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Dr. Norman Ackerman served the University of Florida, College of Veterinary Medicine with distinction as Professor of Radiology from 1979 to 1994. A concerned teacher of veterinary students and residents of all disciplines, Dr. Ackerman also reached the veterinary scientific community through his writing. His numerous clinically pertinent publications are still today a vital part of the veterinary literature; therefore, it is appropriate this site perpetuates Dr. Ackerman's dedication to teaching. This site is presented in recognition of Dr. Norman Ackerman and his contributions to the field of veterinary diagnostic imaging.

Sponsorship of the display supports the Dr. Norman Ackerman Memorial Fund, dedicated to the teaching of diagnostic imaging residents at the University of Florida College of Veterinary Medicine.

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- Ben
  - 5 year old M mixed breed dog

## Dr. Norman Ackerman Memorial Radiography Case Challenge

radiography case challenge

Dr. Norman Ackerman Memorial



# History and case presentation

- Ben presents to your clinic with a chronic history of intermittent pelvic limb lameness and holding up his right pelvic limb when running. When he comes into your examination room he is weight-bearing on his RH, but resents you palpating his stifle.
- You order stifle radiographs

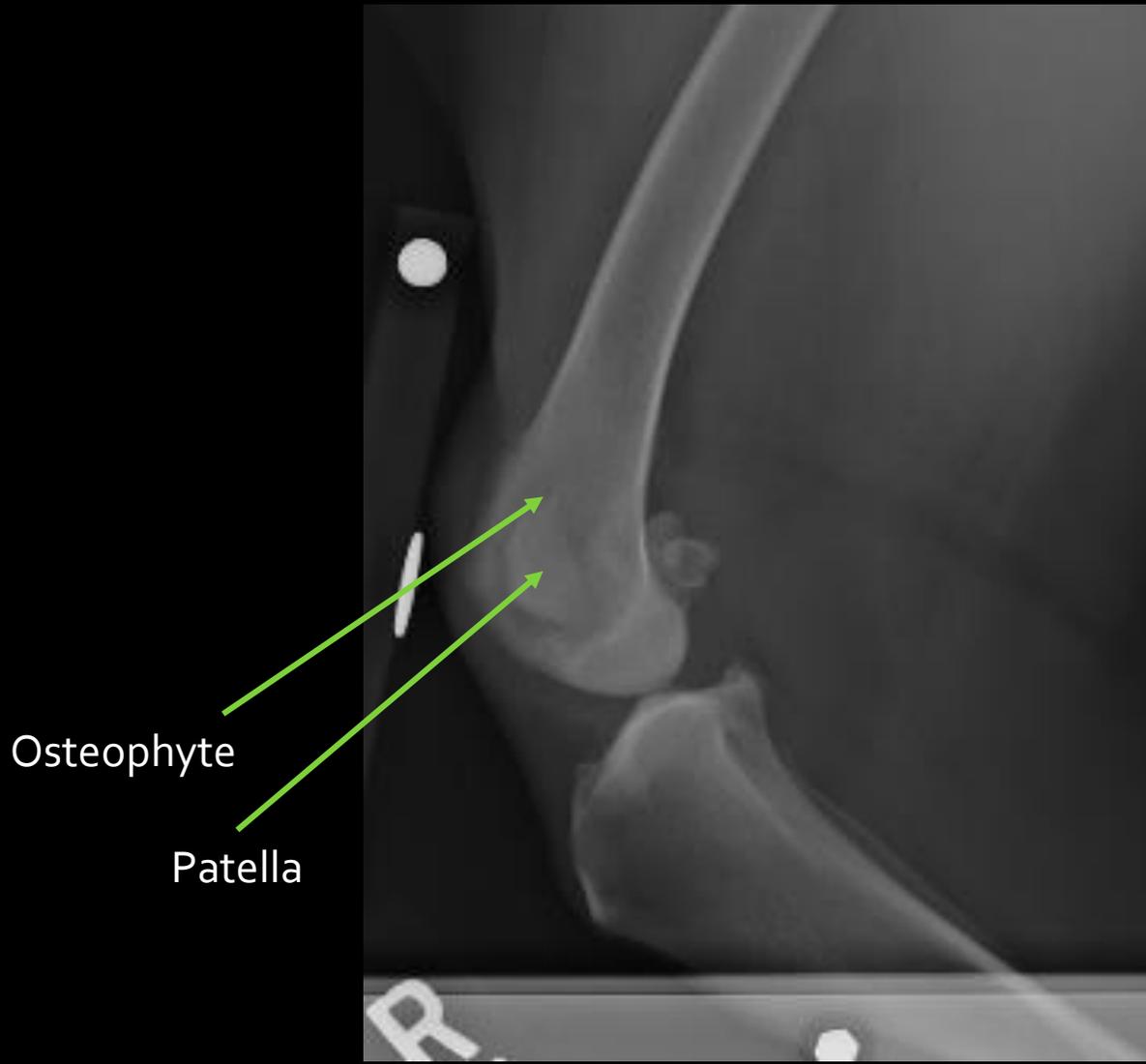


Enlarged view



Enlarged view

Both the shape and the position of the patella are abnormal. The patella is displaced medially; evident on both views. It has osteophytes on its base and apex, creating its abnormal (pointed) shape





Normal stifle radiographs

Note the normal position of the patella



There is increased soft tissue opacity within the joint cavity, displacing the fat pad and periarticular fat planes, indicating the presence of moderate stifle effusion.



Joint effusion

There are osteophytes on the femoral trochlear ridges, the medial and lateral femoral epicondyles and the lateral aspect of the tibial plateau.





