Master thesis opportunity

Evaluation of action observation and motor imagery in the acute stage after stroke: a feasibility study

Background:
Motor imagery is a powerful technique that originated in sports psychology and is used in rehabilitation, in particular in neurorehabilitation. Combined with action observation it is even more beneficial for patients’ recovery. The mechanisms of both techniques are based on brain area activation similar to movement execution. Therefore, the effect of action observation and motor imagery is well evaluated in different orthopaedic diseases, e.g. hip replacement, and diseases of the central nervous system, e.g. stroke. However, there is a lack of evidence regarding their feasibility the acute stage after stroke.

Aim: The aim of the project is to undertake a feasibility study to evaluate action observation combined with motor imagery in patients in the acute stage after stroke.

Tasks:
The successful candidate will create short video sequences and instructions for action observation and motor imagery. Videos will cover familiarisation with both techniques and activities of daily living, e.g. turning in bed, stand up, walking, running. The candidate will evaluate the feasibility of training with action observation and motor imagery based on the video sequences in patients in the acute and subacute phase after stroke.
A study protocol will have to be proposed to the research group and an application submitted to the local ethical committee. Recruitment, assessment and outcome analysis of five to ten patients will be organised by the candidate.

Requirements:
- Interests and fun to record short videos
- Interests to learn and evaluate the techniques of action observation and motor imagery
- Proficiency in use of MS Office
- Basic knowledge of statistical analysis with appropriate software
- Highly motivated and team-oriented working morale

Offer:
- Project cooperation with the Department of Sport, Exercise and Health (UniBas) and the stroke unit at the University Hospital Basel
- Introduction and supervision throughout the entire project
- Exciting opportunities in an interdisciplinary environment of clinical research and rehabilitation
- Possibility to visit various departments involved in rehabilitation of neurologic and orthopaedic patients.

Time period:
Begin is negotiable. Duration: 6 to 9 months.

For further questions, please contact Dr. C. Schuster-Amft, Head, Research Department, Reha Rheinfelden (c.schuster@reha-rhf.ch). To view other opportunities at our department, go to: https://www.reha-rheinfelden.ch/ueber-uns/wissenschaft/themenboerse-praktika