Enhancing Mobility and Psychosocial function in Obese Veterans following stroke via Weight loss and ExeRcise (EMPOWER)

Informed Consent Form

NCT05901675

June 6, 2023

MUSC
Medical University of South Carolina
Changing What's Possible

Medical University of South Carolina
CONSENT TO BE A RESEARCH SUBJECT

TITLE OF RESEARCH: Enhancing Mobility and Psychosocial function in Obese Veterans following stroke via Weight loss and ExeRcise (EMPOWER)

Concise Summary

You are being asked to volunteer for a research study. Research studies are voluntary and include only people who choose to take part. The purpose of this research study is to examine whether intentional weight loss, with or without parallel exercise training reduces physical, mood, and participation impairments in chronic stroke survivors.

If you agree to participate, you will undergo screening that includes completion of quality-of-life questionnaires, exercise testing, physical function assessments, assessment of cardiometabolic health and body composition, including but not limited to 6-minutes of continuous walking. Once complete, participants will be randomly assigned, to one of four groups: 1) lifestyle management including dietary intervention and caloric restriction (DIET); 2) lifestyle management with dietary intervention including caloric restriction plus concurrent exercise training (DIET+EX); 3) exercise training (EX) or 4) a waitlist control group (WLC). The DIET and DIET+EX groups will simultaneously partake in a 15-week lifestyle and weight loss program (FOCUS-15) run by the Medical University of South Carolina Weight-loss center. At the three-week point, the exercise group (Group B) will start an exercise program involving jumping, strengthening, and walking exercises three times per week for the remaining 12 weeks. The EX group will participate in the same 12-week exercise program but will not participate in the FOCUS-15 program. A 15-week follow up will be completed following completion. Total study duration is approximately 32 weeks. Group C will have the opportunity to commence the same protocol after a 32 week "wait" period, during which you will be asked to visit the laboratory on three occasions.

Participation in this study may improve your physical well-being, but that cannot be guaranteed. There are risks associated muscle soreness, strain, and fatigue along with loss of confidentiality. If you are interested in learning more about this study, please continue to read below.

A. PURPOSE OF THE RESEARCH

Please read this consent form carefully and take your time making your decision. As your study doctor or study staff discusses this consent form with you, please ask him/her to explain any words or information that you do not clearly understand. You are being asked to participate in this study because you have experienced a stroke. The study is sponsored by the Medical University of South Carolina. The investigator in charge of this study at MUSC is Dr. Chris Gregory. Approximately 99 people will take part in this study with all assessment and training procedures conducted at either the College of Health Professions Research Building on the

MUSC campus as well as the Neurological Exercise and Training (NExT) Wellness Center located at 1014 St. Andrews Blvd.

B. PROCEDURES

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

1. You will have the following screening and testing to make sure that you are eligible:
    a. Physical Function Assessment: We will utilize a standardized clinical measure to assess your physical abilities during normal activities of daily living. This assessment will be completed by a licensed physical therapist or trained exercise physiologist and will take approximately 15 minutes. These measures involve assessment of joint range of motion, passive and active muscle strength, balance and walking abilities.
    b. Exercise Tolerance Testing: We will test your ability to exercise at different intensities. We will not ask you to exercise or go faster than feels comfortable and safe for you. Your blood pressure will be monitored prior to, during, and at completion of each session. If necessary, the test will be stopped because of excessive blood pressure changes such as a drop in maximum blood pressure or inappropriate slow heart rate. Your heart rate will be determined from the 12-lead electrocardiogram (EKG). An EKG machine measures heart function using small metal tabs attached to specific body parts. The EKG machine records the electrical impulses of the heart. Your maximal heart rate will be recorded as the highest heart rate achieved during the exercise tolerance test. You will be asked to wear a breathing apparatus throughout the test to assess the efficiency of your body to process and utilize oxygen.

       For the test, you will first sit quietly for two minutes. Then you will begin the exercise of pedaling at ~60 revolutions per minute (RPM; how fast you peddle) and 0 Watts (W; the resistance) of workload. The workload will be increased by ~10 W every 3 minutes. Testing will continue until you say you can't go any further or you peddle rate drops below a set target. The test will be terminated prior to achieving maximum heart rate if at any time you experience excessive angina (chest pain), dyspnea (shortness of breath) or tiredness. If the test is terminated because of electrocardiographic (EKG) findings, you will be managed medically as needed, referred for care, and you will be disapproved for participation.
2. Clinical Assessments: You may be asked a series of questions or to perform several standardized tests similar to those performed in general outpatient physical therapy. These include tests to measure daily step activity, assessments to measure the fear of falling, test to measure walking and tests to assess physical function (e.g., balance tests) as well as other dimensions of health-related quality of life: emotion, communication, memory and thinking, and social and role function.
3. If the physical examination and screening show that you are eligible for the study, you will be randomly assigned to one of four groups (e.g., 25% chance of each group).

