Participant Name:	**Date:**
Title of Study: Foundational Elements of an Alternate Scientific Approach to Developing Veteran-Centric Precision Cognitive Restoration Interventions	

SUMMARY

The research is being conducted to determine the potential to improve future research study design by including participants with both Traumatic Brain Injury (TBI) and stroke who experience moderate cognitive deficits following completion of rehabilitation services. Individuals will participate in four study days of testing and treatment to determine treatment and practice effects of testing, and provide their perceptions of acceptability of participation in the study.

If you agree to join the study, you will be asked to complete the following research procedures:

- In-person eligibility confirmation procedures for determining eligibility for participation
- Testing procedures to determine eligibility and current cognitive function and capacity
- Repeated testing battery on treatment days
- Participation in active or placebo transcranial magnetic stimulation (iTBS) and Attention Processing Training – III (APT)
- Self-report measures of mood, fatigue, PTSD symptoms and perceptions of study participation experience

Your participation will last for approximately 5 weeks total, including 4 study visits of in person testing and treatment procedures.

You may not personally benefit from taking part in the research but the knowledge obtained may help the health professionals caring for you better understand the cognitive problems following TBI and stroke, and how to treat it.

The most common risks of participation are frustration and agitation related to participating in testing and cognitive training. Risks of iTBS include risk of seizure, headache, tinnitus, nausea, neck pain, scalp burns.

Taking part in the research is entirely voluntary. You may withdraw from the study at any time without anyone objecting and without penalty or loss of any benefits to which you are otherwise entitled. Alternatives to participating in this study are to choose not to participate.

Please note that there are other factors to consider before agreeing to participate, such as additional procedures, use of your personal information, costs, and other possible risks not included here. If you are interested in participating, a member of the study team will review the full information with you. You are free to not participate or stop participating at any time during or after the consenting process.

INTRODUCTION

You are being invited to participate in a research study that is being carried out at the Edward Hines Jr. VA Hospital. Your participation is voluntary and you should only participate if you completely understand what the study requires and what the risks of participation are. You should ask the study team any questions you have related to participating before agreeing to join the study. Before you decide to take part, it is important for you to know why the research is being done and what it will involve. This includes any potential risks to you, as well as any potential benefits you might receive. The sponsor of the study is

Edward Hines Jr. VA Rehabilitation Research and Development. If you have any questions about your rights as a human research participant at any time before, during, or after participation, please contact the Institutional Review Board (IRB) at (708) 202-2811 for assistance. If you have questions about this study, you may contact the Principal Investigator, Dr. Theresa Bender Pape, 708-202-4953 during regular business hours.

Read the information below closely and discuss it with family and friends if you wish. Ask one of the study staff if there is anything that is not clear or if you would like more details. Take your time to decide. If you do decide to take part in this study, your signature on this consent form will show that you received all of the information below, and that you were able to discuss any questions and concerns you had with a member of the study team.

BACKGROUND AND PURPOSE

You are being asked to participate in this research study because you have been diagnosed with either a TBI or stroke, and have ongoing cognitive deficits (difficulties with thinking, memory, reasoning) after completing rehabilitation. This research is being conducted to learn more about new ways to study populations with neurologic injuries with problems with cognition, because these problems continue despite completing rehabilitation and impact daily life. The purpose of this study is to determine how to best develop treatments to improve thinking skills in daily life that can cross diagnoses such as stroke and TBI. To achieve that goal, we must determine what types of studies will best enable the field of neurorehabilitation to determine the best treatments for individuals with cognitive deficits. Additionally, we must determine how much treatment improve cognition, how long those improvements last, and how testing batteries can help measure these changes. Last, we aim to learn more about how participants in research studies perceive the interventions and participation in research to develop more acceptable research designs for the future.

Repetitive transcranial magnetic stimulation (rTMS) is a form of brain stimulation using magnets applied to the outside of the skull. It has been used for some years to treat various brain-related disorders, such as depression and some types of brain injury, and the safety of the procedure is well understood. iTBS is related to rTMS, but so far is considered an experimental treatment that is applied using a device called the MagVenture MagproX100 (see figure below). This is a non-invasive treatment (a procedure that does not require inserting an instrument through the skin or into a body opening), because magnets are placed on the outside of the head and these magnets create small electrical currents that go into the brain through the skull. Dr. Pape has FDA approval to use this stimulation for this study.