# Conclusion

You have found a medially-displaced patella, with evidence of moderate stifle effusion and moderate osteophyte production on the patella, distal femur and proximal tibia.

In a dog with pelvic limb lameness, what are some differential diagnoses?



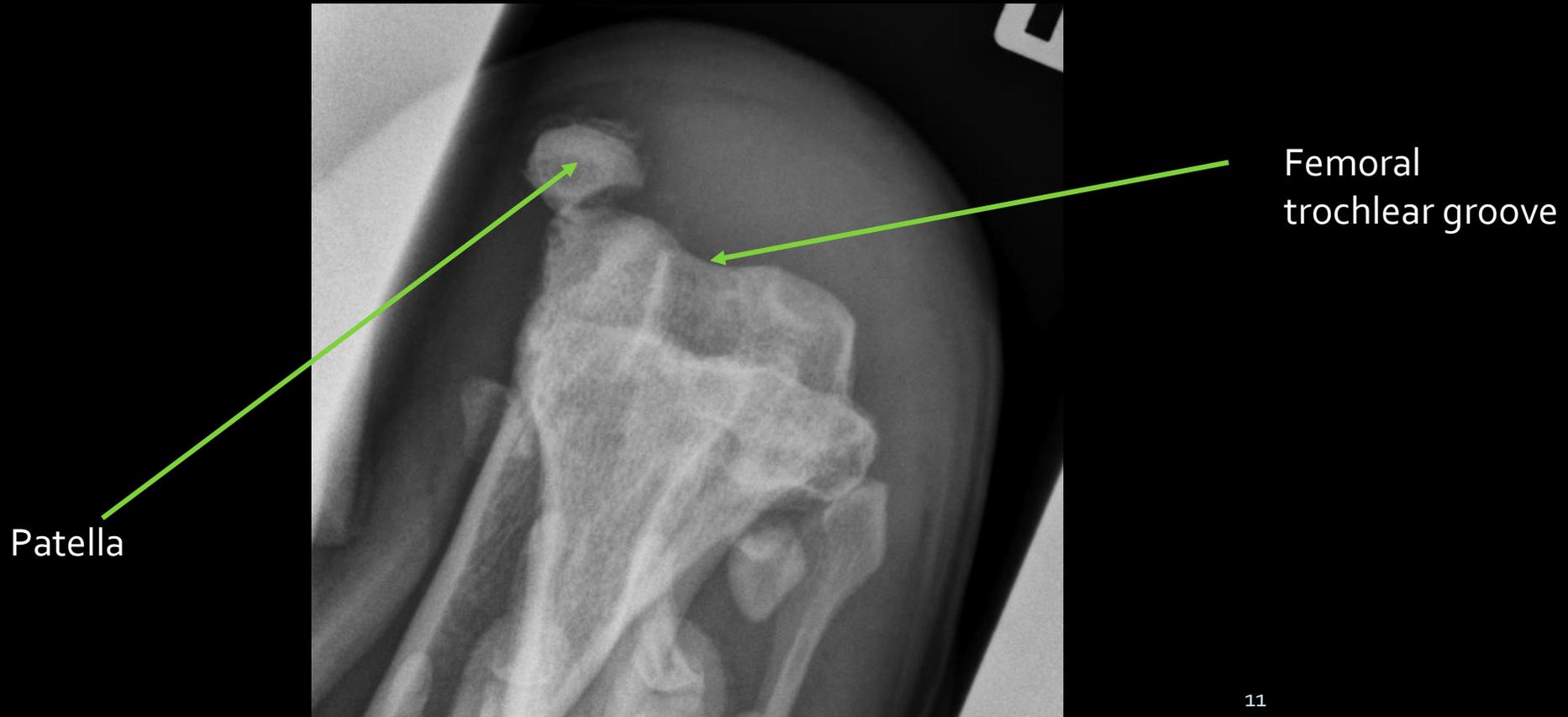


# Medially Luxating Patella

- This lesion is consistent with medially-luxating patella (MLP) with secondary stifle osteoarthritis.
- Medially-luxating patellas can often be suspected in your initial orthopedic examination by palpating and manipulation of the patella.
- Radiographic signs of MLP include displacement of the patella from its normal position in the femoral trochlea groove, secondary osteophyarthrosis (osteoarthritis) of the stifle joint, joint effusion, and often femoral torsion (angulation of the distal femur)

# Additional radiographic view

- A skyline view of the distal femur can be helpful in assessing whether the patella is sitting within the trochlear groove.





# Case Follow up

- You advise the owners that Ben's medially luxating patella is a congenital condition that leads to arthritis of the stifle and lameness (including limb carriage during faster gaits)
  - You recommend surgical correction (eg tibial tuberosity transposition) and NSAID management of arthritis if needed.
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# Medially Luxating Patellas

- Medially luxating patella is a common congenital disease which is most frequent in toy breed dogs (eg Pomeranians , Chihuahua, Toy Poddles and Yorkshire terriers) as well as Devon Rex cats. It also occurs in large-breed dogs
- Medially luxation is much more common than lateral luxation
- It is often bilateral
- There are 4 different grades of luxation
  - Grade 1 = the patella can be luxated but spontaneous luxation during motion rarely occurs – the patella can be manually luxated during examination, but returns to normal position when released
  - Grade 2 = The patella can be manually luxated, or may luxate when the joint is flexed. It remains luxated until it is manually returned to position, or when the stifle is extended
  - Grade 3 = The patella remains luxated most of the time but can be manually reduced when the stifle is extended, however it re-luxates when the stifle is flexed/extended.
  - Grade 4 = the patella is permanently luxated and cannot be manually repositioned.
- There are various surgical treatments which involve realigning the quadriceps mechanism and deepening the trochlear groove