MUSC
Medical University of South Carolina
Changing What's Possible

Neither the researchers nor you will make the choice to which group you are assigned. The four groups are Group A (DIET), Group B (DIET + EX), Group C (EX), Group D (WLC). Groups A and B will initially begin with their lifestyle and weight loss program (FOCUS-15). This program is offered through the MUSC Weight Management Center and involves weekly consultations with a registered dietitian and behavioral specialist. At approximately the week 3-mark, Group B will simultaneously begin a 12-week exercise program (2-3 times per week) of strengthening (e.g., sit-to-stand, leg press), jumping (on a horizontal jump trainer) and functional walking training (e.g., overground walking [see below]). Similarly, Group C will complete 12 weeks of strengthening, jumping and functional walking training. Each exercise session will last ~60 minutes. Both groups will complete their respective combinations for the remainder of the 15 weeks.

a. Overground walking: During each training session you will perform ~10 minutes of over-ground walking. You may be asked to walk without an assistive device or ankle-foot orthosis (AFO) (if you were prescribed one) at a fast speed. If the investigator or study staff feels that you may be prone to ankle injury when removing the AFO, you may be asked to wear an aircast on your ankle to reduce the risk of injury while walking. A safety harness mounted to the ceiling will be worn to protect you from falling and will be used to provide assistance if needed. Over the course of the study, we may add weight to you by having you wear a weighted vest during these walking trials, to ensure continual improvement.

b. Walking data collection: You will be asked to walk on a 24 ft. long gait mat (GaitRite; a sensor activated walkway) biweekly to measure the characteristics of your self-selected and fastest comfortable walking speeds. You will be asked to wear your own shoes and to walk without an assistive device or ankle-foot orthosis. A safety harness mounted to the ceiling will protect you but will only support your body weight in the case of a loss of balance. A physical therapist or trained study staff under the direction and supervision of the PI or physical therapist will be present for all testing sessions.

c. Dynamometric Assessment: The strength of your upper and lower leg muscles will be measured by asking you to contract your muscles as much as possible. Testing will be conducted at a range of different movement speeds (0-240 º/s) on a specialized machine called an isokinetic dynamometer. Both legs may be tested. This testing is designed to assess your ability to generate muscle power and muscular strength. Before testing a detailed description and introduction to the machine will be completed. Strength testing will include movements at the hip, knee and ankle in both legs. You will be asked to develop torque (the tendency of a force to rotate an object), as fast as possible and produce a maximal contraction (a contraction that makes the muscle work the hardest). Stabilization in the dynamometer will be maintained with straps at the chest, hips and knee as needed.

5. All 4 groups will be asked to complete additional testing at three time points throughout the study; at the start, completion of the intervention or approximate 15 weeks, and then 15 weeks later. These tests will be utilized to assess your metabolic health and the effect each study group may have had on it.

d. Resting Metabolic Rate: You will be asked to visit the laboratory preferably in a fasted state (having not eaten) and lay on your back on a flat surface, as relaxed as possible, with a see-through canopy hood, over your shoulders and head, for a short period of time whilst a system monitors and measures, instantaneously, your of oxygen consumption and carbon dioxide production.

e. Blood Based Biomarkers: On the three separate occasions, you will be asked to visit a local LabCorp Facility where a nurse will place a venipuncture in a superficial vein in your forearm. This will allow us to obtain small blood samples from you. Each visit will require three samples. Each sample will require slightly less than 2 teaspoons of blood and it is expected that the total amount of blood drawn for all three sessions will be approximately 18 teaspoons. We hope collecting these samples will provide us with a better understanding of the influence of weight loss and exercise on a couple of important markers present in blood.

f. Dual-Xray Assessment: You will be asked to report to MUSC Rutledge Tower for this visit, where a licensed radiologist with ask you lay on your back with a low radiation system scans your whole body. You will be exposed to a small amount of radiation during the visit. The scan performed will be less than 20 mSv of radiation. For comparison, natural and man-made background exposure is approximately 122 mSv per week (source, US EPA). Similarly, the total amount of possible radiation is far less than the 500 to 800 mSv of radiation received from an adult chest X-ray. The whole visit will take less than 20 minutes. Although a form of x-ray this piece of equipment produces numerical information on body composition rather than an image of any distinct location or area.