The APT is a standard treatment for cognitive deficits and involves both computer training exercises and discussions with a researcher. Computer based games are aimed at memory, problem solving, and attention with difficulty based on your performance. The other component of this treatment involves goal setting strategies and discussion with a researcher about strengths and weaknesses. Because APT has not been used together with magnetic stimulation techniques, it will be the other experimental treatment that will be provided to you. You will receive the APT treatment whether or not you receive the actual or controlled iTBS.

This research study is a placebo-controlled trial which means you may or may not receive the actual brain stimulation. The total number of people who will be enrolled in this study is 48 from Hines VA Hospital.

DURATION OF THE RESEARCH

This research study is expected to be recruiting for 2 years. Your individual participation in the project will involve attending 4 study visits of in person testing and treatment procedures over approximately 5 weeks.

STUDY PROCEDURES

If you decide to take part in this study, this is what will happen:

Pre-Screening:
Prior to receiving this consent form, you may recall completing an initial telephone screening that included a description of the study, explanation of the time commitment required to participate and any restrictions to study participation. If you remained interested, screening questionnaires were administered. During this initial telephone screening you were asked if your current medications include: antiseizure, CNS stimulants, antipsychotics, mood stabilizers, antidepressants, and/or sedatives. The

result of that telephone screening indicated you were eligible to move on to the consenting process and a final in person eligibility screening to insure you meet all eligibility criteria to participate in the study. If you choose to participate in the study, the next step will be to schedule an in person eligibility confirmation screening session, which consists of several more tests of thinking, memory, etc. The screening will take place in a private testing room in the Hines VA Research Service Building 1 in a private testing room.

The research team will also ask you to bring in all prescribed and over the counter medications that you are currently taking, as well as a complete list of all exercise routines you are participating in. We may request a copy of your medical records. If you are on any medications that are classified as CNS stimulants such as Amantadine or Ritalin, you will need to agree to stop taking them during participation in this research. CNS stimulants affect the nervous system and may interfere with the effects of the experimental treatments, iTBS or computerized cognitive training. You may go back to taking the CNS stimulants after you have completed the study procedures (in approximately 5 weeks). The study team will work with you and/or your provider on weaning the CNS medications.

All potential candidates will complete a urine drug screen for opiates, barbiturates, cocaine, and amphetamines at the time of the in person eligibility screening and as part of the Baseline study procedures. Those with a positive opiate screen without a prescription will be excluded from the study. Persons testing positive for any barbiturates, cocaine, and/or amphetamines will be ineligible to participate, but can be contacted in one month to be re-tested. If a person had a positive urine drug screen three times, then they would not be further considered for eligibility and will be excluded.

If you are a woman, you will be asked to take a urine pregnancy test. If you are pregnant, you will not be enrolled in the study.

In Person Eligibility Screening:
During the in-person eligibility screening, you will receive neuropsychological tests that are used to measure cognition and thinking skills (i.e. memory, language, attention, etc). The tests are similar to the ones a doctor, nurse or therapist would give to any person who may have a traumatic brain injury or stroke. These tests are completed in a series of interviews and questionnaires with a member of the research team. Members of the research team include physicians, psychologists, therapists and other trained personnel. The screening visit will take place at Edward Hines VA Hospital.

If you decide to take part in this study, this is what will happen:

- You will complete tests used to evaluate memory, attention, language, and ability to organize daily activities. Some of the tests are completed on a computer or on paper. Some of the tests are completed through interviews with research members or by you completing a questionnaire. Other tests are completed through performing a common task typical of your daily life.

This initial in person eligibility screening will last approximately 2 to 3 hours. You are allowed to take breaks between the tests if you become fatigued.

You will complete screening questionnaires. These questionnaires will ask you questions related to alcohol and substance use including the Audit -C and the Drug Abuse Screen Test (DAST-10). You will also complete a baseline Columbia Suicide Severity Rating Scale).

