Wake Forest®
School of Medicine

Department of Neurology

HIGH-RESOLUTION, RELATIONAL, RESONANCE-BASED, ELECTROENCEPHALIC MIRRORING (HIRREM) TO REDUCE SYMPTOMS ASSOCIATED WITH MILITARY-RELATED TRAUMATIC STRESS

Informed Consent Form to Participate in Research
Charles H. Tegeler M.D., Principal Investigator

INTRODUCTION

You are invited to be in a research study. Research studies are designed to gain scientific knowledge that may help other people in the future. You are being asked to take part in this study because you have military-related symptoms of insomnia, poor concentration, sadness, irritability, or hyper-alertness, associated with traumatic stress. Your participation is voluntary. Please take your time in making your decision as to whether or not you wish to participate. Ask your study doctor or the study staff to explain any words or information contained in this informed consent document that you do not understand. You may also discuss the study with your friends and family.

WHY IS THIS STUDY BEING DONE?

The purpose of this research study is to determine the effects of a technique called High-resolution, relational, resonance-based, electroencephalic mirroring (HIRREM®), for symptoms associated with traumatic stress. Sometimes referred to as Brainwave Optimization® (BWO), HIRREM is a novel, noninvasive, electroencephalic-based feedback technology to facilitate relaxation and auto-calibration of neural oscillations by using auditory tones to reflect brain frequencies in near real time. HIRREM is not a medical device, and is not intended to treat, cure, heal, or diagnose any disease, mental illness or symptom, and individual results and duration of effects may vary. HIRREM technology was created by Brain State Technologies, LLC, and is FDA-exempt when used as biofeedback for relaxation and self-regulation. It is noninvasive, which means it will not cause pain or break the skin in any way. It is a computer-based technique that may help improve your symptoms by using auditory tones that are played back based on readings of your brain's electrical frequencies, to help achieve a more balanced brain pattern. Men and women who are on active duty in the military or recent veterans (2001 or after), are over 18 years of age, and have military-related symptoms associated with traumatic stress, with or without traumatic brain injury (TBI), are eligible to participate in the study.

HOW MANY PEOPLE WILL TAKE PART IN THE STUDY?

Up to 40 people will be enrolled in this study at Wake Forest Health Sciences to achieve a target of 36 people completing the study. In order to identify the 40 subjects needed, we may need to screen as many as 200 individuals because some people will not qualify to be included in the study. All participants who are enrolled in this study will receive the HIRREM intervention.

WHAT IS INVOLVED IN THE STUDY?

If you choose to participate in this study you will be scheduled to be at Wake Forest School of

Medicine for a two week block of time. The on-site period will require face-to-face presence on up to 12 days, and will include 2 data collection visits, and up to 24 HIRREM sessions. Visit #1 is an enrollment and baseline data collection visit. It will take place on the first morning, and require a total of 2 hours. During this visit, the study will be explained to you in detail and any questions you have will be answered, your informed consent will be obtained, and a brief medical history will be obtained. At this visit, you will also complete some questionnaires, have your blood pressure and heart rate monitored, and will complete a reaction time test, a grip strength test, and a brainwave assessment. Instructions will also be given on how to record an online daily sleep diary. You will then begin a course of HIRREM sessions, while also continuing your other usual care. HIRREM sessions will be administered over the two week period that follows. After your final HIRREM session you will complete Visit #2 to collect additional data. A third, fourth, and fifth data collection visit will be done by telephone, at one, three, and six months after completion of the Visit #2.

At Visit #1 (V1, enrollment, and baseline data collection):

- You will be asked to provide informed consent to participate in the study.
- You will be asked to complete some paper and pencil questionnaires as well as electronic questionnaires on a computer.
- You will be asked questions regarding your sleep pattern and medical history.
- You will complete a questionnaire where you will be asked questions that have no right or wrong answers. You will simply respond to how strongly you agree or disagree with something. It will be explained to you.
- You will be given a survey that asks views about your overall health. This information will help track how you feel and how well you are able to do your day to day activities.
- You will learn how to complete an online daily sleep diary.
- Your blood pressure and heart rate will be monitored for 10 minutes.
- Your reaction time will be tested by having you grasp a dropped wooden stick.
- Your grip strength will be tested by having you grip a hand dynamometer.
- A brainwave assessment will be obtained. This assessment will evaluate the electrical frequencies of your brain. For this assessment you will be sitting in a chair and the HIRREM Technologists will place sensors over multiple areas of your head to record data while the brain is at rest, or on task, with eyes closed, partially open, and open. The sensors look like pads that will be placed with special paste. It will not hurt. The sensors have tiny computer chips that will allow collection of data on the frequencies from the brain. This brainwave assessment takes about 45-60 minutes to complete.
- All activities for Visit #1 will take about 90-120 minutes to complete.

