INFORMED CONSENT FORM

Official title: High-Definition Transcranial Direct Current Stimulation on Episodic Memory in Individuals with Amnestic Mild Cognitive Impairment and History of TBI

NCT number: NCT04504630

IRB approved date: 09-11-23

Title of Study: High-Definition Transcranial Direct Current Stimulation on Episodic Memory in Individuals with Amnestic Mild Cognitive Impairment and History of TBI

Consent to be part of a Research Study
To be conducted at
The University of Texas Southwestern Medical Center
Parkland Health & Hospital System

Key Information about this Study

The purpose of this study is to gain a better understanding of whether a safe non-pharmacological intervention might lessen symptoms in individuals with a history of traumatic brain injury having mild memory problems in aging. Some participants will be selected by chance to receive neurostimulation, a device that delivers a very low current to the head, which is referred to as the *active intervention group* in this study. However, others will not receive this intervention, even though the device will be on their head, and this is referred to as the *sham intervention group* in this study. Individuals will need to complete 10 sessions of either the active or sham intervention across 2 weeks, lasting approximately 20 minutes. Individuals will not be told whether they are receiving the intervention or not. Some individuals may experience slight discomfort or skin irritation from the intervention but there are no significant risks from study participation. Tests assessing various thinking and psychological functions, including attention, memory, and emotional adjustment will be administered at study enrollment, immediately following session 10, and then at a 3-month follow-up as part of the study. Your participation will add to our scientific knowledge and may benefit scientists and patients in learning how to improve memory functioning in patients having a history of traumatic brain injury. Individuals will need to complete a total of twelve visits, ranging between 30 minutes and 1 hour and 30 minutes, for these procedures.

Information about this form

You may be eligible to take part in a research study. This form gives you important information about the study.

Please take time to review this information carefully. You should talk to the researchers about the study and ask them any questions you have. You may also wish to talk to others (for example, your friends, family, or a doctor) about your participation in this study. If you decide to take part in the study, you will be asked to sign this form. Before you sign this form, be sure you understand what the study is about, including the risks and possible benefits to you.

Please tell the researchers or study staff if you are taking part in another research study.

Voluntary Participation - You do not have to participate if you don't want to. You may also leave the study at any time. If you decide to stop taking part in this research study, it will not affect your relationship with the UT Southwestern or Parkland Health & Hospital System staff or doctors. Whether you participate or not will have no effect on your legal rights or the quality of your health care.

If you are a medical student, fellow, faculty, or staff at the Medical Center or Parkland Health & Hospital System, your status will not be affected in any way.

General Information – "Who is conducting this research?"

Principal Investigator

The Principal Investigator (PI) is the researcher directing this study; the PI is responsible for protecting your rights, safety and welfare as a participant in the research. The PI for this study is Christian LoBue, PhD, Department of Psychiatry at University of Texas Southwestern Medical Center.

Recruitment and Referral

Recruitment procedures for this study will be done at UT Southwestern Medical Center. Participants may be patients from the Medical Center, Parkland Health & Hospital System, Veteran's Affairs Hospitals, or other locations.

Funding

The US Department of Defense, Department of the Army, a federal agency that promotes scientific research, is funding this study. This organization is providing money to University of Texas Southwestern Medical Center so that the researchers can conduct the study.

Purpose – "Why is this study being done?"

A growing number of individuals have concerns about the long-term effects of traumatic brain injury in aging. There is much that scientists and health care providers do **NOT** yet understand on this topic, but we are wanting to examine whether neurostimulation may be an effective intervention for improving memory functioning in individuals who have mild memory problems with a history of traumatic brain injury. The study could yield a safe and low cost intervention to lessen some of the symptoms individuals with traumatic brain injury may experience during aging.

You are asked to participate in this research study of the effects of neurostimulation on memory in those having a history of brain injury and mild memory problems.

The researchers hope to learn about the effectiveness of neurostimulation on improving memory functioning.

This study will help find out what effects this device has. The safety of this device in humans has been tested in prior research studies at UT Southwestern and other institutions; however, some side effects may not yet be known.

A description of this clinical trial will be available on https://www.ClinicalTrials.gov, as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this Web site at any time.

Information about Study Participants – "Who is participating in this research?"

You are being asked to be a participant in this study because you have noticed memory changes with aging and have a history of traumatic brain injury.

How many people are expected to take part in this study?
This study will enroll approximately 24 study participants.

Information about Study Procedures – "What will be done if you decide to be in the research?"