Your responses to the CSSR, Audit-C, or DAST may result in further assessment by a research clinician or a referral to a medical provider for further evaluation to determine safety to continue to participate in this study. You may decline this referral but you will be unable to participate in the study.

Each test will be explained to you before you start, and you may ask questions before, during or after the tests. A list of all the tests and their official names, as well as what each test is for, is available to you to help you understand what is being done. You are free to skip any questions that you prefer not to answer. This initial assessment will allow us to determine/confirm the presence of moderate cognitive deficits. If you do not have moderate cognitive deficits, you will not be enrolled into the study. If you do have a moderate cognitive deficits due to TBI or stroke, you will be enrolled into the study. If you screen positive for moderate cognitive deficits due to TBI or stroke and decide to enroll in the study, you will be randomly assigned to 1 of 2 experimental groups. Randomly assigned means that you have an equal chance of being assigned to any of the groups and this is determined by a computerized procedure much like flipping a coin for heads or tails. The two groups are:

1. Group 1 will receive one session of real iTBS, and one session of real iTBS + real APT treatment
2. Group 2 will receive one session of placebo iTBS, and one session of placebo iTBS + real APT treatment

Placebo iTBS means that it will look and feel just like the real treatment, however, no stimulation will actually be provided to you. You will not know which group you are assigned to until the end of the 5 week study period. At the end of the 5 weeks, you will be told which treatment group you were assigned to.

Your expected length of study participation is 5 weeks.

PROCEDURES:

All research participants, regardless of group assignment, will complete the following research procedures. Procedures are explained in more detail following the study visit outlines. All research procedures, except the MRI/fMRI, will occur at Hines VA Hospital.

Study-Visit 0: In Person Eligibility Screening (2-3 hours)

1. Complete questionnaires and testing
    a. Audit-C and DAST-10
    b. Testing questionnaires

Study-Visit 1 (~5 hours, may be scheduled over 2 separate days):

1. Complete tests/questionnaires
    a. Baseline testing questionnaires

b. APT Baseline
c. Structural MRI and fMRI-At Northwestern University CTI
d. Motor Threshold
e. Baseline EEG

2. Perception and appropriateness ratings based on specified questions.

Study-Visit 2 (4 days after Study Day 1)(~8 hours):

1. Persisting Effects testing questionnaires
2. A single session of Active iTBS or Placebo iTBS
3. Randomly assigned Immediate Effects test (MDS or AMPS), administered 3-times at 30 min intervals, each interval includes 5 to 15 min of rest).
4. Persisting Effects testing questionnaires
5. Perception and appropriateness ratings

Study-Visit 3 (2 weeks after Study Day 2)(~8 hours):

1. Persisting Effects testing questionnaires
2. Single session Active iTBS+ APT or Placebo iTBS+APT
3. Alternate Immediate Effects test (MDS or AMPS) three times at 30min intervals
4. Persisting Effects testing questionnaires
5. Perception and appropriateness ratings

Study-Visit 4 (2 weeks after Study-Day 3) (~2.5 hours):

1. Persisting Effects testing questionnaires
2. Perception and appropriateness ratings

Structural and Functional MRI of the Brain: You will have a magnetic resonance imaging scan (MRI) to look at your brain. An MRI is a type of scan that uses magnetic fields and radio waves to take a picture of the brain. A functional MRI (fMRI) is a special type of MRI that allows pictures of the brain while you are thinking, listening or doing other tasks. You will complete one fMRI at baseline prior to any research procedures. The MRIs will take place at Northwestern University's Center for Translational Imaging (CTI) located in Olson Pavilion at 710 N. Fairbanks, Chicago, IL 60611.

In order to make sure the MRI procedure will be safe, you will be asked to fill out a screening form before starting the study. It is important that you tell the researchers in this study if you have any history of:

- Metal fragments in your eyes or face.
- Implantation of any electronic devices such as (but not limited to) cardiac pacemakers, cardiac defibrillators, cochlea implants or nerve stimulators.
- Surgery on the blood vessels of your brain or the valves of the heart
- Claustrophobia (fear of enclosed places)
- Body piercing or tattoos
- Are pregnant
-

After you complete the form, you will be asked to change into a hospital gown or surgical scrubs and remove any metal, such as earrings.

