Participant Name: _____ Date:_____

Title of Study: Traumatic Nightmares Treated by NightWare (To Arouse Not Awaken): A Randomized Controlled Trial

Principal Investigator: _Ambrose Chiang, MD__VA Facility: ___VA Northeast Ohio Healthcare System

## KEY SUMMARY INFORMATION ABOUT THIS STUDY

You are being invited to take part in a research study that is being funded by NightWare and conducted by the Department of Defense (DoD). 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. Taking part in this study is completely voluntary.

### WHAT IS THE STUDY ABOUT AND HOW LONG WILL IT LAST?

This study is about the effectiveness of the NightWare digital system (NW System) in reducing the number and/or intensity of trauma related nightmares and improving sleep. This initial information is to give you key information to help you decide whether to participate. We have included detailed information after this information.

Your participation in this research will last about 90 days (about 3 months.)

### WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY?

There may be no direct benefit to you from being in the study. You may be given the Active system that may work in reducing the number and/or intensity of your nightmares. The knowledge gained from this study may benefit others in the future. *For a complete description of benefits, refer to the Detailed Information section of this form.*

### WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY?

Some of the possible risks or discomforts of your participation include: An increase in the number of nightmares you experience. An increase in the intensity of the nightmares you experience. The onset of sleepwalking or acting out your dreams. Other, unforeseen, negative experiences. *For a complete description of risks, refer to the Detailed Consent and/or Appendix.*

You may want to partake in alternative treatments that are available. There are currently 2 approved treatments for trauma-related nightmares. One involves medications and the other is a type of Cognitive Behavior Therapy. If you wish to try one of these treatments you would

need to go to your primary care physician and get referred to the proper department. For a complete description of alternate treatment/procedures, refer to the Detailed Information section of this consent.

**DO YOU HAVE TO TAKE PART IN THE STUDY?**

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits or rights you would normally have if you choose not to volunteer.

**WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?**

The person in charge of the study is Ambrose Chang, MD at the VA Northeast Ohio Healthcare System (VANEOHS). If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study his contact information is:

Principal Investigator. Ambrose Chiang

Phone Number: 216-791-3800, x61037, option 1

## DETAILED INFORMATION ABOUT THE STUDY

**WHAT IS THE PURPOSE OF THIS STUDY?**

By doing this study, we hope to learn if the NightWare digital therapeutic system (NW System) can reduce the number and/or intensity of trauma-related nightmares. The NightWare system is an investigation device that consists of a smartphone, smartwatch, and an application. This study seeks to evaluate the effectiveness and safety of the NW system for the treatment of nightmares.

The investigators hypothesize that the Active System will significantly improve sleep quality in subjects with PTSD-related sleep disorders who are suffering from nightmares and poor sleep quality, and that the magnitude of improvement will be greater than that observed in the subjects who receive a Sham System

**HOW LONG WILL I BE IN THE STUDY?**

About 50 people will take part in this study at VA Northeast Ohio Healthcare System (VANEOHS)**.** This is a multicenter study that will have a total of 240 people in this study.

This research study is expected to take approximately 3 years. Your individual participation in the project will take *90 days (about 3 months.)*

**WHAT WILL HAPPEN IF I TAKE PART IN THE STUDY?**

**Visit 1 Enrollment and Randomization (Day 0)**
You will be asked to sign this informed consent and combined HIPAA document, complete several questionnaires, and, if your scores on the questionnaires meet the requirements for inclusion into this study, you will be provided a NW System. If you are not a good candidate, the study team will explain other options available to you.

You can expect the following to occur at this visit:

- you will be asked questions and given handouts regarding your demographics, sleep behavior, drug use, suicidality, and medical history.
- Collection of your vitals (heart rate, blood pressure, height and weight)
- Collection of all your current medications with you

If you are a good candidate for this study, you will be randomized, like a flip of coin, into the active system or sham system. For this study, you and the study team will not know which group you are in. This way, nobody puts their own thoughts into if the active system is working differently for results than the Sham system.

The Active system and the Sham System appear identical. The Active System has a fully functional version of the NW Application installed. The Sham System has an inactive NW Application installed.

