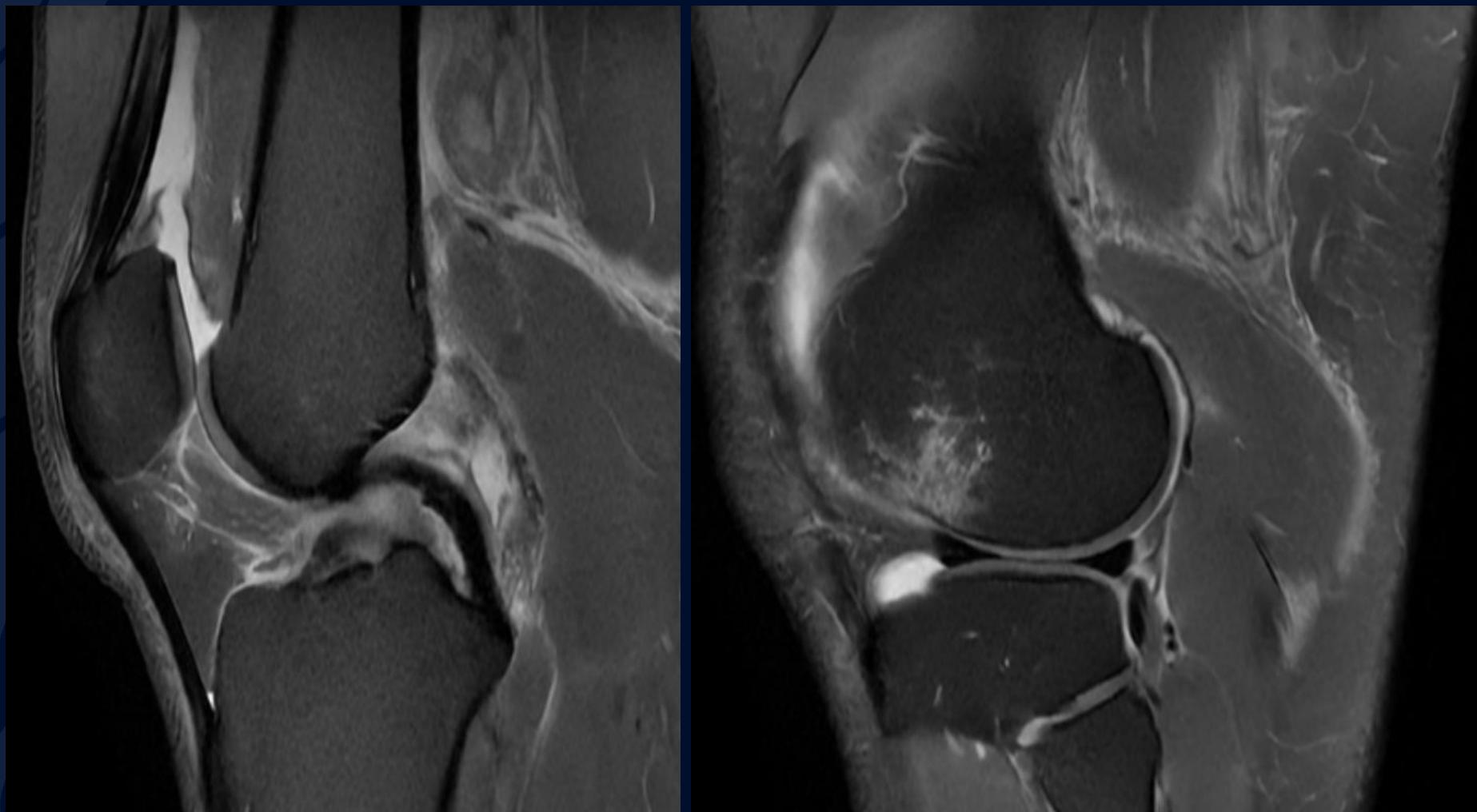
Lateral View



Sunrise View

