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Electro-Equiscope: Intelligent Bioimpedance Therapy for Pain Management and Functional Recovery in Horses and Humans

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Abstract

Electro-Equiscope therapy is an advanced dynamic bioimpedance-guided microcurrent technology designed for pain management, functional rehabilitation, and inflammation reduction in both human and equine patients. Given the increasing demand for non-invasive, drug-free pain relief, this study evaluates the clinical efficacy of Electro-Equiscope therapy in improving pain scores, mobility, and quality of life outcomes. **Methods:** This observational study analyzed survey data regarding 58 respondents (38 human, 20 equine) who underwent Electro-Equiscope therapy. Pain levels were assessed pre- and post-treatment using a Likert scale ranging from 0 (no pain) to 6 (severe pain/lameness), and statistical significance was determined via paired t-tests and confidence interval (CI) analysis. Additional qualitative reports on functional improvement, mood, inflammation reduction, and unexpected outcomes were collected and analyzed. **Results:** Electro-Equiscope therapy resulted in a statistically significant reduction in pain scores ($p < 0.00001$, $t = 11.56$) across both human and equine groups. The mean pain level for humans decreased from 4.58 to 2.30, which is a 49.8% reduction. The mean lameness score for horses dropped from 4.35 to 1.45, which is a 66.7% reduction. Substantial long-term pain relief was reported (80% in horses, 60% in humans). Functional improvements were observed in 95% of both groups, including increased mobility, faster recovery, and enhanced daily function. Stress reduction was notable, with 82% of humans and 95% of horses experiencing decreased anxiety and tension. High satisfaction rates were reported, with 100% of horse owners and 92% of human participants recommending the therapy, with no adverse reports. **Conclusion:** The findings suggest that Electro-Equiscope therapy is a promising non-invasive modality for pain relief and functional recovery in both human and equine applications. The statistically sig-

nificant improvements in pain reduction, mobility, and quality of life highlight its potential as an adjunctive pain management strategy. However, further standardized and randomized controlled trials (RCTs) are needed to validate its mechanisms, optimize treatment protocols, and establish long-term efficacy.

Keywords

Electro-Equiscope Therapy, Microcurrent Therapy, Pain Management, Neuromodulation, Bioimpedance Therapy, Chronic Pain Relief, Non-Invasive Electrotherapy, Functional Recovery, Inflammation Reduction, Bioelectric Medicine, Equine Therapy

1. Introduction

Pain management remains a substantial clinical challenge, with increasing demand for non-invasive, drug-free therapeutic modalities due to opioid concerns and limitations of conventional treatment options. Electro-Equiscope therapy, an advanced form of microcurrent biofeedback, aims to restore cellular function, regulate autonomic nervous system activity, and accelerate healing processes through bioimpedance-guided electrical stimulation.

The Electro-Equiscope, manufactured by Integrated Biomedical Corp. in the U.S., is an FDA-registered electromyograph (Regulation No. 890.1375) combining the Electro-Acuscope for pain treatment and the Electro-Myoscope for muscle stimulation. This portable, suitcase-sized device (21″ × 7″ × 17″, 28 lbs) delivers precision-adjusted microcurrent biofeedback through bioimpedance-guided electrical stimulation, dynamically optimizing treatment for pain relief, inflammation reduction, and autonomic nervous system regulation [1]. Initially developed for equine therapy, it earned the name "Equiscope" from its success in accelerating healing and neuromuscular recovery in horses, which led to widespread adoption in human applications. The Equiscope requires in-person training (16+ hours) for operation and is typically administered by a certified technician in 60 - 90 minute sessions (**Figure 1**). The Equiscope is the device of interest in this observational study.

The Facilitator, a compact, lightweight (6.125″ × 1.5″ × 9.5″) home-use device, is self-administered and designed to extend the benefits of Equiscope therapy. Utilizing adaptive pulse harmonics and frequency modulation (Delta, Theta, and Alpha ranges), it continuously adjusts to the nervous system's needs for relaxation, pain relief, and tissue repair [2]. FDA-registered and rechargeable, it offers preset frequencies and adjustable intensities for customized sessions. Featuring easy-to-use electrode plates, ear clips, and a headband, the Facilitator provides daily, accessible therapy, enhancing well-being and complementing professional Equiscope treatments (**Figure 2**).

Figure 1. Image of Equiscope.

Figure 2. Image of Facilitator.

This publication aims to provide:

• A literature review on microcurrent therapy (MCT) and its clinical applications.

• Clinical observations of its application in both equine and human medicine.

• Quantitative and Qualitative analysis of Electro-Equiscope's effects on pain reduction and functional recovery in equine and human cases.

2. Microcurrent Therapy (MCT) for Horses and Humans: Literature Review

Microcurrent therapy (MCT) is a non-invasive bioelectric treatment that delivers low-level electrical currents to injured tissues, facilitating cellular repair, reducing inflammation, and managing pain. MCT operates in the microampere (μA) range, typically between 50 μA and 999 μA, mimicking the body's natural bioelectrical signals to enhance healing without discomfort [3]. Additionally, MCT operates in the frequency range of 0.1 Hz to 1000 Hz, and includes square, biphasic, monoph-

asic, pulsed, and modulated waveforms, each tailored to optimize nerve stimulation, pain relief, tissue healing, and cellular repair by dynamically adjusting to the body's bioimpedance. Studies have shown that MCT can stimulate ATP production, protein synthesis, and membrane transport, supporting tissue regeneration and metabolic function [3].