If you are in the group that gets the Sham system, you will not be getting any active watch that is treating you. That could make your condition get worse. Scales monitoring your sleep and suicidal ideation will be conducted throughout this study to monitor and determine your condition.

Both systems monitor your sleep at night and report to the study team.

After randomization, the study team will instruct you on how to use your watch and the Nightmare Application. You will be sent home with the NW System, a nightly tracking sheet, and an instruction sheet. You will wear the Study Watch every night for the duration of your involvement in this study.

The Active system will take about 3 days to calibrate. Every person has their own sleep pattern that is almost as unique as a fingerprint. The NW System adjusts to a person's usual sleep pattern by going through an observation-only calibration stage. Usual sleep information is gathered during the first 500 minutes of sleep after the person begins wearing the NW System.

After the calibration period has ended, all participants will receive a daily use questionnaire through MyCap, an app downloaded on the study provided smartphone. The questionnaire will need filled out daily and will take less than 5 minutes to respond. The survey will ask on a scale of 0-2 how you slept and if the study watch was disruptive to your sleep. It will also ask how many times you woke up due to nightmares.

Information about the Study Phone and Study Watch:
The devices provided to you have been pre-imaged by NightWare. They do NOT function as regular smartphone/smartwatch watches.During the pre-imaging process any functions/applications that are not needed to do this research study have been removed and the NightWare application has been pre-installed on both the phone and watch. MyCap application has been pre-downloaded onto the phone. Due to the limited functionality of these devices, we will refer to them as "study equipment, study phone, and/or study watch".

As part of its operation, the NightWare Application will collect heart rate and movement information from the sensors on the watch while the application is running (i.e., beginning when the Start button is pressed and ending when the Stop button is pressed). This information is used to distinguish your normal sleep patterns from those that may indicate a distressing dream. Some of this information (duration of use, number of interventions) is transmitted to NightWare, the sponsor of this study, for monitoring the use and performance of the software. This information is not sent in real time, and no information about your identity or location will be transmitted.

**Start Up Phone Call (Day 1)**
A member of the study team will call you and make sure that the NW system is working properly and to see if you have any questions. They will also administer some questionnaires regarding your sleep.

You will receive a minimum of 10 phone calls and a maximum of 15 phone calls from study staff. These calls will be used to determine how well you are doing using the NW System and to fill out questionnaires.

**Help Calls (Days 2-6)**
A member of the study team may call to check in you and your progress with the NW system. During these calls, research staff will address any issues arising with WiFi connectivity, misunderstandings and the proper use of the devices, as well as any other issues that may arise. They will also administer some questionnaires about your sleep. These calls are only as needed and may not occur.

**Checkup Phone Call 1 and 2 (Day 7 and Day 21 ± 2 days)**
A member of the study team may call to check in you and your progress with the NW system. They will also administer some questionnaires about your sleep.

**Visit 2 (Day 30 ±7 days)**
This visit will be done in-person. The study team will administer questionnaires relating to your sleep behavior, drug use, suicidality, and medical history. They will collect your blood pressure. They will also go over the NW system and any questions or concerns you may have. The team will also ask you questions related to which group you were placed in.

At this visit, everyone will be placed into the Active System. If you were in the Sham System, you now will receive the same system at Active group. The NW system will need about 3 days to calibrate to your specific sleep habits.

If you were in the Active System group, nothing will change for you.

**Day 60 Questionnaire Assessment**

Questionnaires will be sent to you through MyCap for you to complete on Day 60. If you have not completed the questionnaires in 7 days, a study team member will call to remind you.

**Day 90 Questionnaire Assessment and Final Study Interaction**

Questionnaires will be sent to you through MyCap for you to complete on Day 90. If you have not completed the questionnaires in 7 days, a study team member will call to remind you.

After you complete the questionnaires, a study team member will call to confirm that your participation is complete and give you instructions on how to return the device, if you do not want to keep it. Participants who had a reminder call to complete their questionnaires will receive another call once they've been completed to close out your study participation.

