CS-Pro VET: Canine Case Study

Focused Extracorporeal Shock Wave Therapy on

2.5 year old Labrador Retriever with a Lame Forelimb

7/31/2024

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“Doc” Meyers

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Doc is a 2.5-year-old Labrador Retriever hunting dog that jumped down from a 15-foot elevation in February 2024 and suffered a hyperextension injury to his right carpus. He remained consistently and moderately lame on the right forelimb for several months. Ultimately, he was seen by Dr. Sam Franklin in April of 2024, and a pancarpal arthrodesis was recommended to resolve his lameness and allow him to return to hunting. The owner agreed with this plan, and in early May of 2024 (5/9/2024) a pancarpal arthrodesis was performed using a standard off-the-shelf pancarpal arthrodesis plate. The numbered carpal bones II, III, and IV were removed, morselized and applied as an autologous bone graft. A bandage with caudal splint was applied immediately post-operatively.

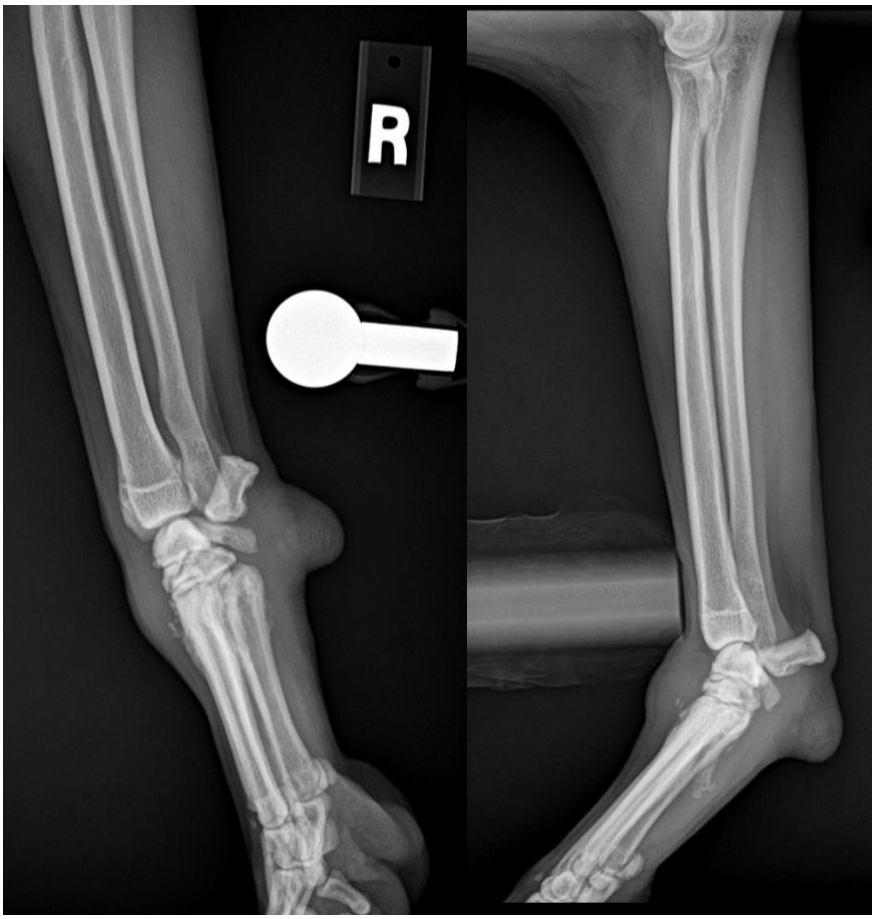
Over the next several weeks bandage changes were applied, and Doc progressed. His incision healed, his skin sutures were removed, and he would bear weight well on that limb when wearing his bandage and splint. In June (6/20/2024), about 6 weeks post surgery, recheck radiographs were made of the limb. The implants were stable, but there was minimal bone healing evident at that point; therefore, the decision was made to perform three rounds of extra-corporeal shockwave using the CS-Pro Vet device in an effort to hasten recovery, including further osseous healing.

On three subsequent visits (6/28, 7/3, and 7/15), shockwave therapy was applied using the following settings: 1200 pulses provided in each of 4 quadrants over the carpus (craniomedial, craniolateral, plantaromedial, and plantarolateral). A standoff used to focus the energy at a depth of 5mm was used on the cranial surfaces, and a standoff creating a 10mm focal depth was used on the plantar surfaces.