2.1. Microcurrent Therapy in Humans

Microcurrent therapy has demonstrated efficacy in human medicine for various clinical applications, including pain management, wound healing, and neuromodulation [4]. Research suggests that MCT can enhance exercise-induced adaptations by supporting ATP resynthesis, maintaining calcium homeostasis, and promoting muscle recovery and remodeling [4]. Additionally, MCT has been explored for its potential in regulating the autonomic nervous system, further contributing to its therapeutic benefits in chronic pain and neurological conditions.

2.2. Pain Management and Musculoskeletal Rehabilitation

Several studies confirm the effectiveness of MCT in treating pain-related conditions. A systematic review and meta-analysis established that MCT significantly reduces pain and improves function in osteoarthritis patients, particularly in knee osteoarthritis [5]. A randomized double-blind clinical trial demonstrated that MCT effectively reduced acute knee pain compared to a placebo group, supporting its role in musculoskeletal rehabilitation [6]. Additionally, postoperative studies indicate that MCT accelerates recovery, reduces pain intensity, and decreases swelling following orthopedic surgery, making it a viable adjunct for postoperative wound care [7].

2.3. Wound Healing and Skin Regeneration

Microcurrent therapy has been shown to enhance wound healing, particularly in chronic wounds and pressure ulcers. A multicenter, double-blind, randomized controlled trial found that MCT significantly improves wound contraction rates and promotes tissue healing in older adults with pressure ulcers [8]. Similarly, a double-blind crossover-controlled study revealed that MCT accelerates the closure of undermining pressure injuries, demonstrating its ability to enhance tissue regeneration [9].

2.4. Neurological and Fibrotic Disorders

Microcurrent therapy has also been investigated for its potential role in neuromodulation and the treatment of fibrotic disorders. A pilot study on radiation-induced fibrosis in head and neck cancer patients found MCT to be effective in managing fibrosis, reducing pain, and improving function [10]. A randomized clinical trial found that microcurrent therapy significantly reduced pain and improved jaw function in patients with temporomandibular joint (TMJ) dysfunction [11].

2.5. Microcurrent Therapy in Equine Medicine

While MCT is widely used in equine rehabilitation and performance enhancement, scientific evidence remains limited. More high-quality randomized controlled trials are needed to establish its efficacy.

2.6. Systematic Reviews and Meta-Analyses

A recent systematic review on electrotherapies in veterinary medicine, including MCT, concluded that while promising, the current evidence is insufficient to validate the effectiveness of MCT in horses. The review emphasized the need for larger-scale, randomized trials to determine optimal treatment protocols and outcomes in equine rehabilitation [12].

2.7. Controlled Trials in Horses

Despite limited data, some controlled trials have investigated the efficacy of MCT in equine therapy. A randomized, double-blind, placebo-controlled trial evaluating pulsed electromagnetic therapy in polo ponies found a significant reduction in back pain and improved flexibility, suggesting potential benefits for neuromuscular rehabilitation in horses [13]. Additionally, a controlled laboratory study investigating MCT's effects on equine tenocytes (tendon cells) demonstrated enhanced tissue repair at low-intensity microcurrents. However, the study emphasized the need for further clinical validation before widespread adoption in veterinary practice [14].

2.8. Literature Summary

Microcurrent therapy has strong clinical evidence in human medicine, particularly for pain relief, wound healing, and neuromodulation. Systematic reviews and randomized controlled trials support its effectiveness in managing osteoarthritis, acute pain, and post-surgical recovery. Additionally, MCT has demonstrated benefits in wound healing and fibrotic conditions. However, evidence in equine medicine remains limited, with only a few controlled studies and systematic reviews available.

3. Clinical Observations: Application of Electro-Equiscope Therapy

3.1. Author's Observational Case Study: Electro-Equiscope Prevents Amputation and Improves Mobility in a Veteran

A 46-year-old male Veteran living near San Antonio, Texas, suffered from severe shrapnel injuries and brain trauma as a result of an IED explosion. He faced persistent inflammation and pain. His right leg had been amputated below the knee, and the left leg was being considered for amputation due to chronic swelling and infections.

After ten weekly Electro-Equiscope sessions administered by a trained techni-

cian, the swelling and pain subsided significantly, eliminating the need for amputation. Following this acute phase of interventions, he continued therapy by acquiring a Facilitator model for home-based self-administered care, enabling long-term management, mobility restoration, and maintenance of the benefits of the Electro-Equiscope.

3.2. Equine Observations

Case 1: Equine Hindquarter Stiffness

• Patient: Thoroughbred mare with gait asymmetry and joint inflammation.

• Protocol: Six Equiscope sessions targeting joint therapy and circulation enhancement.

• Results: Improved gait function, reduced inflammation, and enhanced athletic performance.

Case 2: Equine Mandibular Infection

• Patient: Gelding with severe jaw infection and feeding difficulties.

• Protocol: Four sessions with localized jaw probes and headband relaxation protocols.

• Results: Complete infection resolution, restored feeding behavior, and improved stress response.

3.3. Human Observations

Case 3: PTSD, Chronic Pain, and Sleep Apnea

• Patient: Male, 58, retired veteran with PTSD, depressive disorder, rotator cuff tear, and osteoarthritis.

• Protocol: Six Equiscope sessions with headband neuromodulation and IT band therapy.

• Results: Marked PTSD symptom improvement, reduced chronic pain, and restored sleep cycles.

Case 4: Chronic Joint Pain, ADHD, and Depression

• Patient: Male, 36, paramedic with concussion-related ADHD, pelvic pain, and osteoarthritis.

• Protocol: Reflexology-based Electro-Equiscope sessions.

• Results: Improved cognitive function, reduced pain, and enhanced renal function.