An MRI technician will give you instructions outside the MRI scanner about the scanning. Next you will be asked to lie still on the MRI table and your head will be placed in a specially designed head holder. Your head will be cushioned by a firm foam pillow. The table will then slide into the enclosed space of the MRI scanner. The fMRI scanning session will take up to 45 minutes to complete once you are in the scanner.

The information from the MRI scanner is only useful if you are able to complete the whole imaging session and hold your head very still the whole time. Therefore, you will be encouraged to hold as still as possible, and to let the investigators know if you are uncomfortable in any way as soon as possible after the imaging session begins.

The MRI scanner makes loud banging noises while taking a measurement, so either ear plugs or specially designed headphones or earbuds will be used to reduce the noise. The researchers will be in communication with you through an intercom system to tell you how the study is going. The earplugs or headphones should not get in the way of communicating with the researchers. You can speak to the technician by talking out loud. If at any time or for any reason, you wish to stop the exam, you may do so by squeezing a rubber ball. This will signal the MRI technician to stop the scan.

The MRI pictures taken for this study will not be in a form readable by either you or your physician. Therefore, a copy of the MRI pictures or the results of the MRI scans will not be given either to you or your physician. The MRI pictures in this study will be reviewed and if any concern is identified we will contact you and your regular physician. You will be asked to provide us with the name and address of the doctor you want us to contact.

Electroencephalography (EEG): EEG is a non-invasive test that allows health care professionals to detect problems in the electrical activity in the brain. A typical clinical use for an EEG is to check for seizure activity. In EEG, this faint electrical activity is measured by putting electrodes on the scalp. The technician will apply between 24-32 flat metal disks (electrodes) in different positions on your scalp with sticky paste and gauze. The electrodes are connected by wires to an amplifier and a recording machine.

It will take approximately 30 minutes to place all 24-32 electrodes in place on your head. After placement of the electrodes, an EEG recording will be done.

A 30-minute EEG will be completed prior to beginning the iTBS portion of the study at your baseline testing visit. The EEG will not be routinely repeated unless clinically indicated. If suspicious brain activity is present, you will be withdrawn from the study.

EEG data obtained in this study will not be in an immediately readable format. Therefore, a copy of the EEG data will not be available for review. However, if in the course of processing the data an abnormality is noticed that might affect your health, a physician from the research team will contact you and your primary care physician. The EEGs will take place at Hines VA Hospital.

Motor Cortex Excitability Threshold: This will be done at Hines VA Hospital by members of the research team. This test will be done prior to starting iTBS or APT treatment at Baseline. This test involves magnetic stimulation of the brain while recording muscle activity from the arm, wrist, hand, finger, leg and/or foot. The structural brain image collected during the fMRI procedure described above will be used help locate the correct site of stimulation.

Electrical activity from the arm, wrist, hand, finger, leg and/or foot muscles will be recorded using surface electrodes placed on the arm, wrist, hand, finger, leg and/or foot. These electrodes will be placed using a gel or sticky paste.

A researcher will hold a figure-of-eight (8) shaped magnetic coil on the top of your head at different points along the scalp and provide a pulse of magnetic stimulation to confirm magnet placement. The test will take about 1 hour.

Safety Measures: You will participate in safety monitoring using the Data Safety Monitoring Scale (DSMS) at baseline and each treatment visit. This scale rates changes in blood pressure, heart rate, fatigue, tinnitus (ringing in ears), sleep, dizziness, nausea, vomiting, confusion, seizure, headache, and neck pain.

Tests and Questionnaires: You will participate in a series of different tests and questionnaires, some that are not repeated at the start of your study participation, and others that will be repeated during your participation.

Initial testing will include tests to determine your thinking and language skills, report your lifetime experience of possible TBI, and your self-report of marijuana use.

Throughout your participation in the study, you will be asked to report your perspective on the acceptability of the number and types of tests, your time spent on study participation, and your experience of participating in the study.