C. DURATION

The time required to complete all procedures is approximately 32 weeks. This period of time includes the 15 weeks of lifestyle and weight loss program (including the 12 weeks of exercise training with 2-3 visits per week if assigned to Group B or C) and an additional week prior to and following training for the testing procedures. You will be asked to return after 15 weeks past your last training visit to participate in follow-up testing procedures similar to those done before and after training. If the evaluation is not completed in the 32-week period, you may be asked to come back again within the next week to complete the remaining items. For those in Group B or C, total of up to 36 exercise visits are expected to complete the study in addition to those required by the FOCUS-15 program (16). Each visit when performing the exercise intervention should take approximately 90 minutes. The number of total visits may be reduced if some of the testing sessions can be combined. We will attempt to combine these sessions as appropriate based on scheduling and your tolerance of testing procedures.

Table 1.

Table 1. Depiction of total number of sessions per group. The pre- and post-testing sessions maybe combined with initial intervention sessions for ease of burden.

	Group A	*Group B*	*Group C*	*Group D*
Pre-Testing	1	1	1	1
FOCUS-15	16	16	0	0
Exercise	0	36	36	0
Post-testing	1	1	1	1
Follow-up	1	1	1	1
Total	19	55	39	3

D. RISKS AND DISCOMFORTS

There is a risk of a loss of confidentiality of your personal information as a result of participation in this study. Researchers will take appropriate steps to minimize these risks and protect any information collected about you. The data from your questionnaires, interviews, and testing results will be de-identified once they have been collected and before they are stored in a database. As a result, others who review the results of this research will not be able to link any of the results to the individual participants.

The potential risks associated with each of the individual procedures are outlined below along with the steps the study team will take in order to minimize those risks.

Screening: The questions that you will be asked may be sensitive in nature and make you feel uncomfortable. You may be asked personal questions that you find distressing.

Exercise Tolerance testing, over-ground, and exercise training: There is a risk of muscle soreness, strain, and fatigue due to required periods of moderate exercise or muscle exertion. Testing will be terminated immediately if you experience any abnormal response such as shortness of breath, lightheadedness, chest pain, or confusion. In addition, vital signs (heart rate and blood pressure) will be monitored routinely during testing to make sure you do not have a poor response to activity. There is a risk of falling or perceived loss of balance during training sessions. When walking, you will be attached to a safety harness to prevent falls and research staff will be next to you for your comfort. Rest days will be incorporated into testing and training to minimize muscle soreness, strain, and fatigue.

Additional Testing: The DEXA scan performed will be less than 20 mSv of radiation. For comparison, natural and man-made background exposure is approximately 122 mSv per week (source, US EPA). The total amount of possible radiation is far less than the 500 to 800 mSv of

radiation received from an adult chest X-ray. Alternatively, a round-trip airline flight from Athens, GA to Athens, Greece would be approximately 140 mSv of exposure. Considering these comparisons, it is reasonable to assess the risk of harm from the amount of radiation exposure for you as minimal. A nurse will perform all blood sample collections. Risks associated with drawing blood from your arm include momentary discomfort, pain, and/or bruising. Infection, excess bleeding, clotting, or fainting is possible, although unlikely. To reduce this risk, only a nurse will be permitted to perform blood samples collections. Proper anti-septic procedures will be followed in order to minimize the risk of infection at the site of the puncture of the vein.

Lifestyle Program: The FOCUS-15 program promotes the adoption of an active lifestyle through counseling and education about exercise and active leisure. This activity will involve answering a few questions, self-reflecting and exploring potentially tender and personal traits, and making lifestyle adjustments that could possibly lead to embarrassed or being upset. To reduce this potential risk, screening, communications, and interactions will occur in a private office or laboratory with only study, program personnel present.

Randomization: The treatment you receive may prove to be less effective or to have more side effects than the other study treatment(s) or other available treatments.

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

Participation in more than one research study or project may further increase the risks to you. If you are already enrolled in another research study, please inform Dr. Chris Gregory or the person reviewing this consent with you, before enrolling in this or any other research study or project.

Throughout the study, the researchers will notify you of any new information that may become available.

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

Risks of the usual care you receive are not risks of this study. Those risks are not included in this consent form.

