

**Achilles tendon reconstruction Thursday December 12th, 2019 completed documentation by Dr Shane Guerin, Cork IRE MVB, MACVSc, Cert, SAO, DVCSc, Dipl. ECVS, MRCVS 20200418**

Bonnie, a 4yr and 4mth old grossly overweight (32kg) labrador.

Went missing for an hour in the fields and returned with a skin laceration over the left Achilles mechanism. The dog was non weight bearing on the injured limb. Gross examination of the wound revealed complete disruption of the Achilles tendon.

Bonnie was reviewed 3 months after surgery and she was fully weight bearing and getting 25-30 minutes exercise daily. A palpable thickening of the left Achilles tendon was present. A gradual increase in exercise was encouraged.

At 6 months review, the dog is fully weight bearing and exercising off the lead.



Picture 1 of 25: Dog in lateral recumbency with affected leg uppermost. Laceration was debrided and tendon ends apposed with 2/0 nylon 8 days earlier. Transarticular external fixator was placed to maintain alignment of the tendon ends



Picture 2 of 25: Caudolateral skin incision to allow access to tendon and calcaneus.



Picture 3 of 25: Skin reflected to expose previous surgery site. Tendon ends still apposed with 2/0 nylon.



Picture 4 of 25: Reflect Superficial digital flexor tendon medially to expose calcaneus



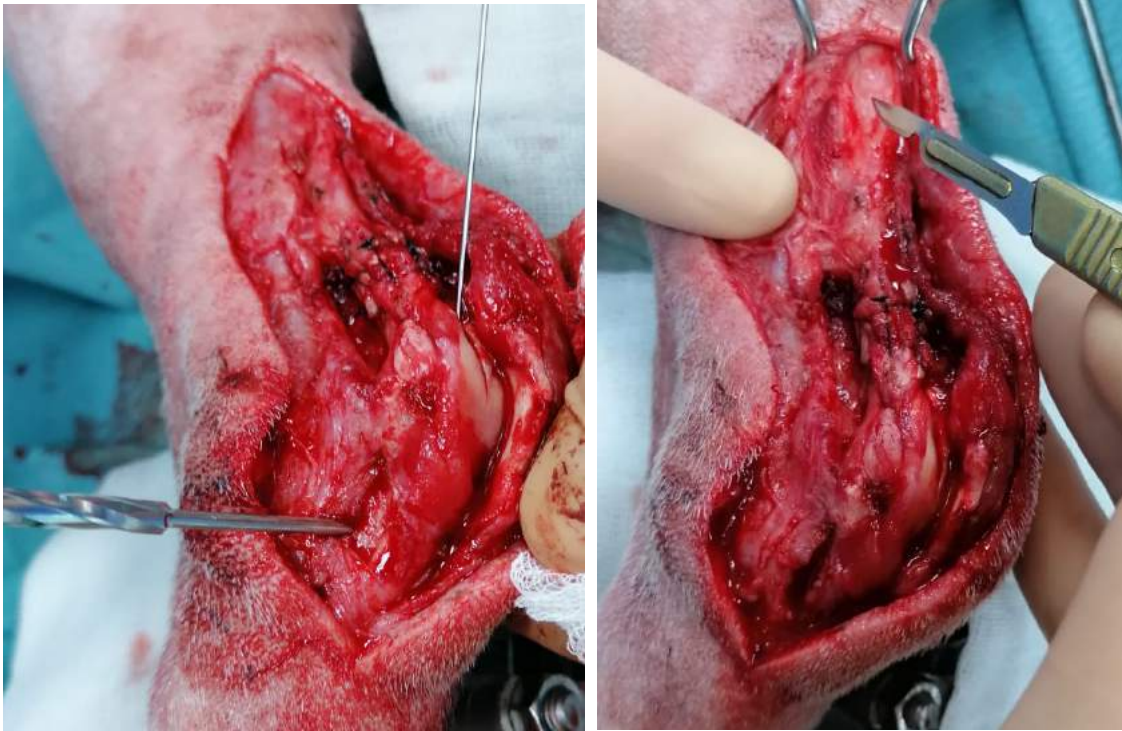
Picture 5 of 25: Removed original sutures. Debrided tendon and apposed ends. Sutured with Bunnel Meyer and mattress sutures using combination of 3/0 Nylon and PDS

