UNIVERSITY OF PENNSYLVANIA
RESEARCH SUBJECT
INFORMED CONSENT AND HIPAA AUTHORIZATION FORM

Protocol Title: Advanced Resting State fMRI for Clinical Evaluation of Brain Network Integrity in Disorders of Consciousness

Principal Investigator: Jeffery Ware, MD

Hospital of the University of Pennsylvania
3400 Spruce St.
Philadelphia, PA 19104
(215) 662-6865

Emergency Contact: Neuroradiologist on-call
(215) 662-4000

Research Study Summary for Potential Healthy Participants

You are being invited to participate in a research study. 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. 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 (215) 898-2614 for assistance.

The research study is being conducted to evaluate if recent advancements in rs-fMRI (resting state functional magnetic resonance imaging) techniques can allow more reliable prediction of important neurological outcomes in patients with Disorders of consciousness (DoC) thereby contributing substantially to the diagnostic and prognostic evaluation of these patients in real world clinical settings

If you agree to join the study, you will be asked to complete the following research procedures: one MRI scan that will last approximately one hour.

The most common risks of participation are associated with the MRI is a magnetic object flying through the air toward the magnet and hitting you. To reduce this risk, patients are screened and required to remove all magnetic metal from their clothing and all magnetic metal objects from their pockets prior to entering the controlled access area. No magnetic metal objects are allowed to be brought into the magnet room at any time except by approved personnel. In addition, once you are in the magnet, the door to the room will be closed so that no one inadvertently walks into the room.

The healthy participants have the alternative to not be in the study. Non-participation in this study does not in any way affect them.

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 discussed here. If you are interested in participating, a member of the study team will review the full information with you. You are free to decline or stop participation at any time during or after the initial consenting process.

Why am I being asked to volunteer?

You are being invited to participate in a research study because there is a need to healthy participants in order to compare data gained from patients who have recently been diagnosed with a disorder of consciousness.

If you choose not to participate, there will be no loss of benefits to which you are otherwise entitled. You may also decide to discuss the study with your family, friends, or family doctor. Being in a research study is different from being a patient.

If you decide to participate, you will be asked to sign this form.

This consent form is written from the point of view of a research participant. If the parent or legal guardian of a minor or a legally authorized representative will be providing consent, the words "you" and "your" should be read as ("your child" or "the research participant").

What is the purpose of this research study?

The purpose of this study is to utilize the recent advancements in MRI technologies that can be leveraged to reliably assess the degree of brain functional network integrity in individual patients with acquired brain injuries to allow more reliable prediction of important neurological outcomes, thereby contributing substantially to the diagnostic and prognostic evaluation of patients with disorders of consciousness in real world clinical settings.

How long will I be in the study?

The expected duration of this study will be approximately three years. Your participation in the study would be the duration of your MRI scan, one hour.

What am I being asked to do?

You are being asked to participate in an MRI scan to help provide useful data to future patients who suffer from disorders of consciousness.

MRI is a type of scan that uses radio waves to take detailed pictures. You will be asked to lie on an MRI table where the technologist will place a coil on the part of your body to be studied. You will be provided a blanket for comfort and earplugs since the MRI does make loud banging noises. You will still be able to hear some sound to ensure you can communicate with the technologist and can follow any direction given throughout the MRI scan. The technologist will slowly slide you into the MRI magnet where radio waves will be transmitted into you. Your body will also give off radio waves which will be picked up by the coils and made into detailed pictures.

What are the possible risks or discomforts?

The greatest risk of MRI is a magnetic object flying through the air toward the magnet and hitting you. To reduce this risk, we require that all people involved with the study remove all magnetic metal from their clothing and all magnetic metal objects from their pockets. No magnetic metal objects are allowed to be brought into the magnet room at any time except by approved personnel. In addition, once you are in the magnet, the door to the room will be closed so that no one inadvertently walks into the room.

There is also a potential risk of MRI for subjects with medical implants or other metallic objects in their body. All subjects undergoing MRI scanning must complete a screening evaluation risk in advance of the study for the presence of medical implants or other foreign bodies that could pose an injury. Every effort will be made to insure that disclosed implants or foreign bodies do not pose a risk to subjects. In cases where there is insufficient information to evaluate the risks associated with an implant or foreign body, the MRI study will not be allowed to proceed. Although there are no known risks related to MRI on pregnant women or a fetus, there is a possibility of yet undiscovered pregnancy related risks. Since there is no benefit from participating in this protocol for a pregnant woman, we will exclude pregnant women.

This MRI is not a clinical scan. It is possible that during the course of the research study, the research staff may notice an unexpected finding(s). should this occur, the finding(s) will be considered by the appropriate personnel and the PI will inform you if necessary. These possible finding(s) may or may not be significant and may lead to anxiety about your condition and to further work-up by your physician.

