Medical University of South Carolina
CONSENT TO BE A RESEARCH SUBJECT

Determining the best dose of electroconvulsive therapy (ECT): Comparing seizure threshold titration with two different fixed currents (600mA vs. 900 mA)

A: PURPOSE AND BACKGROUND:

Your doctor has recommended that you receive treatment with electroconvulsive therapy (ECT). You have been asked to participate in a research study. During the first treatment in state of the art ECT, your doctor must find the minimum amount of electricity that you personally need to have a seizure (which is called your seizure threshold). Following your initial seizure threshold determination session the overall dose of electricity used is increased in a standard way, and your additional treatments are delivered at the higher dose. It is generally believed that the higher dose in later treatments is needed to have an improvement in your condition, although even the first seizure threshold treatment is believed to be helpful. The amount of electricity given in your seizure threshold treatment is determined by a number of factors that your doctor will vary including the amount of current, the number of stimulations given per second, and the duration of the electrical stimulation.

The best dose of electrical current to induce a seizure is not known. This study seeks to determine if the amount of electrical current delivered during ECT effects the overall amount of electricity needed to cause a seizure. **You will be receiving standard state of the art ECT**. The only aspect of your treatment that is research is that instead of having a single seizure threshold session using the standard dose of electrical current, you will have two seizure threshold sessions (one with the standard dose of electrical current, and one with a lower dose of electrical current). The following ECT treatments will use the standard dose of electrical current. Your participation in this study is purely voluntary. You are being asked to participate in this study because you have a mental health diagnosis that your doctors believe would be helped by ECT and you have not responded to, or have been intolerant to, other therapies. The principal investigator is Dr. Mark George. (843 876 5142). This study is taking place at one site – MUSC and will involve about 30 participants.

You have been told that besides ECT there are other treatments for your condition, which include medication, psychotherapy, and transcranial magnetic stimulation (TMS). These alternative treatments have their own benefits and risks. Why ECT has been recommended for your specific case has been explained to you. ECT is available at many hospitals and you do not have to participate in this research study to receive ECT here at MUSC, or at another hospital.

B: PROCEDURES:

If you agree to be in this study, the following will happen*:*

This study only alters the beginning of your ECT course. The only additional time or procedures that are purely for research are some questionnaires before your first ECT treatment, and then two treatments that find your individual seizure threshold instead of one. The procedures and risks below pertain to ECT in general. The only part that is research are the additional questionnaires and additional seizure threshold session.

You can stay on all of your medications that would normally be allowed with ECT. We may suggest some changes in your medications (if any) that were used to treat your mental health condition at least two days prior to your first treatment, but this will be part of standard ECT practice and not related to the research study. The procedures used in your additional seizure threshold determination session will be identical to those used in conventional ECT except that the dose of current will be lower than standard of care ECT for one of the sessions. Following the additional seizure threshold session, the part of your ECT that is related to this research will be completed, and you will then have standard ECT treatments.

At each treatment, you will be under the care of an anesthesiologist, a psychiatrist, and a nurse. To receive each treatment you will be brought to a specially equipped room. The treatments are given in the morning, before breakfast. Because the treatments involve general anesthesia, you will have had nothing to drink or eat for at least eight hours before each treatment. When you come to the treatment room, before beginning the treatment, in order to spare you the discomfort from many “needle sticks”, a thin plastic tube (an “IV line” or catheter) will be placed in your arm so that medications can be given to you. You will be given an anesthetic drug that will quickly put you to sleep. You will be given a second drug that will relax your muscles. Because you will be asleep, you will not experience pain or discomfort during the procedure. You will not feel the electrical current, and when you wake up you will have no memory of the treatment.

To prepare for the treatments, monitoring sensors will be placed on your head and other parts of your body. A blood pressure cuff will be placed on one of your limbs. This is done to monitor your brain waves, your heart, and your blood pressure. These recordings involve no pain or discomfort. After you are asleep, a small, carefully controlled amount of electricity will be passed between two electrodes that have been placed on your head. When the current is passed, a generalized seizure is produced in the brain. Because you will have been given a medication to relax your muscles, muscular contractions in your body that would ordinarily accompany a seizure will be markedly softened. The seizure will last for approximately one minute. Within a few minutes, the anesthetic will wear off and you will awaken. During the procedure your heart rate, blood pressure, and other functions will be monitored. You will be given oxygen to breathe. After waking up from the anesthesia, you will be brought to a recovery room, where you will be observed until it is time to leave the ECT area.

You will be closely monitored in terms of the effects of the treatments on your symptoms and thinking and memory. If the evaluation team feels that you are improving at too slow a rate, they may recommend an increase in the electrical dosage administered or they may recommend changing your type of ECT.

