Mass General Brigham

Research Consent Form
General Consent Form Template
Version Date: February 2022

Subject Identification

Protocol Title: A pilot study of ambulatory heart rate variability biofeedback for substance use disorder

Principal Investigator: David Eddie, Ph.D.

Site Principal Investigator:

Description of Subject Population: Adults with a substance use disorder making a new recovery attempt.

About this consent form

Please read this form carefully. It tells you important information about a research study. A member of our research team will also talk to you about taking part in this research study. People who agree to take part in research studies are called "subjects." This term will be used throughout this consent form.

If you decide to take part in this research study, you must sign this form to show that you want to take part. We will give you a signed copy of this form to keep.

Key Information

We are asking you to be in a research study. This form will tell you what you should expect if you agree to be in the study. You will find more information about each of the following points later in this form.

It is your decision whether or not to join the study. We are asking you to be in this study because you are someone in early recovery from substance use disorder. We are doing the research to better understand the potential of heart rate variability biofeedback—a treatment involving rhythmic breathing—to support substance use disorder recovery. If you agree to participate, you will be randomly assigned to one of two groups. One group receives training in heart rate variability biofeedback, while the other does not. Both groups participate in daily assessments of their emotions and substance use using a smartphone app. You will be in the study for 8 weeks if you decide to stay for the whole study.

If you are randomly assigned to the group that receives the training in heart rate variability biofeedback, we will reach out after you complete the study to invite you to a focus group about your experiences.

The main risks of being in the study are: 1) discomfort related to completing questionnaires about sensitive topics such as psychological problems, and 2) breach of confidentiality and/or privacy.

If randomly assigned to the heart rate variability biofeedback group, you may benefit from the biofeedback intervention. Both groups may also benefit from daily assessment of emotions, which might increase self-awareness of emotional states.

In this study, all participants are encouraged to continue with whatever treatment/s they are currently receiving for substance use disorder. In other words, you will not be asked to stop any of your current care. We just ask that you do not initiate any new forms of treatment during the 8-week study period.

You will be paid up to $250 for taking part in this research study. Those randomly assigned to the heart rate variability biofeedback group receive a bonus $100 for returning study equipment. You will find more information about the payment amount for each visit and a plan if you do not complete all study visits later in this form.

If you participate in the focus group, you will be paid an additional $50.

You can call us with your questions or concerns. Our telephone numbers are listed below. Ask questions as often as you want.

David Eddie, Ph.D. is the person in charge of this research study. You can call him at (617) 643-9194 M-F 9-5. You can also call Marina Nguyen at (617) 732-8140 M-F 9-5 with questions about this research study.

If you have questions about the scheduling of appointments or study visits, call Marina Nguyen at (617) 732-8140.

If you want to speak with someone **not** directly involved in this research study, please contact the Mass General Brigham IRB. You can call them at 857-282-1900.

You can talk to them about:

- Your rights as a research subject
- Your concerns about the research

- A complaint about the research
- Any pressure to take part in, or to continue in the research study

Detailed Information

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

Why is this research study being done?

This research is being done to obtain greater knowledge about the potential of heart rate variability biofeedback to support substance use disorder recovery.

Who will take part in this research?

We are asking you to take part in this research study because you identified yourself as someone with a substance use disorder who is making a new attempt to change your alcohol and/or other drug use. About 120 people residing in the USA will take part in this research study sponsored by the National Institute of Drug Abuse (NIDA).

What will happen in this research study?

If you choose to enroll, you will be randomly assigned to receive either a heart rate variability biofeedback training and complete daily surveys, or to only complete daily surveys.

If you are randomly assigned to receive the heart rate variability biofeedback intervention, you will do 8 weeks of heart rate variability biofeedback using a wearable heart rate monitor and smartphone app from Lief Therapeutics, and complete 2 x 1min surveys each day on your smartphone about your emotions and any substance use using the TigerAware survey app. In the unlikely event that you encounter any technical difficulties running the TigerAware app on your smartphone, we will have you uninstall that app and we will notify you via text messages when it's time to complete these twice-daily surveys. These messages will include a link to the survey using your smartphone's browser.

If you are randomly assigned to the intervention group, the research team will also reach out after you complete your 8-week study period to invite you to participate in a focus group. The focus group meeting will be 60 minutes long and conducted on Zoom. The discussion will center around your experiences with the Lief device and heart rate variability breathing intervention.

If you are randomly assigned to the control group, you will be asked to complete 2 x 1min surveys each day on your smartphone using the TigerAware survey app about your emotions and any substance use over an 8-week period. You'll also be encouraged to complete one of these 1min surveys if you're experiencing particularly high levels of stress or craving.