Picture 6 of 25: Apposed tendon ends



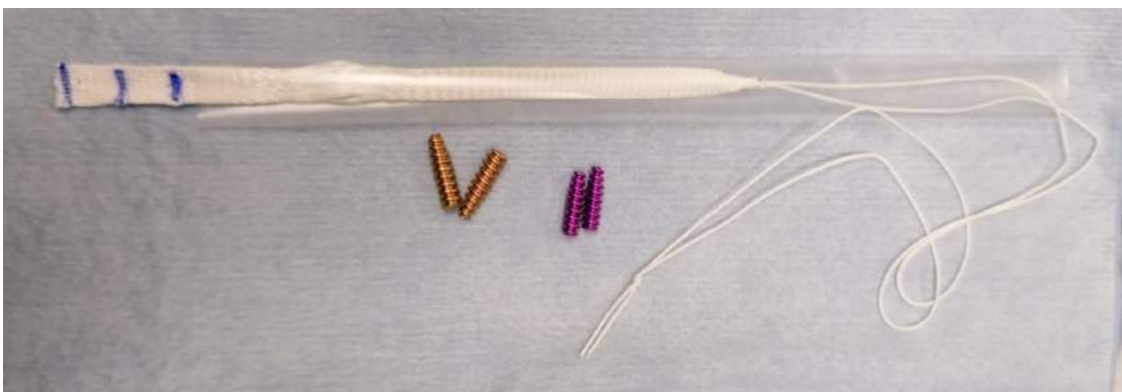
Picture 7 of 25: 2mm pin inserted from proximal to distal on calcaneus. Note the starting position of the pin is close to the insertion point of the calcaneus tendon and exits the bone distally.

Picture 8 of 25: The 3.5mm cannulated drill bit follows the path of the pin and exits distally. This creates the first bone tunnel.



Picture 9 of 25: A second bone tunnel is created from lateral to medial in the calcaneus using the 2mm pin and 3.5mm cannulated drill bit. A small 1mm diameter pin highlights the position of the first tunnel.

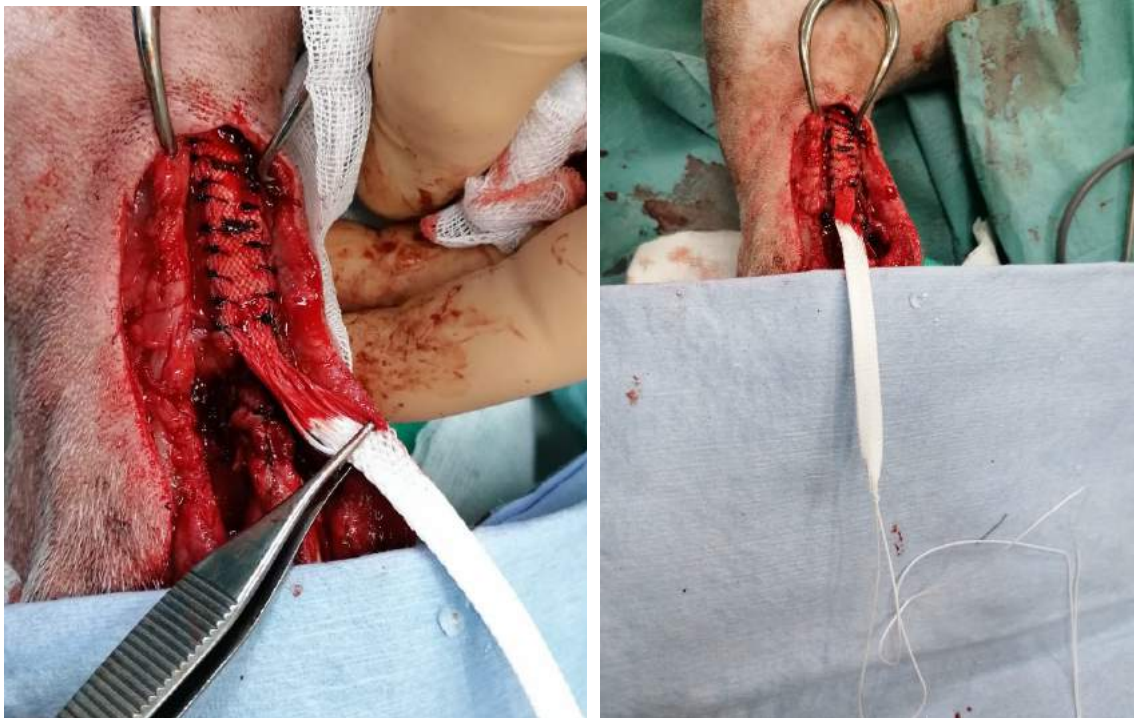
Picture 10 of 25: The Achilles tendon structure is incised vertically proximal to the tendon injury to allow placement of the prosthetic ligament



