Partners HealthCare System
Research Consent Form

Subject Identification

General Template
Version Date: October 2014

Protocol Title: Using Imaging to Assess Effects of THC on Brain Activity (Phase 2A)

Principal Investigator: Jodi Gilman, Ph.D.

Site Principal Investigator:

Description of Subject Population: Healthy Adults ages 18-55

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.

Partners HealthCare System is made up of Partners hospitals, health care providers, and researchers. In the rest of this consent form, we refer to the Partners system simply as "Partners."

If you have any questions about the research or about this form, please ask us. Taking part in this research study is up to you. 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.

Why is this research study being done?

The purpose of the study is to help us learn about the effects of marijuana on the brain. We hope to better understand certain brain regions that are important in decision-making and cognition, and how they are affected by marijuana intoxication. We are asking you to take part in this research study because you are a healthy adult between the ages of 18 and 55 who has used marijuana in the past. About 130 people will take part in this research study. This is a pilot study, which is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (statistical variability) in an attempt to improve upon the study design prior to performance of a full-scale research project.

The National Institute on Drug Abuse and Brain Solutions, LLC are paying for this study to be done. These funding sources will have no role in the study design, collection, analysis or interpretation of the data.

Drs. Evins and Gilman, investigators on this study, are developing the technology that is used in this study for a potential method for detecting cannabis intoxication. Drs. Evins and Gilman have a financial interest in Brain Solutions, the company that is sponsoring this study. Drs. Evins, Gilman, Brain Solutions, and the hospital may benefit financially if this study shows that the technology is valuable. The hospital's conflict of interest policies are handled by the hospital's owner, Partners HealthCare. In accordance with these policies, Partners has determined that the interests create no significant risk to the welfare of participants in this study or to the integrity of the research. If you want more information about this, please contact the Partners Office for Interactions with Industry at PHSOII@partners.org, 857-282-2024.

How long will I take part in this research study?

This phase of the study consists of three visits at MGH. The first visit is a screening visit where we will determine if you're eligible for the study. This visit will last about 3 hours. The next two visits will be at least 1 week apart. At each of these visits, you will be given either a physician determined dose of dronabinol or a placebo. Dronabinol is a capsule that has the psychoactive ingredient in marijuana, called THC. A placebo is an inactive substance, which does not contain medication and looks like the active study drug. For research to be good, it is important that you do not know whether you have been given the active study drug, Dronabinol, or the placebo, the pretend medicine. This is one of the best ways we have to study the effects of marijuana on the brain. It will take you about 7 hours to complete each of these study visits. The 7 hours includes interviews, questionnaires, and the brain imaging assessments. You will have breaks for snacks and drinks in between testing periods.

What will happen in this research study?

If you choose to take part in this study, we will ask you to sign this consent form before we do any study procedures. We will also ask for your permission to send text message reminders to your phone to confirm your study visits. Please see below for details on texting. During the study, we will ask you to:

- Fill out questionnaires
- Answer questions about your medical and psychiatric health
- Provide a urine sample to check for illegal drug use and pregnancy (in females)
  - This urine drug screen test result will not become part of your medical record
  - This pregnancy test result will not become part of your medical record
- Take a dronabinol capsule**,** which may contain THC or placebo
- Participate in cognitive testing while your brain function is measured a technology called functional near-infrared spectroscopy (fNIRS).

- Complete a computer game that simulates driving
- Complete a brief evaluation to assess your level of impairment

Texting:
Text messages by mobile/cell phones are a common form of communication. The fNIRS research study 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 Partners Healthcare 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 Partners Healthcare 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. The texting service can only interpret the number 1 to confirm the appointment or 3 to reschedule the appointment. If you need to send alternative messages, please communicate over email.

- 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 or by sending the research email a message that says "Stop Research Text."

- Your agreement applies to this research study only. Agreeing to other texts from Partners Healthcare, for example appointment reminders, is a separate process. Opting out of other texts from Partners Healthcare 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.

Do we have your permission to send you text reminders to your cell phone?

☐ YES ☐ NO Initials_____

Questionnaires:
First, you will fill out questionnaires that ask you about your personality, mood, and drug and alcohol use. Two of these questionnaires will ask you about how you are feeling and whether you feel any effects of the dronabinol capsule. These questionnaires will be repeated throughout the study before you take the capsule and then every 20 minutes (before and after brain imaging) for the rest of the study.

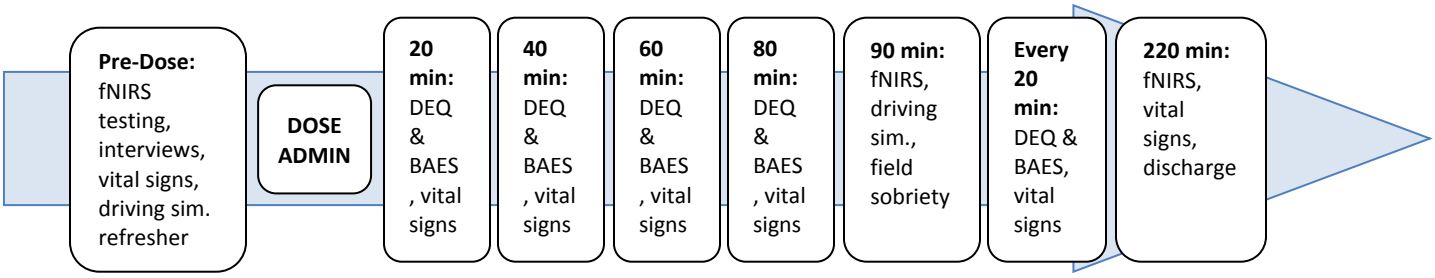
Dronabinol Capsule:
Dronabinol contains synthetic THC, which is the main psychoactive compound in marijuana. Dronabinol is approved by the U.S. Food and Drug Administration (FDA), and is used for appetite stimulation in AIDS patients and to treat nausea and vomiting in patients receiving chemotherapy. Doses similar to the one you will be given produce symptoms of intoxication such as laughing, elation and subjective heightened awareness.

You will receive either THC capsules or identical placebo on two separate study visits, randomized for order. This study is double-blind, placebo-controlled, random order cross-over study. This means that neither you nor the study doctor or study staff will know which study drug you have received. You will receive either dronabinol or the placebo after the first round of questionnaires and fNIRS imaging. A timeline is specified below.

