

SUBJECT INFORMATION AND INFORMED CONSENT

Study Title: TOTAL ENERGY EXPENDITURE DURING THE ALASKA MOUNTAIN WILDERNESS SKI CLASSIC

Investigator(s): University of Montana
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Sponsor: US Air Force Research Lab (AFRL), a Department of Defense (DOD) organization

Special Instructions:

This consent form may contain words that are new to you. If you read any words that are not clear to you, please ask the person who gave you this form to explain them to you.

Purpose:

The purpose of this research is to measure the total energy expenditure during the Alaska Mountain Wilderness Ski Classic. The results will be used to facilitate a greater understanding of energy expenditure during extended periods of physical activity under Arctic winter conditions.

Procedures:

This data will be collected from athletes who are participating in the Alaska Mountain Wilderness Ski Classic under their own volition. Height, weight and body composition measurements will occur in the afternoon or evening before the start of the Alaska Mountain Wilderness Ski Classic.

Height: We will ask you how tall you are.

Nude body weight: You will enter a private room by yourself for nude body weight measurement. Body weight will be read on a monitor from the outside.

Body composition:

Your body fat and muscle mass will be measured using bioelectrical impedance. The technology measures the body's electrical impedance to a low/safe electrical current at 50kHz. Within seconds all body composition data is available.

Isotope Based Energy Use: We will measure your total energy use during Alaska Mountain Wilderness Ski Classic using a technique called doubly labeled water method. This procedure requires that you drink a small amount (3-5oz) of water (called deuterium), based on your body weight, with a specific proportion of stable isotope hydrogen and oxygen molecules. These isotopes are naturally occurring and do not cause harm. We will collect a urine samples before the start of the Alaska Mountain Wilderness Ski Classic. You will then consume the deuterium right before going to bed.. You will collect the first and second urine in the morninig after consuming the deuterium before the start of the event. You will then collect one final urine

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sample upon completing the event. All urine samples will allow us to determine how quickly the deuterium leaves your body and calculate your total energy expenditure. We will provide all the necessary supplies for the urine collection.

Risks/Discomforts:

There is minimal discomfort/risk if you choose to participate in this study.

1. You may experience local and/or general discomfort during the event itself. These discomforts include shortness of breath, sore muscles, nausea, frostbite, and possibility of vomiting. As part of your required training for participation in the Alaska Mountain Wilderness Ski Classic, you should be aware of these risks, but please feel free to ask any questions related to these important aspects of your participation.
2. Muscle soreness may likely occur during the event but should not persist.
3. You may experience a headache and/or general fatigue due to dehydration.
4. We will share new findings that may affect your decision to remain in the study such as a peer-reviewed journal paper that demonstrates methods used in the current study as being unsafe.
5. There are no additional risks associated with participating in this study over or above the risks associated with participating in the Alaska Mountain Wilderness Classic.

Benefits:

There is no promise that you will receive any benefit from taking part in this study.

Confidentiality:

- Your records will be kept confidential and will not be released without your consent except as required by law. The data will be stored in a locked file cabinet. Your signed consent form will be stored in a cabinet separate from the data. The U.S. Department of Defense personnel responsible for the protection of human subjects will have access to research records.

Voluntary Participation/Withdrawal:

Your decision to take part in this research study is entirely voluntary.

You may refuse to take part in, or you may withdraw from the study at any time without penalty or loss of benefits to which you are normally entitled.

Future research:

Identifiers might be removed from the identifiable private information or identifiable biospecimens and could then be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you or your legally authorized representative.

Compensation for Injury:

In the event that you are injured as a result of this research you should individually seek appropriate medical treatment. If the injury is caused by the negligence of the University of Montana or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established by the Department of Administration under the authority of M.C.A., Title 2, Chapter 9. In the event of a claim for such injury, further information may be obtained from the University's Risk Manager (406-243-2700; jason.sloat@mso.umt.edu) or the Office of Legal Counsel (406-243-4742;

The University of Montana IRB
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legalcounsel@umontana.edu). (Reviewed by University Legal Counsel, December 31, 2018)

Questions:

If you have any questions about the research now or during the study, please contact: Robert Coker at (501) 358-9827 or Dr. Melynda Coker at (501) 499-4349

If you have any questions regarding your rights as a research subject, you may contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Statement of Your Consent:

I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that any future questions I may have will also be answered by a member of the research team. I voluntarily agree to take part in this study. I understand I will receive a copy of this consent form.

Printed Name of Subject

Subject's Signature

Date

Statement of Consent to be Photographed or Recorded:

I understand that photographs and audio/video recordings may be taken during the study.

Subject's Signature

Date

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