Persisting Effects Testing Battery will be completed at the start of study days 2, 3 and 4, and at the end of study days 2 and 3. You will complete tests to evaluate memory, attention, language, and ability to perform daily activities. Some of the tests are completed on a computer or on paper. Some of the tests are completed through interviews with research members or by you completing a questionnaire. Other tests are completed through performing a common task typical of your daily life. You will complete questionnaires related to mood including the Columbia Suicide Severity Rating scale (CSSR), Beck Anxiety Inventory (BAI), and the Posttraumatic Stress Disorder Checklist (PCL) and symptoms of fatigue using the Fatigue Severity Scale. You will be rated by a researcher during your performance on any behavioral expressions of agitation or frustration using the Agitated Behavior Scale.

Immediate Effects Testing Battery will be completed three times on study days 2 and 3. One day will include tests of working memory and the alternate day will include tests of cognitive function. Each test will be take between 30-60 minutes to complete, for total testing time from 1.5 to 3 hours. You will have at least 15 minutes rest between tests.

Each test will be explained to you before you start, and you may ask questions before, during or after the tests. A list of all the tests and their official names, as well as what each test is for, is available to you to help you understand what is being done. You are free to skip any questions that you prefer not to answer.

Experimental Treatments:

Intermittent Theta Burst Stimulation (iTBS): After the *Persisting Effects Testing Battery* is completed on study days 2 and 3, the experimental treatment will be provided. iTBS is a form of transcranial magnetic stimulation (TMS) which stimulates the brain using magnetic pulses. The magnetic pulses create electrical currents in the brain. The electrical currents may affect brain activity and function. The long-term effects of iTBS are not known. If you are randomized to the real iTBS group, then this is the treatment that will be provided to you.

During the real and placebo iTBS treatments, noise dampening earbuds will be placed in your ears because the magnetic stimulator makes a loud clicking noise. During the real and placebo iTBS treatments, the researcher will hold a figure-of-eight shaped magnetic coil on the left side and toward the front of your head. It takes approximately 3 minutes and thirty seconds to provide real or placebo iTBS during each treatment. The only difference between real and placebo iTBS is that no stimulation is received during placebo iTBS.

Each session will take about 60 minutes to allow for set-up and take-down. In order to monitor for safety, all iTBS sessions will be videotaped. Recording will be used only by regulatory organizations to review safety of study procedures as needed. iTBS will take place at Hines VA Hospital.

Attention Processing Training (APT): APT will take place at study day 1 to determine your initial performance, and immediately after each iTBS session on study days 2 and 3. Each APT session will last approximately 45 minutes. During APT, you will work on a computer and interact with the researcher providing the training. You will be asked to complete brief (~3min) repetitive computer based games targeting different cognitive domains such as attention, problem solving, and/or memory. You will also be involved in discussion with a researcher about your test performance, review strengths and weaknesses, and identify strategies to help with those identified weaknesses. You will complete APT at Hines VA Hospital in a private room.

Your responsibilities throughout participation in the study include:

- Agree to stop all neurostimulant medications throughout your participation in the study.
- Report any medication changes promptly to the study team.
- Keep your study appointments. If it you miss an appointment, please contact the investigator or research staff to reschedule as soon as you know you will miss the appointment.
- Tell the investigator or research staff if you believe you might be pregnant.
- Ask questions as you think of them.
- Tell the investigator or research staff if you change your mind about staying in the study.
- While participating in this research study, do not take part in any other research project without approval from the investigators. This is to protect you from possible injury from things such as

extra blood drawing, extra X-rays, or potential drug interactions. Taking part in other research studies without first discussing it with the investigators of this study may invalidate the results of this research, as well as that of the other studies.

POSSIBLE RISKS OR DISCOMFORTS
Any procedure has possible risks and discomforts. The procedures in this study may cause all, some, or none of the risks or side effects listed. Rare, unknown, or unexpected risks also may occur.

Surface electrodes: The self-adhesive surface electrodes used to record muscle activity and provide iTBS may produce minor irritation (redness) of the skin. The possibility of irritation will be minimized by applying gel to the skin before electrode placement and by gently cleaning the skin before and after the use of electrodes. There is also the possibility of an allergic reaction to the electrode gel or paste. If you are allergic to the gel or paste, then a different gel or paste will be used.

