

Study shows stimulation of the ear can help manage Parkinson's symptoms

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A new study led by the University has shown that gentle, controlled stimulation of the ear canal can help reduce symptoms of Parkinson's disease.

The randomized, controlled study showed that twice-daily stimulation for two months was associated with a significant reduction in both motor and non-motor features of Parkinson's disease.

Participants reported greater movement and mobility, and showed improvements in decision-making, attention, memory, mood, and sleep. Participants also said that by the end of the study, they found it easier to perform everyday activities by themselves.

Most of the therapeutic gains were greatest five weeks after the end of treatment, suggesting that the treatment may have long-lasting effects.

The stimulation therapy was performed at home using a portable headset produced exclusively for clinical investigations by Scion Neurostim, a US-based device company. Participants continued to take their regular dopamine replacement therapy while using the device.

The study, led by Professor David Wilkinson at Kent's School of Psychology, was conducted on 46 individuals with Parkinson's disease. The research was supported by Dr. Mohamed Sakel, Director of the East Kent NHS Neuro-rehabilitation Service and Dr. Mayur Bodani, consultant neuropsychiatrist, Kent & Medway NHS and Social Care Partnership Trust. Additional help with participant recruitment was given by the national charity Parkinson's UK.

Professor Wilkinson said: "This study raises the intriguing possibility that some aspects of Parkinson's disease may be better managed if traditional drug therapies are combined with gentle, non-invasive stimulation of the balance organs."

Dr. Beckie Port, Research Manager at Parkinson's UK, said: "The results from this small-scale study are very exciting. While more research is needed to better understand how delivering this kind of non-invasive

stimulation to the nerve in the ear works, it holds a lot of promise to relieve troublesome symptoms that many with Parkinson's experience."

Professor Ray Chaudhuri, Director of the National Parkinson Foundation Centre of Excellence at King's College Hospital, said: "The results are very encouraging. Achieving both widespread efficacy and durable gains in motor and specifically non-motor aspects of Parkinson's disease would be quite novel, and improvements in non-motor symptoms would be especially notable.

"Those symptoms are often untreated or poorly treated and have a particularly detrimental impact on quality of life, and their treatment is a key unmet need. I am intrigued and want to see where this device technology might go."

The results build on other work conducted by Professor Wilkinson's research group at Kent's School of Psychology, which has shown that gentle stimulation of the inner ear can also improve neurological symptoms associated with stroke and traumatic brain injury.

The study, titled "Caloric vestibular [stimulation](#) for the management of motor and non-motor symptoms in Parkinson's [disease](#)," is published in the journal *Parkinsonism and Related Disorders*.

More information: David Wilkinson et al. Caloric vestibular stimulation for the management of motor and non-motor symptoms in Parkinson's disease, *Parkinsonism & Related Disorders* (2019). [DOI: 10.1016/j.parkreldis.2019.05.031](https://doi.org/10.1016/j.parkreldis.2019.05.031)

Provided by University of Kent

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