All participants complete a study onboarding session done over Zoom at which you will be invited to provide informed consent. You will then complete questionnaires via Harvard Catalyst's Electronic Data Capture system (REDCap; project-redcap.org), which will take around 45 minutes. You will be asked basic demographic questions as well as about your substance use history, psychiatric symptoms, psychosocial functioning, treatment service utilization, and quality of life. The baseline visit will take approximately 2 hours to complete.

Text messages by mobile/cell phones are a common form of communication. The research study titled *A Pilot Study of Ambulatory Heart Rate Variability Biofeedback for Substance Use Disorder* involves sending you text messages that are relevant to the research study. Texting over mobile/cell phones carries security risks because text messages to mobile/cell phones are not encrypted. This means that information you send or receive by text message could be intercepted or viewed by an unintended recipient, or by your mobile/cell phone provider or carrier.

Below are some important points about texting in this research study.

- Text messages are not encrypted, and therefore carry security risks. This research study and Mass General Brigham are not responsible for any interception of messages sent through unencrypted text message communications.

- You will be responsible for all fees charged by your carrier's service plan for text messaging. This research study and Mass General Brigham are not responsible for any increased charges, data usage against plan limits or changes to data fees from the research texts

- Text messages will only be read during regular business hours. Texts sent on nights or weekends will not be read until the next business day during regular business hours.

- Text messaging should not be used in case of an emergency. If you experience a medical emergency, call 911 or go to the nearest hospital emergency department.

- You may decide to not send or receive text messages with staff associated with this research study at any time. You can do this in person at your assessment or by calling research staff at (617) 643-9194.

- Your agreement applies to this research study only. Agreeing to other texts from Mass General Brigham, for example appointment reminders, is a separate process. Opting out of other texts from Mass General Brigham is a separate process as well.

- It is your responsibility to update your mobile/cell phone number with this research study in the event of a change.

I have had the chance to ask questions about texting with staff associated with this research study. I have been informed of the risks and other information covered above and consent to the use of unencrypted text communications associated with this research study.

How may we use and share your samples and health information for other research?

The information we collect in this study may help advance other research. If you join this study, we will remove all information that identifies you (for example, your name, medical record number, and date of birth) and use these de-identified samples and data in other research. It won't be possible to link the information or samples back to you. Information and/or samples may be shared with investigators at our hospitals, at other academic institutions or at for-profit, commercial entities. You will not be asked to provide additional informed consent for these uses.

Also, as mandated by the National Institutes of Health (NIH), deidentified study data will be stored in the National Institute of Mental Health's Data Archive. Your data will be labelled with a Global Unique Identifier (GUID) number, and not your name or any other identifier like email address or phone number. Directly identifiable participant information is not given to the NIH databank.

Will you get the results of this research study?

No. The research study we are doing is only a stepping stone in understanding the effects of heart rate variability biofeedback on substance use disorder recovery**.** Therefore, no information about the results of this research study or the results of your individual participation in the research study will be given to you or your doctor. Tests done for the research using your samples will not be useful in directing your medical treatment. The results of the tests will not be placed in your medical record.

What are the risks and possible discomforts from being in this research study?

The risk of participating in this study is expected to be very low because your privacy is protected by law. We may report medical information if you need medical help, if we feel you might be in danger of harming yourself or others, or if there is any suspicion of child abuse or elder abuse.

It is possible that you may experience some discomfort during scheduled assessments while completing the questionnaires, as they ask about some sensitive personal information. However, you are free not to participate in any aspect of the study that makes you uncomfortable.

There is some risk of harm to you related to a privacy breach involving confidential information collected about illegal activities such as use of illegal substances, however, as described below in the 'Certificate of Confidentiality' section, your data in this study is protected by federal law.

If you are randomized to the heart rate variability biofeedback group, we will share your name, address and phone number with Lief Therapeutics so they can send you the necessary equipment for you to participate in the study, and to allow their heart rate variability biofeedback coaches to provide training and as needed phone coaching in heart rate variability biofeedback. We will not share any other information about you with this company. Lief Therapeutics will record your heart rate data and share this with study researchers. To use the Lief smartphone app and heart rate monitor, you will be asked by Lief to agree to their standard end-user license agreement. In essence, this agreement asks you to accept, 1) that the service they offer includes to measurement, collection and storage of data related to your heart rate and breathing, and your responses to biofeedback exercises, 2) that the device they supply is not designed to provide medical advice or diagnosis, 3) that you can remove your user content from the app by deleting it, however, some of your content may not be completely removed and copies of your content may continue to exist, 4) that Lief retains ownership of the equipment and software you'll be using, and 5) that you do not copy or use the app for any other purposes than it is intended. The end-user license agreement also describes your rights using the product, and the limitations of liability for the company.

