

Stroke Rehabilitation with PEMF therapy

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Pulsed electromagnetic field (PEMF) therapy has shown great benefits for stroke rehabilitation. PEMF therapy improves stroke outcomes as it has a neuro-regenerative effect. As a result, applying PEMF for neurorehabilitation is an important advancement.

Use of PEMF therapy for Neurorehabilitation and Stroke Recovery and Stroke Rehabilitation

A stroke is a life threatening event often resulting in loss of speech, vision and mobility. It is the third leading cause of death, in United States and Australia.

Stroke, also known as a cerebral infarction, can happen due to bleeding in the brain known as cerebral hemorrhage and also due to a blockage from a blood clot or fatty plaque. Hemorrhage can result from a leaking cerebral AVM (arteriovenous malformation). AVMs can be due to a genetic or congenital condition where blood vessels in the brain get progressively tangled and thinned out thereby inducing a stroke event.

By applying PEMF therapy, it becomes possible to stimulate the cells, neurons and tissues damaged in a stroke to recover faster. This research review digs deeper into the science that explains how PEMFs improve stroke recovery. In our experience, PEMF therapy not only improves the recovery, but also makes it possible to achieve levels of recovery not previously possible.

PEMF therapy improves Neuroplasticity

Neuroplasticity can be defined as the ability of the nervous system to respond to intrinsic or extrinsic stimuli by reorganizing its structure, function, and connections. It is crucial that neuroplasticity be improved for stroke rehabilitation for recovery to happen. Improving neuroplasticity heals the after-effects of stroke such as memory, thinking, mobility and speech impairments. Therapists often use memory games, rehab exercises and speech therapy exercises to improve neuroplasticity.

As per the latest research¹ by six prominent scientists from the medical university of Lodz in Poland, extremely low-frequency PEMF therapy improves the effectiveness of post-stroke rehabilitation by improving neuroplasticity.

How does PEMF therapy for stroke rehabilitation work?

Using PEMFs for stroke rehabilitation has been a natural topic of interest for PEMF therapy researchers because PEMF therapy improves blood circulation² including microcirculation³ and improves cellular oxygenation⁴ as it stimulates stem cells and the production of adenosine triphosphate (ATP), the fuel of the cell.

In 1989⁵, scientists from the reputed Universität Konstanz (Germany) found 10 Hz PEMF stimulation at 10 hours per day increased two critical enzymes responsible for cellular oxygenation. As we know, physical therapy, speech therapy and vision training are provided to most stroke survivors by almost all neurorehabilitation clinics, centers or practitioners, but recovery is dependent on the condition of the patient. It's obvious to see how PEMF therapy can be of immense benefit for stroke recovery. By directly stimulating recovery and improving cellular oxygenation, several processes and functions of the brain improve.

In 2012⁶, the University of Bologna, Italy published a randomized trial that concluded that targeted magnetic field therapy to the brain boosts neuroplasticity and rebalances motor capabilities. They suggest that brain stimulation using PEMFs (also known as transcranial magnetic stimulation -TMS

– when PEMF is targeted to the brain) is a valid and promising approach for helping chronic stroke patients with mild motor impairment.

These studies effectively show PEMF treatment should be used after stroke. We've previously published information on the nerve regeneration effects of PEMF therapy, and now you know how PEMF therapy can also be an effective stroke rehabilitation tool. We hope that physiotherapists, neurologists and stroke rehabilitation caregivers and patients can realize the benefits of PEMFs for stroke and implement this incredible technology to improve outcomes of stroke survivors.

PEMFs for stroke prevention

The neuroprotective effects⁷ of PEMF therapy also suggest that it might be possible to delay or avoid a stroke event if PEMF is utilized regularly. PEMFs can decrease inflammation in the vascular system and reduce the risk of clot or plaque development in the blood vessels that can lead to strokes. As a result, PEMFs have immense anti-ageing or longevity benefits and regular application of PEMF therapy using PEMF devices can be beneficial for improving the quality of life.

PEMF therapy for Neurorehabilitation & Stroke Recovery References:

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