

**Title of Study:** Exercise as a Primer for Excitatory Stimulation Study (EXPRESS): A Combined Exercise and Transcranial Direct Current Stimulation Intervention for Cognition

**Location:** Ontario

**Study Description:**

Transcranial direct current stimulation is a non-invasive form of brain stimulation that has been used to improve mood and memory. However, it works better when brain cells are engaged. This study investigates the efficacy of a combined exercise and transcranial direct current stimulation (tDCS) for improving memory in mild cognitive impairment and mild Alzheimer's disease.

**What will happen during the study?**

Eligible participants will be randomly assigned to one of three groups: exercise with tDCS, treatment as usual with tDCS, or exercise with sham tDCS. Participants in the exercise group will have 30-minute exercise sessions at University Health Network-Toronto Rehabilitation Institute (UHN-TRI) or at home. They will be asked to exercise at UHN-TRI 3-5 times per week for 5 weeks, followed by active or tDCS sessions during the final 2 weeks. Participants in the treatment as usual group will not receive an exercise intervention and will receive written information on physical activity for older adults. There will be 3 assessment visits which include collecting fasting blood samples, cognitive assessments, mood and behavioural assessments with a caregiver. The total time commitment for participation is approximately 5 weeks. Visits will be 30 minutes to 1.5 hours in length. Anonymized data will be collected and analyzed. Findings will be disseminated through presentations and/or papers.

**Eligibility: Who Can Participate?**

- Diagnosed with mild cognitive impairment or mild Alzheimer's disease
- A partner, family member, or caregiver who regularly spends time with you
- Able to read and understand English
- Willing to partake in a research study using non-invasive brain stimulation and exercise

**Recruitment Start Date:** 2018/09/01

**Recruitment End Date:** 2021/01/01

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