Because Dronabinol contains the psychoactive ingredient in marijuana, you are asked to refrain from using marijuana within 24 hours of the study visit. This is for your safety. If you have used marijuana within 24 hours, you may be asked to reschedule your study visit.

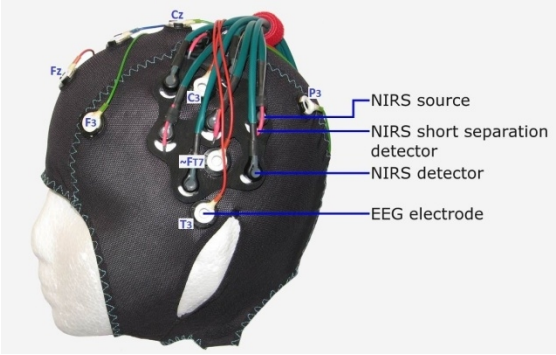
Brain Imaging Assessment:
We will take pictures or images of your brain using an fNIRS machine. These images allow us to see which parts of your brain are active when you move a part of your body, such as your hand or foot, or when you speak. Each fNIRS test will take about 30 minutes, and we will do testing at 3 or 4 timepoints during the study visit. We will test everyone at 3 timepoints: before you take the capsule, at the peak of the capsule's effects on the brain, and 1.5 hours after the peak brain effects, when most people will no longer feel the drug effects. Some people may still feel high or intoxicated during the third session of testing. If you still feel high or intoxicated, it may be necessary to repeat a 4th session of testing when you no longer feel the effects of the drug.

The timeline of these procedures is as seen below. You will have breaks after each fNIRS session where you will be able to get food and drinks.



Before beginning the first fNIRS scan, you will be seated comfortably in a chair and we will place a cap on your head. The cap holds the "optodes," instruments that give off light and also receive and measure light. The cap is made of fabric and has velcro straps. Because hair and scalp coloring might interfere with light measurements, we may need to adjust the cap after we put it on. We will keep checking until there is no interference. We will ask you to do some tasks. These tasks may consist of counting numbers, reciting words with a certain letter or in a certain category, or playing games on a computer that require you to make decisions about objects on the screen, such as the direction of arrows. If we can't get a good signal with our equipment, then we will stop the procedure and take you out of the study. Once we get a good signal we will apply the different types of stimuli as described above. This will be performed in the dark because the fNIRS equipment is sensitive to all types of light. When the testing is over, the cap will be removed from your head.

Below is a photograph of the NIRS device and how it is worn.



Driving Simulation: We will use a computer-programmed driving simulator game to assess your motor coordination. This computer program simulates tasks that are relevant to driving using the keyboard, a foot pedal, and a joystick.

Information Storage
Information collected from you will be stored in a password-protected research database on a password-protected computer. This information will not become part of your medical record. Your information may be kept for several decades.

We will assign all information a unique code. The key to the code will be kept on a password-protected computer. Only the researchers from our research study will be able to use the computer. The code linking test results to subject identity will only be accessible to study staff.

If you decide to drop out of this research study at a later time, please contact study staff by phone at (617) 643-1984, or by email at fnirsstudy@partners.org.

Disclosure of Results
Your individual research results will never be shared with you or entered into your medical record.

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

Risks of dronabinol: Dronabinol can increase your heart rate and/or result in bloodshot eyes. Some people experienced lowering in blood pressure, lightheadedness, fainting, falling upon abrupt standing, nausea, and vomiting. The likelihood that these problems may occur can be reduced by making sure you drink enough fluids. Dronabinol also has a reversible effect on appetite, mood, cognition, memory and perception. These effects are more pronounced at higher doses of dronabinol. They are also related to individual differences in how we break down (metabolize) the drug. In this study, we will use a high dose of dronabinol, so you may notice some of these effects.

If there are any concerns that you are in need of clinical attention, the PI will be made aware of the issue immediately and will consult with a physician (co-investigator: A. Eden Evins, MD) to determine appropriate steps. The PI and medically trained co-investigators will assess the needs of the subject and offer the subject either prompt treatment or medical referral, whichever is appropriate for the situation. There is a licensed physician or licensed, registered nurse on site during your testing, and other MGH resources can be used as necessary.

An additional risk of participating in this study is that you may come up positive on a workplace drug screen as a result of taking a dronabinol capsule. If you choose, we can provide you with

documentation that describes the study procedures, and states that participation in this study will affect any drug screen results.

There is a paucity of data about the safety of administering dronabinol to pregnant women. Due to the possible risks to an embryo or fetus, or to an infant who is being breastfed, you will be excluded if you are currently breastfeeding or are/may become pregnant.

You should not drive, operate machinery, or engage in any hazardous activity until you can perform such tasks safely. A member of our study staff will: (1) arrange cab service that has an approved partnership with MGH, and (2) will escort you to the cab at the end of the study visit. Alternatively, it would be acceptable for you to arrange travel home with a family member or friend. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure.

In the investigators opinion, repeated exposure to dronabinol (two doses at least one week apart) does not involve increased risk to the adult participants who report using cannabis, often in much higher doses and of unknown purity, on a regular basis, often multiple times per day.

Risks of placebo: Placebo is a gelcap capsule filled with the same oil that is in Dronabinol, but without THC.

Risks of fNIRS: fNIRS is not considered to be risky. You are no more likely to be harmed than you are while performing everyday tasks. The system we will use in this study is a new experimental way to measure activity in the brain. No harmful effects have been reported so far, but it is possible that you may experience side effects that haven't been reported yet. The light used is considered to be harmless – it is much less intense than the sunlight you would feel during an outdoor walk on a sunny day. It is possible that you may experience minor temporary skin irritation from the glue or tape which we use to attach the monitor and electrodes to the head.

We will not share your identity with anyone outside the Partners institutions. No record of your results from this research study will enter your medical records. However, we cannot guarantee your confidentiality.

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

You will not directly benefit from taking part in this research study. Researchers may benefit from what we learn in this research study.

Can I still get medical care within Partners if I don't take part in this research study, or if I stop taking part?

Yes. Your decision won't change the medical care you get within Partners 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.

Taking part in this research study is up to you. You can decide not to take part. If you decide to take part now, you can change your mind and drop out later. 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 I do if I 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 I be paid to take part in this research study?