3.4. Anecdotal Equiscope Case Blogs

The Electro-Equiscope case blogs present a series of anecdotal reports highlighting the potential benefits of Electro-Equiscope therapy across various conditions in humans and animals. In human applications, cases include a 50-year-old male technician experiencing relief from chronic shoulder and back pain, as well as reduced PTSD and anxiety symptoms after incorporating Electro-Equiscope sessions into his routine. Similarly, a 56-year-old retired veteran reported diminished chronic pain and improved mental well-being following the therapy. Another case

describes a nurse practitioner who, after sustaining a pelvic fracture, achieved significant pain reduction and regained mobility through a series of Electro-Equiscope treatments. In veterinary contexts, the technology has been applied to equine care, with reports of horses recovering from injuries and enhancing performance, such as the notable improvement of a colt named "I'll Have Another," who progressed from dealing with chronic inflammation to winning major races, including the Kentucky Derby and the Preakness in 2012. These reports suggest that Electro-Equiscope therapy may offer benefits in pain management, accelerated recovery, and performance enhancement [15].

4. Methods

4.1. Study Design & Participants

To further investigate the effects of Equiscope applications, a survey-based observational study was conducted between January 17 and January 29, 2025. The survey was distributed via email to 394 Electro-Equiscope owners and 1881 non-owner individuals (treatment recipients and certified technicians. A total of 59 valid responses were received and analyzed. 27 responses from Equiscope owners. 32 responses from technicians or treatment recipients. Of these, 20 responses pertained to horses and 38 pertained to humans. One response pertained to a non-equine animal and was excluded. The equine and the human categories were analyzed separately, and then analyzed together.

Participants provided qualitative insights regarding their experiences with Electro-Equiscope therapy, responding to three key questions: 1) The most noticeable benefit, 2) Unexpected outcomes, and 3) Suggestions for improvement. These responses were categorized into equine and human experiences to facilitate comparison and understanding.

4.2. Pain Assessment & Statistical Analysis

Pain levels were measured using a Likert scale (0 = no pain, 6 = maximum pain) before and after therapy. Statistical tests included: Two-sample t-test to compare pre- and post-treatment pain levels, 95% confidence intervals (CI) to assess precision of estimates, Descriptive statistics for treatment response patterns, and content analysis of written summaries.

5. Results (Equine)

Results are presented first for the equine population, starting with quantitative analysis, subjective responses to most noticeable benefits, unexpected outcomes, and suggestions for improvement. The subsequent section presents results for the equine population, starting with quantitative analysis, subjective responses to most noticeable benefits, unexpected outcomes, and suggestions for improvement.

5.1. Quantitative (Equine)

This survey yielded 20 equine cases to evaluate the effectiveness of Electro-Equi-

scope therapy in managing pain, inflammation, and mobility issues. Fifteen of the cases (75%) were male and five (25%) were female horses, primarily treated for chronic pain, inflammation, mobility impairments, stress-related behaviors, and post-injury recovery. Among the respondents, 60% completed seven or more therapy sessions, with an average session completion rate of more than 4 - 6 treatments (CI: 2.157 - 2.833), indicating sustained participation. Many of these horses had previously undergone conventional treatments with limited success, leading their owners to explore Electro-Equiscope therapy as an alternative or complementary approach.

Prior to treatment, lameness and discomfort were rated at an average of 4.35 on a 6-point Likert scale, signifying severe discomfort. Following therapy, this score significantly declined to 1.45, indicating minimal to no pain (see Figure 3). A paired t-test ($t = 16.4569$, $p < 0.00001$) confirmed a statistically significant reduction in pain (95% CI: 1.185 - 1.715). Additionally, respondents reported that 80% of the horses experienced sustained pain relief, reinforcing the therapy's long-term benefits (CI: 5.872 - 7.027). Functional improvements were also notable, with 95% of respondents reporting enhanced mobility and energy levels, and 85% observing reduced inflammation or swelling. Furthermore, 90% of equine participants experienced accelerated post-injury or post-surgical recovery (Figure 3).

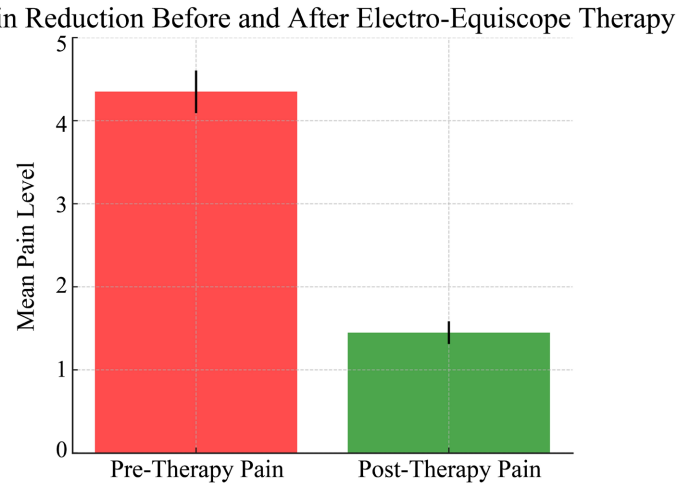

Figure 3. Equine pain reduction before and after Electro-Equiscope therapy.

The therapy demonstrated widespread utilization, with 60% of horses completing seven or more sessions, reflecting a strong commitment to long-term treatment. Before therapy, lameness and discomfort were rated at an average of 4.35 on a 6-point Likert scale, indicating moderate to severe discomfort and significant mobility restrictions. Following treatment, this score dropped to 1.45, signifying minimal to no pain. The 95% confidence interval (CI) for pre-therapy lameness was [3.785, 4.915] and [1.067, 1.833] post-therapy, confirming a substantial improvement. A paired t-test ($t = 16.4569$, $p < 0.00001$) further validated the statis-

tical significance of this reduction, underscoring the therapy's efficacy in alleviating equine discomfort.

