



# HIGH ENERGY INDUCTIVE THERAPY IN CHIROPRACTIC

Maximize clinical outcomes with power

BY YORICK WIJTING, PT, DPT

TIME TO READ: 8-9 MIN.

## THE TAKEAWAY

High power electromagnetic fields penetrate deeply and effect meaningful clinical change in a multitude of musculoskeletal issues.

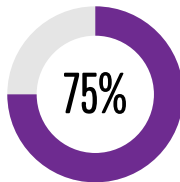
**HIGH ENERGY INDUCTIVE THERAPY (HEIT)** is emerging as a powerful, noninvasive modality that enhances the therapeutic potential of chiropractic care. By delivering high-intensity electromagnetic fields capable of penetrating deeply into musculoskeletal structures, HEIT offers meaningful clinical benefits, particularly for patients whose conditions have proven resistant to more traditional approaches. Its ability to stimulate targeted tissues without direct skin contact allows practitioners to maximize outcomes efficiently and comfortably, positioning HEIT as a valuable addition to modern chiropractic practice.



HEIT provided meaningful impact as symptoms improved and muscle recruitment visibly increased after four sessions over the course of three weeks.

>75%

Patient had a >75% reduction in symptoms after 14 sessions, the last eight of which included HEIT.



- Cutaneous electrical stimulation: Transcutaneous electrical nerve stimulation (TENS), neuromuscular electrical stimulation (NMES) and interferential currents
- Diathermy: Shortwave and microwave
- Low-frequency pulsed electromagnetic fields (PEMFs)

**High energy PEMF**

The application of high-intensity electromagnetic fields is described in the professional literature under different descriptive names, such as high-inductive electromagnetic stimulation (HIES), electromagnetic transduction therapy and high energy PEMF.<sup>2,3,4</sup> The descriptive term high energy inductive therapy (HEIT) will be used in this article to refer to this modality.

Pulsed electromagnetic stimulation is defined as the application of low-frequency electromagnetic fields without ionizing or thermal effect.<sup>5</sup> The most commonly used applications of PEMFs use very low intensities with a field strength usually less than 2 mT.<sup>6</sup> HEIT uses greater field strengths up to 3 T. This greater field strength increases the depth of penetration and can elicit current flows that are strong enough to evoke muscle contractions, even in deeply located muscles that are typically inaccessible to surface