This will be your final interaction for the study. You will be allowed to keep the study watch and study phone. These devices have been pre-imaged to contain only what is needed for using the NightWare Application. No other applications are enabled on this device. You will be given information for the open label trial where you can receive treatment in the active state if you are interested.

## WHAT IS EXPECTED OF ME IF I TAKE PART IN THIS STUDY?

If you take part in this research, you will be responsible for the following:

- answering questionnaires as fully and correctly as possible
- Provide demographic and military-service information
- Be willing to have your blood pressure, pulse rate, and weight taken
- Connecting the Study Phone AND the Study Watch to your home WIFI
- Wearing the study watch every night
- Keeping the phone and watch charged.
- Accepting study-related phone calls
- Giving answers to questionnaires either in-person or over the phone
- Coming to study visits

- While participating in this research study, do not take part in any other research project without approval from the investigators. Taking part in other research studies without first discussing it with the investigators of this study may invalidate the results of this study, as well as that of the other studies.

If you need to, you can:

- Use other medicines prescribed by your regular doctor.
- Have surgery you need.

However, you should tell the study doctor or the study team about all the medicines you take and about any planned surgery you may have scheduled, as this can potentially affect the study.

**WHAT POSSIBLE RISKS OR DISCOMFORTS MIGHT I HAVE IF I TAKE PART IN THIS STUDY?**

There is always a chance that any procedure can harm you. The procedures in this study are no different. In addition to the risks described above, you may experience a previously unknown risk or side effect. It is important for you to tell us when you experience a side effect.

**Known Potential Risks**

There are no predicate devices used specifically to treat nightmares. However, there are many variations of over-the-counter applications and wearable devices that vibrate to signal the wearer. The same risks known to over-the-counter wearable fitness devices apply to this device. The System is designed to interrupt during a nightmare, but not awaken the individual. The device may instead awaken, or incorrectly diagnose a nightmare and alarm (false positive). Therefore, worsening sleep quality is a potential risk of this device intervention.
If you have allergies or skin sensitivities you may experience a reaction when wearing the watch. Wearing the watch with the right fit with room for your skin to breathe may prevent skin irritation.

Risks of the usual care you receive are not risks of this study. 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.

**Questionnaires:**

Some specific questions will be asked concerning your use of tobacco products, alcohol, and marijuana. We realize that such questions are potentially sensitive. For us to determine your eligibility for the study there are two questionnaires (the DAST-10 and AUDIT) that require responses. There is another questionnaire that is NOT required that goes into more detail regarding your use of these substances. You may choose not to answer this questionnaire, but we encourage you to do so, as information regarding potential results of using the NightWare System could be detected and be beneficial to others.
If you become upset at any time during the questionnaires they can be stopped immediately and if the study team member feels you need additional care, they will work with you and the medical team to provide you with appropriate assistance.

**WHAT ARE THE POSSIBLE BENEFITS OF THIS STUDY?**

We do not know if you will get any benefits from taking part in this research study. However, uninterrupted sleep due to interrupting nightmares by arousing the subject without waking them, resulting in a more restful sleep, could be a benefit you experience. Improved sleep quality and duration can improve overall psychological effects of sleep deprivation and life satisfaction

Participation in this research study is entirely voluntary. In other words, you do not have to participate in this study. You may choose not to participate in this study. If this is your decision, there are currently 2 approved treatments. One involves medication and the other is a type of Cognitive Behavior Therapy. If you wish to try one of these treatments you would need to go to your primary care physician and get referred to the proper department. You may discuss these options with your doctor.

**HOW WILL MY PRIVATE INFORMATION BE PROTECTED?**

Efforts will be made to limit the use and disclosure of your personal information to people who have a need to review this information. The results of this study may be published or presented, but your identity and records will not be revealed unless required by Federal Law. Organizations that are required by law to provide oversight of research projects may review your records. This includes several federal agencies, the Research & Development Committee, and the Institutional Review Board (IRB). The sponsor or sponsors of the research project will also be allowed to review your medical records. Because of the need for these inspections, absolute confidentiality cannot be guaranteed. Your de-identified information may be used to develop, refine, or improve a marketable software application (NightWare).