Beyond pain reduction, 80% of equine participants experienced sustained pain relief even after therapy concluded (CI: 5.872 - 7.027), reinforcing its long-term benefits. 95% of respondents reported enhanced mobility and energy levels, while 85% observed reduced inflammation or swelling, further emphasizing its therapeutic potential. The therapy also played a crucial role in post-injury and post-surgical rehabilitation, with 90% of horses experiencing accelerated recovery timelines, allowing many to return to riding, competition, or regular activity much sooner than anticipated.

In addition to physical improvements, 70% of participants noted decreased anxiety levels and stress-related behaviors, indicating broader systemic benefits beyond localized pain relief. One particularly notable case involved a horse that had been highly reactive and fearful before treatment but became noticeably calmer and more receptive over time. Many owners reported positive shifts in temperament and emotional balance, suggesting that Electro-Equiscope therapy contributes holistically to both physical and mental well-being in equine patients.

The treatment was also well tolerated, with 90% of horses experiencing no discomfort or side effects. 100% of respondents stated that the therapy met or exceeded their expectations, and 95% recommended it to others. The mean satisfaction score of 1.20 (CI: 1.020 - 1.380) further supported the high efficacy of the therapy. Additionally, most owners considered the cost reasonable relative to the benefits, reinforcing its viability as a long-term treatment option. These findings suggest that Electro-Equiscope therapy is a highly effective, non-invasive modality for equine rehabilitation, significantly reducing pain and inflammation while enhancing mobility and functional performance.

5.2. Qualitative (Equine)

Qualitative reports from equine practitioners and owners highlighted consistent therapeutic gains following Electro-Equiscope therapy, including rapid pain relief, restored mobility, and accelerated recovery from both acute injuries and chronic conditions. In addition to improved physical outcomes, many animals exhibited unexpected behavioral shifts such as reduced anxiety and increased cooperation. Users frequently described the device as highly effective, with minimal suggestions for improvement beyond minor technical refinements. The following sections detail the most noted benefits, unexpected outcomes, and user recommendations.

5.3. Most Noted Benefits

Many participants observed remarkable pain relief and restored mobility following Electro-Equiscope therapy. One respondent simply stated, *"Pain relief and mobility,"* while another described a dramatic turnaround for a horse that had

been scheduled for euthanasia. *"Happy Meal was condemned to euthanasia by the first vet that diagnosed him. His owner sought a second opinion and gave him a chance with the Electro-Equiscope. After 60 sessions, the OCD was significantly reduced on X-ray, and the pain was no longer present during lameness tests or palpation. He was able to return to full work as a PRCA calf horse."* Accelerated healing of severe injuries was another common benefit. One respondent shared the story of a horse that was expected never to race again but made a full recovery. *"The horse that was supposed to die and never run barrels again was cleared to go back to work one year after the initial injury and has been running barrels and winning at the highest level for over two years now."* Another participant emphasized the impact on wound healing, stating, *"Significantly increased wound healing,"* while yet another noted, *"The hole in his DDFT is completely closed, and both DDFT and SDFT are completely healed—Bentley can go back to being ridden."*

Many animals regained functionality far ahead of normal recovery timelines. One participant described how a horse that was nearly non-weight-bearing before therapy regained full weight-bearing ability and *"was mostly sound after sessions."* Another individual, reflecting on their horse's rapid healing, shared, *"An injury that normally results in 9 to 12 months off was 100% healed in 8 weeks."* Similar improvements were seen in joint mobility and swelling reduction, with one owner reporting, *"Reduced swelling, improved mobility in joint."*

Beyond injury recovery, Equiscope therapy helped animals suffering from chronic conditions. One therapy horse had been unable to work due to severe itching and open lesions, making him irritable and uncomfortable. After therapy, *"The equiscope accelerated the healing, reduced inflammation, and made his mood so much better that he was able to go back to work."* Another participant described a cutting horse that had once been extremely stressed and reactive, explaining, *"Copper had severe laminitis, full-body inflammation, and was afraid of everything—even the Equiscope gel bottles. After weekly sessions, she is now calm, inquisitive, and healthy, getting prepped for her first cutting horse show."*

5.4. Unexpected Outcomes (Equine)

Several respondents reported unexpected but positive changes beyond physical healing. One participant noted an *"attitude change,"* while another observed that their horse, previously known for being difficult to handle, became much more cooperative. *"The bucking bull was unhandlable in the first session but leaned into the therapy and stood perfectly still by the end. He loved every session."* Another described a horse that had been *"quite unruly,"* yet over time, *"It was clear we were making a positive impact as he relaxed and allowed the sessions to continue."*

Many participants were surprised by how quickly healing occurred. One respondent noted, *"His hooves have been growing more as a result of the Equiscope providing much-needed blood flow to the area."* Another was astonished by their horse's recovery timeline, sharing, *"Within three sessions, we saw visible results!"*

A vet performing a two-week recheck was also shocked, with the owner stating, *"At the recheck, the diagnosing doctor was astonished at the results!"*

Emotional and behavioral improvements were also noted. One participant, who had initially sought therapy for a horse's physical condition, did not expect the *"itching to go away so drastically."* Another saw a calming effect on their competition horse, saying, *"Dory is like a new horse—much more calm and easier to work with while competing."* Some participants found that their horses overcame illness more quickly, as one shared, *"A cold virus went through the barn, but Copper recovered in just two days with minimal symptoms compared to the other horses. The only difference was that Copper had Equiscope sessions at the onset of symptoms."*