You will be paid by check at the completion of the study for your participation. You will be paid $25 for the screening visit, $100 for the first 7-hour visit, and $100 for the second 7-hour visit. This means that you can earn up to $225 in total if you participate in all study visits. You will also be provided transportation on the way home from the study visit, unless you decide to arrange a ride with a friend or family member. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure. If you come in for the study but are found to be ineligible, you will be paid for the screening only ($25).

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

There is no cost to you for taking part in this study. The cost of all of the tests and procedures done for research will be paid for by study funds.

What happens if I am injured as a result of taking part in this research study?

We will offer you the care needed to treat any injury that directly results from taking part in this research study. We reserve the right to bill your insurance company or other third parties, if appropriate, for the care you get for the injury. We will try to have these costs paid for, but you may be responsible for some of them. For example, if the care is billed to your insurer, you will be responsible for payment of any deductibles and co-payments required by your insurer.

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 next section of this consent form.

If I have questions or concerns about this research study, whom can I call?

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

Jodi Gilman, Ph.D. is the person in charge of this research study. You can call her at 617-643-7293, Monday through Friday 9AM to 5PM with questions about this research study. If you would like to speak to a physician, you can call Dr. Eden Evins at 617-643-4679, Monday through Friday 9AM to 5PM. If you need to speak to someone after office hours in an emergency you can call 617-726-2000 and ask the operator to page Dr. Evins.

If you have questions about the scheduling of appointments or study visits, call our study staff at (617) 643-1984.

If you want to speak with someone **not** directly involved in this research study, please contact the Partners Human Research Committee office. 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

Also, if you feel pressured to take part in this research study, or to continue with it, they want to know and can help.

If I take part in this research study, how will you protect my privacy?

During this research, identifiable information about your health will be collected. In the rest of this section, we refer to this information simply as "health information." In general, under federal law, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use, and share your health information for research and why they may need to do so.

In this study, we may collect health 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 health information and why they may need to do so:

- Partners research staff involved in this study
- The sponsor(s) of this study, and the people or groups it hires to help perform this research
- Other researchers and medical centers that are part of this study and their ethics boards
- A group that oversees the data (study information) and safety of this research
- Non-research staff within Partners who need this information to do their jobs (such as for treatment, payment (billing), or health care operations)
- The Partners ethics board that oversees the research and the Partners research quality improvement programs.
- People from organizations that provide independent accreditation and oversight of hospitals and research
- People or groups that we hire to do work for us, such as data storage companies, insurers, and lawyers
- Federal and state agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health, and other US or foreign government bodies that oversee or review research)
- Public health and safety authorities (for example, if we learn information that could mean harm to you or others, we may need to report this, as required by law)
- Other:

Some people or groups who get your health information might not have to follow the same privacy rules that we follow and might use or share your health 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 health 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 health 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 information for any mailing or marketing list. However, once your information is shared outside Partners, 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 health information.

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 identifying 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 health 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 health 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.

You have the right to see and get a copy of your health 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.

- 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.

Study Information Included in Your Electronic Medical Record

A notation that you are taking part in this research study may be made in your electronic medical record. Information from the research that relates to your general medical care may be included in the record (for example: list of allergies, study medication). Following completion of the study, information pertaining to your involvement with the study will be removed from your medical record, including mention of study medication.

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)

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.

Consent Form Version: 3/3/2020

Partners HealthCare System
Research Consent Form

Subject Identification

General Template
Version Date: October 2014

Protocol Title: Using Imaging to Assess Effects of THC on Brain Activity (Phase 2B)

Principal Investigator: Jodi Gilman, Ph.D.

Site Principal Investigator:

Description of Subject Population: Healthy Adults ages 21-55

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.

Partners HealthCare System is made up of Partners hospitals, health care providers, and researchers. In the rest of this consent form, we refer to the Partners system simply as "Partners."

If you have any questions about the research or about this form, please ask us. Taking part in this research study is up to you. 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.

Why is this research study being done?

The purpose of the study is to help us learn about the effects of marijuana on the brain. We hope to better understand certain brain regions that are important in decision-making and cognition, and how they are affected by marijuana and alcohol intoxication. We are asking you to take part in this research study because you are a healthy adult between the ages of 21 and 55 who has used marijuana and alcohol in the past. About 60 people will take part in this research study. This is a pilot study, which is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (statistical variability) in an attempt to improve upon the study design prior to performance of a full-scale research project.

The National Institute on Drug Abuse and Brain Solutions, LLC are paying for this study to be done. These funding sources will have no role in the study design, collection, analysis or interpretation of the data.

Drs. Evins and Gilman, investigators on this study, are developing the technology that is used in this study for a potential method for detecting cannabis intoxication. Drs. Evins and Gilman have a financial interest in Brain Solutions, the company that is sponsoring this study. Drs. Evins, Gilman, Brain Solutions, and the hospital may benefit financially if this study shows that the technology is valuable. The hospital's conflict of interest policies are handled by the hospital's owner, Partners HealthCare. In accordance with these policies, Partners has determined that the interests create no significant risk to the welfare of participants in this study or to the integrity of the research. If you want more information about this, please contact the Partners Office for Interactions with Industry at PHSOII@partners.org, 857-282-2024.

How long will I take part in this research study?

This phase of the study consists of four visits at MGH, at least 1 week apart, plus a screening visit to determine whether you are eligible for the study. At each study visit, you will be asked to arrive at an MGH inpatient unit or Center for Addiction Medicine at MGH the morning of your study visit. You will be given a standard breakfast, and then we will start the study procedures. You will be given either a physician determined dose of dronabinol or a placebo. Dronabinol is a capsule that has the psychoactive ingredient in marijuana. You will also receive a physician-determined dose of ethanol or placebo ethanol. Ethanol is the primary constitute of alcoholic beverages. A placebo is an inactive substance, which does not contain medication and looks like the active study drug. For research to be good, it is important that you do not know whether you have been given the active study drug, Dronabinol, or the placebo, the pretend medicine. You will also not know if you have been given ethanol or placebo ethanol. This is one of the best ways we have to study the effects of marijuana and alcohol on the brain. It will take you about 7 hours to complete each study visit. The 7 hours includes interviews, questionnaires, and the brain imaging assessments. You will have breaks for snacks and drinks in between testing periods.

What will happen in this research study?