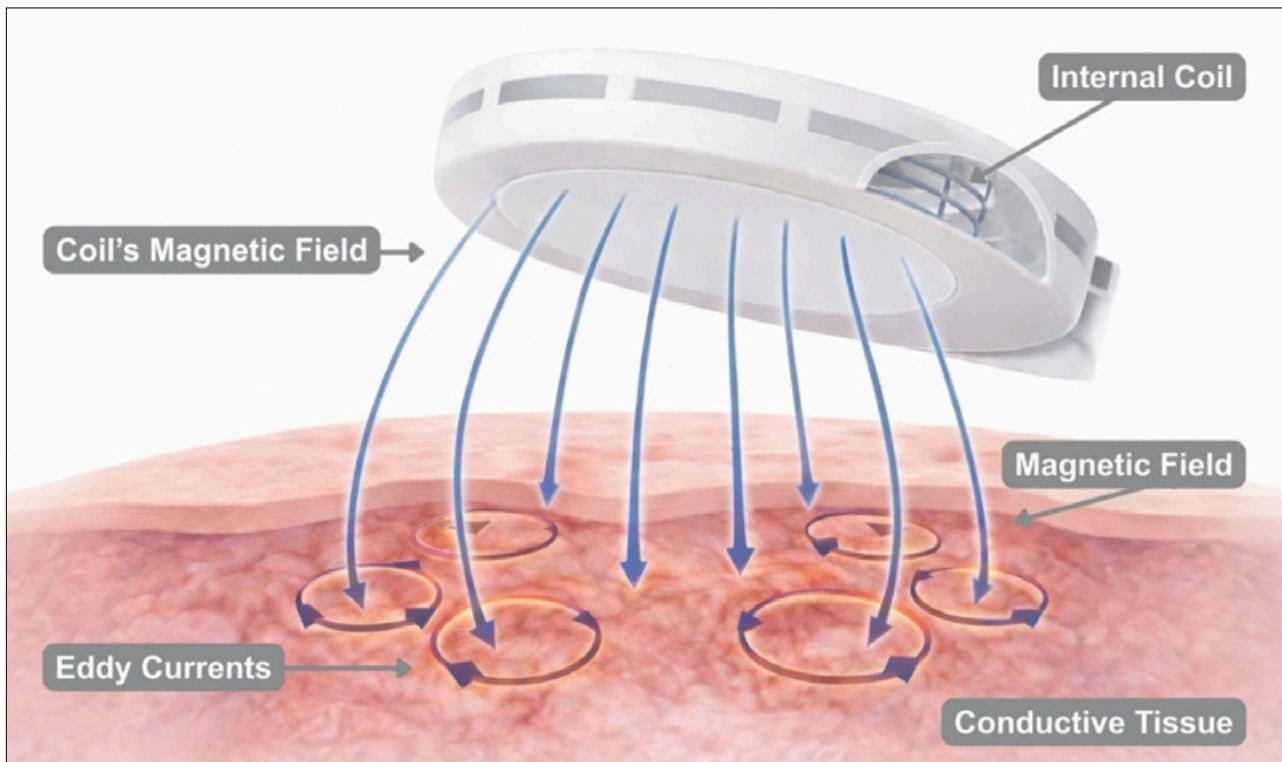
**Electromagnetic stimulation**

Electromagnetic energy is commonly delivered in rehabilitative medicine. Its goal is to contribute to the therapeutic environment by improving bioenergetic function and balance. Clinical outcomes include an increase in circulation, a decrease of inflammatory signs, such as pain and swelling, and a stimulation of biological repair pathways at the cellular level.<sup>1</sup>

Modalities in this category of electrophysical agents include:

- Light: Laser, IR and UV lamps

1 Foletti A, et al. Bioelectromagnetic medicine: The role of resonance signaling. *Electromagn Biol Med.* 2013;32(4):484-499. <https://pubmed.ncbi.nlm.nih.gov/23323834/>. Accessed February 11, 2026.  
 2 Ptaszkowski K, et al. Assessment of the short-term effects after high-inductive electromagnetic stimulation of pelvic floor muscles: A randomized, sham-controlled study. *J Clin Med.* 2020;9(3):874. <https://pubmed.ncbi.nlm.nih.gov/32210031/>. Accessed February 11, 2026.  
 3 Krath A, et al. Electromagnetic transduction therapy in non-specific low back pain: A prospective randomised controlled trial. *J Orthop.* 2017;14(3):410-415. <https://pubmed.ncbi.nlm.nih.gov/28736490/>. Accessed February 11, 2026.  
 4 Markovic L, et al. Effects of pulsed electromagnetic field therapy on outcomes associated with osteoarthritis: A systematic review of systematic reviews. *Wien Klin Wochenschr.* 2022;134(11):425-433. <https://pubmed.ncbi.nlm.nih.gov/35362792/>. Accessed February 11, 2026.  
 5 Rubik B. Bioelectromagnetics and the future of medicine. *Adm Radiol J.* 1997;16(8):38-46. <https://pubmed.ncbi.nlm.nih.gov/10170276/>. Accessed February 11, 2026.  
 6 Rajalekshmi R, et al. Energizing healing with electromagnetic field therapy in musculoskeletal disorders. *J Orthop Sports Med.* 2024;6(2):89-106. <https://pubmed.ncbi.nlm.nih.gov/39036742/>. Accessed February 11, 2026.



**Figure 1.** Oscillating magnetic field with evoked eddy currents in conductive tissue.

stimulation. Greater field strengths are also thought to be associated with more pronounced cellular effects.<sup>7</sup>

Characteristics of HEIT include high output energy, pulsed energy delivery and very low stimulation frequency.

**High energy.** The field strength is substantially greater as compared to traditional PEMF applications, usually greater than 2 T. The strong oscillating electromagnetic field emitted by the applicator induces a corresponding oscillating electromagnetic field around the field lines inside the tissues. These in turn evoke current flows (eddy currents) to flow around the field lines at a frequency corresponding to the output frequency of the field. These current flows are strong enough to cause a depolarization of sensory and motor nerves. It is important to note not all devices marketed as high energy PEMF have sufficient power to emit true HEIT. To be able to achieve depolarizations in motor neurons innervating deep musculature the device must be able to deliver pulses up to 3 T at a frequency up to 150 Hz.

**Pulsed delivery.** The energy is delivered in short oscillating pulses, usually less than 3 ms. This short pulse duration results in an absence of any thermal effect allowing the modality to be used safely in more acute inflammatory conditions.

