

The University of Michigan Health System (UMHS), Ann Arbor, Michigan

**INFORMED CONSENT OF A SUBJECT
PARTICIPATING IN A RESEARCH STUDY**

(Version April 1998)

1. GENERAL INFORMATION

The Institutional Review Board for Human Subject Research at the University of Michigan Medical School (IRBMED) reviewed this research project from the standpoint of the protection of human research subjects. The IRBMED found the project to be in compliance with the regulations of the United States Government and of the University of Michigan.

1.1 This version of the consent document was prepared on: 2001/05/29

1.2 This version of the consent document was approved by the IRBMED on: 2001/07/26

1.3 This project's approval by the IRBMED will expire on: 2002/07/26

1.4 The archive number assigned by the IRBMED to this project is: 1998-316

1.5 Names of the investigators responsible for this project:

Katarina T. BORER, Ph.D., Josephine Z. KASA-VUBU, M.D., Maryfran SOWERS, Ph.D., and Mark SUPIANO, M.D.

1.6 The title of this research project is:

Endocrine effects of training exercise intensity in postmenopausal women.

1.7 The protocol number assigned to this study is: 1563 (GCRC)

1.8 This research is funded by: N/A

2. INFORMATION ON THE RESEARCH STUDY

2.1 What is the purpose of this research study?

The purpose of this research project is to see whether exercise training at different intensities affects body fat loss and the risks of developing diabetes, coronary heart disease, and hypertension in postmenopausal women. At the present time the effects of exercise intensity on these factors are not well understood. This study will add to the basic understanding of these issues and allow us to recommend to postmenopausal women optimal exercise intensities to lose body fat, increase GH secretion and increase insulin sensitivity.

2.2 Who can take part in this study?

You can participate in this study if you are a woman between the ages of 50 and 65 years who is postmenopausal and on hormone replacement therapy, in good general health, have a body mass index (BMI, weight in kg/height in m²) of between 25 and 35, and exercise less than

20 min/day two days a week. However, if you have one or more of the following conditions, you may not be eligible: an endocrine or metabolic disease, hypertension or other condition requiring medication that would interfere with the physiologic response to exercise; if you are smoking and have respiratory disease (asthma), if you are dieting, or have musculo-skeletal conditions that would preclude walking. The study group will be composed of fifteen women. In case more subjects may wish to participate than the study can accommodate, we will accept participants in the order in which they apply except for two Afro-American and one Oriental woman who will be given priority in order to meet the required ethnic composition of the group.

2.3 Why should I consider joining this study as a research subject?

Direct benefits to you include expected fat loss, lean mass increase, improved cardiovascular fitness, probable decrease in health risks for cardiovascular morbidity and mortality and for development of diabetes and cancer. You also will receive useful information about your body fat and bone mineral level, food intake, and risk of developing diabetes. You will receive a \$150 remuneration for blood collection at the completion of the study.

2.4 Do I have to become a subject in this study? If I joined the study, can I change my mind and drop out before it ends?

Your becoming a subject in this study is entirely by your own free choice. You may also drop out of the study by your own free will, after having agreed to become a subject. You may refuse to enroll in the study, or drop out of the study at any time without any penalty; by doing so, you will not lose any benefits that you may be entitled to.

In case you withdraw from the study, you will not be harmed in any way but you will not receive the expected health benefits from walking exercise: fat loss, lean mass increase, improved cardiovascular fitness, probable decrease in health risks for cardiovascular morbidity and mortality and for development of diabetes and cancer. You also will not be eligible to receive monetary remuneration.

The investigators of this study may have to end your taking part in this study as a subject, if any of the following conditions came up:

1. you do not comply with the agreed-upon walking routine;
2. you do not cooperate in agreed-upon measurements and blood collections;
3. you stop hormone-replacement therapy or start taking medication that could interfere with physiologic responses to exercise; and
4. you start smoking or dieting.

2.5 What exactly will be done to me, and what kinds of treatments or procedures will I receive, if I agree to be a research subject in this study?