Picturer 11 of 25: The prosthetic ligament with selected cannulated screws



Picture 12 of 25: Instruments required for prosthetic placement. Cannulated screw driver, cannulated drill bit, cannulated screw driver attachments, 1mm and 2mm pins. Sterilised cannulated screws.



Picture 13 + 14 of 25: Careful placement of the prosthetic material. Proximal end is secured to the incised tendon using simple interrupted PDS sutures. The free end of the prosthetic material is carefully protected from the surrounding skin. The individual strands of the prosthetic material is

carefully located at the repaired tendon site. Note: a swab is in the hand of the surgeon simply for haemostasis.



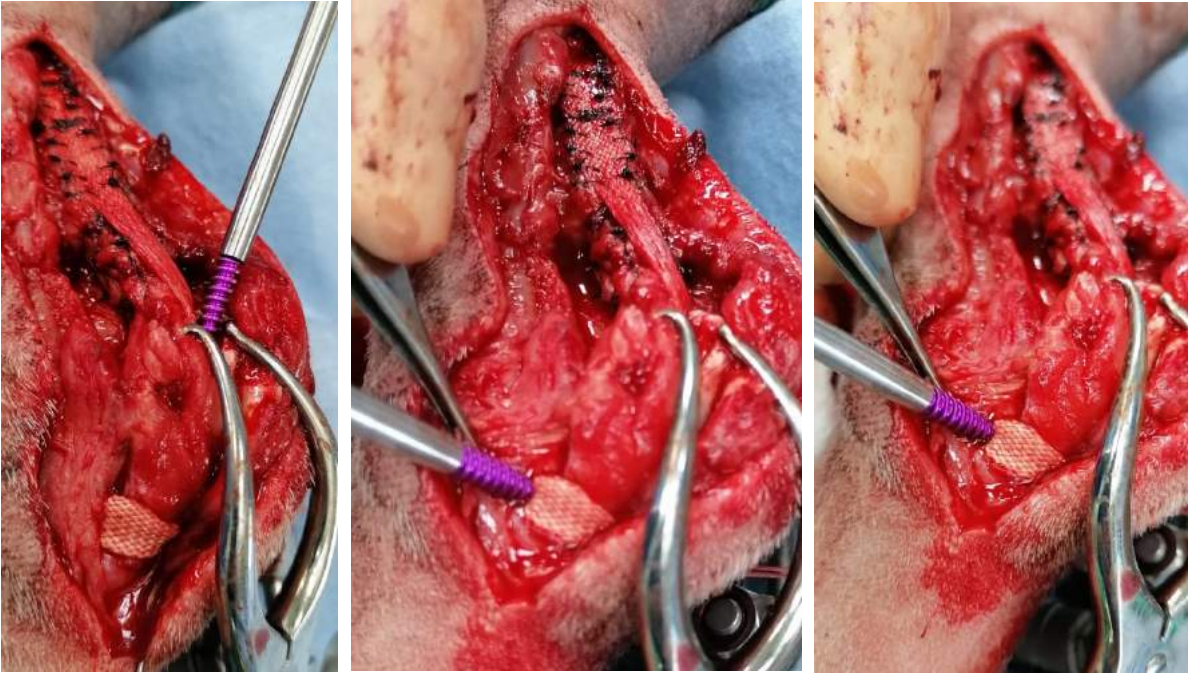
Picture 15 of 25: The prosthetic material is carefully pulled through the first bone tunnel. The 1mm pin identifies the location of the second bone tunnel.



