I've fou nd this therapy to be a useful adjunctive tool for pain management and reducing inflammation in my patients. My clinical observations show promising results for improving mobility and comfort, and I'd like to collaborate with you to track the outcomes for our shared patients.

The Acuscope and Myopulse is a therapy modality that offers non-invasive recovery for small animals. It uses **microcurrent**, low voltage and low amperage (the same amount of current that the body generates naturally) to restore proper cellular function. The body is able to recognize the amount of current being generated, respond appropriately, and replenish the tissue.

Most notably, these instruments use a constantly adjusting, infinitely variable waveform that is modulated by a “patient interactive” ***biofeedback system***. This biofeedback system is able to take information from the patient and factor that into treatment, making this therapy individualized and specific. By using the information gathered from the patient's own body, our system sends a precise, corrective microcurrent waveform to help restore proper cellular function. This provides a truly individualized and targeted therapy session, which can be thought of as a dynamic "roadmap" for recovery.

The Acuscope and Myopulse are small animal calibrated, sophisticated tools that enable their therapist to *evaluate* the tissue in areas of dysfunction or hyperactivity, much like a roadmap. The small animal calibration means it is specifically calibrated with cellular norms and metabolic rates that differ in animal cells, versus human cells. The biofeedback loop gathers information from the patient in 2.5 milliseconds, and in another 2.5 milliseconds sends the appropriate waveform to aid in restoring proper function in the body. In fact, it has been scientifically proven that when used appropriately, the Acuscope and Myopulse has been seen to accelerate recovery rates by at least 50%.

Your therapist completed over 100 hours of training and a two-part exam to operate this advanced system. They also have extensive veterinary technical experience and training that can be applied to their therapeutic techniques. Mattie Stivers has worked alongside in over 100 orthopedic and soft tissue surgeries, enabling unique knowledge of anatomy, surgical procedures, post-operative requirements and complications, as well as specialized knowledge of CCL tears. They have worked with exotic animals, reptiles, birds, and more, and intend to bring a highly advanced recovery system to the Rogue Valley that is used commonly in human hospitals, for sports athletes, and for equine performance enhancement and sophisticated recovery from complicated injury or chronic lameness conditions.

Scientific Literature: (More listed at the end of this document)

* A 2010 study did find that microcurrent therapy combined with a bandage was more effective at reducing swelling after a specific surgery (CCLR) than a bandage alone.
* [Microsoft Word - Picker-Scott Double-Blind Study.doc](https://img1.wsimg.com/blobby/go/772e52a9-f5b6-44c1-ae46-cd9c9f696363/5.%20Picker-Scott%20Double-Blind%20Study.pdf)
* Rexing, et al. "Effects of cold compression, bandaging, and microcurrent electrical therapy after cranial cruciate ligament repair in dogs." Veterinary Surgery (2010), 39:54–58. What the Study Found: “This was a small study (24 dogs, divided into four groups) but it was a clinical trial published in a respected veterinary journal. The researchers found that in the 72 hours after extracapsular repair of a CCLR (cranial cruciate ligament rupture), the group of dogs that received microcurrent electrical therapy in combination with a bandage experienced a significant reduction in soft tissue swelling compared to the group that only had a bandage.

While many complementary therapies lack rigorous scientific study, my approach is grounded in the latest evidence. For example, a peer-reviewed study published in *Veterinary Surgery* has shown that microcurrent therapy helps reduce post-operative swelling after CCLR surgery (listed above). I also stay up-to-date on research for other electrotherapies, like TENS and electroacupuncture, that have shown promising results for pain management and mobility. By working together with you, I can provide a documented, data-driven service to improve the quality of life for your patients."

The study's conclusion was that: ‘Use of... microcurrent electrical therapy in combination with a bandage decreases soft tissue swelling over 72 hours more than a bandaging alone after extracapsular repair of CCLR.’”

Q: How can this therapy be utilized in your veterinary practice, or how can it help my pet?

This therapy can be applied to a wide range of neuromuscular and musculoskeletal conditions, and, as mentioned earlier, can allow the practitioner to evaluate deficient areas (impedance), including acute injuries, chronic conditions, and more. It has been seen to make patients feel better and improve their quality of life. Therapy programs range from those predisposed to genetic conditions, those currently living with a chronic diagnosed condition, or those looking to enhance their performance outcomes. Helping the body heal itself by sending corrective signals that work like a “jump start” to the cells has been scientifically proven to accelerate recovery solutions.

The FDA approves this system for neuromuscular and musculoskeletal conditions and pain management.

**Conditions Treated:**

Some common lameness conditions that can be treated with the Acuscope and Myopulse therapy system:

* Arthritis and Joint Pain
* Post-Operative Recovery (especially after CCLR)
* Degenerative Joint Disease (like Hip and Elbow Dysplasia)
* Muscle Strains and Sprains
* Chronic Lameness

More listed on ATS [Animal Therapy Systems - Canine Conditions Treated](https://www.animaltherapysystems.com/e-acuscope/conditions-canine.html) website.

In addition to the above conditions, the A/M (Acuscope and Myopulse) system is capable of aiding in electrical stitching to wounds (accelerated and optimizing cellular function around and in wounds, to increase and perfect the closing of a wound), pulling a foreign object or injection out, or sending stagnant blood from a hematoma back into the body. These are just a few examples of how this system can be applied and complement routine veterinary practice.

For scientific literature and studies that have been conducted since 1970, please see our website at [Mountaintopcanine.com](http://mountaintopcanine.com) and navigate to the “Scientific Literature” section.

In short:

**Cheng, N., et al. "The effects of electric currents on ATP generation, protein synthesis, and membrane transport in rat skin." *Clinical Orthopaedics and Related Research*, no. 171, 1982, pp. 264-72.**

* **What it found:** This is one of the most cited studies in the field. It found that applying microcurrents (10-1000 microamps) to rat skin increased ATP (adenosine triphosphate) production by up to 500% and amino acid transport by 30-40%. ATP is the primary energy molecule for all cellular functions, so this is a crucial finding for cellular repair and healing. The study also noted that higher currents (milliamps, like those used in TENS units) inhibited these processes.

**Kolimechkov, S., et al. "Physiological effects of microcurrent and its application for maximising acute responses and chronic adaptations to exercise." *Journal of Functional Morphology and Kinesiology*, vol. 8, no. 1, 2023.**

* **What it found:** This review article discusses multiple ways microcurrent therapy can be used to improve physical performance and recovery. It reinforces the idea that microcurrent stimulates ATP production, improves mitochondrial efficiency, and enhances protein synthesis and blood flow. It also notes that the variability in protocols makes it hard to standardize results across different studies.

**Athanasiou, D., et al. "Microcurrent stimulation triggers MAPK signaling and TGF-β1 release in fibroblast and osteoblast-like cell lines." *Cells*, vol. 9, no. 10, 2020.**

* **What it found:** This study investigated the specific cellular pathways affected by microcurrents. It found that microcurrents activate key signaling pathways (like MAPK) and trigger the release of growth factors (like TGF-β1). This is significant because these pathways and growth factors are essential for cell proliferation, migration, and the overall healing process.

Thank you for reading. I look forward to working with you and our mutual patients today!