TITLE: Rehabilitation of Corticospinal Control of Walking Following Stroke

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RESEARCH PROJECT DESCRIPTION

Current approaches for rehabilitation of walking following stroke do not sufficiently restore mobility function. New breakthroughs in rehabilitation are needed that will target the motor impairments responsible for poor walking function in individuals post-stroke. The corticospinal tract is an important target for neuroplasticity because it plays an important role for control of walking in humans. We and others have shown that, compared to steady state walking, accurate gait modification (ACC) tasks are a potent behavioral stimulus for activating the corticospinal tract. Therefore, we propose that training with ACC tasks (e.g., obstacle crossing/avoidance, accurate foot placement, etc.) may be superior to training with steady state walking (SS) for eliciting corticospinal neuroplasticity and recovery of walking function. Medical students may assist with delivering rehabilitation and/or with conducting study assessments. Medical students may also investigate secondary research questions of mutual interest. Funding for the project is provided by the US Dept. of Veterans Affairs Rehabilitation Research and Development Service.

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