Clinical Evaluation and Neuropsychological Procedures: Before starting ECT you will participate in interviews and will be asked questions about your current psychiatric condition,

any psychological problems you may have had in the past, your family's history of psychological problems, your medical history, and your attitudes about receiving ECT.

A member of your family may also be asked to participate in some interviews to provide further information about your psychological condition and that of members of your family. You will also be asked to complete questionnaires that assess your psychological state.

To assess the effects of treatment on your cognitive abilities (thinking and memory), at each treatment session, just before you receive ECT, you will be asked to remember a set of information. Following each treatment, after you wake up, you will be asked to recall or recognize this material.

EEG Procedures: The naturally occurring electrical activity of brain regions will be measured by recording the EEG (electroencephalogram). For the EEG examinations, your scalp will be cleaned and sensors placed on your head and near your eyes. The sensors will not pass any electricity to you, but will be used to measure the brain waves that are naturally occurring. During this examination, measurements will be taken while you lie quietly with your eyes closed and while you lie quietly with your eyes open. These procedures will be conducted during each treatment session.

DURATION:
Participation in the study will take about 1 week. This research is done on top of your clinical care. The additional time required for the research aspect is approximately 2 hours at the beginning in terms of questions, and an additional 30 minutes during each of the first two treatments of your ECT. Thus the total duration and time of the research is about 3 hours over one week.

B: RISKS/DISCOMFORTS:
Treatment Procedures: Like other medical procedures, ECT involves some risks. The primary risk of treatment with ECT is that it may not be effective.

The risks of standard of care ECT are described below. In addition to the standard risks of ECT, if you participate in this study you may have a delay in your improvement with ECT by approximately two days because the additional seizure titration session might be less effective than standard ECT. Additionally if the extra seizure titration session is not helpful, you may need to have one extra ECT session than you might have otherwise had. The investigators of this study however, believe it is not likely that there will be any delay in your improvement, and that your improvement and the number of treatments you will need will be the same whether or not you participate in this research study.

A common side effect of ECT is decreased memory functioning. The degree of disruption of memory is likely to be related to the number and type of treatments given. A smaller number of treatments are likely to produce less memory impairment than a larger number of treatments. The memory difficulties with ECT have a characteristic pattern. Shortly following a treatment, the problems with memory are most pronounced. As time from treatment increases, memory functioning improves. Shortly after the course of ECT, you may experience difficulties

remembering events that happened before and while you received ECT. Your spottiness in memory for past events may extend back to several months before you received ECT, and in rare instances, to one, two, or more years. Many of these memories will return during the first few months following the ECT course. However, you may be left with permanent gaps in memory, particularly for events that occurred close in time to the ECT course. In addition, for a short period following ECT, you may experience difficulty in learning and remembering new events. This difficulty in forming new memories should be transient and will most likely subside within several weeks following the ECT course.

Individuals vary considerably in the extent to which they experience confusion and memory problems during and shortly following treatment with ECT. However, in part because psychiatric conditions themselves produce impairments in learning and memory, most patients report that their learning and memory functioning is improved after ECT compared to their functioning prior to the treatment course. Objective tests indicate that many aspects of thinking are improved following ECT, but that, nonetheless, there are specific problems in memory, as described above. A small minority of patients treated with ECT report severe problems in memory that remain for months or even years. The reasons for these exceptional reports of long-lasting impairment are not fully understood. However, as with any medical treatment, individuals who receive ECT differ in the extent to which they experience side effects. Rarely, ECT may result in permanent and extensive gaps in memory.

Because of the possible problems with confusion and memory, it is important that you not make important personal or business decisions during the ECT course or immediately following the course. This may mean postponing decisions regarding financial or family matters. After the treatment course, you will begin a “convalescence period,” usually one to three weeks, but which varies from patient to patient. During this period, you should refrain from driving, transacting business, or other activities for which impairment of concentration or memory may be problematic, until so advised by your doctor.

When you awaken after each ECT treatment, you may experience confusion. The confusion usually goes away within an hour. Shortly after the treatment, you may have a headache, muscle soreness, or nausea. These side effects usually respond to simple treatment, such as Tylenol® for muscle soreness or headache and Reglan® for nausea. More serious medical complications with ECT are rare. With modern anesthetic techniques, dislocations or bone fracture, and dental complications very rarely occur. As with any general anesthetic procedure, there is a remote possibility of death. It is estimated that fatality associated with ECT occurs approximately one per 10,000 patients treated. While also rare, the most common medical complications with ECT are irregularities in heart rate and rhythm, which can be effectively treated in nearly all cases.

To reduce the risk of medical complications, you will receive a careful medical evaluation prior to starting ECT. However, in spite of precautions there is a small chance that you might experience a medical complication. Should this occur, medical care and treatment will be instituted immediately and facilities are available to handle emergencies.

