

Sensorimotor telerehabilitation in times of CoViD-19

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Abstract

The CoViD-19 pandemic has invoked a drastic reduction in contact to patients undergoing physical or occupational therapy. Related restrictions are beginning to be lifted gradually, but will likely persist in some way well beyond 2020. The preceding months have thereby exposed the weaknesses of therapy as practiced traditionally and clearly shown that the potentials offered by digitalization have not been fully harnessed. Even beyond CoViD-19, digital approaches can support therapists in many ways, for instance by increasing the amount of patients being treated simultaneously or by reducing the interval between sessions. Different rehab apps already exist that can streamline patient communication and management, help in breaking down overarching goals into smaller achievable steps to keep patients motivated and visualize the therapeutic progress or even track therapy-related activity and training. A drawback of such approaches is that although therapists can remotely track progress and set up new training plans, supervision and necessary corrections for inappropriately performed exercises cannot be provided at all times. Newer platforms, like Raccoon.Recovery, overcome this limitation by combining both hardware and software to not only track exercise amount, but also to assess movement quality and immediately provide patients with feedback to their performance. These talks will overview the merits of using an all-in-one solution for telerehabilitation and the thereof resulting advantages for both patients and therapists. Early clinical tests in stroke and TBI patients yielded rich experience and promising first results regarding the efficacy of this kind of telerehabilitation approach.

rehabilitation. He holds a bachelor's degree in psychology from Freie Universität Berlin and a master's degree in medical neuroscience from Charité Berlin.



Speaker Publications:

1. "Relation between personality traits and brain reward responses when playing on a team"
2. "P187 Costs and benefits: Complex effects of unilateral and bilateral tDCS over M1 on the kinematics of sensorimotor function in chronic stroke"
3. "Die Wirkung von tDCS auf sensomotorische Defizite der oberen Extremität bei chronischen Schlaganfallpatienten"
4. "Effects of Unilateral and Bilateral tDCS over M1 on the Kinematics of Sensorimotor Function in Chronic Stroke Patients"
5. "Anodal Transcranial Direct Current Stimulation Over S1 Differentially Modulates Proprioceptive Accuracy in Young and Old Adults"

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Biography:

Toni Muffel is a doctoral student at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig and the Charité Berlin, focusing on new avenues in sensorimotor