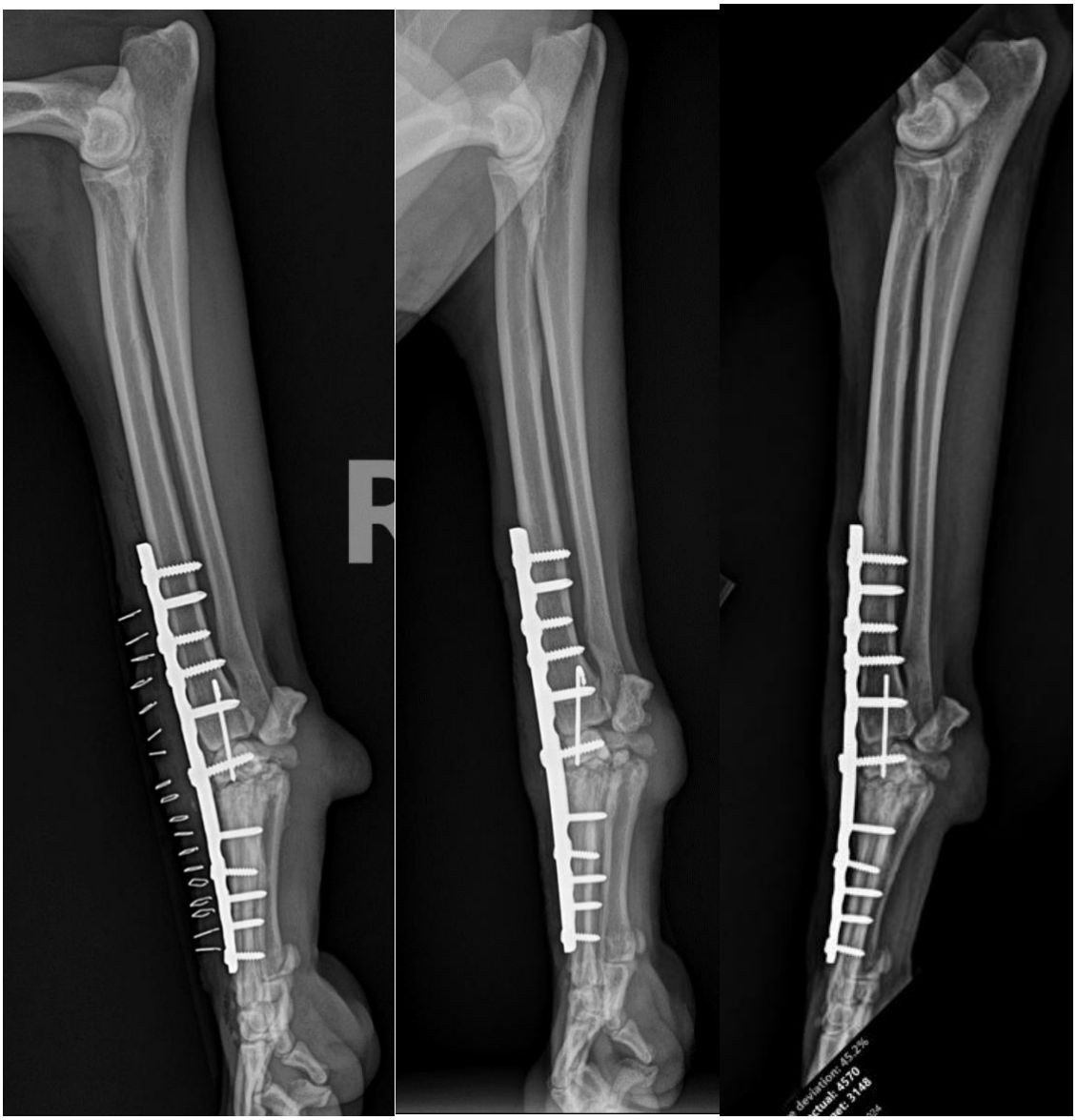
At these visits, Doc’s gait was assessed objectively using a GAITFour® pressure sensitive walkway, while having him walk without the bandage and splint. On 6/28, Doc bore between 18.3 – 19.6% of his body weight (total pressure index; TPI) at a walk. On 7/3/2024, Doc’s TPI for his R front limb ranged from 16.8 – 19.9, also at a walk. On 7/15/2024, the TPI increased to 22.3 – 25 after the two previous rounds of extra corporeal shockwave therapy, also at a walking gait. At this point, the third round of shockwave therapy was performed as specified above, and the bandage and splint were not re-applied.

Doc returned for an additional visit and recheck on 7/24/2024, at which time objective gait analysis was repeated as were radiographs. At a walk, the TPI on Doc’s right forelimb was 24.3-25.2. Doc was now also able to trot, and his TPI at a trot was 21.5-23.6. Radiographs were repeated at that time and also showed progress in bone healing over the 4-week interval.