Testing and Questionnaires: You may experience unpleasant emotions, thoughts or memories due to the types of questions being asked, including but not limited to, flashbacks from PTSD. You do not have to answer all the questions. We will be asking you questions about depression, anxiety and PTSD symptoms. If your overall answers to those questions are of concern, or you appear to be extremely upset by the procedures, we will encourage you to contact your primary care or mental health provider. If you choose, a member of our research team will contact them on your behalf.

Structural and Functional MRI: There are no known health risks associated with the structural and functional MRI, although some people experience mild discomfort from trying to keep still during the study. Some participants also feel closed-in due to the small space in the scanner (claustrophobia) or anxious in the scanner. You will be able to squeeze a ball to sound an alarm at any time if you need to talk to the researchers during the MRI. This test does not use radiation.

Attention Processing Training: There are no known risks associated with APT; however you may become frustrated trying to maintain your attention or concentration during training. You may take a break from training at any time.

Magnetically Evoked Potentials, Motor Threshold Tests and iTBS Treatment: TMS will be used in two tests. TMS will be used to magnetically evoke a motor action potential and to determine the most effective iTBS intensity level (motor threshold). iTBS will also be provided as the experimental treatment.

The Food and Drug Administration has found that TMS and iTBS do not present a risk to the health, safety, or welfare of research participants without brain injuries and does not cause seizures at the rate of stimulation used in this experiment for persons without brain injuries.

The risk of causing a seizure in persons with traumatic brain injuries and stroke is not known, but it is possible that repeated iTBS would cause one or more seizures. If a seizure occurs, then the emergency treatment provider who is paged will determine if a medication is or is not indicated to stop the seizure. If a seizure occurs, then you will be informed of the occurrence.

Brain swelling has never been reported as a result of iTBS, but it is possible that it may occur. If indications of brain swelling are observed, the researchers will conduct brain scans (MRI) to monitor for signs. If brain swelling is detected, you will be notified.

It is also possible that you may get a mild temporary headache after each iTBS treatment session. Most headaches resolve after taking acetaminophen (such as Tylenol).

There is a risk of a temporary hearing loss because the magnet is placed near the ear and the magnet makes a clicking noise. You will have earplugs placed in your ears during each iTBS session to reduce the risk of hearing loss. The earplugs are checked during the iTBS treatment to make sure they stay in place.

Use of iTBS is a new treatment for traumatic brain injury and stroke, therefore we do not know all of its side effects.It cannot be guaranteed that you will be able to continue receiving this treatment after this study is over.

Additional risks of iTBS are:

- Damage to insulation of the coil would create a remote possibility of electrocution during iTBS. The coils will be inspected before and after each iTBS session to ensure that the coil does not have any cracks or loss of integrity.
- Over-heating of the coil which may lead to scalp burns or damage to underlying tissue. The iTBS device has a sensor that alerts the researcher when the coil is beginning to overheat.
- Mechanical vibrations that occur within the coil while an iTBS pulse is being generated may result in discomfort or headache.
- Device failure due to overheating, electrical short-circuiting or mechanical breakdown from force on the device. All precautions will be taken to prevent device breakdown that may affect your welfare. The iTBS device will be inspected routinely and safety guidelines from the manufacturer will be followed.
- Contamination spread from one participant to another following treatment. The device will be disinfected after every use to prevent spread of germs between participants.
- Change in Mood, Mania, depression, anxiety and suicidality, although rare and usually associated with underlying depression or bipolar depression.
- Physical discomfort, facial muscle twitching, facial numbness, headache, visual changes or dental pain.
- Neurocardiogenic syncope, fainting from drop in blood pressure or heart rate.

iTBS treatments will be stopped if you:

- Go into shock, a condition brought on by a sudden drop in blood flow resulting in not having enough blood circulation throughout your body,
- Have a seizure and physicians recommend discontinuing treatment, and/or
- Have an imaging study (brain scan) obtained following a seizure(s) that reveals brain swelling or any finding that, in the opinion of the principal investigator or neurologist, is deemed clinically significant.

Loss of Confidentiality: All individual health information is removed from data collected for this study except dates of injuries, procedures, or interventions. This information is necessary in the analysis for the study. Names, social security numbers, dates of birth, addresses and phone numbers are kept in a separate file on a VA secured computer with limited research team access.