While you are taking part in this study, you will be asked to attend approximately 12 visits with the researchers or study staff.

Screening – After you sign this consent to participate, exams, tests, and/or procedures may be done as described below to find out if you can continue in the study; this is called screening. We may be able to use the results of exams, tests, and/or procedures you completed before enrolling in this study. You will be told which results we will obtain and which procedures will not have to be repeated. Many of the procedures are described below as "**standard care**" and would be done even if you do not take part in this research study. You will be told which ones are for "**research only**".

Screening Procedures

- *Traumatic brain injury history – You will be asked questions regarding whether or not you have had a concussion or other brain injuries before, and if so, how many, symptoms experienced, and time to recovery.*

- *Brief medical history review – You will be asked questions about what medical conditions you have and the medications you may be taking to treat these.*
- *Psychological function – A brief questionnaire will be completed assessing your current emotional adjustment.*

This visit will take approximately 1 hour and all of the procedures are for research only.

The results of the screening exams, tests, and/or procedures will be reviewed to determine whether you will be allowed to continue in the study. If you are not allowed to continue in the study, the researcher will discuss the reasons with you.

Overview of Study Procedures

Continuing in the study will involve completion of approximately 12 visits. These are outlined below along with estimated durations

- Visit 1 Pre-testing assessment (1 hour)
- Visits 2-10 Active or sham intervention (30 minutes)
- Visit 11 Active or sham intervention and post-testing assessment (1 hour 30 minutes)
- Visit 12 12-week follow-up assessment (1 hour)

Assignment to Study Groups –
When it is determined that you are eligible for the study, you will be assigned by chance (like flipping a coin) to one of 2 study groups.

- One group will receive the neurostimulation, the intervention being assessed in the study, and we call this the *active intervention group*.
- The other group will not receive the intervention, even though the device will be placed on their head, and we call this the *sham intervention group*.

You will have a two in three chance of being in the active intervention group.

Neither you nor the research staff conducting the study procedures will know whether you are receiving the active or sham intervention. Research personnel not involved with conducting the study procedures will have a way to find out which you are receiving when it comes time to study the results.

Study Procedures - as a participant, you will undergo the following procedures:

- Neuropsychological evaluation (Research Purposes): You will complete a brief battery of tests assessing your thinking skills and psychological functions, including attention, memory, and emotional adjustment at the initial visit, immediately following the last session of receiving active or sham intervention (Visit 11), and at a 3-month follow-up visit.
- Neurostimulation (Research Purposes): A cap with an array of electrodes, used to deliver the current, will be placed on your head and gently secured to prevent the cap from moving during each session. However, it will be important to stay as completely still as possible for each session. You may feel some tingling on the scalp of your head but the electrical stimulation does not produce skin irritation or discomfort.

Could your participation end early? There are several reasons why the researchers may need to end your participation in the study (early withdrawal). Some reasons are:
- The researcher believes that it is not in your best interest to stay in the study.
- You become ineligible to participate.

- Your condition changes and you need treatment that is not allowed while you are taking part in the study.
- You do not follow instructions from the researchers.
- The study is stopped.

Your data might help researchers develop new products. This research could be done by for-profit companies. There is no plan to share with you any revenue generated from products developed using your data.

It is possible that this study will identify information about you that was previously unknown, such as disease status or risk. There are no plans to provide this information to you or your physician.

Risks – "What are the risks of participation in the research?"

Risks from the research

There are minimal but slight risks to taking part in this research study. One risk is that you may have side effects such as tiredness while in the study.

Everyone taking part in the study will be watched carefully for any side effects. However, be sure to tell a research member immediately, about any side effect that you have while taking part in the study.

The following section will describe the risks related to your participation in this research study. You should talk to your study doctor about any side effects or other problems that you have while taking part in the study.

Risks and side effects related to the neuropsychological assessment include: tiredness or emotional discomfort.

Risks and side effects related to the neurostimulation include those which are:

Rare
In 100 people, approximately 1 may have:
- Skin irritation
- Discomfort

For more information about risks and side effects, ask one of the researchers or study staff.

Are there Risks related to withdrawing from the study?

If you decide to withdraw from this study early, please discuss your decision with the principal investigator. The researcher may ask you to complete study withdrawal procedures at a final study visit. This visit includes completing paperwork to process any reimbursement you may be eligible for as part of your participation. There is no risk to you if you do not complete the final withdrawal procedures and you can choose not to participate in them.

Are there risks if you also participate in other research studies?

