

Partial Tarsal Arthrodesis

Plantar ligament rupture

10 year old Female Neutered Labrador Retriever, 29kg (BCS8/9)

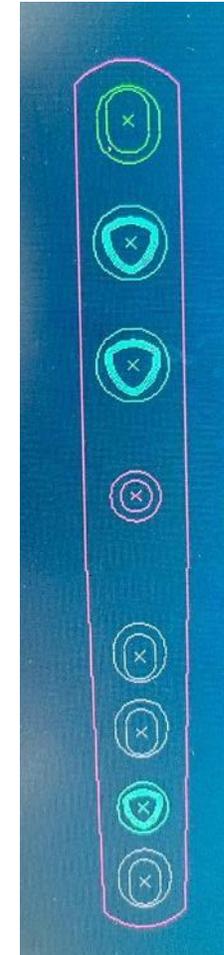
Concurrent diabetes mellitus well controlled

History

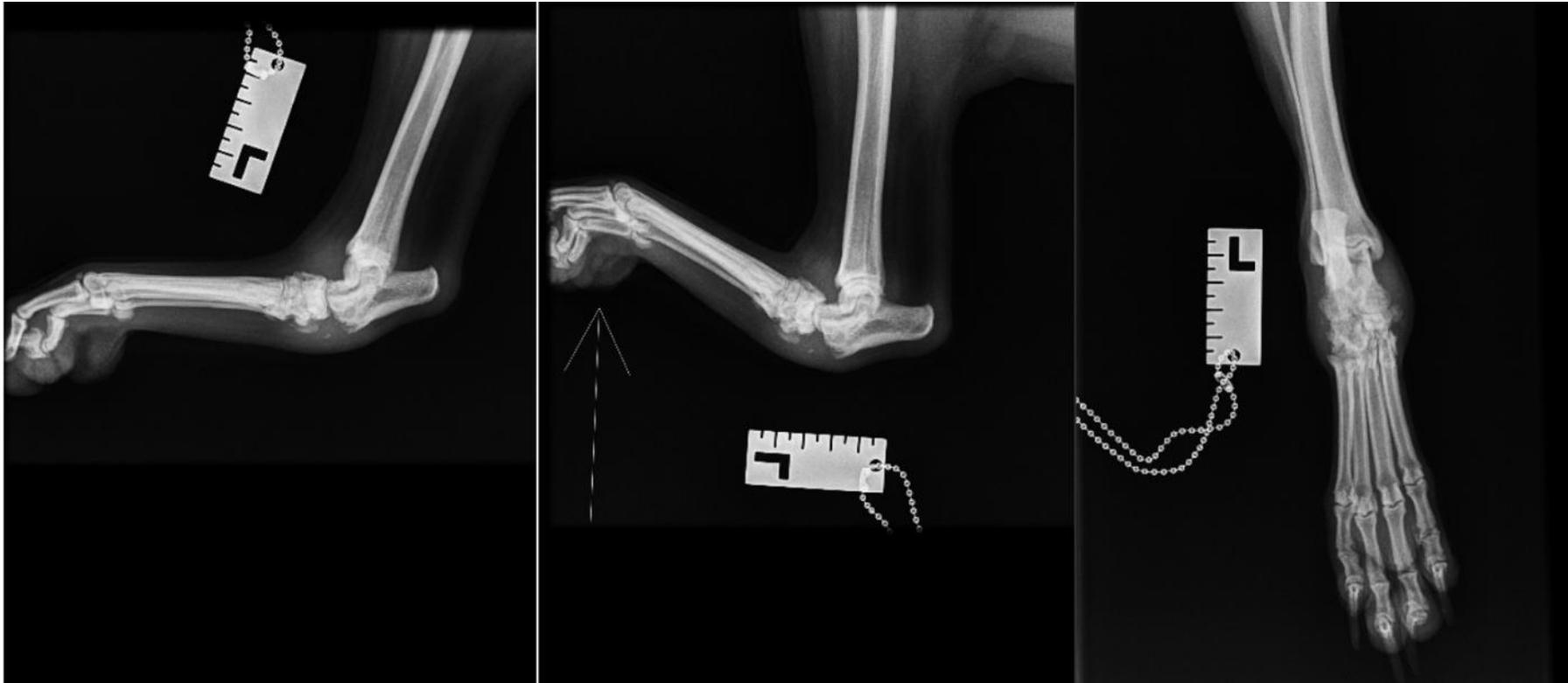
- Acute weight bearing lameness following normal activity
- Visual plantigrade stance and swelling
- Stable diabetes mellitus treated with twice daily insulin therapy
- High body condition score
- Referring vet's radiographs and combined history consistent with plantar ligament rupture

Surgical planning

- Calcaneoquartal arthrodesis
- Lateral plating desired, robust construct to counter anticipated increased healing time due to size/concurrent diabetes mellitus
- Hybrid plate for dynamic compression and locking screw advantages
- Taper distally to accommodate small screws in the metatarsal bones
- Request for CUSTOM implant based on the N2 UK Intertarsal arthrodesis plate (3.5/2.7mm) with addition of Evolox locking screw holes at position 2,3,6 and 7



Pre-operative radiographs



- Mediolateral, mediolateral stressed and craniocaudal left tarsal radiographs
- Calcaneoquartal joint luxation, exacerbated by stressed radiograph
- Moderate increase in periarticular soft tissue opacity
- Moderate new bone formation/enthesopathy at the level of the plantar ligaments