**Low frequency.** The pulse frequency is extremely low (<150 Hz).

The literature describes benefits to arthritic conditions, bone and soft tissue healing,<sup>8</sup> pain and inflammation, muscle strengthening of deep muscle groups (e.g., deep spinal stabilizers or pelvic floor muscles)<sup>9</sup>

**Clinical examples**

The following cases are from the author’s personal experience using HEIT in a private outpatient physical therapy practice focused mostly on musculoskeletal issues.

**Case 1: Chronic low back pain and instability**

**Demographics.** 65-year-old male. Retired from construction work, active in recreational sports (hand ball, walking half marathons).

**Main complaint.** Low back pain.

**Significant elements in history.** Chronic symptoms (years), gradually worsening. Sustained walking and/or standing increases symptoms. Pain is described as “gradually increasing muscle spasm or tension;” no shooting pain, not a sharp sensation. Reports an episode of low back pain following an

7 Mancini M, et al. Electromagnetic transduction therapy (EMTT) enhances tenocyte regenerative potential: Evidence for senolytic-like effects and matrix remodeling. *Int J Mol Sci.* 2025;26(15):7122. <https://pubmed.ncbi.nlm.nih.gov/40806255/>. Accessed February 11, 2026.  
 8 Hu H, et al. Promising application of pulsed electromagnetic fields (PEMFs) in musculoskeletal disorders. *Biomed Pharmacother.* 2020;131:110767. <https://pubmed.ncbi.nlm.nih.gov/33152929/>. Accessed February 11, 2026.  
 9 Ptaszowski K, et al. Assessment of the short-term effects after high-inductive electromagnetic stimulation of pelvic floor muscles: A randomized, sham-controlled study. *J Clin Med.* 2020;9(3):874. <https://pubmed.ncbi.nlm.nih.gov/32210031/>. Accessed February 11, 2026.



**Figure 2. Dynamic application to thoracic spine\***

\*Images shown do not depict the patients or treatments discussed in these case studies.

awkward lift of 2x 50 lbs. bags of cement approximately 20 years prior.

**Clinical findings.** Normal weight, muscular build. No sensory or motor neurological findings. Normal lower extremity strength. Visible and palpable atrophy paraspinal musculature L4 level.

**Imaging.** Significantly narrowed disc spaces L4-5-S1. Central posterior disc bulge L4-5 without central canal stenosis.

**Treatment.** The treatment diagnosis indicated this patient was suffering from lower lumbar segmental instability secondary to

neurogenic inhibition of the paravertebral musculature (likely Multifidus) related to underlying mechanical issues arising from the protruding disc material. Treatment aims were to decrease pain as needed in order to permit effective participation in exercise, re-establish effective activation of spinal stabilizers during functional activities and improve endurance of the core musculature, including the spinal stabilizers. In addition to exercise therapy and manual interventions, treatment included the use of HEIT. In early sessions, the treatment would begin with the patient in prone and the device applicator positioned over the low lumbar spine. Treatment was delivered for approximately 10 minutes with intensity turned up until

Symptom reduction started after addition of HEIT to the treatment interventions.



**Figure 3. Static application\***

\*Images shown do not depict the patients or treatments discussed in these case studies.

rhythmical contractions (approximately 10 ‘twitches’ per second) were visible in the target musculature. During the next 10 minutes, the device intensity was decreased slightly (minimal but still palpable contraction) and the patient was encouraged to engage in sustained volitional contractions (raise arms and/or legs in diagonal extension patterns) concurrent to the stimulation delivered by HEIT. As symptoms improved and muscle recruitment visibly increased over the course of the next three weeks (four sessions), the use of HEIT was gradually decreased.

**Outcomes.** Patient was pain-free and able to fully participate in walking training by week six. Muscle atrophy was resolved.

**Discussion.** HEIT provided meaningful impact on the treatment progression by being able to easily recruit the inhibited musculature. The non-contact application made the intervention easy to do without the need to disrobe. The alternative to HEIT in this case would have been to use neuromuscular electrical stimulation (NMES), which would have required the use of self-adhesive cutaneous electrodes with limited assurance that sufficient muscle fibers of the target musculature would be recruited for the desired clinical outcome. Important to note is the use of HEIT, like is the case for any other treatment modality, must be guided by a well-defined and clearly articulated objective (What is HEIT going to achieve? How is it going to benefit us reaching the treatment goals?)