This study will involve a walking program at different walking speeds for a period of 30 weeks. We will first determine your body fat and aerobic fitness. Body fat will be assessed by measuring skinfold thickness and circumference of different parts of your body. This will be

done in the CCRB and take approximately 30 minutes. Body fat will be also measured through a whole body with a very low-radiation dose X-ray scan called DEXA. This will be done at the School of Public Health and take about 45 minutes. We will also measure total body fat by bioimpedance in the General Clinical Research Center (GCRC). This is done by measuring your body water with a very weak electric current. These procedures will allow us to accurately determine how much fat there is in your body, where it is distributed, and how it changes with exercise training. Your aerobic fitness will be assessed by having you breathe through a mouth piece as you walk on a treadmill at different speeds. We will be measuring your aerobic capacity from the breathing rate and the amount of oxygen you consume as the effort increases. On the basis of the body fat and aerobic fitness, we will match you with two other women of similar body composition and aerobic capacity and assign you to a slow or fast-walking group. Walking will be carried out five days a week. You will start with one mile per day, and increase distance by one half mile each week until you attain 3/miles per day. You will keep walking 3 miles/day five days a week until the end of week 30. The same measurements (aerobic capacity and body composition) will be repeated after 15 and 30 weeks of training.

The study also involves blood collection on three occasions, at the start of the study and after 15 and 30 weeks of training. The first and second time, you will be admitted to the General Clinical Research Center (GCRC) for a total of 17 hours, and the third time for a total of 14 hours. Upon admission by 5 pm, an intravenous cannula will be placed in an arm vein or removal of blood samples and for injection of hormone insulin and sugar glucose. A blood sample (2 ml) will be collected at 10-minute intervals between 6 pm and 8 am the next morning. Dinner will be served at 6 pm, and a snack at 9 pm. On two occasions only (at the start and after 15 weeks), you will be given no food by mouth from when you wake up in the morning until 12:00 noon. At 08:00 in the morning a second catheter will be inserted into a hand vein and you will receive some glucose through the other catheter. On those two occasions, between 8 am and 12:00 h, hormone insulin and glucose will be given through one catheter and blood samples will be taken at frequent (1 minute to 10 minute) intervals through the other to see how rapidly your body takes up glucose from the blood. This tells us how sensitive your body is to hormone insulin and indicates the risk of your becoming diabetic. About one half of a pint of blood will be removed during two tests which is about one half of the amount that can be safely removed at any one time.

We will also ask that you fill out three-day dietary recalls and 7-day activity questionnaires on three occasions, at the start of the study, after week 15 and week 30 of walking. This will take about 10 minutes for each form each time. From this we will determine how many calories you eat and from which food groups and how much energy you expend in sleep and different physical activities.

We will share with you all the health information we obtain through measurements. All of your records will be kept confidential.

2.6 What kinds of harm can I experience in this study, and what will the investigators do to reduce the chances of harm?

Vein puncture for the placement of an indwelling catheter may cause pain, bruising, or inflammation. Standard sterile techniques for vein puncture will be used and regular examination of i.v. catheter sites will be done. Pain associated with vein puncture is usually mild

and short-lived. Blood collected each of three times will be less than one half of the amount that can be safely removed at one time and less than the amount normally removed in a simple blood donation. There is a small chance that the injection of insulin could lead to low blood sugar level (hypoglycemia.) A whole-body x-ray scan (DEXA) involves exposure to a low level of x-ray radiation which is less than 1% of radiation to which humans can safely be exposed. A small chance of muscle soreness is possible upon initiation of walking program. As in everyday locomotion, injuries of the ankle, and knee could occur.

There is a small chance that some subjects will experience mild cardiorespiratory distress upon initiation of this program.

2.6 (b) Indicate the measures to be taken to minimize each risk.

Vein puncture for the placement of an indwelling catheter will be performed with standard sterile techniques. The sites will be regularly examined to detect early signs of inflammation. Anemia will be screened during the initial history and a blood count. The blood count will be repeated at any point of the study if anemia is clinically suspected. Infusion of variable amounts of blood sugar during the insulin sensitivity test serves to prevent development of hypoglycemia. Plasma glucose concentrations will be measured with an automatic glucose analyzer at 5 minute intervals during insulin infusion. Any deviations from normal blood sugar level will be rapidly corrected by changing the rate of glucose infusion. The dose of x-ray radiation is less than 1% of permissible annual radiation exposure and should not pose any health hazard to participants. Risks of joint injuries will be prevented or minimized by inclusion of a warm up and cool down, recommendations to wear appropriate walking shoes and by walking on a level surface. You should be given clearance from your personal physician attesting that no conditions exist that would make exercise potentially hazardous to your health. Healthy people should experience no cardiac distress with any level of walking in this study. Your answers in Physical Activity Readiness Questionnaire also will help us identify conditions that would make exercise potentially hazardous. If at any time any subject develops chest pains or shortness of breath, exercise will be discontinued and a physician consulted. As an additional risk management measure, at least one person at each walking session will have minimal training in American Red Cross Adult CPR and Standard First Aid.