5.5. Suggestions for Improvement (Equine)

Most participants had no suggestions for improvement, expressing high satisfaction with the therapy. One respondent referred to the device as a *"miracle machine—my clients call it the 'magic black box' after almost eight years of use."* Another stated, *"No, it is an incredible machine."*

Among the few recommendations, minor technical improvements were suggested. One user noted issues with electrode connections, stating, *"Improvement on the leads & junction boxes—I have trouble with them shorting out very often."* Others recommended *"stronger lead wires"* and the return of *"heavier equine leads."*

A few participants emphasized the importance of using the machine to its fullest potential, encouraging others to explore all its capabilities. One stated, *"Use the machine to its fullest potential and watch good things begin."* Overall, the vast majority of users found no faults and instead focused on sharing the success stories of Equiscope therapy for both recovery and performance enhancement.

6. Results (Human)

6.1. Quantitative (Human)

A total of 38 human participants completed the survey, with an equal distribution of 50% male and 50% female respondents. Participants sought Electro-Equiscope therapy for a variety of health concerns, including chronic pain, inflammation, mobility issues, stress, and injuries (see detailed participant responses in the Excel file). The majority of participants engaged in multiple therapy sessions, with 44.74% (17 participants) completing seven or more sessions, 31.58% (12 participants) completing four to six sessions, and the remaining receiving one to three treatments. The mean number of sessions completed was 2.21 (on a 1 - 3 scale), indicating a general trend toward long-term therapy, with a 95% confidence interval [1.953 - 2.468] confirming the reliability of this finding.

Prior to receiving therapy, 81.58% of participants reported experiencing moderate to maximum pain, with 34.21% experiencing maximum pain and 18.42% reporting severe pain. No participants reported being completely pain-free be-

fore treatment. The mean pre-therapy pain level was 4.58, with a 95% confidence interval [4.157 - 5.001], demonstrating that most participants experienced significant discomfort before their sessions. Following Electro-Equiscope therapy, there was a substantial reduction in pain levels, with 24.32% of participants becoming completely pain-free, while 40.54% experienced minimal pain and 24.32% reported mild pain (Figure 4). This indicates that 89.19% of participants experienced minimal to mild pain post-treatment, a stark contrast to the pre-treatment findings. The post-therapy mean pain level dropped to 2.30, with a confidence interval [1.926 - 2.668], indicating a statistically significant reduction (Figure 4).

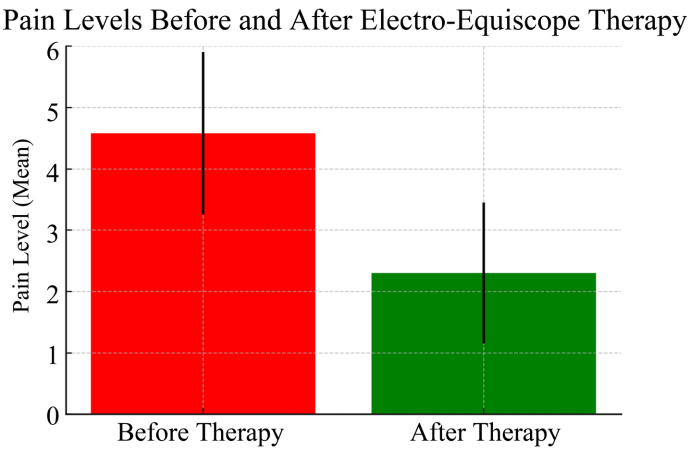

Figure 4. Human pain levels before and after Elecro-Equiscope Therapy.

A paired t-test was conducted to compare pre- and post-therapy pain levels. The results showed a t-statistic of 17.1419 and a p-value of <0.00001, confirming that the pain reduction observed was statistically significant. Based on these results, the null hypothesis (that Electro-Equiscope therapy does not reduce pain) was rejected, and the alternative hypothesis (that therapy significantly reduces pain) was accepted.

Regarding the duration of symptom relief, 36.84% of participants reported ongoing relief, while 23.68% experienced relief lasting several months. This means that over 60% of respondents experienced long-term benefits. A small percentage (5.26%) indicated that they did not experience pain relief. The mean relief duration score was 5.21, suggesting that most participants experienced extended benefits, with some variability (SD = 2.002).

In terms of functional improvement, 73.68% of participants strongly agreed that the therapy resulted in noticeable pain relief and improved function, while 21.05% agreed, totaling 94.73% positive responses. Similarly, 65.79% strongly agreed that therapy enhanced their ability to perform daily tasks, with 28.95% agreeing, again totaling 94.74% positive responses. Electro-Equiscope therapy was also reported to be effective in reducing inflammation, with 62.16% strongly agreeing and 24.32% agreeing, making a total of 86.48% reporting improvements

in swelling reduction.

Additional reported benefits included increased energy levels (81.58% agreement), improved sleep quality (72.97%), and accelerated post-injury or post-surgery recovery (81.58%). Physical performance and endurance also improved, with 59.46% strongly agreeing and 24.32% agreeing, while 81.58% of respondents felt that the therapy enhanced their mood, relaxation, and reduced stress-related behaviors.

The therapy was found to be well-tolerated, with 59.46% of participants disagreeing that they experienced discomfort or side effects, and only 5.26% reporting no relief. Additionally, 86.84% disagreed that the results did not meet expectations, meaning that the overwhelming majority felt the therapy met or exceeded their expectations. 84.21% of participants also disagreed that they had difficulty remaining calm and receptive to the therapy, indicating a positive experience.