All research data will be stored in electronic form on the DoD's secure computer server behind the protection of a firewall. The electronic files will have additional protection by being placed inside of a limited-access folder. Only IRB-Approved research staff will be permitted access to this folder. The PI and the research team may provide de-identified and anonymous data to other DoD Researchers who make such a request from the Repository Administrator, but no personally identifiable information will ever be given to any other DoD Researcher. The study teams' activities are monitored by, and must abide by, all DoD Research regulations. Monitoring and approval are done by the DoD's Institutional Review Board, Research Privacy Office, and Information Security Officer. Other relevant oversight committees that may be created or identified during the team's existence will also be allowed to monitor and approve the activities. Identifiers might be removed from the identifiable private information that is collected. After that removal, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you or your legally authorized representative.

Your de-identified information may be provided to the FDA by the sponsor (NightWare) of the study so that the FDA can determine if the NightWare application is effective and that it appears to be safe. When, or if, this happens, there are no plans to tell you, or to pay you, or to give any compensation to you or your family.

We will include information about your study participation in your medical record.

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.

**Health Information Portability and Accountability Act (HIPAA)**

There are rules to protect your private information. Federal and state laws and the federal medical Privacy Rule also protect your privacy. By signing this form, you provide your permission called your 'authorization,' for the use and disclosure of information protected by the Privacy Rule.

The research team working on the study will collect information about you. This includes things learned from the procedures described in this consent form. The study team may also collect other information including your name, address, date of birth, and information from your medical records such as H, drug oralcohol treatment or mental health treatment.

The research team may also need to disclose the information to others as part of the study progress. Others may include the following:

- Sponsor-NightWare
- The VA Institutional Review Board
- Food and Drug Administration Office (FDA)
- Office of Human Research Protections (OHRP)
- the VA Office of Research Oversight (ORO)
- the Government Accountability (GAO)
- Internal Revenue Services (IRS)
- RedCap- provider of MyCap app
- Greenphire-provider of ClinCards
- Cleveland VA Medical Education and Research Foundation-study payments
- and the local VA medical facility Human Research Protections Program.

Your health information disclosed pursuant to this authorization may no longer be protected by Federal laws or regulations and may be subject to re-disclosure by the recipient.

While this study is being conducted you will not have access to your research related health records

This will not affect your VA healthcare, including your doctor's ability to see your records as part of your normal care and will not affect your right to have access to the research records after the study is completed.

You can revoke this authorization, in writing, at any time. To revoke your authorization, you must write to the Release of Information Office at this facility or you can ask a member of the research team to give you a form to revoke the authorization. Your request will be valid when the Release of Information Office receives it. If you revoke this authorization, you will not be able to continue to participate in the study. This will not affect your rights as a VHA patient to treatment or benefit outside of the study.

If you revoke this authorization, **Ambrose Chiang, MD** and his research team can continue to use information about you that was collected before receipt of the revocation. The research team will not collect information about you after you revoke the authorization.

Treatment, payment or enrollment/eligibility for benefits cannot be conditioned on you signing this authorization. This authorization will expire at the end of the research study unless revoked prior to that time.

**WHAT ARE THE COSTS TO ME IF I TAKE PART IN THIS STUDY?**

You will not be charged for any treatments or procedures that are part of this study. All the study costs, including the study watch, study phone, and procedures related directly to the study, will be paid for by NightWare. If you decide to keep the watch upon completion of the study, there will be no cost for you.

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.

**WILL I BE PAID FOR MY PARTICIPATION?**

You will be paid for your participation in this study. Upon completion of the first in-person visit after consent, you will be given a $50 on a ClinCard, a reloadable debit card.

At each two-week interval during the Study (Day 15, 30, 45,60,75 & 90) you will receive $25 for continuing to participate in the study.

You can also receive an additional $25 every two weeks (Day 15, 30, 45,60,75 & 90) for wearing the device 10 of the 15 nights in a two-week period.

You will also receive $100 upon returning the device and completing study-related surveys.

The ClinCard will be used throughout the entire study. If you lose it, please let the study team know. They can replace and transfer any remaining money on the card.