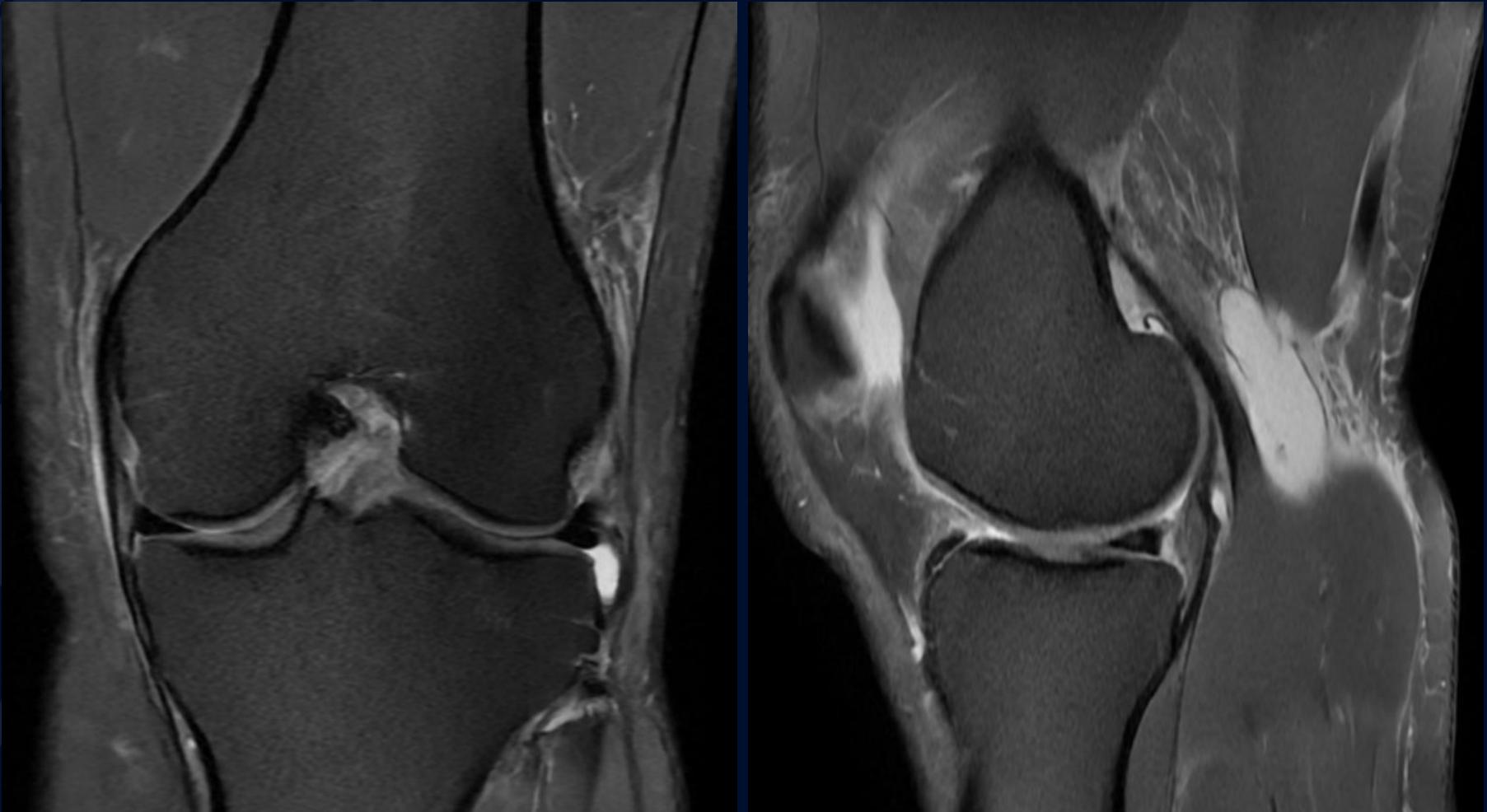


MRI



UCONN
HEALTH
RADIOLOGY

MRI