If you choose to take part in this study, we will ask you to sign this consent form before we do any study procedures. We will also ask for your permission to send text message reminders to your phone to confirm your study visits. Please see below for details on texting. During the study, we will ask you to:

- Fill out questionnaires
- Answer questions about your medical and psychiatric health
- Provide a urine sample to check for illegal drug use and pregnancy (in females)
  - This urine drug screen test result will not become part of your medical record
  - This pregnancy test result will not become part of your medical record

- Take a dronabinol capsule**,** which may contain THC, the psychoactive ingredient in marijuana
- Consume a beverage that may contain ethanol, which is the primary constitute of alcoholic beverages.
- Participate in cognitive testing while your brain function is measured using a technology called functional near-infrared spectroscopy (fNIRS).
- Complete a computer game that simulates driving
- Complete a brief evaluation to assess your level of impairment

Texting:
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- Text messages will only be read during regular business hours. The texting service can only interpret the number 1 to confirm the appointment or 3 to reschedule the appointment. If you need to send alternative messages, please communicate over email.

- 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 or by sending the research email a message that says "Stop Research Text."

- Your agreement applies to this research study only. Agreeing to other texts from Partners

Healthcare, for example appointment reminders, is a separate process. Opting out of other texts from Partners Healthcare 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.

Do we have your permission to send you text reminders to your cell phone?

☐ YES ☐ NO Initials_____

Screening Visit: Before conducting any study procedures, we will ask you to come in for a screening visit where we will determine if you are a good fit for this study. In this screening visit, you will review your medical history with a physician or registered nurse. We will also train you on some computer games.

Study Visits: If you are eligible for the study, we will ask you to attend four visits at the Translational and Clinical Research Center (TCRC) at Massachusetts General Hospital or Center for Addiction Medicine (CAM) at 101 Merrimac Street. You will arrive around 7:30am and complete the following procedures at your visits:

Questionnaires:
First, you will fill out questionnaires that ask you about your personality, mood, and drug and alcohol use. Two of these questionnaires will ask you about how you are feeling and whether you feel any effects of the dronabinol capsule and ethanol beverage. These questionnaires will be repeated throughout the study before you take the capsule and then every 20 minutes (before and after brain imaging) for the rest of the study.

Dronabinol Capsule:
You will be asked to take a capsule called dronabinol that contains synthetic THC, which is the main psychoactive compound in marijuana. Dronabinol is approved by the U.S. Food and Drug Administration (FDA), and is used for appetite stimulation in AIDS patients and to treat nausea and vomiting in patients receiving chemotherapy. Doses similar to the one you will be given produce symptoms of intoxication such as laughing, elation and subjective heightened awareness. This capsule will be given to you after the first round of questionnaires and fNIRS imaging. A timeline is specified below.

You will receive either THC capsules or identical placebo on two separate study visits, randomized for order. This study is double-blind, placebo-controlled, random order cross-over study. This means that neither you nor the study doctor or study staff will know which study drug you have received.

Because Dronabinol contains the psychoactive ingredient in marijuana, you are asked to refrain from using marijuana within 24 hours of the study visit. This is for your safety. If you have used marijuana within 24 hours, you may be asked to reschedule your study visit.

Ethanol:
You will be asked to consume a beverage that may or may not contain ethanol, the primary chemical constituent in alcoholic beverages. You will consume an amount of ethanol that is similar to that consumed by casual users of alcohol and is fairly low for moderate to heavy users. You will not be required to perform any physical tasks while intoxicated. Drinking alcohol under controlled laboratory conditions is unlikely to change current use patterns or cause addiction.

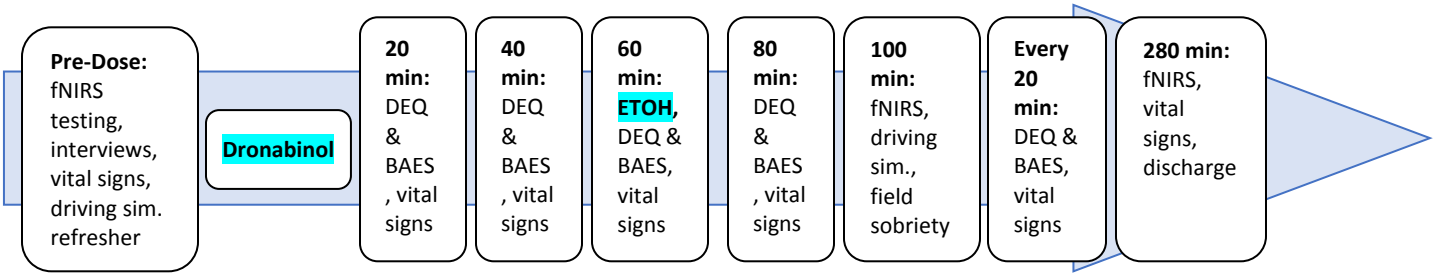
You will receive either ethanol or identical ethanol placebo on two separate study visits, randomized for order. This study is double-blind, placebo-controlled, random order cross-over study. This means that neither you nor the study doctor or study staff will know which beverage you have received.

The alcohol administration procedure will take place approximately 45 min before the start of the second fNIRS session. We will take breathalyzer measurements approximately every 5-10 minutes after the alcohol administration procedure.

We ask that you refrain from consuming alcohol within 24 hours of all study visits, including the first one. This is for your safety. If you have consumed alcohol within 24 hours, you may be asked to reschedule your study visit.

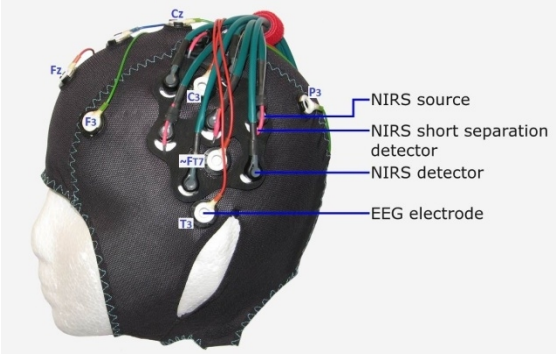
Brain Imaging Assessment:
We will take pictures or images of your brain using an fNIRS machine. These images allow us to see which parts of your brain are active when you move a part of your body, such as your hand or foot, or when you speak. Each fNIRS test will take about 30 minutes, and we will do testing at 3 or 4 timepoints during the study visit. We will test everyone at 3 timepoints: before you take the capsule, at the peak of the capsule's effects on the brain, and 1.5 hours after the peak brain effects, when most people will no longer feel the drug effects. Some people may still feel high or intoxicated during the third session of testing. If you still feel high or intoxicated, it may be necessary to repeat a 4th session of testing when you no longer feel the effects of the drug. We will use one of three approved devices: NIRSIT or NIRSport. Data from these devices will be analyzed in order to determine from which device we can yield the cleanest data (e.g. highest signal to noise ratio).

