

## Case Report – Low Level Light Therapy Benefits, Canine Chronic Stifle DJD



A 21.3 kg, seven-year-old, female spayed, American Staffordshire terrier presented to the Midwest Veterinary Referral Center for orthopedic evaluation and Low Level Light Therapy (LLLT). The patient had undergone right stifle open arthrotomy and lateral suture stabilization nearly 2 years (94 weeks following initial surgery) prior to this examination. Since this initial surgery the patient has been compromised with a chronic right hind leg lameness secondary to right stifle arthropathy.

During the entire post-operative period (94 weeks prior to laser therapy) the patient never regained good use of the right hind leg. Despite chronic combinations of tramadol, NSAIDs and joint supplementation the patient's use of the right hind leg continued to deteriorate.

At the time of evaluation prior to the first LLLT treatment, the patient was being maintained on a combined Boswellia, Turmeric, Glucoasmine, MSM and Creatine supplementation. No other medications or supplements were being administered.

Examination found a right hind leg weight bearing lameness at a walk (grade 4). At a trot the patient had an intermittent non-weight bearing lameness (grade 5). There was decreased stifle mobility with 135 degrees of extension and 50 degrees of flexion (grade 3) and grade 3 joint pain. Crepitation was noted on stifle range of motion. No tibial thrust or cranial drawer instability was noted. Marked right hind leg muscle atrophy was present. The distal femoral limb circumference at the level of the patella was 26 cm. No effusion was noted.

The owner completed a Canine Brief Pain Inventory (CBPI) questionnaire. The average pain score was 7.0 (0 is no pain and 10 is extreme pain). The average function score was 6.7 (0 is does not interfere and 10 is completely interferes). The overall CBPI score was 6.8 with the owner's perception of a quality of life rated fair. Cold laser therapy was administered in the examination room. An at-home unit was also provided to the owner to provide therapy. The owner was instructed not to restart any medications unless lcs was experiencing increased pain/lameness.

The initial surgery was routine and performed without immediate complication. The open arthrotomy confirmed a complete tear of the cranial cruciate ligament.

Both menisci were normal and a caudal horn medial meniscus release was performed.

The immediate recovery from anesthesia and surgery were uneventful. However, approximately 2 weeks after the surgery the patient developed an acute right hind leg non-weight bearing after accidentally getting away from the owner and running down the street.

Subsequent evaluation, arthrocentesis and re-exploration of the stifle diagnosed a Methicillin Resistant *Staphylococcus Pseudointermedius* septic arthritis (confirmed with culture and sensitivity), lateral meniscus caudal horn bucket handle tear, and medial meniscus caudal horn radial tears (confirmed at the revisited arthrotomy). The meniscus tears were treated with lateral and medial caudal horn partial meniscectomies. The bacterial arthritis was treated with trimethoprim (TMS)-sulfamethoxazole (SMZ), based on the culture and sensitivity, at 17.9 mg/kg SMZ and 3.6 mg/kg BID for 14 weeks. A recheck right stifle culture 6 weeks after starting antibiotics was still positive for Methicillin Resistant *Staphylococcus Pseudointermedius*. The TMS-SMZ was continued for an additional 8 weeks, but a second recheck culture was not performed.

Six days after starting laser therapy a recheck examination was performed. The owner did not have to start any medications or supplements since the last examination. Examination found a right hind leg weight bearing lameness at a walk (grade 4). At a trot the patient had persistent weight bearing lameness (grade 4). There was improved stifle mobility with 140 degrees of extension and 32 degrees of flexion (grade 3) and grade 3 joint pain. Crepitation was noted on stifle range of motion. No tibial thrust or cranial drawer instability was noted. Marked right hind leg muscle atrophy was present. The distal femoral limb circumference at the level of the patella was 25 cm. No effusion was noted.

The owner completed a Canine Brief Pain Inventory (CBPI) questionnaire. The average pain score was 5.8; improved from 7.0. The average function score was 3.5; improved from 6.7. The overall CBPI score was 4.4; improved from 6.8 with the owner's perception of a quality of life improved to good. The owner was instructed to continue at home cold laser therapy.

Twenty-eight days after starting laser therapy a recheck examination was performed. The owner did not have to start any medications or supplements since the last examination. Examination found an improved right hind leg weight bearing lameness at a walk (grade 3). At a trot the patient had an unchanged persistent weight bearing lameness (grade 4). Stifle mobility remained static with 142 degrees of extension and 30 degrees of flexion (grade 3). However, the degree of joint pain improved to a grade 2. Crepitation was noted on stifle range of motion. No tibial thrust or cranial drawer instability was noted. Marked right hind leg muscle atrophy was present. The distal femoral limb circumference at the level of the patella was 25.5 cm. No effusion was noted.

The owner completed a Canine Brief Pain Inventory (CBPI) questionnaire. The average pain score was 4.5; improved from 5.8. The average function score was 4.0; declined from 3.5. The overall CBPI score was 4.2; improved from 4.4 with the owner's perception of a quality of life improved to very good.