UCONN
HEALTH
RADIOLOGY

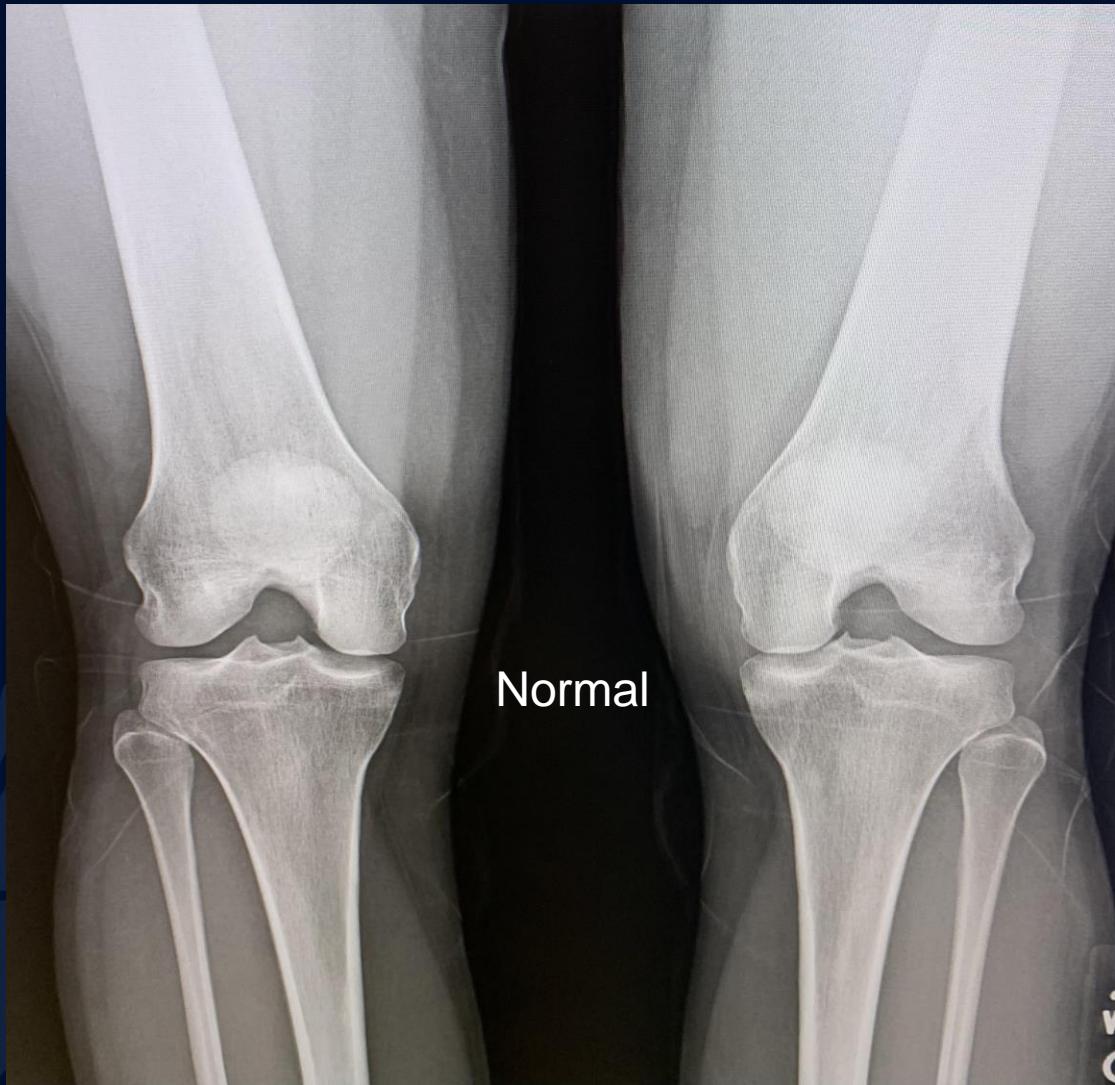


?