Being in more than one research study at the same time, may increase the risk to you of experiencing tiredness or emotional discomfort from participating in this study. It may also affect the results of the studies. You should not take part in more than one study without approval from the researchers.

What if a research-related injury occurs?

The researchers have taken steps to minimize the known or expected risks. However, you may still experience problems or side effects, even though the researchers are careful to avoid them. In the event of a research-related injury or if you experience an adverse reaction, please immediately contact your study doctor. See the section "Contact

Information" for phone numbers and additional information. You may also need to tell your regular doctors.

If you are injured or made sick from taking part in this research study, medical care will be provided. This care may be billed to you or your insurance. Depending on the circumstances, this care may be provided at no cost to you. We have no plans to give you money if you are injured. The investigator can provide you with more information.

If you sign this form, you do not give up your right to seek additional compensation if you are harmed as a result of being in this study.

Benefits – "How could you or others benefit from your taking part in this study?"

The possible benefit of your participating in this study is you may notice improvements in some of your thinking skills. Also, your participation, regardless of what group you are selected to will add knowledge about the effectiveness of a safe, low cost, and non-pharmacological intervention for individuals experiencing mild memory changes in aging. This could impact what treatments are available to you and others with similar symptoms.

We hope the information learned from this study will benefit other people with similar conditions in the future.

Payments – Will there be any payments for participation?

You will be compensated for your effort and time once your participation in the study has ended. This will involve a total of $50 for completing all study procedures. If you do not complete all of the study procedures, due to you withdrawing from the study or the study team ending your participation early, compensation will be prorated as follows: $30 for completing Visits 1-11 and $20 for Visit 12.

You will be issued a UT Southwestern Greenphire ClinCard, which can be used as a credit or debit card. Compensation will be credited to the card after your participation in the study is completed. Your name, address, date of birth and social security number will be shared with a third-party solely for the purposes of compensation processing. All information will be stored in a secure fashion.

Please note that if you are on record as owing money to the State of Texas, such as for back child support or a delinquent student loan, the payment may be applied to that debt.

An IRS Form 1099 will be sent to you if your total payments are $600 or more in a calendar year, unless it's a reimbursement.

Confidentiality – How will your records be kept confidential?

Information we learn about you in this study will be handled in a confidential manner, within the limits of the law. If we publish the results of the study in a scientific journal or book, we will not identify you. The Institutional Review Board and other groups that have the responsibility of monitoring research may want to see study records which identify you as a subject in this study. Representatives from the Department of Defense (DoD) may also review research records as part of their responsibility to protect human subjects enrolled in DoD funded research.

How will my information and/or tissue samples be used?
With appropriate permissions, your collected information may also be shared with other researchers here, around the world, and with companies.

By agreeing to participate in this study, your information could be used for future research studies or sent to other investigators for future research studies without additional consent from you. The information that identifies you will first be removed from your information. If you do not want your information to be used for future research studies

without your consent, you should not participate in this study.

Research policies require that private information about you be protected, and this is especially true for your health information. However, the law sometimes allows or requires others to see your information. The information given below describes how your privacy and the confidentiality of your research records will be protected in this study. Medical information collected during this study and the results of any test or procedure that may affect your medical care may be included in your medical record. The information included in your medical record will be available to health care providers and authorized persons including your insurance company.

What is Protected Health Information (PHI)?

Protected Health Information is information about a person's health that includes information that would make it possible to figure out whose it is. According to the law, you have the right to decide who can see your protected health information. If you choose to take part in this study, you will be giving your permission to the investigators and the research study staff (individuals carrying out the study) to see and use your health information for this research study. In carrying out this research, the health information we will see and use about you will include: relevant demographic information such as your age, sex, race, level of education, marital status, medical history, and the scores obtained from the neuropsychological tests.

We will get this information by asking you and looking at your information collected by the University of Texas Southwestern Medical Center's Alzheimer Disease Research Center data registry or the Texas Alzheimer's Research and Care Consortium data registry.

How will your PHI be shared?

Because this is a research study, we will be unable to keep your PHI completely confidential. We may share your health information with people and groups involved in overseeing this research study including:

- The Sponsor, Department of Defense, Department of the Army, funding the study. The sponsor includes any people, entities, groups, or companies working for or with the sponsor or owned by the sponsor. The sponsor will receive written reports about your participation in the research. The sponsor may look at your health information to assure the quality of the information used in the research.
- The members of the local research team.
- The Institutional Review Board, Human Research Protection Program Office and the Compliance Office of the University of Texas Southwestern Medical Center, and other groups that oversee how research studies are carried out.
- The Research offices at the University of Texas Southwestern Medical Center or Parkland Health & Hospital System.
- The Food and Drug Administration (FDA) and other U.S. and international governmental regulatory agencies involved in overseeing device research.
- Representatives of domestic and foreign governmental and regulatory agencies may be granted direct access to your health information for oversight, compliance activities, and determination of approval for new medicines, devices, or procedures.