REPRODUCTIVE AND SEXUAL ACTIVITY INFORMATION:

All women who are enrolled in the study will be asked to take a urine pregnancy test prior to initiating study procedures. If the test is positive, you will be withdrawn from the study. If the test is negative, you will continue with study participation. You will be asked before every treatment session if there is a chance you may be pregnant. If you become pregnant, the research procedure, iTBS, might involve risks to the embryo or fetus which are currently unforeseeable.

Risks of the usual care you receive are not risks of the research. Those risks are not included in this consent form. You should talk with your health care providers if you have any questions about the risks of usual care. Participation in research may involve a loss of privacy. Your research records will be kept as confidential as possible.

POTENTIAL BENEFITS

We can't promise that you will get any benefits from taking part in this research study. However, possible benefits may include:

Treatment with iTBS and APT may improve attention deficits. This may provide relief from TBI, stroke, or PTSD-related symptoms and improve your quality of life. However, neither of these benefits is guaranteed.

CONFIDENTIALITY

Taking part in this study will involve collecting private information about you. All information collected during the conduct of this study will be stored and analyzed at the Hines VA in research areas, accessible only to authorized research personnel for this study. Study related information will be stored in locked filing cabinets in a locked office. Electronic study related information will be stored on a VA server that is safeguarded and accessible only to authorized study personnel.

Information about you will be combined with information from other people taking part in the study. We will write about the combined data we have gathered. Any talks or papers about this study will not identify you.

The information collected for this study will be kept confidential. If you are a Veteran who is a patient at the VA Medical Center, a copy of your signed and dated consent and HIPAA forms will be placed in your medical record. If you are a Veteran but do not yet have an electronic medical record at Hines VA Hospital, you are required to provide a copy of your DD214 to the eligibility office so that one may be created for you before providing your informed consent to participate.

There are times when we might have to show your records to other people. Only authorized persons will have access to the information gathered in this study. Authorized persons may include regulatory agencies such as the Food and Drug Administration, (FDA), the Government Accounting Agency (GAO) or the Office for Human Research Protection (OHRP), Office of Research Oversight (ORO), as well as members of the Research Administration staff of Edward Hines Jr. VA. The Department of Veterans Affairs (VA) requires some information to be recorded in the VA electronic medical record for all veteran and non-veteran research participants. The FDA may choose to inspect research records, including the participant's individual medical records. By signing this document, you consent to such inspection.

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

This informed consent form does not give the study doctor permission to access, record, and use your private health information. You will be given a separate HIPAA form which provides more information about how your private health information will be used in this study, who will have access to your records, and how you can revoke (take back) your permission in the future. You will not be able to participate in this study if you do not sign the separate HIPAA authorization form.

COSTS TO PARTICIPANTS AND PAYMENT

Costs to Participants*:* You will not be charged for any treatments or procedures that are part of this study. If you usually pay co-payments for VA care and medications, you will still pay these co-payments for VA care and medications that are not part of this study.

Northwestern University's Center for Translational Imaging (CTI) has a public parking garage located at Northwestern Memorial Hospital. A parking voucher will be provided for parking at no charge in designated garages.

Payment Offered for Participation:

You will be reimbursed $100 through direct deposit through electronic fund transfer through either Direct Deposit or Direct Express Debit card. You will need to complete required forms to receive reimbursement. Research team will review payment options available to you, however no direct cash payment can be made.

MEDICAL TREATMENT AND COMPENSATION FOR INJURY

According to federal regulations (Title 38 CFR17.85), the VA will provide necessary medical treatment to you as a research participant if you are injured by participation in this research project approved by the Research & Development Committee and conducted under the supervision of one or more VA employees. Except in limited circumstances, this care will be provided at this VA facility.

This does not apply to treatment for injuries that result from non-compliance by you with study procedures.

If you should have a medical concern or get hurt or sick as a result of taking part in this study, call: Dr. _____during the day, or pager _____after hours.

Emergency and ongoing medical treatment will be provided as needed.

You do not give up any of your legal rights and you do not release the VA from any liability by signing this form.