Complete ACL Tear with Grade I MCL Injury

Radiograph of Knees



Frontal View

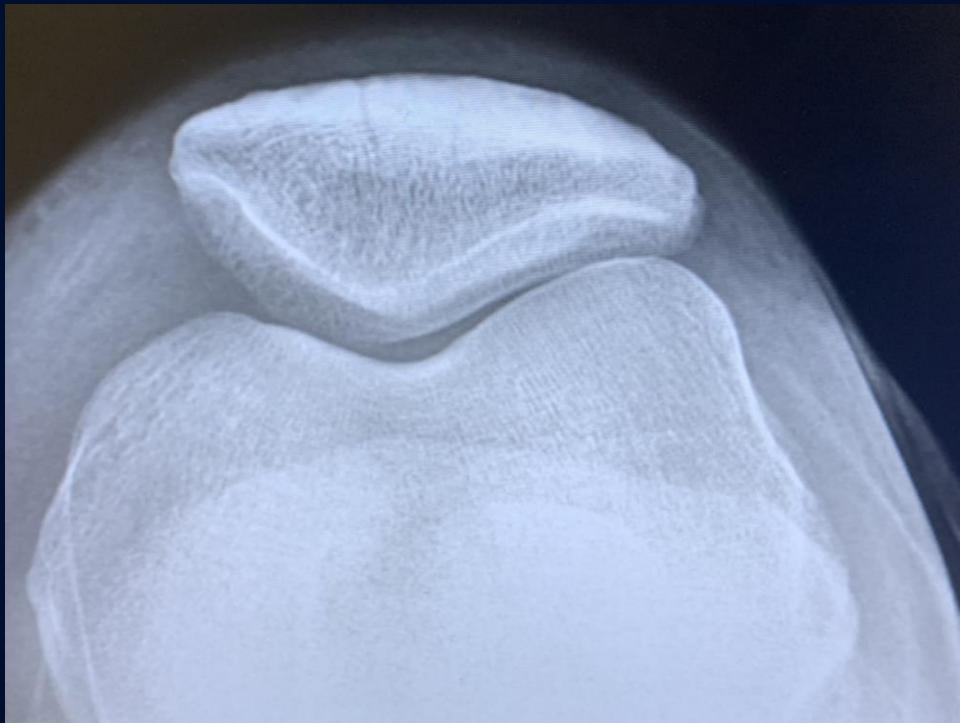
Radiographs of Knees

Lateral View

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