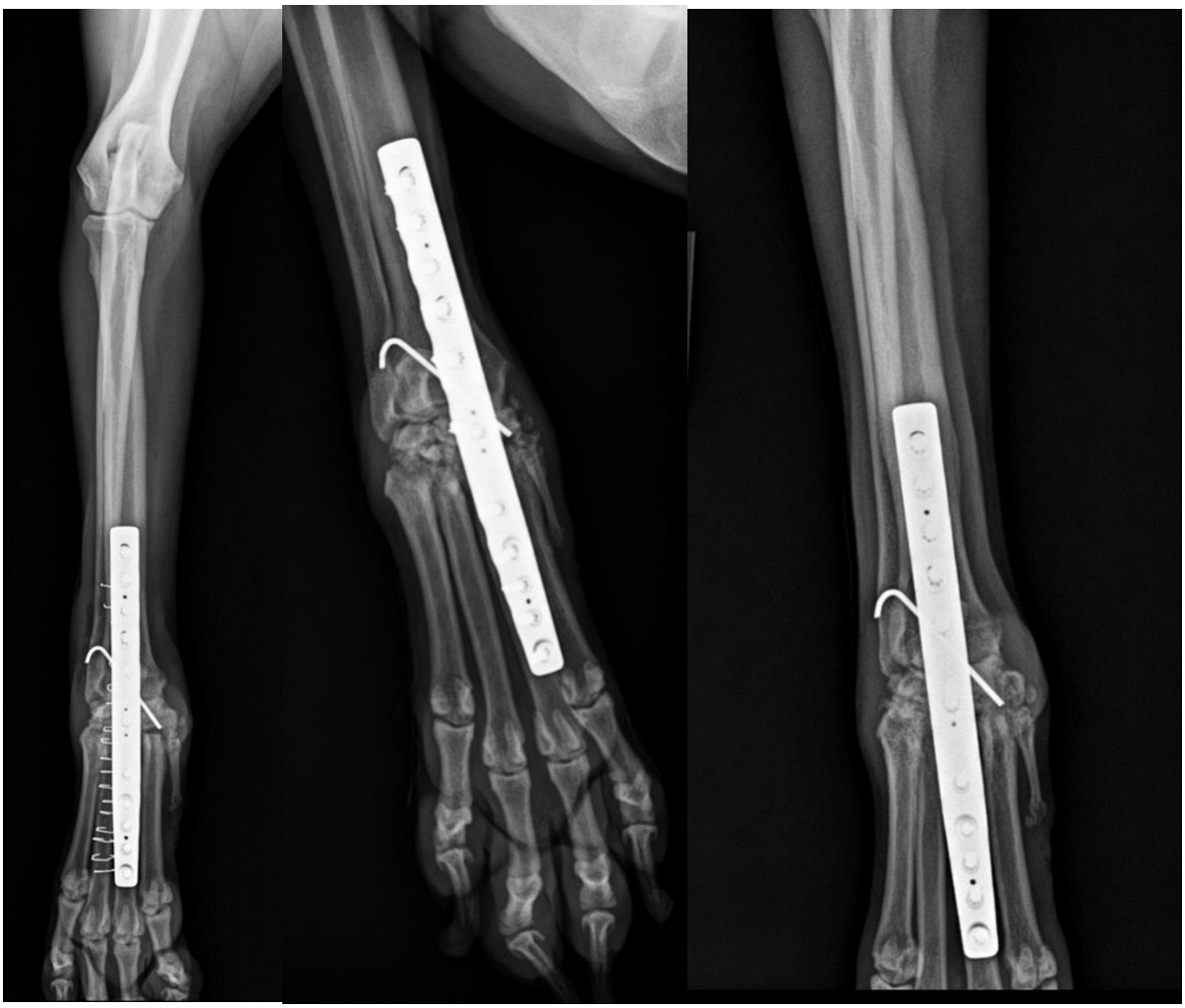
Images



Preoperative lateral radiographs in May, including a stress radiograph (to the right).



Lateral radiograph made (from left to right) A) immediately postoperatively, B) 6 weeks postoperatively prior to any shockwave therapy, and C) 10 weeks postoperatively following 3 rounds of shockwave therapy.



Cranial-caudal radiographs, from left to right: A) Immediately postoperatively, B) 6 weeks postoperatively prior to any shockwave therapy, C) 10 weeks postoperatively following 3 rounds of shockwave therapy.

Conclusions:

This is a case study, and the information that can be gleaned is somewhat limited, but is as follows:

1. The patient is doing well clinically and has improved substantially over the last 4 weeks, both subjectively and as quantified using the pressure sensitive walkway. Whether the improvement is attributable to use of the CS-Pro VET therapy, or just more time to recover from surgery, or both, is not possible to deduce definitively at this time.
2. Radiographically there has been some progress in bone healing over the last 4 weeks. Whether the shockwave therapy facilitated or hastened such progress in bone healing cannot be concluded with certainty.
3. The treatment certainly did not cause any regression in either clinical improvement or bone healing, and was well tolerated by the patient. Application of the treatment was easy.

Next steps:

The next step for Doc is a progression in leashed activity over the next 4-6 weeks with repeat radiographs at that time. What we hope and expect to see is that Doc further improves in terms of both weight-bearing and radiographic bone healing.