What if new information becomes available about the study?

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

What are the possible benefits of the study?

You are not expected to get any benefit from being in this research study.

What other choices do I have if I do not participate?

The health participants have the alternative to not be in the study. Non-participation in this study does not affect them in any way.

Will I be paid for being in this study?

Healthy participants will receive $50 per visit through the information provided on the Greenphire ClinCards. ClinCards are reloadable prepaid cards that may be used for in-store purchases (by selecting either the credit or debit option), online purchases, ATM, and cash advances at a bank. Funds added to the card should be available immediately, however, in some cases it may take 1 business day. If a subject loses their card, we will replace it with no fee. However, if a subject is repeatedly losing their card, they may incur a small fee to replace it. This amount will be determined by the Comptroller's Office.

Please note: In order to be compensated for your participation in this study, you must provide your Social Security Number. Additionally, please note that the University of Pennsylvania is required to report to the IRS any cumulative payments for participation in research studies that exceed a total of $600 in a calendar year.

Will I have to pay for anything?

The cost of the MRI scan will be billed to the study.

What happens if I am injured from being in the study?

We will offer you the care needed to treat injuries directly resulting from taking part in this research. We may bill your insurance company or other third parties, if appropriate, for the costs of the care you get for the injury, but you may also be responsible for some of them.

There are no plans for the University of Pennsylvania to pay you or give you other compensation for the injury. If you feel this injury was caused by medical error on the part of the study doctors or others involved in the study, you have the legal right to seek payment, even though you are in a study. You do not give up your legal rights by signing this form.

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

When is the Study over? Can I leave the Study before it ends?

This study is expected to end after all participants have completed all visits, and all information has been collected. This study may also be stopped at any time by your physician, the study Sponsor, or the Food and Drug Administration (FDA) without your consent because:

- The Primary Investigator feels it is necessary for your health or safety. Such an action would not require your consent, but you will be informed if such a decision is made and the reason for this decision.
- You have not followed study instructions.
- The Sponsor, the study Principal Investigator, or the Food and Drug Administration (FDA) has decided to stop the study.

If you decide to participate, you are free to leave the study at any time. Withdrawal will not interfere with your future care.

How will my personal information be protected during the study?

We will do our best to make sure that the personal information obtained during the course of this research study will be kept private. However, we cannot guarantee total privacy. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used. The Institutional Review Board (IRB) at the University of Pennsylvania will have access to your records. If this study is being overseen by the Food and Drug Administration (FDA), they may review your research records.

All data will be confidential and stored in locked areas to which only authorized study personnel have access. Records will be coded with a Study ID as early as possible so that names and other identifying information will not be linked to personal or sensitive data, in compliance with federal regulations of the Health Insurance Portability and Accountability Act (HIPAA). In addition, each patient's legally authorized representative will be informed that participation is completely voluntary, and that they may withdraw from the study at any time, all without jeopardizing medical treatment to which they are otherwise entitled.

What may happen to my information collected on this study?

Future Use of Data and/or Specimens

Your information will be de-identified. De-identified means that all identifiers have been removed. The information could be stored and shared for future research in this de-identified fashion. The information may be shared with other researchers within Penn, or other research institutions, as well as pharmaceutical, device, or biotechnology companies. It would not be possible for future researchers to identify you as we would not share any identifiable information about you with future researchers. This can be done without again seeking your consent in the future, as permitted by law. The future use of your information only applies to the information collected on this study.

Electronic Medical Record and Release of Study Related Information

What is an Electronic Medical Record?

An Electronic Medical Record (EMR) is an electronic version of your medical chart within a health system. An EMR is simply a computerized version of a paper medical record.

If you have never received care within Penn Medicine and are participating in a University of Pennsylvania research study that uses Penn Medicine healthcare related services, an EMR will be created for you for the purpose of maintaining any information produced from your participation. The creation of this EMR is a requirement of your participation in this study. In order to create your EMR, the study team will need to obtain basic information about you that would be similar to the information you would provide the first time you visit a hospital or medical facility (i.e. your name, the name of your primary doctor, the type of insurance you have). If you have been a patient at Penn Medicine in the past, information from your research participation will be added to your existing medical record.

What may be placed in the EMR?

Information related to your participation in the research (e.g., laboratory tests, notes from your physician, imaging studies, and clinical procedures, etc.) will be placed in your EMR maintained by Penn Medicine.

Once placed in your EMR your information may be accessible to appropriate Penn Medicine workforce members that are not part of the research team. Information within your EMR may

also be shared with others who are determined by Penn Medicine to be appropriate to have access to your EMR (e.g. Health Insurance Company, disability provider, etc.).