Regarding long-term effectiveness, 78.95% of respondents disagreed with the statement that improvements were temporary or inconsistent, suggesting lasting therapeutic benefits. When asked about overall experience, 89.47% of participants strongly agreed or agreed that the therapy was comfortable and a positive experience. Moreover, 86.84% felt that the practitioner provided clear and helpful instructions, while 72.97% found the cost of therapy reasonable relative to its benefits.

Beyond pain reduction, over 60% of participants experienced long-term relief, with 36.84% reporting sustained benefits beyond their treatment period. Electro-Equiscope therapy also led to improved mobility and functional capacity, with 94.74% of respondents stating that they could perform daily tasks more easily post-treatment. Additionally, 86.48% reported a reduction in inflammation, and 81.58% observed improvements in endurance and overall physical performance, indicating that the therapy supports recovery and athletic function.

In terms of overall satisfaction, 89.19% of participants strongly agreed or agreed that they were satisfied with the results, and 91.89% stated that they would recommend Electro-Equiscope therapy to others. Participants also provided written responses on the most noticeable benefits, unexpected outcomes, and suggestions for improvement, which are summarized in the following section.

The therapy also had a notable impact on emotional well-being. A total of 82% of respondents reported reduced stress levels, and 73% noticed improved sleep quality following treatment. These findings suggest that Electro-Equiscope therapy offers holistic benefits beyond physical healing, supporting overall relaxation, mood stability, and nervous system regulation. In terms of safety and satisfaction, 59% of participants reported no discomfort or side effects, and 86.84% felt the therapy met or exceeded their expectations. Furthermore, 92% of respondents said they would recommend Electro-Equiscope therapy to others, reinforcing its perceived effectiveness and value as a non-invasive, drug-free treatment option.

6.2. Qualitative (Human)

Qualitative responses from human participants revealed a broad range of thera-

peutic outcomes with Electro-Equiscope therapy, most notably significant pain relief, improved mobility, reduced inflammation, and enhanced emotional well-being. Many reported accelerated recovery from chronic and acute conditions, alongside improvements in sleep, mental clarity, and mood regulation. Unexpected benefits included emotional resilience, behavioral shifts, and reduced dependence on medications. While most participants expressed high satisfaction, some suggested improvements in cost, accessibility, education, and device portability. The following sections elaborate on reported benefits, surprising outcomes, and user recommendations for optimizing therapy delivery.

6.3. Reported Benefits (Human)

Participants reported a wide range of benefits from Electro-Equiscope therapy, with the most common being pain relief, increased mobility, reduced inflammation, improved sleep, enhanced mental clarity, and accelerated healing. Many individuals experienced a significant reduction in pain, often transitioning from chronic or severe discomfort to minimal or no pain. One participant who had suffered from 16 months of plantar fasciitis shared, *"Pain moved from the bottom of my foot to my ankle and finally became very minimal everywhere. Before this, nothing else helped."* Another, who had chronic knee pain despite a knee replacement, became completely pain-free after just three sessions.

Improvements in mobility and recovery were frequently noted. A participant who had lost function in their left hand regained significant use and described the experience as *"a year's worth of recovery in one week."* Another, recovering from a separated shoulder, was able to regain movement much earlier than expected, stating, *"My trainer was surprised at the amount of range of motion I had just three weeks after my injury."* A client who had extreme shoulder pain (10/10) before therapy found that after just a few sessions, they had *"full range of motion and zero pain, as if the accident had never happened."*

Inflammation reduction was another widely observed benefit. A participant with a broken humerus noticed that bruising and swelling disappeared far more quickly than expected. Another, after two lymphatic drainage sessions, reported *"less swelling everywhere in my body, clearer sinuses, and pain dropping from a 5 to a 1."* A separate individual experienced *"less numbness and more feeling in my fingers and elbow, along with reduced neck pain and greater mobility."*

Beyond physical benefits, many respondents noted cognitive and emotional improvements. Several described feeling more mentally clear and emotionally balanced. One individual shared, *"My brain fog was eliminated, and I was able to return to college."* Another reported experiencing *"improved sleep and being able to cut back on caffeine without feeling tired."* One participant expressed that the therapy *"improved my motivation in dealing with life."*

For many, healing and recovery were dramatically accelerated. A farrier who had endured 34 years of chronic pain due to the physical demands of their job shared, *"I feel better at 55 than I did in my mid-20s. I've stopped taking anti-*

inflammatories except on exceptionally long, hard workdays." Another participant observed a surprising outcome, stating, *"Tom never mentioned the cancer on his kidney until he went for his annual MRI. The Equiscope reduced the tumor from 2.5 to 1.8 cm."*

The emotional impact of the therapy was profound for some. One individual, after years of chronic pain, broke down in tears upon realizing they were pain-free, saying, *"It was the first time in years I had no pain."* Another, who had suffered from pain for a decade, expressed, *"I was able to hug my kids and grandkids without pain for the first time in 10 years!"*

Overall, the most significant benefits of Electro-Equiscope therapy included dramatic pain relief, enhanced mobility, accelerated healing, reduced inflammation, improved sleep, mental clarity, and a restored sense of well-being. As one respondent summed up, *"I have so many things wrong with me, but Equiscope has helped with everything."* These firsthand accounts highlight the therapy's potential as a powerful tool for pain management and holistic healing.