PARTICIPATION IS VOLUNTARY

It is up to you to decide whether or not to take part in this study. If you decide to take part you may still withdraw at any time. If you do not wish to be in this study or leave the study early, you will not lose any benefits to which you are entitled. If you don't take part, you can still receive all usual care that is available to you. Your decision not to take part will not affect the relationship you have with your doctors or other staff, and it will not affect the usual care that you receive as a patient. If you are thinking about withdrawing, please discuss your decision with the investigator, so an orderly plan to leave the project can be made.

In the case of withdrawal, data already collected prior to your withdrawal may continue to be reviewed by the investigator, but the investigator cannot collect further information, except from public records, such as survival data.

SIGNIFICANT NEW FINDINGS

If any significant new findings develop during the course of the research regarding the treatment of your condition or which may impact your decision to continue to participate, the investigator will discuss them with you.

RIGHT OF INVESTIGATOR TO TERMINATE PARTICIPATION

The investigator has the right to terminate your participation in the research study if:

- Participant is uncooperative or unwilling to complete study tests
- Participant is experiencing undue stress from the study procedures
- Participant has a substance abuse, mental health, or medical problem that interferes with completion of the study tests.
- Treatment is having an adverse effect as measured by neuropsychological tests

FUTURE USE OF DATA OR SPECIMEN

- Participant information collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

CLINICALLY RELEVANT RESEARCH RESULTS

- Research results will not be available to individual participants.

RE-CONTACT FOR FUTURE RESEARCH

I voluntarily agree to be contacted by authorized research personnel from this study after research participation in this study has ended. I understand the purpose of future contact would be to inform me of other research opportunities for myself. I understand if researchers contact me in the future, I am not required to participate in any future studies.

_____
Initials of Participant

I do not wish to be contacted about future research opportunities.

_____
Initials of Participant

ADDITIONAL CONTACT INFORMATION

If at any time before, during or after your participation in this study you have questions or concerns, want to get additional information, lodge a complaint or offer your input with a person who is not part of the study team, you can contact the IRB Administrator at 708-202-2811.

AGREEMENT TO PARTICIPATE IN THE RESEARCH STUDY

Dr./Mr./Ms_____ _____has explained the research study to you. You have been told of the risks or discomforts and possible benefits of the study. You have been told of other choices of treatment available to you. You have been given the chance to ask questions and obtain answers.

By signing this document below, you voluntarily consent to participate in this study. You also confirm that you have read this consent, or it has been read to you. You will receive a copy of this consent after you sign it. A copy of this signed consent will also be put in your medical record.

_____ / /
Signature of Participant Date Written by Participant

Participant Name:	Date:
Title of Study: Foundational Elements of an Alternate Scientific Approach to Developing Veteran-Centric Precision Cognitive Restoration Interventions	

OPTIONAL STUDY PARTICIPATION for PARTICIPATIONS WITH DIAGNOSIS OF TRAUMATIC BRAIN INJURY

If you have a primary diagnosis of Traumatic Brain Injury, you are invited to participate in one additional treatment session that will occur after your final research visit.

The purpose of this additional treatment is to evaluate if changing the site of iTBS stimulation to different location will have a similar impact in working memory and functional performance as the stimulation site used for the experimental treatment. However, if the location of alternate site of stimulation is in specific areas of your brain, you will not be able to participate in this optional treatment.

The Possible Risks and Discomforts are the same as described above under iTBS treatment.

If you agree to participate in this Optional Study, you will receive one treatment of active iTBS then you will complete two Immediate Effect Battery tests, one time each.

Optional Study Visit (after Visit 4, can be same day or within 2 weeks of final visit) (approximately 2 hours):

1. Single session Active iTBS
2. MDS-one time only
3. AMPS-one time only

OPTIONAL STUDY VISIT Opt-In Or Opt-out:
Select to opt in or Opt out by checking the box, signing and dating the appropriate option below.

☐ **"I opt in. I agree to participate in one additional study visit as described above".**

Signature and date: _____

☐ **I Opt Out. I do not want to participant in the additional Optional Study Visit as described** above. Opting out of OPTIONAL STUDY Visit will not change your ability to participate in the rest of the study.

Signature and date: _____