

Pathophysiological Understanding and Treatment of PTSD: an rTMS Approach

Investigators: Drs. Chantel Debert, Frank P. MacMaster, Ashley Harris, Alex McGirr

Research Team: Christina Campbell (RA)

BACKGROUND

In Canada, post-traumatic stress disorder (PTSD) affects approximately 12% of adults, but this is a conservative estimate as many patients do not seek treatment. Currently, the cornerstone of management of PTSD is medication and psychotherapy. Medications often have side effects and psychotherapy can be prolonged; both may lack efficacy. As such, there is a dire need for treatments that have few side effects and may specifically target PTSD symptoms. The objective of this study is to investigate the use of repeated transcranial magnetic stimulation (rTMS) to reduce the symptoms of PTSD.

WHAT IS rTMS?

rTMS is a safe, non-invasive, and drug-free neuromodulation therapy that is an established treatment for depression in adults, and has the potential to improve symptoms in a variety of mental health and neurological conditions. rTMS applies a repeated electrical current to the brain to stimulate certain areas known to be involved in mental health conditions, improving regional brain function with the goal of mitigating negative neurological/psychiatric symptoms.

RECRUITMENT

We are looking to recruit adult participants (over the age of 18) with a confirmed diagnosis of adult PTSD who have not received TMS treatment in the past. Referred participants will receive a screening phone call to assess for any exclusion criteria and to answer any questions regarding TMS or the study commitments.

STUDY PROTOCOL

Participants will first undergo an initial intake assessment, where baseline questionnaires, an MRI, and a small sample of blood will be collected. Following this intake, participants will be randomized into one of two groups that stimulate slightly different areas of the brain. Both groups will receive five weeks of rTMS treatment (Monday – Friday, 25 sessions total) with each session lasting approximately 1 hour. At one week into rTMS treatment, and again upon the completion of treatment, participants will undergo repeat MRI scans, blood draws, and complete the same questionnaires administered previously.

CONCLUSION

The proposed study has the opportunity to improve mental health in both male and female individuals suffering with PTSD. Further, it will fundamentally change how we treat PTSD, and provide a novel and successful treatment option for Canadians.

Study Contact Information: Email: ptsdstudy@ucalgary.ca Phone: 403-944-8643