By the end of the study,you can receive between $300-$450 for participating in the Study.

Greenphire ClinCard Reimbursement Program: Greenphire is a company working together with Cleveland VA Medical Education and Research Foundation to manage your compensation. You will be issued a Greenphire ClinCard, which works like a debit card. When a visit is completed, funds will be approved and loaded onto your card. The funds will be available within 1 business day and can be used at your discretion. In order for

Greenphire to be able to reimburse you via the ClinCard, Greenphire needs to collect certain information about you from your study doctor, including your name, address and date of birth.

All information about you is stored in a secure fashion and is deleted from Greenphire's system once the study has been completed. Your information will not be shared with any third parties and will be kept completely confidential.

By signing this consent form, you consent to providing all the before mentioned personal information that is needed to set up payments. You agree that the information you provide is used by Greenphire to perform reimbursement payments to you.

By registering with the ClinCard system and using the ClinCard, you consent to participate in the ClinCard program. You may be required to provide your tax payer ID (Social Security #) if thresholds for IRS (Internal Revenue Service) reporting are met. This will only happen in the event that you receive a total of $600 in a year while participating in any research study at VANEOHS

**WHAT WILL HAPPEN IF I AM INJURED BECAUSE OF MY BEING IN THE STUDY?**

If you are injured as a result of taking part in this study, the VA will provide necessary medical treatment at no cost to you unless the injury is due to non-compliance by a study participant with study procedures or if the research is conducted for VA under contract with an individual or non-VA institution.

If you should have a medical concern or get hurt or sick as a result of taking part in this study, call:

DURING THE DAY:

Dr Ambrose Chiang at 216-791-3800 x61037, option 1
and

AFTER HOURS:

Call 216-791-3800 and ask the operator to page Dr. Chiang and he will call you back_____

**DO I HAVE TO TAKE PART IN THE STUDY?**

Participation is voluntary. Refusal to take part in the study will involve no penalty or loss of benefits that you are otherwise entitled.

Data already collected prior to any withdrawal may continue to be reviewed by the investigator and the study team but not collect further information, except from public records, such as survival data.

**RIGHT OF INVESTIGATOR TO TERMINATE MY PARTICIPATION**

Even if you want to stay in the study, there may be reasons we will need to take you out of it. You may be taken out of this study if:

- We find out it is not safe for you to stay in the study. For example, your health may worsen, you may show signs of suicidality, or we may find that the NightWare system could harm you.
- You are not utilizing the NightWare system properly or not coming for your study visits as scheduled.

**WHO DO I CONTACT ABOUT THIS STUDY IF I HAVE QUESTIONS?**

**For answers to questions about rights as a research participant or to voice a concern or complaint contact the following**:

- The Research Administrative Officer at (216) 791-3800 ext. 64657
- The VA Northeast Ohio Healthcare System Patient Representative at (216) 791-3800 ext. 61700
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If you have questions about your rights as a study participant, or you want to make sure this is a valid VA study, you may contact VANEOHS Institutional Review Board (IRB). This is the Board that is responsible for overseeing the safety of human participants in this study. You may call the Institutional Review Board at (216) 791-3800 X64658 if you have questions, complaints or concerns about the study or if you would like to obtain information or offer input.

**WILL I BE TOLD NEW INFORMATION ABOUT THIS STUDY?**

During the study, we will tell you about any new information that may affect your health, welfare, or choice to stay in the research

**WHO COULD PROFIT FROM THE STUDY RESULTS?**

If a commercial product is developed as part of this research, you will not profit from them.

**AGREEMENT TO PARTICIPATE IN THE RESEARCH STUDY**

Participant Name: _____ Date:_____

Title of Study: Traumatic Nightmares Treated by NightWare (To Arouse Not Awaken): A Randomized Controlled Trial

Principal Investigator: _Ambrose Chiang, MD__VA Facility: ___VA Northeast Ohio Healthcare System

_____ _____, a member of the study team 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 and authorize the use and disclosure of your health information 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.

| **I agree to participate in this research study as has been explained in this form.** | | |
|---|---|---|
| _____ Participant's Name | _____ Participant's Signature | _____ Date |