

## IT'S YOUR CASE

Species: Canine      Breed: Labrador Retriever      Sex: Male Neutered      Age: 5 years

### Clinical History:

He presents for acutely being down in the hind end. He went outside yesterday morning and he came back not putting any weight on his right pelvic limb. He had radiographs yesterday which were unremarkable and then developed explosive diarrhoea overnight. He has not eaten at all today. Today he has lost the use of his left pelvic extremity as well.

On orthopaedic exam, he is very painful on right stifle and left tarsus palpation, both are extremely swollen and warm.

He has had a Tibial Plateau Levelling Osteotomy (TPLO) on his right stifle, and osteochondritis dissecans (OCD) in his left tarsus which has been scoped.

Current medications: Previcox SID, tramadol, apoquel

**Anatomic regions:** Stifle, Tarsus/foot

### Details of study and technical comments:

Radiographic study including laterolateral and ventrodorsal views or mediolateral and craniocaudal views of the lumbar vertebral column and hind limbs. The images are diagnostic.

### Diagnostic interpretation:

#### VERTEBRAL COLUMN:

There is marked narrowing of the disc space L1 L2 (red arrow), associated with mild malalignment of the vertebrae, and moderate spondylosis deformans. There is sclerosis of the endplates at this level (yellow arrowheads). No evident lysis is seen at the level of the endplates.

Other areas of mild spondylosis are present in the thoracolumbar spine, (caudal thoracic and cranial lumbar area). Additionally, there is remodelling of multiple articular facets at the level of the cranial lumbar spine from L1 to L3 (blue arrowheads).

There are no significant changes in the lumbosacral region.

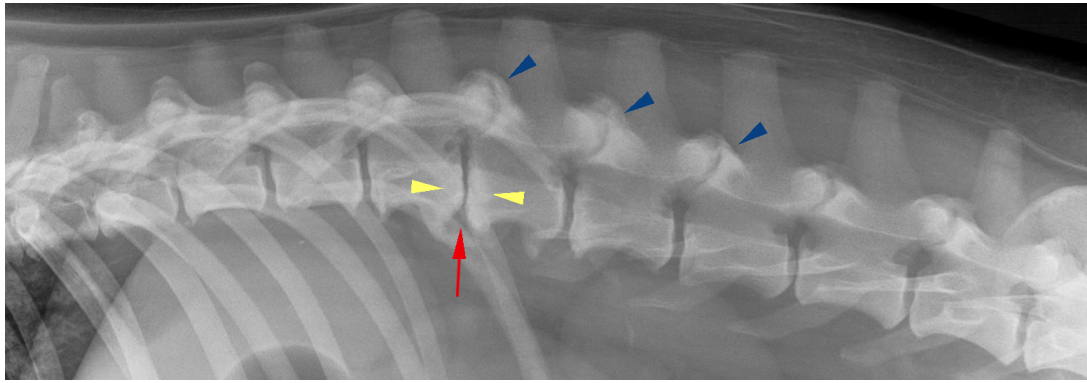


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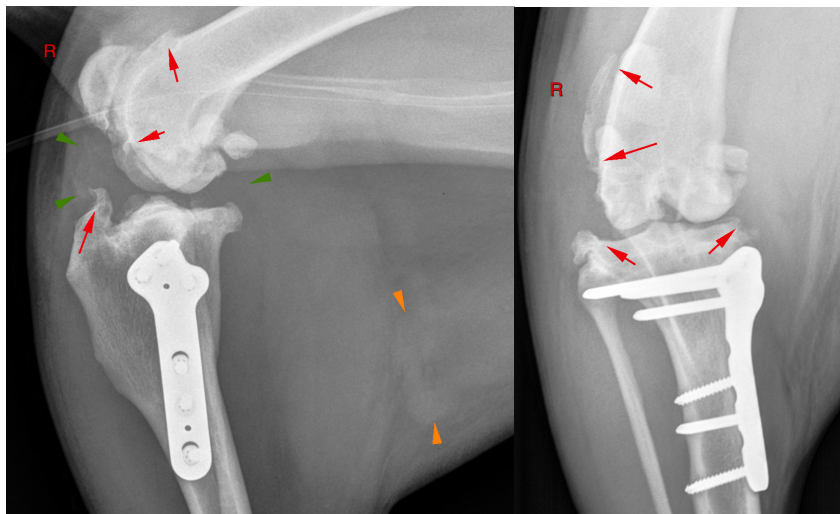
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#### RIGHT STIFLE and TARSUS:

A urinary catheter overlies the patella and distal femur. It courses in the plane of the urethra. TPLO implants are present in the right proximal tibia. No complications with these are identified, which look stable. There is obliteration of the patella fat due to increased soft tissue opacity within the right stifle joint (dark green arrowheads). Moderate to marked mildly irregular periarticular new bone formation is identified at the same level (red arrows). The subchondral bone at the level of the stifle is irregular with possible small lucencies. There are also small intra-articular mineralised bodies. Soft tissue swelling is seen at the level of the right stifle. Compared to the left, there is more muscle mass on the right hindlimb (this is likely due to muscle atrophy on the left side); this is only partially included. The popliteal lymph node is only partially defined but subjectively enlarged (orange arrowheads).

