Docket #: S23-359

Apparatus for efficient vibrotactile and electrotactile fingertip stimulation

The Tass Lab has invented non-invasive, Vibrotactile Coordinated Reset (vCR) stimulation devices and methods to safely and efficiently treat brain disorders characterized by abnormal neuronal synchrony such as Parkinson's disease.

This invention allows for vibrotactile and/or electrotactile and/or electrical and/or infrared fingertip stimulation with minimal amount of artificial hand stimulation. Additionally, it mitigates issues such as moisture buildup and discomfort resulting from friction. Moreover, this device establishes a secure link between lightweight controllers and fingertip stimulators. The consistent physiological input to uncovered hand skin promotes sensory enhancement, fostering beneficial plasticity mechanisms and therapeutic effects.

Stage of Development

- Prototype
- Ready for clinical studies

Related Technologies:
17-270: Safe and efficient vibrotactile multi-channel stimulation for the treatment of brain disorders
23-357: Apparatus for efficient vibrotactile stimulation, especially vibrotactile fingertip stimulation
23-360: Apparatus and method for efficient long-term multi-channel non-invasive stimulation for the treatment of disorders of the nervous system
23-373: Apparatus and method for efficient multichannel vibrotactile stimulation with compound pulses
23-406: Apparatus and method for efficient combined vibrotactile and electrotactile stimulation for the therapy of disorders of the nervous system

23-407: Apparatus for efficient electrotactile fingertip stimulation for the treatment of disorders of the nervous system
23-408: Apparatus and method for efficient wireless synchronization of multi-site non-invasive stimulation for the treatment of disorders of the nervous system
23-409: Method and apparatus for autonomous parameter adaptation of non-invasive multichannel stimulation

Applications

- Glove (fingertip stimulation) for the therapy of Parkinson's Disease and other movement related disorders

Advantages

- Non-invasive
- Effective treatment with minimal amount of artificial hand stimulation
- Reduces moisture buildup and discomfort resulting from friction
- Direct skin contact promotes sensory enhancement, fostering beneficial plasticity mechanisms and therapeutic effects

Innovators

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