

EEG Neurofeedback as a treatment method for Parkinson Disease.

<https://www.neurodegenerationresearch.eu/survey/eeg-neurofeedback-as-a-treatment-method-for-parkinson-disease/>

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Research Abstract

Parkinson's disease (PD) is the second most common degenerative brain disorder. It severely impairs motor functions causing muscle stiffness, shaking of limbs, slowing and even loss of body movements. PD is a major cause for motor disability in elderly people and responsible for high treatment costs.

Recently, we have developed a potential new intervention method for patients with Parkinson's disease (PD), called neurofeedback. Neurofeedback (NF) helps improving motor function in every-day life by enabling patients to train specifically those brain areas that are involved in the control of body movements. In an initial study, NF treatment improved motor symptoms by 37%.

Currently, for this technique to work, patients with PD go into an MRI brain scanner and learn to control their brain activity. However, the use of an MRI brain scanner makes this neurofeedback technique expensive (approximately £500 per hour). A further disadvantage of this approach is the low availability of an MRI machine (only large health care centres have MRI machines). In contrast, another technique, called EEG, is much cheaper, widely available, and does not require a trained expert to be present while it is running. Moreover, EEG NF treatment can improve symptoms in other conditions (e.g. in Attention Deficit Hyperactivity Disorder and Epilepsy), making it a highly promising candidate for our research purpose.

This study aims to make the benefits of our scientific research on neurofeedback training available to as many PD patients as possible. We will do this by using the EEG-device to implement neurofeedback training of the areas of the brain involved in movement. PD We expect this technique to lead to similar benefits in motor function as our initial MRI based NF study, and that it can be used as a widespread therapeutic tool for PD patients.

Further information available at:

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