The timeline of these procedures is as seen below. You will have breaks after each fNIRS session where you will be able to get food and drinks.



Before beginning the first fNIRS scan, you will be seated comfortably in a chair and we will place a cap on your head. The cap holds the "optodes," instruments that give off light and also receive and measure light. The cap is made of fabric and has velcro straps. Because hair and scalp coloring might interfere with light measurements, we may need to adjust the cap after we put it on. We will keep checking until there is no interference. We will ask you to do some tasks. These tasks may consist of counting numbers, reciting words with a certain letter or in a certain category, or playing games on a computer that require you to make decisions about objects on the screen, such as the direction of arrows. If we can't get a good signal with our equipment, then we will stop the procedure and take you out of the study. Once we get a good signal we will apply the different types of stimuli as described above. This will be performed in the dark because the fNIRS equipment is sensitive to all types of light. When the testing is over, the cap will be removed from your head.

Below is a photograph of the NIRS device and how it is worn.



Blood Draw: A nurse will draw about 1 mL of blood before you take the THC capsules and about every 40 minutes after you take the capsule, for about 3 hours. There will be a total of 10 blood draws. Collected blood samples will be processed by an outside company for THC levels.

Driving Simulation: We will use a computer-programmed driving simulator game to assess your motor coordination. This computer program simulates tasks that are relevant to driving using the keyboard, a foot pedal, and a joystick.

Information Storage
Information collected from you will be stored in a password-protected research database on a password-protected computer. This information will not become part of your medical record. Your information may be kept for several decades.

We will assign all information a unique code. The key to the code will be kept on a password-protected computer. Only the researchers from our research study will be able to use the computer. The code linking test results to subject identity will only be accessible to study staff.

If you decide to drop out of this research study at a later time, please contact study staff by phone at (617) 643-1984, or by email at fnirsstudy@partners.org.

Disclosure of Results
Your individual research results will never be shared with you or entered into your medical record.

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

Risks of dronabinol: Dronabinol can increase your heart rate and/or result in bloodshot eyes. Some people experienced lowering in blood pressure, lightheadedness, fainting, falling upon abrupt standing, nausea, and vomiting. The likelihood that these problems may occur can be reduced by making sure you drink enough fluids. Dronabinol also has a reversible effect on appetite, mood, cognition, memory and perception. These effects are more pronounced at higher doses of dronabinol. They are also related to individual differences in how we break down (metabolize) the drug. In this study, we will use a high dose of dronabinol, so you may notice some of these effects.

If there are any concerns that you are in need of clinical attention, the PI will be made aware of the issue immediately and will consult with a physician (co-investigator: A. Eden Evins, MD) to determine appropriate steps. The PI and medically trained co-investigators will assess the needs of the subject and offer the subject either prompt treatment or medical referral, whichever is appropriate for the situation. There is a licensed physician or registered, licensed nurse on site during your testing, and other MGH resources can be used as necessary.

An additional risk of participating in this study is that you may come up positive on a workplace drug screen as a result of taking a dronabinol capsule. If you choose, we can provide you with

documentation that describes the study procedures, and states that participation in this study will affect any drug screen results.

There is a paucity of data about the safety of administering dronabinol to pregnant women. Due to the possible risks to an embryo or fetus, or to an infant who is being breastfed, you will be excluded if you are currently breastfeeding or are/may become pregnant.

You should not drive, operate machinery, or engage in any hazardous activity until you can perform such tasks safely. A member of our study staff will: (1) arrange cab service that has an approved partnership with MGH, and (2) will escort you to the cab at the end of the study visit. Alternatively, it would be acceptable for you to arrange travel home with a family member or friend. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure.

In the investigators opinion, repeated exposure to dronabinol (two doses at least one week apart) does not involve increased risk to the adult participants who report using cannabis, often in much higher doses and of unknown purity, on a regular basis, often multiple times per day.

Risks of placebo: Placebo is a gelcap capsule filled with the same oil that is in Dronabinol, but without THC. There are no risks of taking a placebo capsule.

Risks of alcohol: At low to moderate doses, ethanol can produce behavioral intoxication and physiological changes (feeling intoxicated, high, euphoric, dizzy, giddy, tired and lightheaded; increased heart rate, slurred speech, and slowed reaction time). You will consume an amount of alcohol that is similar to that consumed by casual users of alcohol and is fairly low for moderate to heavy users. We will ask you to stay at the lab until your Breath Alcohol Content (BrAC) has fallen below 0.01.

Risks of fNIRS: fNIRS is not considered to be risky. You are no more likely to be harmed than you are while performing everyday tasks. The system we will use in this study is a new experimental way to measure activity in the brain. No harmful effects have been reported so far, but it is possible that you may experience side effects that haven't been reported yet. The light used is considered to be harmless – it is much less intense than the sunlight you would feel during an outdoor walk on a sunny day. It is possible that you may experience minor temporary skin irritation from the glue or tape which we use to attach the monitor and electrodes to the head.

We will not share your identity with anyone outside the Partners institutions. No record of your taking part or your results, from this research study will enter your medical records. However, we cannot guarantee your confidentiality.

Risks of Blood draws: The discomfort associated with drawing blood by venipuncture (needle from a vein) is a slight pinch or pin prick when the sterile needle enters the skin. The risks include mild discomfort and/or a black and blue mark at the site of puncture. Less common risks include a small blood clot, infection or bleeding at the puncture site, and on rare occasions fainting during the procedure. Blood draws will be taken by trained nursing staff at the Translational and Clinical Research Center at Massachusetts General Hospital. Only a small amount of blood will be drawn, about one teaspoon.

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

You will not directly benefit from taking part in this research study. Researchers may benefit from what we learn in this research study.