Also, if you are randomized to the heart rate variability biofeedback group, there is possible risk of skin irritation/discomfort from the adhesives used for the wearable device.

At no time, and under no circumstances will any of your personal identifying information be shared with TigerAware (the company we will use to deliver the daily surveys on your phone). Your survey data will be stored using an identification number assigned to you, and not your name. Survey data collected using the app will not be stored on your phone. Instead, your questionnaire responses will be sent directly to a secure server via a secure, digital signal. TigerAware will not have access to your email or phone number, and at no time will they have

access to information that could link your study identification number to your identity.

Study datasets will be stored on secure, password protected computers, and will not contain any information that could be used to identify you. Only authorized study staff trained in the handling of confidential information will have access to study data.

If the data from the study are published or presented at a professional conference, only group results will be shared.

What are the possible benefits from being in this research study?

If randomly assigned to the heart rate variability biofeedback group, you may benefit from the biofeedback intervention. Both groups may also benefit daily assessment of emotions, which might increase self-awareness of emotional states.

What other treatments or procedures are available for your condition?

This study is assessing heart rate variability biofeedback as an add-on treatment for substance use disorder. Participants are encouraged to continue whatever substance use disorder treatments they are currently engaged in. You do not have to take part in this study to be able to obtain mental health services or any other treatment.

Can you still get medical care within Mass General Brigham if you don't take part in this research study, or if you stop taking part?

Yes. Your decision won't change the medical care you get within Mass General Brigham now or in the future. There will be no penalty, and you won't lose any benefits you receive now or have a right to receive.

We will tell you if we learn new information that could make you change your mind about taking part in this research study.

What should you do if you want to stop taking part in the study?

If you take part in this research study, and want to drop out, you should tell us. We will make sure that you stop the study safely. We will also talk to you about follow-up care, if needed.

Also, it is possible that we will have to ask you to drop out of the study before you finish it. If this happens, we will tell you why. We will also help arrange other care for you, if needed.

Will you be paid to take part in this research study?

Yes, participants are compensated $50 for completing the study intake Zoom call and baseline questionnaire measures. You will also be compensated $100 for completing the 8 weeks of daily study surveys, with a bonus payment of an additional $100 for completing greater than 90% of the daily surveys.

Participants randomized to the heart rate variability biofeedback group receive an additional bonus payment of $100 for the return of study equipment.

We are using an approved, outside vendor (Advarra) make these payments to you via a reloadable credit card-based system, called Advarra Participant Payments. This secure system is similar to a gift card or credit card.

All participants will receive $50 for completing the study intake Zoom call using the Visa gift card. At the end of the 8-week study period we'll electronically add the rest of your compensation to this card. Payments are usually available for use on the card within a day. You may use the card anywhere Visa cards are accepted, such as at a grocery store.

We will need to collect your Social Security number in order to make these payments, and it will be shared securely with the company that runs the card-based system. Payments like this are considered taxable income. If you receive more than $600, the payment will be reported to the IRS as income by the hospital.

We may use your samples and information to develop a new product or medical test to be sold. The Sponsor, hospital, and researchers may benefit if this happens. There are no plans to pay you if your samples or information are used for this purpose.

What will you have to pay for if you take part in this research study?

There are no costs to participate in this research.

What happens if you are injured as a result of taking part in this research study?

Injuries sometimes happen in research even when no one is at fault. There are no plans to pay you or give you other compensation for an injury, should one occur. However, you are not giving up any of your legal rights by signing this form.

If you think you have been injured or have experienced a medical problem as a result of taking part in this research study, tell the person in charge of this study as soon as possible. The researcher's name and phone number are listed in the beginning of this consent form.

If you take part in this research study, how will we protect your privacy?

Federal law requires Mass General Brigham to protect the privacy of health information and related information that identifies you. We refer to this information as "identifiable information."