**Case 2: Chronic plantar fasciitis, posterior tibialis (TP) tendinitis**

**Demographics.** 55-year-old female. Works 12-hour shifts at produce packaging facility, mostly in standing position.

**Main complaint.** Chronic bilateral foot and ankle pain.

**Significant elements in history.** Symptoms gradually developed approximately 18 months ago and have been unchanged for most of the past 12 months. Pain is described as “sharp, unbearable at times.” She feels it in the sole of the feet and the inside of her ankles. She has been compliant with management efforts and directives (no barefoot walking, wear custom inserts, use supportive athletic shoe wear).

**Clinical findings.** Moderately overweight. Significant tenderness to palpation of bilateral plantar fascia and TP tendons distal to medial malleoli. No circulatory issues.

**Imaging.** Flattening of TP tendons and thickening of proximal fasciae.

**Treatment.** The treatment diagnosis was that this patient’s chronicity was secondary to the relatively poor perfusion in the foot and ankle region, compounded by the inability to give the area meaningful rest. Treatment aims were to decrease inflammatory signs and improve circulation. We initially used shockwave therapy (SWT) as the only modality for this condition to promote angiogenesis. No signs of improvement


## The addition of HEIT likely provided enough of an anti-inflammatory and pro-circulatory effect to promote tissue repair.

were noted after six sessions of SWT, and it was decided to add HEIT to produce an anti-inflammatory effect and promote circulation and lymphatic flow. The subsequent sessions started with the delivery of SWT as usual, followed by HEIT in two phases. The patient would be positioned in supine with the feet elevated and the device applicator positioned over the medial ankle and fascia, and delivered low intensity stimulation for 10 minutes, followed by 10 minutes over the calf musculature to produce muscle pumping contractions. HEIT continued to be used in the same manner until the end of the treatment sessions.

**Outcomes.** Patient had a >75% reduction in symptoms after 14 sessions, the last eight of which included HEIT. Symptom reduction started after addition of HEIT to the treatment interventions.

**Discussion.** The addition of HEIT likely provided enough of an anti-inflammatory and pro-circulatory effect to promote tissue repair. The activation of the muscle pump was easy to achieve with HEIT as a result of its deep penetration.

### Final thoughts

HEIT is a safe and effective modality that amplifies the therapeutic impact of chiropractic care. The high power of the application allows it to penetrate deeply and maximize therapeutic outcomes in patient presentations that may otherwise be resistant to more traditional approaches. 

**YORICK WIJTING, PT, DPT**, is a physical therapist with more than 30 years of international clinical, leadership and education experience. Originally trained at Rotterdam University of Applied Sciences, he later earned his doctor of physical therapy degree from the University of St. Augustine for Health Sciences. Wijting has held senior clinical education leadership roles globally and today owns and operates Specialist Physical Therapy in Gilroy, California, where he focuses on orthopedic rehabilitation and advanced therapeutic modalities, including high energy inductive therapy (HEIT) using the emFieldPro system from Zimmer MedizinSystems ([zimmerusa.com](http://zimmerusa.com)). He continues to teach internationally and emphasizes a facilitator-based approach to patient care that supports the body's natural healing processes.

### CHIROPRACTIC ECONOMICS SURVEY RESULTS:

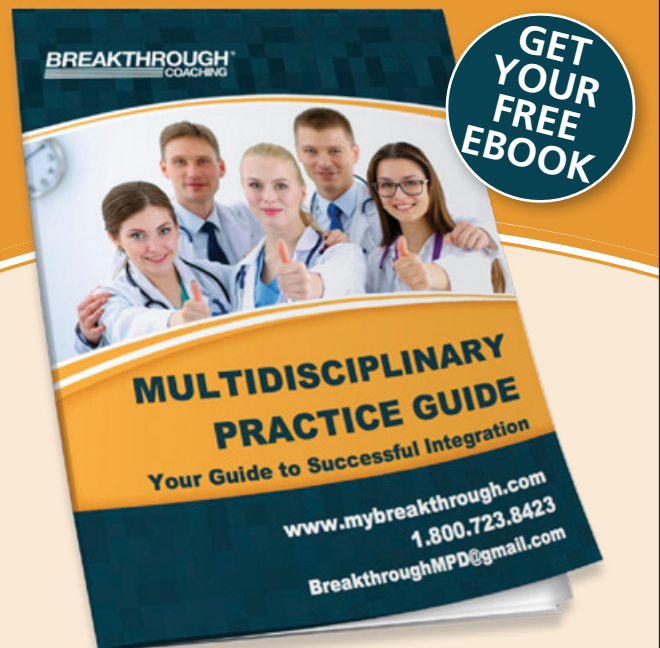
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