At Visit #2 (V2, for repeat data collection, which will occur before you leave, on the day you complete the HIRREM sessions), the same questionnaires and tasks, except for the brainwave assessment, will be repeated.

- You will be asked to complete some paper and pencil questionnaires as well as electronic questionnaires on a computer.

- You will be asked questions regarding your sleep.
- You will complete a questionnaire where you will be asked questions that have no right or wrong answers. You will simply respond to how strongly you agree or disagree with something. It will be explained to you.
- You will be given a survey that asks views about your overall health.
- You will be reminded to continue the online daily sleep diary.
- Your blood pressure and heart rate will be monitored for 10 minutes.
- Your reaction time will be tested by having you grasp a dropped wooden stick.
- Your grip strength will be tested by having you grip a hand dynamometer.
- All activities at Visit #2, are expected to take 45-60 minutes.

Telephone Follow-Up Data Collection (V3, 1 month after V2 is completed)

- You can now discontinue the online daily sleep diary.
- You will be asked questions regarding your sleep, overall health, and mood.
- This should take about 30 minutes.

Telephone Follow-Up Data Collection (V4, 3 months after V2 is completed)

- You will be asked questions regarding you sleep, overall health, and mood. This should take about 30 minutes.

Late Telephone Follow-Up Data Collection (V5, 6 months after V2 is completed)

- You will be asked questions regarding you sleep, overall health, and mood. This completes your involvement in the study.
- This should take about 30 minutes.

All baseline measures, along with a brainwave assessment, will be obtained during the enrollment visit (V1), when you will also start a daily sleep diary, which will be maintained until the one month post-HIRREM follow-up phone call. The HIRREM sessions, will begin in the afternoon following V1 visit. The technologist will review the information gathered from your brainwave assessment, and plan for the first HIRREM session. You will receive up to 24 HIRREM sessions over the two weeks that follow. You will typically receive 2 HIRREM sessions during a half day period. The sessions will typically be about 1.5-2 hours in length. For the sessions, you will be comfortably at rest, sitting or reclining, and sensors will be placed over the specific areas on the scalp corresponding with brain regions/lobes to be observed. During each session, the sensors may be moved into 4-10 different locations, with 6 to 40 minutes spent at each location. You will be able to read a book, do a word search, or just relax for some of these sessions.

During your two week stay in Winston-Salem, you will be responsible for providing your own lodging.

Upon your request, we can send information about your study results to your personal health care provider. Even if you do not wish to have any information sent to your health care provider, you

can still participate in this research study.

Do you request that we send information about your study results to your personal health care provider?

[ ] Yes [ ] No _____ Initials

HOW LONG WILL I BE IN THE STUDY?

You will be in the study for about nine and a half to ten months, to include an enrollment visit, with baseline data collection (V1), 2 weeks of HIRREM sessions, a second data collection visit after HIRREM sessions are completed (V2), a telephone call one month after V2, a telephone call 3 months after V2, and a telephone call 6 months after V2. You will only be required to be on site for 2 weeks in order for you to have your enrollment, V1, to receive up to 24 HIRREM sessions, to complete the V2 data collection. The three follow-up telephone calls can be conducted from anywhere.

You can stop participating at any time. If you decide to stop participating in the study, we encourage you to talk to the investigators or study staff first to learn about any potential health or safety consequences.

WHAT ARE THE RISKS OF THE STUDY?