Penn Medicine also participates in automated information sharing through Health Information Exchanges (HIEs). HIEs securely share parts of your electronic health record, including research information, with other healthcare organizations involved in your care. This information is shared to improve the quality, safety and efficiency of your healthcare. To request that your health information not be shared through HIEs, please call 215-662-4484.

Will I, as a subject, have access to research related information within the EMR/?

The 21st Century Cures Act requires healthcare institutions to allow patients increased access to their electronic medical record. As part of your participation in this research, you will have access to research related information within your EMR through Penn Medicine's patient portal – called MyPennMedicine (MPM).

Results that may be placed in the medical record: Results from testing conducted in a laboratory or center that is part of the Penn Medicine HIPAA covered entity (i.e., the results would have been placed in the medical record, regardless of research participation). Results placed in the medical record are part of the designated record set and the patient has a right to review these results per HIPAA regulations.

Results that may not be placed in the medical record: Results from biospecimen testing conducted in a laboratory that is not part of the HIPAA covered entity OR results from testing conducted in a non-CLIA certified laboratory (i.e., the results would not have been placed in the medical record as part of clinical care).

Will I receive the results of research testing that may be relevant to my health?

Results that may be relevant to your healthcare may be released to you. The MRI will be interpreted by a neuroradiologist and will be accessible to you through your electronic records. Please refer to the Electronic Medical Record and Release of Research Results section in regard to timing

What information about me may be collected, used or shared with others?

The following personal health information will be collected, used for research and may be disclosed or released during your involvement with this research study:

- Name
- Contact information such as: address, electronic mail (email) address, and phone number
- Date of Birth
- Gender
- Social Security Number
- Numbers that identify you such as your Medical Record Number or other unique identifying numbers.

- Clinical information including medical diagnoses, procedures, and medications
- Information from the tests and procedures described earlier in this document
- Emergency contact number, name and relationship

Why is my information being used?

Your information is used by the research team to contact you during the study. Your information and results of tests and procedures are used to:

- do the research
- oversee the research
- to see if the research was done right
- to evaluate and manage research functions.

Where may my information be stored?

Information related to your participation in clinical research will be contained in a clinical trial management system (CTMS). A clinical trial management system (CTMS) is used to register your information as a participant in a study. This allows for your research data to be entered and stored for the purposes of study operational and financial applications and other activities required as part of the conduct of the research. Once placed in the CTMS your information may be accessible to other authorized personnel at Penn Medicine that support research operations. Your information may be held in other research databases.

Who may use and share information about me?

The following individuals may use or share your information for this research study:

- The investigator for the study and the study team
- Other authorized personnel at Penn Medicine and the University of Pennsylvania, including offices that support research operations
- Other research personnel with access to the databases for research and/or study coordination and as otherwise approved by the IRB

Who, outside of Penn Medicine, might receive my information?

<u>Oversight organizations</u>

- The U. S. Office of Human Research Protections (OHRP)

Once your personal health information is disclosed to others outside Penn Medicine, it may no longer be covered by federal privacy protection regulations.

The Principal Investigator or study staff will inform you if there are any additions to the list above during your active participation in the trial. Any additions will be subject to Penn Medicine procedures developed to protect your privacy.

How long may Penn Medicine use or disclose my personal health information?

Your authorization for use of your personal health information for this specific study does not expire.

However, Penn Medicine may not re-use or re-disclose information collected in this study for a purpose other than this study unless:

- You have given written authorization
- The University of Pennsylvania's Institutional Review Board grants permission
- As permitted by law

Can I change my mind about giving permission for use of my information?

Yes. You may withdraw or take away your permission to use and disclose your health information at any time. You do this by sending written notice to the investigator for the study. If you withdraw your permission, you will not be able to stay in this study.

What if I decide not to give permission to use and give out my health information?

Then you will not be able to be in this research study.

You will be given a copy of this Research Subject HIPAA Authorization describing your confidentiality and privacy rights for this study.

By signing this document, you are permitting Penn Medicine to use and disclose personal health information collected about you for research purposes as described above.

Who can I call with questions, complaints or if I'm concerned about my rights as a research subject?

If you have questions, concerns or complaints regarding your participation in this research study or if you have any questions about your rights as a research subject, you should speak with the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached or you want to talk to someone other than those working on the study, you may contact the IRB at the number on page one of this form.

When you sign this form, you are agreeing to take part in this research study. This means that you have read the consent form, your questions have been answered, and you have decided to volunteer. Your signature also means that you are permitting the University of Pennsylvania to use your personal health information collected about you for research purposes within our institution. You are also allowing the University of Pennsylvania to disclose that personal health information to outside organizations or people involved with the operations of this study.

A copy of this consent form will be given to you.

_____	_____	
Name of Subject (Please Print)	Signature of Subject	Date

_____	_____	
Name of Person Obtaining Consent (Please Print)	Signature	Date