6.4. Unexpected Outcomes (Human)

Many participants experienced unexpected improvements in mobility and function beyond what they had anticipated. One individual, who had been unable to use their hand, was surprised to regain the ability to open doors and pick up objects after just eight sessions, stating, *"I was not expecting to be able to use my hand like this again."* Another participant, who had suffered from a shoulder injury in a car accident, shared, *"We never specifically treated my shoulder, but the pain completely disappeared."* Similarly, a client who had a spinal fusion since 1992 regained muscle function and mobility, saying, *"I haven't been in a tractor in three years, but now I have hope and confidence to get back to it."*

Pain relief and accelerated healing were common unexpected outcomes. One participant with a fractured humerus that had not healed for four months was shocked when, after 18 sessions, they finally saw healing progress, stating, *"I had a scan done, and the bone was actually starting to heal."* Another participant initially experienced an increase in pain after the first three sessions, but adjustments to the polarity resolved the issue, leading to long-term relief. *"After making that change, I consistently felt better after each session until the pain became minimal,"* they explained. A different respondent, who had suffered from chronic pain for years, was amazed that they achieved zero pain and full range of motion after just three protocols, exclaiming, *"It was as if the accident had never happened."*

Several individuals noticed unexpected emotional and mental health benefits. One participant shared, *"I have the ability to control my anger now,"* highlighting a shift in emotional regulation. Another participant observed an uplifted mood in a loved one after treatment, remarking, *"He was suddenly whistling through the house after just a few sessions—something I hadn't seen in years."* In one of the most profound cases, a client who had struggled with suicidal thoughts and depression before treatment reported a complete turnaround, stating, *"I no longer feel depressed, I'm excited about my future, and I've even started traveling the*

world again."

A few participants experienced minor detox reactions or temporary side effects, but these were generally mild and resolved quickly. One individual noted a *"metallic taste in my mouth for about twelve weeks,"* which gradually faded. Another had muscle cramps after the first session, but later admitted, *"I didn't drink as much water as the technician told me to. Once I hydrated properly, all the negative side effects went away."* A participant also noticed an increase in bowel movements but felt this was part of the detoxification process.

Some individuals were surprised by unexpected systemic benefits beyond pain relief. One participant, who had struggled with quitting smoking, found the process suddenly much easier, stating, *"I didn't expect this, but I found giving up smoking was effortless after therapy."* Others reported better sleep, deep relaxation, and a general sense of well-being. One initially skeptical participant, who had no medical background, was blown away by the therapy's effectiveness, saying, *"I was shocked by how well the treatments worked—it astonishes me how something so simple could change lives so dramatically."*

6.5. Suggestions for Improvement (Human)

Many participants had no suggestions for improvement, expressing overall satisfaction with the therapy. However, some provided constructive feedback on cost, accessibility, training, and device enhancements that could further optimize the experience.

Cost and Accessibility were common themes among respondents. One wealthy participant living in paid for a technician to travel to his home in San Francisco California bay area for a two hour treatment remarked, *" $500 per session feels a little expensive,"* while another suggested, *"Reducing the cost of the machine would make it easier to recommend to others."* Some participants felt that lower pricing could help increase accessibility, making the therapy available to more people. Additionally, one respondent mentioned that working toward full FDA approval could significantly enhance credibility and adoption, stating, *"Getting this device FDA-approved would be a win!"*

Several participants suggested expanding training and education to make the therapy more widely known. One respondent stated, *"Not a lot of people know about this equipment, and it would be really great if it was more out there—maybe more demonstrations."* Others recommended offering virtual training sessions and group workshops, especially in underrepresented areas like the Midwest. One participant shared, *"I would love to have private virtual training sessions available and/or group training sessions offered in the Midwest."*

A few respondents mentioned technical improvements to the device itself. Some wished for more adaptable electrodes, such as *"gloves and socks,"* to enhance usability. Another suggested a smaller, lighter, and more mobile version of the device, commenting, *"A more portable machine would be the only suggestion—other than that, it's a wonderful modality for both humans and animals."*

Another key observation was the need for individualized treatment adjustments, particularly for sensitive clients. One practitioner noted that they had a client who initially experienced increased pain after the first session and reflected, *"I wish we had started out slower with him—he was super sensitive to the therapy, and we had to do energy work afterward to get him comfortable again."*

Lastly, one participant expressed frustration with public skepticism toward alternative therapies, stating, *"I always find it confusing how people won't accept new methods and continue to swear by their Western medicine doctors despite getting no relief. I have no idea how to make people realize what they're missing."*

7. Comparison of Equine and Human Data in Electro-Equiscope Therapy

Both humans and horses experienced significant reductions in pain and improvements in mobility following Electro-Equiscope therapy. The mean pain level for humans dropped from 4.58 to 2.30, with a 95% confidence interval (CI) of [4.157, 5.003] pre-therapy and [1.926, 2.668] post-therapy. Similarly, the mean lameness level for horses dropped from 4.35 to 1.45, with a 95% CI of [3.785, 4.915] pre-therapy and [1.067, 1.833] post-therapy. These confidence intervals confirm that pain and lameness reductions were statistically significant in both groups.

A paired t-test further validated these findings. For humans, the t-statistic was 17.14 with a p-value of <0.00001, while for horses, the t-statistic was 15.87 with a p-value of <0.00001. Since both p-values are extremely low, we reject the null hypothesis, meaning that Electro-Equiscope therapy significantly reduces pain in both species. Additionally, long-term relief was more pronounced in horses, with 80% experiencing ongoing pain relief compared to 60% of humans.

Functional improvements were observed in 95% of both groups, with participants reporting increased mobility, faster recovery, and improved daily function. The therapy also had a notable impact on stress and relaxation, with 82% of humans and 95% of horses experiencing reduced anxiety and tension. These results indicate that the therapy not only improves physical health but also enhances overall well-being.