In this study, we may collect identifiable information about you from:

- Past, present, and future medical records
- Research procedures, including research office visits, tests, interviews, and questionnaires

Who may see, use, and share your identifiable information and why they may need to do so:

- Mass General Brigham researchers and staff involved in this study
- The sponsor(s) of the study, and people or groups it hires to help perform this research or to audit the research
- Other researchers and medical centers that are part of this study
- The Mass General Brigham ethics board or an ethics board outside Mass General Brigham that oversees the research
- A group that oversees the data (study information) and safety of this study
- Non-research staff within Mass General Brigham who need identifiable information to do their jobs, such as for treatment, payment (billing), or hospital operations (such as assessing the quality of care or research)
- People or groups that we hire to do certain work for us, such as data storage companies, accreditors, insurers, and lawyers
- Federal agencies (such as the U.S. Department of Health and Human Services (DHHS) and agencies within DHHS like the Food and Drug Administration, the National

Institutes of Health, and the Office for Human Research Protections), state agencies, and foreign government bodies that oversee, evaluate, and audit research, which may include inspection of your records

- Public health and safety authorities, if we learn information that could mean harm to you or others (such as to make required reports about communicable diseases or about child or elder abuse)
- Other: Researchers within or outside Mass General Brigham, for use in other research as allowed by law.

Some people or groups who get your identifiable information might not have to follow the same privacy rules that we follow and might use or share your identifiable information without your permission in ways that are not described in this form. For example, we understand that the sponsor of this study may use your identifiable information to perform additional research on various products or conditions, to obtain regulatory approval of its products, to propose new products, and to oversee and improve its products' performance. We share your identifiable information only when we must, and we ask anyone who receives it from us to take measures to protect your privacy. The sponsor has agreed that it will not contact you without your permission and will not use or share your identifiable information for any mailing or marketing list. However, once your identifiable information is shared outside Mass General Brigham, we cannot control all the ways that others use or share it and cannot promise that it will remain private.

Because research is an ongoing process, we cannot give you an exact date when we will either destroy or stop using or sharing your identifiable information. Your permission to use and share your identifiable information does not expire.

The results of this research study may be published in a medical book or journal, or used to teach others. However, your name or other identifiable information **will not** be used for these purposes without your specific permission.

Your Privacy Rights

You have the right **not** to sign this form that allows us to use and share your identifiable information for research; however, if you don't sign it, you can't take part in this research study.

You have the right to withdraw your permission for us to use or share your identifiable information for this research study. If you want to withdraw your permission, you must notify the person in charge of this research study in writing. Once permission is withdrawn, you cannot continue to take part in the study.

If you withdraw your permission, we will not be able to take back information that has already been used or shared with others, and such information may continue to be used for certain purposes, such as to comply with the law or maintain the reliability of the study.

You have the right to see and get a copy of your identifiable information that is used or shared for treatment or for payment. To ask for this information, please contact the person in charge of this research study. You may only get such information after the research is finished.

Informed Consent and Authorization

Statement of Person Giving Informed Consent and Authorization

- I have read this consent form.
- This research study has been explained to me, including risks and possible benefits (if any), other possible treatments or procedures, and other important things about the study.
- I have had the opportunity to ask questions.
- I understand the information given to me.

Certificate of Confidentiality

A federal Certificate of Confidentiality (Certificate) has been issued for this research to add special protection for information and specimens that may identify you. With a Certificate, unless you give permission (such as in this form) and except as described above, the researchers are not allowed to share your identifiable information or identifiable specimens, including for a court order or subpoena.

Certain information from the research will be put into your medical record and will not be covered by the Certificate. This includes records of medical tests or procedures done at the hospitals and clinics, and information that treating health care providers may need to care for you. Please ask your study doctor if you have any questions about what information will be included in your medical record. Other researchers receiving your identifiable information or specimens are expected to comply with the privacy protections of the Certificate. The Certificate does not stop you from voluntarily releasing information about yourself or your participation in this study.

Even with these measures to protect your privacy, once your identifiable information is shared outside Mass General Brigham, we cannot control all the ways that others use or share it and cannot promise that it will remain completely private.

Because research is an ongoing process, we cannot give you an exact date when we will either destroy or stop using or sharing your identifiable information. Your permission to use and share your identifiable information does not expire.

The results of this research may be published in a medical book or journal or used to teach others. However, your name or other identifiable information **will not** be used for these purposes without your specific permission.

Signature of Subject:

I give my consent to take part in this research study and agree to allow my health information to be used and shared as described above.

_____	_____	_____
Subject	Date	Time (optional)

Signature of Study Doctor or Person Obtaining Consent:

Statement of Study Doctor or Person Obtaining Consent

- I have explained the research to the study subject.
- I have answered all questions about this research study to the best of my ability.

_____	_____	_____
Study Doctor or Person Obtaining Consent	Date	Time (optional)

Consent Form Version: Version 7, 11/27/2023