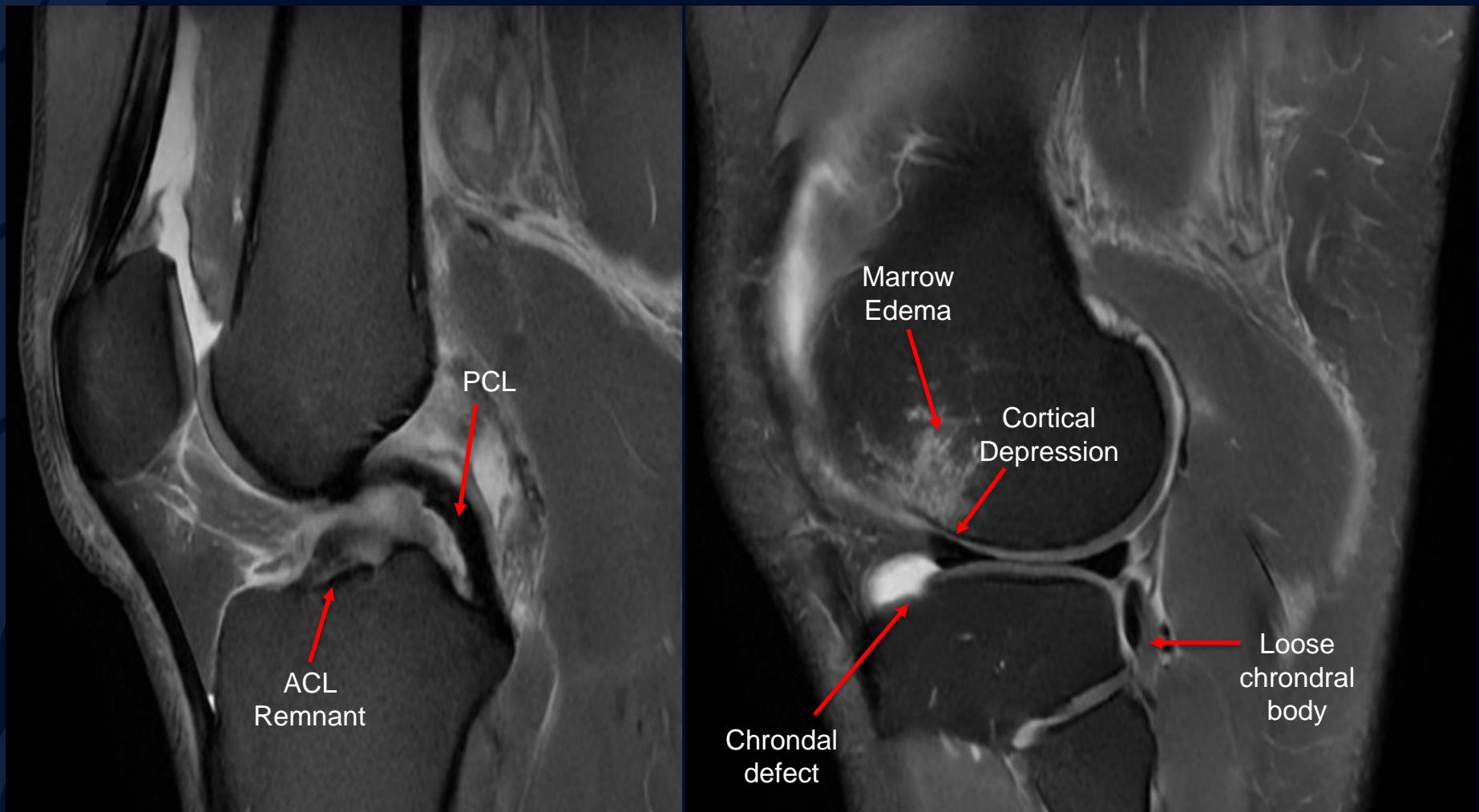
Sunrise View



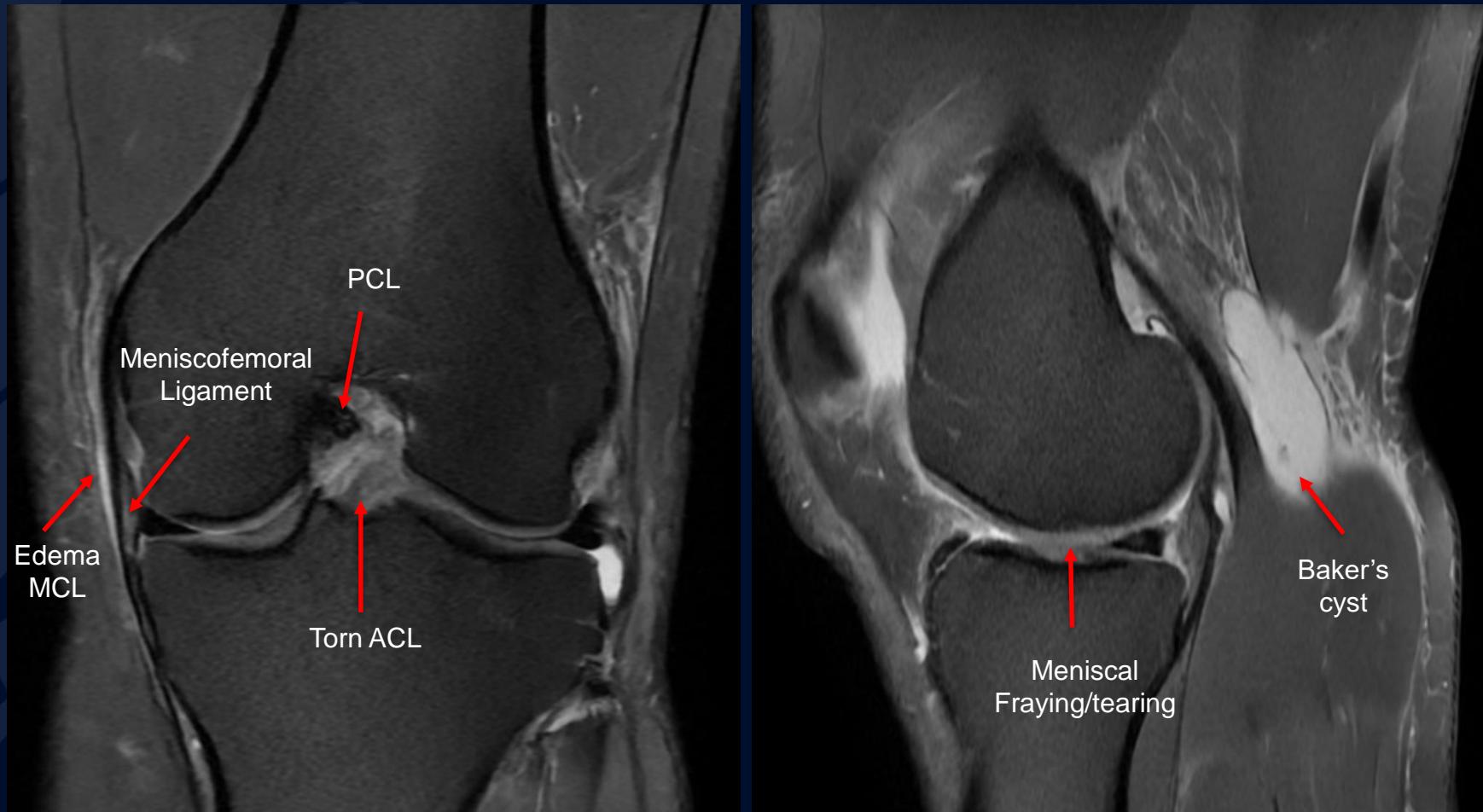
No dislocation or displacement of patella

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>