Can I still get medical care within Partners if I don't take part in this research study, or if I stop taking part?

Yes. Your decision won't change the medical care you get within Partners 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.

Taking part in this research study is up to you. You can decide not to take part. If you decide to take part now, you can change your mind and drop out later. 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 I do if I 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 I be paid to take part in this research study?

You will be paid by check at the completion of the study for your participation. Your first visit is a screening and will last approximately 4 hours. You will be compensated $25 for this visit. Each

of the following study visits will take approximately 7 hours to complete. You'll be paid $100 for each of these visits. If you complete all aspects of the study, you'll be given a $50 bonus. In total, you can earn up to $475 for your participation. You will also be provided transportation on the way home from the study visit, unless you decide to arrange a ride with a friend or family member. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure. If you come in for the study but are found to be ineligible, you will be paid for the screening only ($20).

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

There is no cost to you for taking part in this study. The cost of all of the tests and procedures done for research will be paid for by study funds.

What happens if I am injured as a result of taking part in this research study?

We will offer you the care needed to treat any injury that directly results from taking part in this research study. -We reserve the right to bill your insurance company or other third parties, if appropriate, for the care you get for the injury. We will try to have these costs paid for, but you may be responsible for some of them. For example, if the care is billed to your insurer, you will be responsible for payment of any deductibles and co-payments required by your insurer.

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 next section of this consent form.

If I have questions or concerns about this research study, whom can I call?

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

Jodi Gilman, Ph.D. is the person in charge of this research study. You can call her at 617-643-7293, Monday through Friday 9AM to 5PM with questions about this research study. If you would like to speak to a physician, you can call Dr. Eden Evins at 617-643-4679, Monday

through Friday 9AM to 5PM. If you need to speak to someone after office hours in an emergency you can call 617-726-2000 and ask the operator to page Dr. Evins.

If you have questions about the scheduling of appointments or study visits, call our study staff at (617) 643-1984.

If you want to speak with someone **not** directly involved in this research study, please contact the Partners Human Research Committee office. 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

Also, if you feel pressured to take part in this research study, or to continue with it, they want to know and can help.

If I take part in this research study, how will you protect my privacy?

During this research, identifiable information about your health will be collected. In the rest of this section, we refer to this information simply as "health information." In general, under federal law, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use, and share your health information for research and why they may need to do so.

In this study, we may collect health 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 health information and why they may need to do so:

- Partners research staff involved in this study
- The sponsor(s) of this study, and the people or groups it hires to help perform this research
- Other researchers and medical centers that are part of this study and their ethics boards
- A group that oversees the data (study information) and safety of this research

- Non-research staff within Partners who need this information to do their jobs (such as for treatment, payment (billing), or health care operations)
- The Partners ethics board that oversees the research and the Partners research quality improvement programs.
- People from organizations that provide independent accreditation and oversight of hospitals and research
- People or groups that we hire to do work for us, such as data storage companies, insurers, and lawyers
- Federal and state agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health, and other US or foreign government bodies that oversee or review research)
- Public health and safety authorities (for example, if we learn information that could mean harm to you or others, we may need to report this, as required by law)
- Other:

Some people or groups who get your health information might not have to follow the same privacy rules that we follow and might use or share your health 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 health 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 health 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 information for any mailing or marketing list. However, once your information is shared outside Partners, 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 health information.

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 identifying 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 health 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 health 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.

You have the right to see and get a copy of your health 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.

- 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.

Study Information Included in Your Electronic Medical Record

A notation that you are taking part in this research study may be made in your electronic medical record. Information from the research that relates to your general medical care may be included in the record (for example: list of allergies, study medication). Following completion of the study, information pertaining to your involvement with the study will be removed from your medical record, including mention of study medication.

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)

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.

Partners HealthCare System
Research Consent Form

Subject Identification

General Template
Version Date: October 2014

Protocol Title: Using Imaging to Assess Effects of THC on Brain Activity (Phase 3)

Principal Investigator: Jodi Gilman, Ph.D.

Site Principal Investigator:

Description of Subject Population: Healthy Adults ages 18-55

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.

Partners HealthCare System is made up of Partners hospitals, health care providers, and researchers. In the rest of this consent form, we refer to the Partners system simply as "Partners."

If you have any questions about the research or about this form, please ask us. Taking part in this research study is up to you. 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.

Why is this research study being done?

The purpose of the study is to help us learn about the effects of marijuana on the brain. We hope to better understand certain brain regions that are important in decision-making and cognition, and how they are affected by marijuana intoxication. We are asking you to take part in this research study because you are a healthy adult between the ages of 18 and 55 who has used marijuana in the past. About 60 people will take part in this research study. This is a pilot study, which is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (statistical variability) in an attempt to improve upon the study design prior to performance of a full-scale research project.

The National Institute on Drug Abuse and Brain Solutions, LLC are paying for this study to be done. These funding sources will have no role in the study design, collection, analysis or interpretation of the data.

Drs. Evins and Gilman, investigators on this study, are developing the technology that is used in this study for a potential method for detecting cannabis intoxication. Drs. Evins and Gilman have a financial interest in Brain Solutions, the company that is sponsoring this study. Drs. Evins, Gilman, Brain Solutions, and the hospital may benefit financially if this study shows that the technology is valuable. The hospital's conflict of interest policies are handled by the hospital's owner, Partners HealthCare. In accordance with these policies, Partners has determined that the interests create no significant risk to the welfare of participants in this study or to the integrity of the research. If you want more information about this, please contact the Partners Office for Interactions with Industry at PHSOII@partners.org, 857-282-2024.

How long will I take part in this research study?

This phase of the study consists of three visits at MGH, with at least 1 week between visits. At each visit, you will be given a different dose of dronabinol, which is a capsule that has the psychoactive ingredient in marijuana. It will take you about 6 hours to complete each study visit. The 6 hours includes interviews, questionnaires, and the brain imaging assessments. You will have breaks for snacks and drinks in between testing periods.

What will happen in this research study?