If you decide to participate in this study, you will be giving your permission for the groups named above, to collect, use and share your health information. If you choose not to let these groups collect, use, and share your health information as explained above, you will not be able to participate in the research study.

Parts of your PHI may be photocopied and sent to a central location, or it may be transmitted electronically, such as by e-mail or fax. The groups receiving your health information may not be obligated to keep it private. They may pass information on to other groups or individuals not named here.

How will your PHI be protected?
In an effort to protect your privacy, the study staff will use code numbers instead of your name, to identify your health information. Code numbers will be used on any photocopies of your study records, and other study materials containing health information that are sent outside of University of Texas Southwestern Medical Center for review or testing. If the results of this study are reported in medical journals or at meetings, you will not be identified.

Do you have to allow the use of your health information?
You do not have to allow (authorize) the researchers and other groups to see and share your health information. If you choose not to let the researchers and other groups use your health information, there will be no penalties but you will not be allowed to participate in the study.

After you enroll in this study, you may ask the researchers to stop using your health information at any time. However, you need to say this in writing and send your letter to Christian LoBue, PhD, Empire Central Building – Neuropsychology, 1440 Empire Central 2nd floor, Dallas, Texas 75247. If you tell the researchers to stop using your health information, your participation in the study will end and the study staff will stop collecting new health information from you and about you for this study. However, the study staff will continue to use the health information collected up to the time they receive your letter asking them to stop.

Can you ask to see the PHI that is collected about you for this study?
The federal rules say that you can see the health information that we collect about you and use in this study. Contact the study staff if you have a need to review your PHI collected for this study.

You will only have access to your PHI until the end of the study.

How long will your PHI be used?
By signing this form, you agree to let us use and disclose your health information for purposes of the study until the end of the study. This permission to use your personal health information expires when the research ends and all required study monitoring is over.

Contact Information – Who can you contact if you have questions, concerns, comments or complaints?

If you have questions now, feel free to ask us. If you have additional questions, concerns, comments or complaints later or you wish to report a problem which may be related to this study please contact:

Primary contact:
Stephanie Neaves, MRC can be reached at 214-865-9508.

If primary is not available, contact
Christian LoBue, PhD can be reached at 214-648-4658.

The University of Texas Southwestern Medical Center Human Research Protection Program (HRPP) oversees research on human subjects. HRPP and Institutional Review Board (IRB) representatives will answer any questions about your rights as a research subject, and take any concerns, comments or complaints you may wish to offer. You can contact the HRPP by calling the office at 214-648-3060.

Research Consent & Authorization Signature Section

If you agree to participate in this research and agree to the use of your protected health information in this research, sign this section. You will be given a copy of this form to keep. You do not waive any of your legal rights by signing this form.

SIGN THIS FORM ONLY IF THE FOLLOWING STATEMENTS ARE TRUE:

- You have read (or been read) the information provided above.
- Your questions have been answered to your satisfaction about the research and about the collection, use and sharing of your protected health information.
- You have freely decided to participate in this research, or you are voluntarily giving your consent for another person to participate in this study because you believe this person would want to take part if able to make the decision and you believe it is in this person's best interest.
- You understand that a copy of this signed consent document, information about this study, and the results of any test or procedure that may affect your medical care, may be included in your medical record. Information in your medical record will be available to health care providers and authorized persons including your insurance company.
- You authorize the collection, use and sharing of your protected health information (another person's protected health information) as described in this form.

Adult Signature Section

Printed Name of Participant	Signature of Participant	Date	Time AM PM

Printed Name of Person Obtaining Consent	Signature of Person Obtaining Consent	Date	Time AM PM

Blind or Illiterate Signature Section *At the time of consent, also complete this section if consent is obtained from an individual who is unable to read and/or write but can otherwise communicate and/or comprehend English (e.g., blind, physically unable to write, etc.)*

Declaration of witness:

By signing below, I confirm I was present for the entire consent process. The method used for communication (e.g., verbal, written, etc.) with the subject was: _____ .

The specific means (e.g., verbal, written, etc.) by which the subject communicated agreement to participate was: _____.

Printed Name of Witness	Signature of Witness	Date	Time AM PM