Some individuals undergoing HIRREM have reported an apparent "release of emotions" or paradoxical effects especially during initial sessions, which can occur as brief periods of increased awareness of emotional states, both positive and negative. These experiences are typically transient, i.e. lasting intermittently over the course of one to several days. For example, some participants have cried as they reported feelings of joy, or of sadness. In the course of providing HIRREM to over 400 individuals participating in one of four IRB-approved research studies at WFSM, such mild symptoms have been estimated to occur in less than ten percent of participants, and we have not seen prolonged or intense changes in emotional state. These have been relatively brief episodes not requiring additional treatment or causing discontinuation of sessions.

You may find some of the questions involved in the testing during data collection visits as stressful. If you feel uncomfortable please let your doctor or the research staff know about this.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY?

If you agree to take part in this study, there may or may not be direct benefit to you. We hope the information learned from this study will benefit other people in the future. The benefits of participation in this study may be improvement in your symptoms associated with traumatic stress.

WHAT OTHER CHOICES ARE THERE?

You do not have to be in this study to receive treatment for your symptoms associated with traumatic stress. You should talk to your health care provider about all the choices you have. Your alternative is to not participate in this study.

WHAT ABOUT MY HEALTH INFORMATION?

In this research study, any new information we collect from you, information we get from your medical records or other facilities about your health or behaviors is considered Protected Health Information. The information we will collect for this research study includes but is not limited to, such things as your name, address, telephone number, and date of birth. Your personal health information includes all information about you which is collected or created during the study for research purposes. It also includes your personal health information that is related to this study and that is maintained in your medical records at this institution, or at other places such as other hospitals and clinics where you may have received medical care. Examples of your personal health information include your health history, your family health history, how you respond to study activities or procedures, test results, and information from study visits, phone calls, and surveys.

For the purpose of scheduling your study visits and HIRREM sessions, a medical record number for Wake Forest Baptist Health will be assigned when you enroll, and a record created in the WFBH electronic medical record (WakeOne). Other than your name, date of birth, a contact number, and the fact that you are participating in a research study, no personal health information regarding you, or this research study, will be entered. Only in the case of emergency will other personnel directly involved with your care have access to this information in WakeOne.

Brain State Technologies, LLC (BST) will assist with brain pattern analysis. To accomplish this, BST will be provided with the first 8 characters from the randomly generated, 36 character identifier that the HIRREM software generates for each participant's brain frequency and amplitude data, along with the participant's age and gender, which are believed important for understanding brain patterns. No other participant-specific information is provided.

To help us protect your privacy, we have obtained a Certificate of Confidentiality from the National Institutes of Health. The researchers can use this Certificate to legally refuse to disclose information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings, for example, if there is a court subpoena. The researchers will use the Certificate to resist any demands for information that would identify you.

You should understand that a Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If an insurer, medical care provider, or other person obtains your written consent to receive research information, then the researchers will not use the Certificate to withhold that information.

The Certificate of Confidentiality will not be used to prevent disclosure to state or local

authorities of information suggesting risk of harm to self or others

We will make every effort to keep your Protected Health Information private. We will store records of your Protected Health Information in a cabinet in a locked office or on a password protected computer. Only the following people or organizations will be granted access to your Protected Health Information:

1) The study investigator and his/her staff, or others at Wake Forest University Health Sciences who oversee research.

2) Other people or laboratories providing services for this research project on behalf of Wake Forest Health Sciences and Wake Forest Baptist Medical Center.

3) Representatives from government agencies such as the Food and Drug Administration (FDA), the Department of Health and Human Services (DHHS).

If required by law or court order, we might also have to share your Protected Health Information with a judge, law enforcement officer, government agencies, or others. If your Protected Health Information is shared with any of these groups it might no longer be protected by federal or state privacy rules.

Any Protected Health Information collected from you in this study that is maintained in the research records will be kept indefinitely. This authorization does not expire. You will not be able to obtain a copy of your Protected Health Information in the research records until all activities in the study are completely finished.

You can tell Dr. Charles H. Tegeler that you want to take away your permission to use and share your Protected Health Information at any time by sending a letter to this address:

Charles H. Tegeler, M.D.
Department of Neurology
Medical Center Boulevard
Winston-Salem, NC 27157-1078

However, if you take away permission to use your Protected Health Information you will not be able to be in the study any longer. We will stop collecting any more information about you, but any information we have already collected can still be used for the purposes of the research study.

By signing this form you give us permission to use your Protected Health Information for this study.