If you choose to take part in this study, we will ask you to sign this consent form before we do any study procedures. We will also ask for your permission to send text message reminders to your phone to confirm your study visits. Please see below for details on texting. During the study, we will ask you to:

- Fill out questionnaires
- Answer questions about your medical and psychiatric health
- Provide a urine sample to check for illegal drug use and pregnancy (in females)
  - This urine drug screen test result will not become part of your medical record
  - This pregnancy test result will not become part of your medical record
- Take a dronabinol capsule**,** which has the psychoactive ingredient in marijuana
- Participate in cognitive testing while your brain function is measured a technology called functional near-infrared spectroscopy (fNIRS).
- Complete a computer game that simulates driving

Texting:
Text messages by mobile/cell phones are a common form of communication. The fNIRS research study 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 Partners Healthcare 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 Partners Healthcare 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. The texting service can only interpret the number 1 to confirm the appointment or 3 to reschedule the appointment. If you need to send alternative messages, please communicate over email.

- 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 or by sending the research email a message that says "Stop Research Text."

- Your agreement applies to this research study only. Agreeing to other texts from Partners Healthcare, for example appointment reminders, is a separate process. Opting out of other texts from Partners Healthcare 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.

Do we have your permission to send you text reminders to your cell phone?

☐ YES ☐ NO Initials_____

Questionnaires:
First, you will fill out 10 questionnaires that ask you about your personality, mood, and drug and alcohol use. Two of these questionnaires will ask you about how you are feeling and whether you feel any effects of the dronabinol capsule. These questionnaires will be repeated throughout

the study before you take the capsule and then every 30 minutes (before and after brain imaging) for the rest of the study.

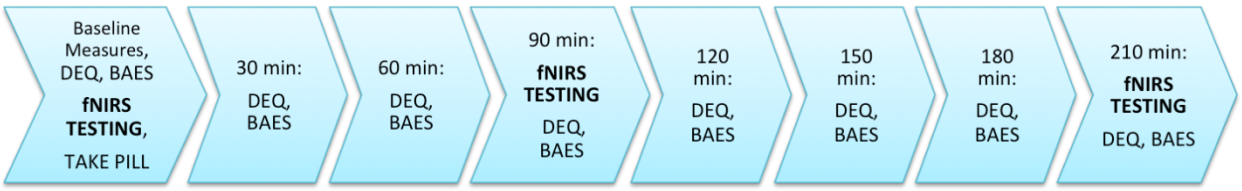
Dronabinol capsule:
You will be asked to take a capsule called dronabinol that contains synthetic THC, which is the main psychoactive compound in marijuana. Dronabinol is approved by the U.S. Food and Drug Administration (FDA), and is used for appetite stimulation in AIDS patients and to treat nausea and vomiting in patients receiving chemotherapy. Doses similar to the one you will be given produce symptoms of intoxication such as laughing, elation and subjective heightened awareness. This capsule will be given to you after the first round of questionnaires and fNIRS imaging. A timeline is specified below.

You will be given different doses of dronabinol in each of the 3 study visits; a low dose, medium dose, and high dose. We cannot tell you until after the study which dose you were given at each visit, because knowing which dose you received may affect the way you feel. This study is a single-blinded study. This means you will not know which dose you have received, but the study doctor will know.

Because the drug contains the psychoactive ingredient in marijuana, you are asked to refrain from using marijuana within 24 hours of the study visit. This is for your safety. If you have used marijuana within 24 hours, you may be asked to reschedule your study visit.

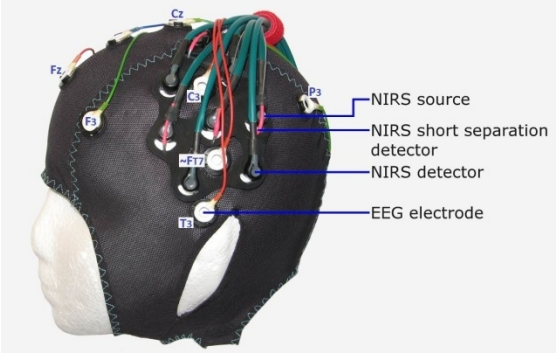
Brain Imaging Assessment:
We will take pictures or images of your brain using an fNIRS machine. These images allow us to see which parts of your brain are active when you move a part of your body, such as your hand or foot, or when you speak. Each fNIRS test will take about 1 hour, and we will do testing at 3 or 4 timepoints during the study visit. We will test everyone at 3 timepoints: before you take the capsule, at the peak of the capsule's effects on the brain, and 1.5 hours after the peak brain effects, when most people will no longer feel the drug effects. Some people may still feel high or intoxicated during the third session of testing. If you still feel high or intoxicated, it may be necessary to repeat a 4th session of testing when you no longer feel the effects of the drug. We will use one of three approved devices: NIRSIT or NIRSport. Data from these devices will be analyzed in order to determine from which device we can yield the cleanest data (e.g. highest signal to noise ratio).

The timeline of these procedures are as seen below. You will have breaks after each fNIRS session where you will be able to get food and drinks.



Before beginning the first fNIRS scan, you will be seated comfortably in a chair and we will place a cap on your head. The cap holds the "optodes," instruments that give off light and also receive and measure light. The cap is made of fabric and has velcro straps. Because hair and scalp coloring might interfere with light measurements, we may need to adjust the cap after we put it on. We will keep checking until there is no interference. We will ask you to do some tasks. These tasks may consist of counting numbers, reciting words with a certain letter or in a certain category, or playing games on a computer that require you to make decisions about objects on the screen, such as the direction of arrows. If we can't get a good signal with our equipment, then we will stop the procedure and take you out of the study. Once we get a good signal we will apply the different types of stimuli as described above. This will be performed in the dark because the fNIRS equipment is sensitive to all types of light. When the testing is over, the cap will be removed from your head.

Below is a photograph of the NIRS device and how it is worn.



Driving Simulation: We will use a computer-programmed driving simulator game to assess your motor coordination. This computer program simulates tasks that are relevant to driving using the keyboard, a foot pedal, and a joystick.

Information Storage

Information collected from you will be stored in a password-protected research database on a password-protected computer. This information will not become part of your medical record. Your information may be kept for several decades.

We will assign all information a unique code. The key to the code will be kept on a password-protected computer. Only the researchers from our research study will be able to use the computer. The code linking test results to subject identity will only be accessible to study staff.

If you decide to drop out of this research study at a later time, please contact study staff by phone at (617) 643-7611, or by email at decisionmaking@partners.org.

Disclosure of Results
Your individual research results will never be shared with you or entered into your medical record.

