

Does Oska Pulse PEMF affect nerves directly or indirectly?



Rather than directly altering nerve firing, as with electrical nerve stimulation (e.g., TENS), PEMF influences the cellular environment and processes, which then impact nerve function. For example, imagine that TENS works like someone playing a piano, striking each key to produce sound directly.

PEMF, on the other hand, adjusts the room's acoustics around the piano, influencing how the music is ultimately experienced. So, let's do a deep dive on this:

- PEMF can influence **ion channels and membrane permeability** in nerve and other cells, helping restore normal cell function when cells are stressed or injured. This can alter intracellular signalling, support healing, and improve nerve conduction and overall health.
- PEMF can increase levels of growth factors like BDNF (*a protein that acts like a fertiliser for your brain*) and NGF (*Nerve Growth Factor*) to stimulate neurotrophic factor pathways, which are important for nerve maintenance and regeneration. These are cellular signalling effects rather than direct electrical stimulation of nerve impulses. To illustrate this process, consider a patient who has lost tactile sensitivity in their fingers due to a nerve injury. Following PEMF therapy, BDNF levels increase, supporting neuroplasticity and aiding nerve repair. Gradually, the patient's tactile sensitivity returns, demonstrating how these growth factors contribute to recovery in a real-world setting.
- In studies of neuropathy and nerve repair, improvements in nerve conduction and regeneration seen after PEMF exposure are often explained by enhanced **blood flow**, **reduced local inflammation**, and **better oxygenation** — all of which *indirectly* create an environment that **supports nerve health and function**.
- There *are* hypotheses in the broader PEMF research space that magnetic fields could influence nerve activity more directly, for instance by altering calcium ion movement or membrane potentials, which are key to nerve signalling. We will know more about this at the conclusion of research being conducted in Germany using the Oska Pulse.
- **Important distinction and conclusion:**
Oska Pulse itself doesn't claim to excite or suppress nerve firing like a TENS unit directly. Apart from providing an environment that accelerates cellular regeneration, it uses PEMF to reduce the amplitude and perceived intensity of pain signals traversing the nervous system. By supporting cellular function, it offers a more indirect, supportive effect rather than direct electrical stimulation of nerves.

You can find more similar studies on Oska Pulse and PEMF at
[Resources - Medic Technology](#) and www.oskapulse.au/

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