

WHAT THE RESEARCH SHOWS

Neurofeedback for Parkinson's

Neurofeedback is EEG-based self-regulation training. Using real-time feedback, a person learns to shift their own brainwave patterns. For Parkinson's, the evidence base is real and growing. Below is a plain summary of what it currently supports, followed on the page by the full list of studies.

The training changes brain activity, with high confidence. The first pre-registered meta-analysis of EEG neurofeedback in Parkinson's (von Altdorf, Bracewell and Cooke, 2025) pooled 11 studies and found a large, high-certainty effect: neurofeedback shifts cortical activity in the targeted direction. This is the mechanism the training relies on, and it is well established.

Motor effects are encouraging but not yet proven at the group level. The same meta-analysis found the pooled effect on overall motor scores inconclusive, and noted that broad rating scales can miss specific individual gains. Case reports describe improvements in areas such as tremor, handwriting, and freezing of gait. The honest position is a promising signal, real individual variation, and a need for larger trials.

Non-motor benefits are commonly reported. Studies point to gains in sleep, mood, anxiety, and stress regulation, which are among the most burdensome non-motor features of Parkinson's.

Care is individualized with QEEG. Quantitative EEG maps each person's brain activity, so the protocol targets their specific patterns rather than a fixed template.

Non-invasive and adjunctive. Neurofeedback is used alongside standard neurological care, not in place of it. It does not alter medication and is not a treatment for the disease itself.

For a referring provider

Neurofeedback has an established neuromodulatory mechanism, a growing evidence base, and a strong safety profile. It is a reasonable, low-risk adjunct for a patient who wants to work on self-regulation alongside their medical care. The studies below let you review the evidence directly.

KEY REFERENCE

von Altdorf L, Bracewell M, Cooke A. Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis. Journal of Clinical Medicine, 2025. 11 studies, 143 participants (Hoehn and Yahr I to IV). Cortical activity modified as intended: large effect, high certainty. Motor symptom effect: inconclusive, low certainty. Full study list and links at SMARTPDProgram.com/pdresearch.