Mild remodelling of the craniodistal margin of the tibia is present. There is mild thickening of the soft tissues of the distal crus on the mediolateral view. The rest of the right hindlimb is normal.



#### LEFT STIFLE and TARSUS:

There are no abnormalities in the stifle. The popliteal lymph node is symmetrically enlarged.

There is marked soft tissue swelling at the level of the hock, likely both intracapsular (light blue arrows) and extracapsular (dark blue arrows). The articular surfaces of the distal tibia and talus are abnormally flattened and sclerotic (yellow arrows), consistent with previous OCD; this results in subluxation and widening of the tibiotarsal joint. There is poor distinction of the subchondral cortical bone of the tibia on the craniocaudal view (purple arrow). There is a large amount of irregular remodelling associated with the distal tibia, talus and



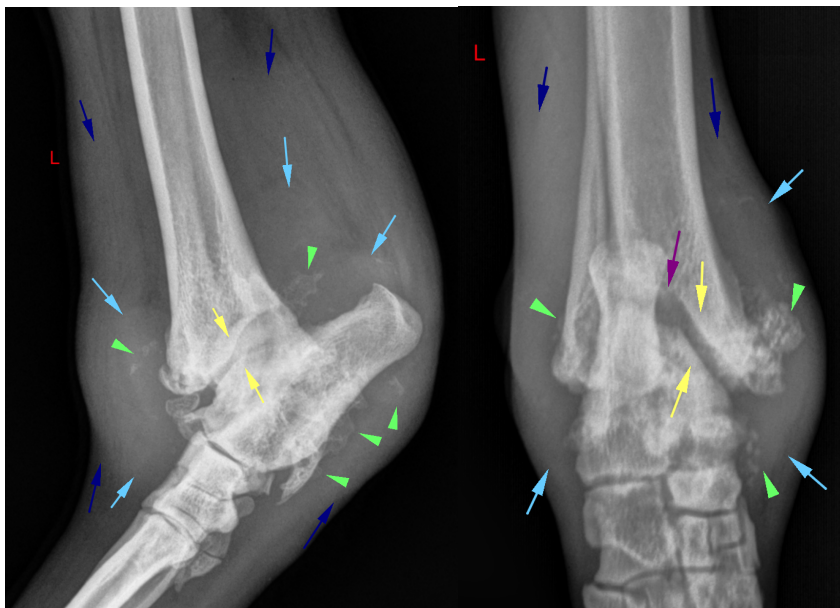
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calcaneus, as well as multiple periarticular mineralisations (green arrowheads). Multiple small lucencies are identified in the subchondral bone at the level of the tibiotarsal joint.



### Conclusions:

- Narrowing of the L1 L2 disc space consistent with chronic intervertebral disc disease. The potential for spinal cord compression cannot be determined from plain radiography. No current signs of discospondylitis.
- Articular process osteoarthritis.
- Right stifle: moderate to marked joint effusion and periarticular swelling, marked osteoarthritis. Acute septic arthritis superimposed with chronic degenerative changes cannot be excluded.
- Left tarsus: severe joint effusion and periarticular swelling, chronic subluxation may be secondary to historical OCD of the talus and/or previous trauma. Osseous changes compatible with chronic arthritis with concurrent septic arthritis.
- Possible popliteal lymph node enlargement. This may represent reactive hyperplasia.
- Mild right tarsal osteoarthritis.

### Additional comments:

The marked intra and extracapsular changes of the left tarsus in conjunction with the subtle subchondral cortical lysis heighten the concern for a septic process summing with chronic degenerative changes. The subchondral lysis could be due to prior arthroscopic debridement; comparison with prior images would be useful to assess this differential. Septic arthritis cannot be excluded in the right stifle and should be considered as differential given also the reported clinical signs; however, there are also marked arthritic changes. These are likely secondary to previous cranial crucial ligament rupture and secondary surgery (TPLO). Chronic degenerative joint disease can represent a predisposing cause of spontaneous septic arthritis.

The lesion at L1 L2 could also relate to the inability to stand in the pelvic extremities, however spinal cord compression cannot be demonstrated on plain radiographs. Myelography or cross-sectional imaging could be considered in this regard.



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**Follow up:**

Arthrocentesis from right stifle was hemo-dilute. Joint tap from left tarsus shows septic arthritis with intracellular bacteria.

**Literature:**

Phillips, T. F., & Bleyaert, H. F. (2022). Retrospective evaluation of 103 cases of septic arthritis in dogs. *Veterinary Record*, 190(5), e938.

Mielke, B., Comerford, E., English, K., & Meeson, R. (2018). Spontaneous septic arthritis of canine elbows: twenty-one cases. *Veterinary and Comparative Orthopaedics and Traumatology*, 31(06), 488-493.



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