Taking part in more than one research study may be harmful to you. If you are already taking part in another study, please let us know. You should not take part in more than one study at the same time, unless you and the investigators agree that you are not likely to be harmed, and the outcome of the study will not be disturbed. This is particularly important if you are receiving in another research study any investigational or non-investigational drugs, or any kind of radiation. If taken at the same time, some drugs may change each other's effects on the body, so that one drug may become harmful because of another drug. Risk of harm from radiation builds up with each exposure, particularly if you get exposed to it shortly after another radiation exposure.

2.7 What will the investigators do to make sure that the information they will collect on me will not get in wrong hands?

We shall put the information collected about you during the study into a research record. This research record will not show your name, but will have codes entered in it, that will allow the information to be linked to you. However, we shall keep your research record confidential, to the extent provided by federal, state and local law. We shall not allow anyone to see your record, other than people who have a right to see it. You will not be identified in any reports on this study.

Should you get physically injured as a result of research-related treatments or procedures, the University of Michigan will provide first-aid medical treatment. Additional medical treatment will be provided, if the University determines that it is responsible to provide such treatment. However, the University does not provide compensation to a person injured while taking part as a subject in research.

2.11 Will I get paid for taking part in this study?

For participation in this study, within three weeks upon its completion, you will be paid \$150 in the form of a check.

2.12 Will I or my health insurance company be charged for any of the costs of this study?

No.

2.13 Once I start in this study as a subject, what do I do if I want to find out more about the study, or to complain about the way I get treated?

If new information is obtained during the course of this research, which may indicate that the risks of harm to subjects have increased significantly, the investigators will let you know, so that you may reconsider your willingness to stay as a subject in the study. To find out more about any aspect of this study, including your rights as a subject, you may contact the persons whose names, addresses and telephone numbers appear below. If you have any questions or concerns about your rights as a research subject, or any grievance, you may also contact the Institutional Review Board for Human Subject Research (IRBMED), University of Michigan, 4558 Kresge Medical Research Building I, 200 Zina Pitcher Street, Ann Arbor, MI 48109-0570; telephone 734 763 4768.

2.14 If I decide not to become a subject in this study, what may happen to me, or what other choices do I have if I need treatment?

Participation in this study is voluntary. You are free to participate in, or withdraw from the study at any time. The investigators may terminate your participation under the following circumstances: failure to (1) follow agreed-upon walking routine, (2) participate in agreed-upon measurements, or (3) discontinue hormone replacement therapy or start taking medications that will affect physiological responses to exercise.

3. DOCUMENTATION OF CONSENT

3.1 Who gets to keep this document, once I sign it?

One copy of this document will be kept together with the investigators' research records on this study. A second copy will be given to you to keep. A third copy will be placed in your University of Michigan Health System Medical Record.

3.2 Research subject's statement of consent to participate in this study

I have read the information given above. The investigators personally discussed with me and told me more about the study, and answered my questions. I understand the meaning of this information. I am aware that, like in any research, the investigators cannot always predict what may happen or possibly go wrong. I have been given sufficient time to consider if I should join this study. I hereby consent by my own free choice to take part in the study as a research subject.

3.3 Research subject's identity, and the identity and dated signatures of the subject and/or legal representative of the subject, affirming that consent was given

Subject's Name: _____

Subject's Birth Date: _____

Subject's UMHS Case Number: _____

Adult subject personally giving consent

Consenting Signature of the Subject: _____ Date: _____

3.4 Investigators' confirming statement

I have given this research subject information on the study, which in my opinion is accurate and sufficient for the subject to understand fully the nature, risks and benefits of the study, and the rights of a research subject. There has been no coercion or undue influence. I have witnessed the signing of this document by the subject.

Investigator's Name: Katarina T. Borer

Investigator's Signature: _____ Date: _____

You can reach the investigators of this study as follows:

Name	Telephone	E-mail	Pager
	936-6266		
Katarina T. Borer, Ph.D.	734 -647-2703	katarina@umich.edu	NA
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