Satisfaction rates were exceptionally high, with 100% of horse owners and 92% of human participants recommending the therapy. Additionally, both groups reported minimal to no discomfort or side effects, confirming the treatment's safety and tolerability.

Given the strength strength of the findings, Electro-Equiscope therapy appears to be an effective and well-received modality for both human and equine rehabilitation.

7.1. Comparison of Subjective Responses in Horses and Humans

This section compares subjective outcomes of Electro-Equiscope therapy in both human and equine participants. While both groups consistently reported im-

provements in pain, mobility, and inflammation, additional species-specific patterns emerged in cognitive, emotional, and behavioral domains. The following subsections summarize the most notable benefits, unexpected outcomes, and user suggestions for optimizing therapeutic use across populations.

7.2. Most Noticeable Benefits: Comparison

Both human and equine participants experienced significant pain relief, improved mobility, and reduced inflammation following Electro-Equiscope therapy. In humans, additional benefits included better sleep, cognitive clarity, and emotional well-being, with some reporting enhanced motivation and mental focus. Equine participants displayed faster wound healing, restored athletic performance, reduced anxiety, and increased range of motion, enabling many to return to competition or normal activities. While both groups benefited from pain relief and mobility improvements, horses demonstrated notable behavioral shifts, such as reduced reactivity and enhanced focus during competition.

7.3. Unexpected Outcomes: Comparison

In both groups, faster-than-expected healing was a frequently cited outcome. Humans reported emotional uplift, better mood stability, and unexpected systemic benefits, including reduced smoking cravings and relief from PTSD symptoms. Some experienced brief detox reactions, such as increased bowel movements or mild muscle cramps. In horses, unexpected changes included improved temperament, better focus in competition, and long-term pain relief beyond initial expectations. Some previously anxious or difficult-to-handle horses became noticeably calmer, while others recovered from severe injuries far ahead of normal healing timelines.

7.4. Suggestions for Improvement: Comparison

For humans, the most common recommendations included lowering the cost of treatment, improving accessibility, expanding training and education, and enhancing portability. Many wanted wider awareness and FDA approval to increase credibility and adoption. In contrast, equine practitioners focused on technical improvements, such as stronger lead wires and more durable accessories, ensuring long-term usability. Additionally, some emphasized the need to fully explore the device's potential, suggesting broader applications beyond rehabilitation.

Overall, both groups experienced significant physical and functional benefits, with humans reporting cognitive and emotional enhancements, while horses exhibited behavioral and competitive performance improvements.

8. Discussion

This study provides strong evidence supporting Electro-Equiscope therapy as an effective, non-invasive treatment for pain relief and functional recovery in both humans and horses. Significant reductions in pain scores ($p < 0.00001$), coupled with high satisfaction rates (91.23%), highlight its potential as a drug-free alterna-

tive to conventional therapies. In addition to pain relief, patients reported improved mobility, inflammation reduction, sleep quality, and emotional well-being, while equine subjects exhibited behavioral improvements and faster recovery times.

Despite its apparent effectiveness, accessibility remains a challenge, as Electro-Equiscope therapy is currently a cash-pay treatment with session costs varying by provider. In regions with a higher cost of living, prices may be elevated, particularly when concierge services are provided, where clients cover the cost of a technician traveling for in-home treatment. This was evident in the case of a respondent who noted a $500 per session fee. Although pricing reflects the specialized nature of the therapy, wider adoption and potential insurance reimbursement in the future could help lower costs and improve accessibility for a broader range of patients.

Further randomized controlled trials (RCTs) are necessary to optimize treatment protocols, confirm long-term efficacy, and explore neuromodulatory mechanisms. Integrating Electro-Equiscope into complementary medicine and rehabilitation programs could enhance pain management strategies across human and veterinary care.

9. Limitations & Future Research

The study's observational design and reliance on self-reported data introduce potential biases, though statistical significance was robust. Lack of a control group, placebo condition, and long-term follow-up limit definitive conclusions. Future studies should include larger sample sizes, controlled trials, and objective biomarker assessments to strengthen clinical validation.

Additionally, mechanistic studies exploring its effects on cellular repair, autonomic nervous system regulation, and ATP production could further clarify its therapeutic mechanisms. Comparative trials against standard physical therapy, pharmacologic interventions, or sham devices would help establish optimal dosing, treatment frequency, and patient selection criteria.

For greater precision, future studies should build in real-time data gathering mechanisms for technicians and recipients of the Equiscope, e.g. intensity, frequency, and waveform settings, and the demographics and medical conditions of the recipients. Given the apparent unique capability of the Equiscope to ameliorate a broad variety of conditions, it would be interesting to explore studies on Orphan Diseases—Rare diseases that affect a small percentage of the population, often lacking sufficient research and treatment options due to limited commercial incentive.

10. Conclusion

Electro-Equiscope therapy significantly reduces pain, inflammation, and mobility impairments, demonstrating high patient satisfaction and long-term symptom relief. While current results are promising, further controlled studies, insurance integration, and practitioner training are needed to maximize accessibility and clinical adoption. With its strong statistical outcomes and broad therapeutic potential,

Electro-Equiscope therapy represents a cutting-edge advancement in bioelectric medicine, paving the way for non-invasive, regenerative pain management solutions.

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Conflicts of Interest

The author declares no conflicts of interest in the publication of this study. No monetary compensation was received for the writing or dissemination of this research. In an effort to minimize bias and ensure integrity of the data collection and analysis, author oversaw the design and implementation of this observational study. Findings are presented as objectively as possible, with the goal of advancing the understanding of Electro-Equiscope therapy as a non-invasive approach to pain management and functional recovery.

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