Clinical Evaluation Procedures: There are no anticipated risks to you. You may find the interviews about your psychological condition upsetting, but no more so than the psychiatric interviews you would undergo as part of your care.

EEG Procedures: There are no anticipated risks associated with the EEG examinations.

Risks of Confidential Information Being Lost: Research records will be kept confidential to the extent allowed by law. Federal Privacy Regulations provide safeguards for the privacy, security, and authorized access. Research records may be reviewed by the Institutional Review Board, the Office of Human Research Protection, and the Food and Drug Administration (FDA).

Unknown Risks: The experimental treatments may have unknown side effects. The researchers will let you know if they learn anything that might make you change your mind about participating in the study.

C: BENEFITS:
The potential benefit of your participation in this study, is one of your treatments might be delivered at a lower dose of electricity, and you subsequently might have a lower risk of cognitive side effects from that treatment.

The neuropsychological procedures and the neurophysiology procedures, will not benefit you directly. Many people suffer from the same type of psychiatric condition and many people receive ECT.

The information obtained from this study may benefit others, although there is no way to know for sure if this will be so.

D: COSTS:
There is no cost to participate in this research. Specifically, the additional assessments are covered by the study.

ECT is a medical procedure covered by almost all insurance carriers. You or your insurance company will be billed for the routine clinic visits, and all standard laboratory tests (e.g. routine blood counts and blood chemistry tests) and ECT treatments. There is no additional cost associated with the additional seizure threshold session, and though we believe the duration of this session will be similer to a normal treatment session, there will not be any additional cost added to your treatment no matter how long the treatment session takes.

E: PAYMENT TO PARTICIPANTS:

There will be no compensation provided for this study.

F: ALTERNATIVES:

If you choose not to participate in this study, you could receive other treatments for your condition. The standard therapies for your condition are talking therapy, medications, transcranial magnetic stimulation, or conventional ECT. You and your doctor have discussed

why ECT is likely the next best treatment for you and your mental health condition. If you elect not to participate in this ECT study, you may still receive standard clinical care and standard ECT.

G: NEW INFORMATION: If there are significant new findings during the course of the study, you will be notified.

H: RELEASE OF MEDICAL RECORDS TO ANYONE OTHER THAN THE INVESTIGATORS: You will be asked to sign a separate release for the release of your medical records.

I: STUDENT PARAGRAPH: Your participation or discontinuance will not constitute an element of your academic performance nor will it be a part of your academic record at this Institution.

J: EMPLOYEE PARTICIPATION: Your participation or discontinuance will not constitute an element of your job performance or evaluation nor will it be a part of your personnel record at this Institution.

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

Results of this research will be used for the purposes described in this study. This information may be published, but you will not be identified. Information that is obtained concerning this research that can be identified with you will remain confidential to the extent possible within State and Federal law. The sponsor and the Food and Drug Administration (FDA) will receive copies of the research records. The investigators associated with this study, employees of the sponsor, the FDA, and the MUSC Institutional Review Board for Human Research will have access to identifying information. All records in South Carolina are subject to subpoena by a court of law.

In the event of a study related injury, you should immediately go to the emergency room of the Medical University Hospital, or in case of an emergency go to the nearest hospital, and tell the physician on call that your are in a research study. They will call your study doctor who will make arrangements for your treatment. If the study sponsor does not pay for your treatment, the Medical University Hospital and the physicians who render treatment to you will bill your insurance company. If your insurance company denies coverage or insurance is not available, you will be responsible for payment for all services rendered to you.

Your participation in this study is voluntary. You may refuse to take part in or stop taking part in this study at any time. You should call the investigator in charge of this study if you decide to do this. The data collected on you to this point remains part of the study database and may not be removed. Your decision not to take part in the study will not affect your current or future medical care or any benefits to which you are entitled.

The investigators and/or the sponsor may stop your participation in this study at any time if they decide it is in your best interest. They may also do this if you do not follow the investigator's instructions.

Volunteers Statement

I have been given a chance to ask questions about this research study. These questions have been answered to my satisfaction. If I have any more questions about my participation in this study or study related injury, I may contact _____. I may contact the Medical University of SC Hospital Medical Director (843) 792-9537 concerning medical treatment.

If I have any questions, problems, or concerns, desire further information or wish to offer input, I may contact the Medical University of SC Institutional Review Board for Human Research IRB Manager or the Office of Research Integrity Director at (843) 792-4148. This includes any questions about my rights as a research subject in this study.

I agree to participate in this study. I have been given a copy of this form for my own records.

If you wish to participate, you should sign below.

Signature of Person Obtaining Consent	Date	Signature of Participant	Date