E. CERTIFICATE OF CONFIDENTIALITY OR Medical Records

This research is covered by a Certificate of Confidentiality from the Federal government. This means that the researchers may not disclose information or biospecimens that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings, nor can the information or biospecimens be used as evidence, unless you

have consented to this disclosure. Information or biospecimens protected by this Certificate cannot be disclosed to anyone else who is not connected with the research except if you have consented to the disclosure, including for your medical treatment; or if it is used for other scientific research, as allowed by federal regulations protecting research subjects.

A Certificate of Confidentiality does not prevent you from voluntarily releasing information about yourself or your involvement in this research. If you are an MUSC patient you have an MUSC medical record. If you have never been an MUSC patient, a MUSC medical record will be created for the purposes of this study. Results of research tests or procedures will be included in your MUSC medical record. All information within your medical record can be viewed by individuals authorized to access the record. We will make every effort to keep confidential all research information in the medical record that identify you to the extent allowed by law; however, there is the possibility that your research information will be disclosed.

The Certificate of Confidentiality will not be used to prevent disclosure as required by federal, state, or local law. Examples of required disclosure include: child abuse and neglect, or harm to self or others

Finally, a Certificate may not be used to withhold information from the Federal government needed for auditing or evaluating Federally funded projects or information needed by the FDA.

F. BENEFITS

There will be no direct benefit to you from participating in this study. However, it is hoped that the information gained from the study will help in the treatment of future patients with conditions like yours/will help the researcher learn more about the effects of exercise on depression.

G. COSTS

There will be no cost to you as a result of participation in this study.

H. PAYMENT TO PARTICIPANTS

In return for your time, effort, and travel expenses, you will be paid $650 for participation in this study. If you do not complete the study, you will receive $15 for each completed visit. Payment for study visits will be made using either a VISA gift card or a pre-paid debit card, called a ClinCard. It works like a bank debit card and you may use the card to purchase goods or services everywhere Debit MasterCard is accepted. You will be given a ClinCard at the beginning of the study. Each time you receive payment for participation in this study, the money will be added to the card, as outlined in the payment schedule above. Details of the debit card system are

explained on an additional sheet.

Payments that you receive from MUSC for participating in a research study are considered taxable income per IRS regulations. Payment types may include, but are not limited to: checks, cash, gift certificates/cards, personal property, and other items of value. If the total amount of payment you receive from MUSC reaches or exceeds $600.00 in a calendar year, you will be issued a Form 1099.

I. ALTERNATIVES

Your alternative is to not participate in this study and continue with your current rehabilitation schedule.

J. DATA SHARING

Information about you (including your identifiable private information and/or any identifiable biospecimens) may have all of your identifiers removed and used for future research studies or distributed to other researchers for future research without additional informed consent from you or your legally authorized representative.

K. RESTORE

We would like to include any additional data collected in this study to your current profile within the Registry for Stroke Recovery (RESTORE-Pro00037803). As you have previously been made aware, RESTORE provides MUSC's stroke recovery research community with a database containing information on research participants including stroke type, disability status, and demographics to assist in recruitment. By including data from this study in RESTORE, MUSC researchers will have access to a more complete database with key elements of physical function characteristics for more targeted recruitment efforts in the future. Additionally, this could reduce the burden placed on you as participants by reducing the duplicative efforts of collecting common data and assessments requested by multiple studies and storing them in one centralized and secure location. You may ask for this data to be excluded at any time via contact with the projects PI (Dr. Chris Gregory).

L. DISCLOSURE OF RESULTS

Results of this research will be used for the purposes described in this study and will not be disclosed to you as a subject.

M. SIGNIFICANT NEW FINDINGS

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

N. STUDENT PARTICIPATION

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.

O. 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.

P. CLINICAL TRIAL.GOV

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.

Q. COLLECTION OF SPECIMENS

Blood specimens will be collected as part of the study procedures. The specimens collected will be used to assess cardiometabolic function. Blood samples will be processed and stored by LabCorp. Blood samples are tested immediately, and will be stored for 30 days before being destroyed. The PI and Weight Management Center staff will have access to the specimens and associated data. The specimens will be stored only for the purposes of this study and you will not be contacted for additional consent to store specimens for other reasons. Blood specimens will not be banked for future use. The results of specimen analysis will only be published as a group and will in no way be linked to your identity.

R. FUTURE CONTACT

The researcher in charge of this study might like to contact you in the future about other research opportunities. Please initial by your choice below:

____Yes, I agree to be contacted

____No, I do not agree to be contacted

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 investigators associated with this study, the sponsor, 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 that you are injured as a result of participation in this study, 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 you 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. 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.

Volunteer's 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 Dr. Chris Gregory at (843) 792-1078. 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

MUSC
Medical University of South Carolina
Changing What's Possible