Picture 16 of 25: Placing the prosthetic material into bone tunnel two.



Picture 17 of 25: Placing prosthetic material into tunnel two and exiting medially

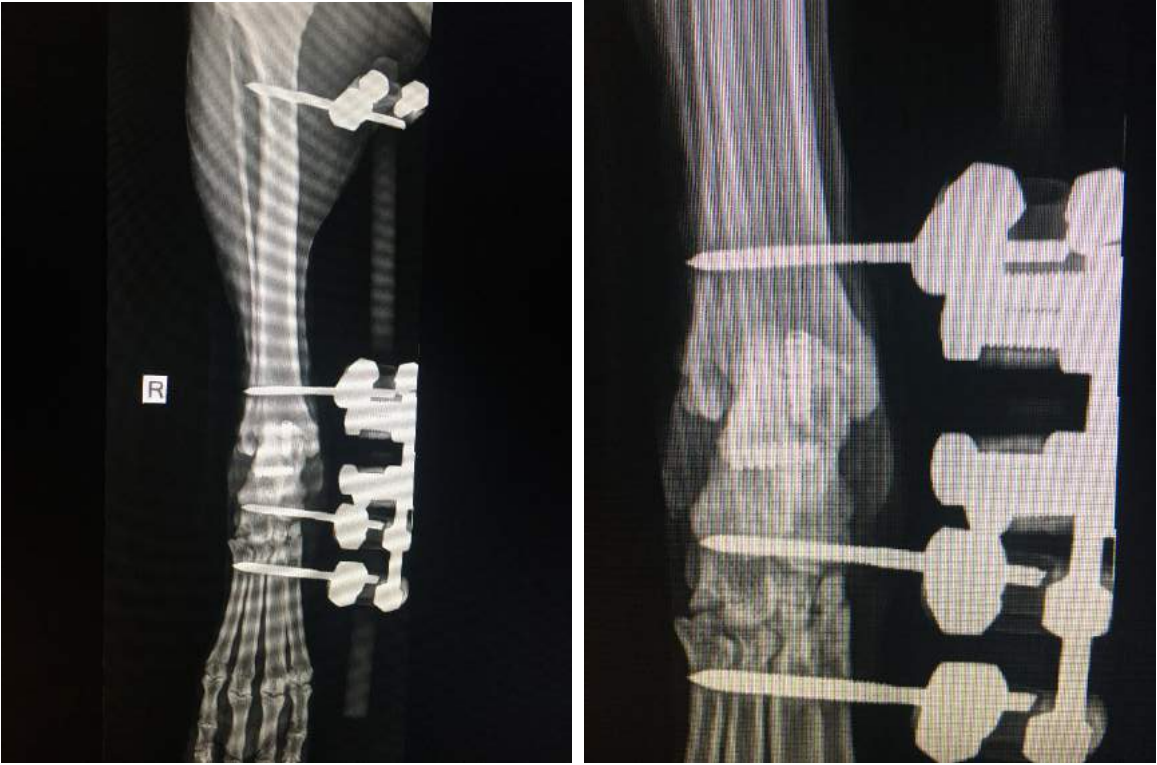


Picture 18, 19 and 20 of 25: The 1mm pin is placed into the first tunnel and a 4mm cannulated screw is inserted. Next, the 1mm pin is placed in the second bone tunnel and another 4mm cannulated screw is inserted. The 1mm pin facilitates correct screw orientation



Picture 21 of 25: Soft tissue closure.

Picture 22 of 25: Medial view with Transarticular frame. This was left for 3 wks due to obesity. At 6 mth review the dog is fully weight bearing and exercising off the lead.



Picture 23 and 24 of 25: Post operative radiographs



Picture 25: Radiographs at 4wk after surgery. External fixation frame removed.