Joint palpation



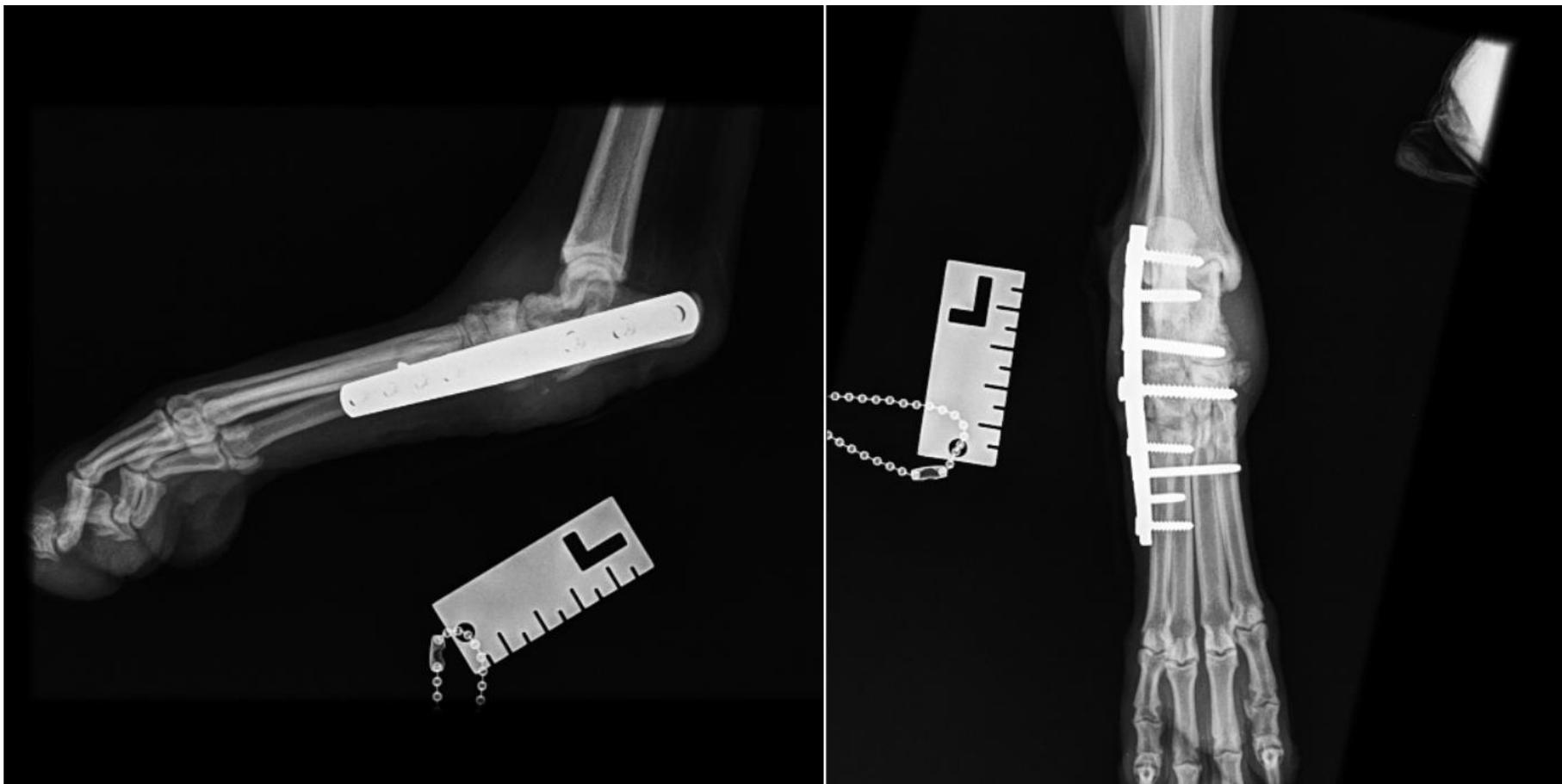
Surgery

1. Autogenous cancellous bone graft from the ipsilateral proximal tibial metaphysis
2. Lateral approach to the calcaneus, tarsus, and metatarsals with incision plantar to plate placement
3. Fibrous tissue debrided
4. Articular cartilage removed from calcaneoquartal and lateral tarsometatarsal joints with high speed burr
5. Bone surfaces contoured with burr to best accept plate
6. Plate contouring – minimal bending proximal and distal to create a ‘bow’ in the plate
7. Screw application
 1. 3.5mm cortical screw in the fourth tarsal bone – tightened and plate fit confirmed
 2. Screw partially removed, plate rotated and graft inserted into joint spaces
 3. Plate replaced and screw secured
 4. 2.7mm compression screws placed in holes 8 then 4
 5. 3.5mm compression screw placed in hole 1 with calcaneoquartal joint held in reduction
 6. Polyaxial locking screws placed in holes 2,3, 6, then 7
8. Talocrural joint range of motion tested prior to closure of the subcutis then skin

Surgery



Post-operative radiographs



Post-operative

- Walking on the operated limb within 24hours
- Bandage for 4 days to prevent swelling
- NSAIDs for 14 days
- Paracetamol for 5 days
- Strict exercise restrictions pending documented arthrodesis