Laboratory test results and other medical reports created as a result of your participation in the research study may be entered into the computer systems of Wake Forest University Health Sciences and North Carolina Baptist Hospital. These will be kept secure, with access to this information limited to individuals with proper authority, but who may not be directly involved

with this research study.

This authorization does not expire.

WHAT ARE THE COSTS?

There are no costs to you for taking part in this study. All costs related directly to study procedures, including the HIRREM sessions, will be paid for by the study. Other costs for travel to and from Winston-Salem, lodging, food, and local transportation during your stay, as well as and your regular medical care, not related to this research study, will be your own responsibility.

WILL YOU BE PAID FOR PARTICIPATING?

You will receive no payment or other compensation for taking part in this study

The findings from this research may result in the future development of products that are of commercial value. There are no plans to provide you with financial compensation or for you to share in any profits if this should occur.

WHO IS SPONSORING THIS STUDY?

This study is being sponsored by the Enabling Technology Section of the Office of the Secretary of Defense, via a contract with the US Special Operations Command. The sponsor is providing money or other support to Wake Forest University Health Sciences to help conduct this study. The researchers do not hold a direct financial interest in the sponsor, or the product being studied.

WHAT HAPPENS IF YOU EXPERIENCE AN INJURY OR ILLNESS AS A RESULT OF PARTICIPATING IN THIS STUDY?

Should you experience a physical injury or illness as a direct result of your participation in this study, Wake Forest University School of Medicine maintains limited research insurance coverage for the usual and customary medical fees for reasonable and necessary treatment of such injuries or illnesses. To the extent research insurance coverage is available under this policy the reasonable costs of these necessary medical services will be paid, up to a maximum of $25,000. Wake Forest University Baptist Medical Center holds the insurance policy for this coverage. It provides a maximum of $25,000 coverage for each claim and is limited to a total of $250,000 for all claims in any one year. The Wake Forest University School of Medicine, and the North Carolina Baptist Hospitals, Incorporated do not assume responsibility to pay for these medical services or to provide any other compensation for such injury or illness. Additional information may be obtained from the Medical Center's Director of Risk and Insurance Management, at (336) 716-3467.

If you are injured, the insurer may require information such as your name, social security number, and date of birth in order to pay for your care. This is because the insurer is required by law to report any payments made to cover the care of any persons who are members of a government insurance plan to the Department of Health and Human Services.

You do not give up any legal rights as a research participant by signing this consent form. For more information on medical treatment for research related injuries or to report a study related illness, adverse event, or injury you should call Charles H. Tegeler, MD at 336-716-9482.

WHAT ARE MY RIGHTS AS A RESEARCH STUDY PARTICIPANT?

Taking part in this study is voluntary. You may choose not to take part or you may leave the study at any time. Refusing to participate or leaving the study will not result in any penalty or loss of benefits to which you are entitled. If you decide to stop participating in the study we encourage you to talk to the investigators or study staff first to learn about any potential health or safety consequences. The investigators also have the right to stop your participation in the study at any time. This could be because you failed to follow instructions, your condition worsened or the study has been stopped.

You will be given any new information we become aware of that would affect your willingness to continue to participate in the study.

WHOM DO I CALL IF I HAVE QUESTIONS OR PROBLEMS?

For questions about the study or in the event of a research-related injury, contact the study investigator, Dr. Charles H. Tegeler at (336) 716-9447.

The Institutional Review Board (IRB) is a group of people who review the research to protect your rights. If you have a question about your rights as a research participant, or you would like to discuss problems or concerns, have questions or want to offer input, or you want to obtain additional information, you should contact the Chairman of the IRB at (336) 716-4542.

You will be given a copy of this signed consent form.

SIGNATURES

I agree to take part in this study. I authorize the use and disclosure of my health information as described in this consent and authorization form. If I have not already received a copy of the Privacy Notice, I may request one or one will be made available to me. I have had a chance to ask questions about being in this study and have those questions answered. By signing this consent and authorization form, I am not releasing or agreeing to release the investigator, the sponsor, the institution or its agents from liability for negligence.

Subject Name (Printed): _____

Subject Signature: _____ Date: _____ Time: _____ AM PM

Person Obtaining Consent: _____ Date: _____Time: _____ AM PM