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

Risks of dronabinol: Dronabinol can increase your heart rate and/or result in bloodshot eyes. Some people experienced lowering in blood pressure, lightheadedness, fainting, falling upon abrupt standing, nausea, and vomiting. The likelihood that these problems may occur can be reduced by making sure you drink enough fluids. Dronabinol also has a reversible effect on appetite, mood, cognition, memory and perception. These effects are more pronounced at higher doses of dronabinol. They are also related to individual differences in how we break down (metabolize) the drug. In this study, we will use a high dose of dronabinol, so you may notice some of these effects.

If there are any concerns that you are in need of clinical attention, the PI will be made aware of the issue immediately and will consult with a physician (co-investigator: A. Eden Evins, MD) to determine appropriate steps. The PI and medically trained co-investigators will assess the needs of the subject and offer the subject either prompt treatment or medical referral, whichever is appropriate for the situation. There is a licensed physician on site during your testing, and other MGH resources can be used as necessary.

An additional risk of participating in this study is that you may come up positive on a workplace drug screen as a result of taking a dronabinol capsule. If you choose, we can provide you with documentation that describes the study procedures, and states that participation in this study will affect any drug screen results.

There is paucity of data about the safety of administering dronabinol to pregnant women. Due to the possible risks to an embryo or fetus, or to an infant who is being breastfed, you will be excluded if you are currently breastfeeding or are/may become pregnant.

You should not drive, operate machinery, or engage in any hazardous activity until you can perform such tasks safety. A member of our study staff will: (1) arrange cab service that has an approved partnership with MGH, and (2) will escort you to the cab at the end of the study visit. Alternatively, it would be acceptable for you to arrange travel home with a family member or friend. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure.

In the investigators opinion, repeated exposure to dronabinol (two doses at least one week apart) does not involve increased risk to the adult participants who report using cannabis, often in much higher doses and of unknown purity, on a regular basis, often multiple times per day.

Risks of fNIRS: fNIRS is not considered to be risky. You are no more likely to be harmed than you are while performing everyday tasks. The system we will use in this study is a new experimental way to measure activity in the brain. No harmful effects have been reported so far, but it is possible that you may experience side effects that haven't been reported yet. The light used is considered to be harmless – it is much less intense than the sunlight you would feel during an outdoor walk on a sunny day. It is possible that you may experience minor temporary skin irritation from the glue or tape which we use to attach the monitor and electrodes to the head.

We will not share your identity with anyone outside the Partners institutions. No record of your taking part or your results, from this research study will enter your medical records. However, we cannot guarantee your confidentiality.

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

You will not directly benefit from taking part in this research study. Researchers may benefit from what we learn in this research study.

Can I still get medical care within Partners if I don't take part in this research study, or if I stop taking part?

Yes. Your decision won't change the medical care you get within Partners 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.

Taking part in this research study is up to you. You can decide not to take part. If you decide to take part now, you can change your mind and drop out later. 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 I do if I 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 I be paid to take part in this research study?

You will be paid by check at the completion of the study for your participation. You will be compensated $10 per hour of your time spent at each visit, plus an additional $30 for completion of the second fNIRS session, also at each study visit. Each study visit will take approximately 7 hours to complete. This means that you can earn up to $300 in total if you participate in all three study visits. You will also be provided transportation on the way home from the study visit, unless you decide to arrange a ride with a friend or family member. If you choose to do this, a study staff member will ensure that someone is there to bring you home prior to your departure. If you come in for the study but are found to be ineligible, you will be paid for the screening only ($20).

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

There is no cost to you for taking part in this study. The cost of all of the tests and procedures done for research will be paid for by study funds.

What happens if I am injured as a result of taking part in this research study?

We will offer you the care needed to treat any injury that directly results from taking part in this research study. -We reserve the right to bill your insurance company or other third parties, if appropriate, for the care you get for the injury. We will try to have these costs paid for, but you may be responsible for some of them. For example, if the care is billed to your insurer, you will be responsible for payment of any deductibles and co-payments required by your insurer.

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 next section of this consent form.

If I have questions or concerns about this research study, whom can I call?

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

Jodi Gilman, Ph.D. is the person in charge of this research study. You can call her at 617-643-7293, Monday through Friday 9AM to 5PM with questions about this research study. If you would like to speak to a physician, you can call Dr. Eden Evins at 617-643-4679, Monday through Friday 9AM to 5PM. If you need to speak to someone after office hours in an emergency you can call 617-726-2000 and ask the operator to page Dr. Evins.

If you have questions about the scheduling of appointments or study visits, call our study staff at (617) 643-7611.

If you want to speak with someone **not** directly involved in this research study, please contact the Partners Human Research Committee office. 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

Also, if you feel pressured to take part in this research study, or to continue with it, they want to know and can help.

If I take part in this research study, how will you protect my privacy?

During this research, identifiable information about your health will be collected. In the rest of this section, we refer to this information simply as "health information." In general, under federal law, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use, and share your health information for research and why they may need to do so.

In this study, we may collect health 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 health information and why they may need to do so:

- Partners research staff involved in this study
- The sponsor(s) of this study, and the people or groups it hires to help perform this research
- Other researchers and medical centers that are part of this study and their ethics boards
- A group that oversees the data (study information) and safety of this research
- Non-research staff within Partners who need this information to do their jobs (such as for treatment, payment (billing), or health care operations)
- The Partners ethics board that oversees the research and the Partners research quality improvement programs.
- People from organizations that provide independent accreditation and oversight of hospitals and research
- People or groups that we hire to do work for us, such as data storage companies, insurers, and lawyers
- Federal and state agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health, and other US or foreign government bodies that oversee or review research)
- Public health and safety authorities (for example, if we learn information that could mean harm to you or others, we may need to report this, as required by law)
- Other:

Some people or groups who get your health information might not have to follow the same privacy rules that we follow and might use or share your health 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 health 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 health 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 information for any mailing or marketing list. However, once your information is shared outside Partners, 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 health information.

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 identifying 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 health 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 health 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.

You have the right to see and get a copy of your health 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.

- 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.

Study Information Included in Your Electronic Medical Record

A notation that you are taking part in this research study may be made in your electronic medical record. Information from the research that relates to your general medical care may be included in the record (for example: list of allergies, study medication). Following completion of the study, information pertaining to your involvement with the study will be removed from your medical record, including mention of study medication.

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)

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.

Consent Form Version: 3/3/2020