

Military personnel and Civilians Needed for Nutrition Research Study

Purpose: Determine how body weight and body composition impacts immune function, skin barrier restoration time, skeletal muscle inflammation and nutrient status.

- Determine the effect of body composition on nutrient status
- Determine whether future studies, to test nutrition interventions to improve immune function, are warranted

You are eligible if you:

- are between the ages of 18 (or 17 for military personnel) and 39
- have a Body Mass Index (BMI) in the range of 18.5 to $<25 \text{ kg/m}^2$ **OR** have a BMI $\geq 30 \text{ kg/m}^2$
- have been weight stable (± 5 lbs.) for the past two months and agree not to attempt to lose or gain weight for the duration of the study;
- participate in 120-300 mins of aerobic exercise over the course of ~ 3 days per week
- are willing to participate in all study procedures and comply with all study instructions
- females must have normal menstrual cycles between 26-32 days in duration; 5 menstrual cycles within the past 6 months; or able to provide documentation of oral/hormonal contraceptive use which contains low-dose estrogen/progesterone to maintain continuous levels throughout the 28-day cycle (i.e., no placebos)
- able to speak and read English fluently

Description:

- This study consists of 1-2 visits for a medical clearance and baseline testing, followed by one full day of testing (~ 8 hours) and up to 10 days of daily follow-up testing (~ 1.5 hours each day).
- The study also involves pre-study sleep monitoring (7 days), diet questionnaires and diet monitoring (i.e., we will ask you to record all the foods and beverages that you eat and drink during the pre-study period).
- We will take blood samples at baseline, on the full day of testing and at the end of the follow-up testing period.
- On the full day of testing, we will **create eight circular suction blisters** (approximately the size of a pencil eraser) on your forearms. We will sample blister fluid 4, 7, 24, 48, and 72 after we create the blisters.
- Water loss from blister sites will be measured daily after the blisters are created, until the skin barrier is restored to 90% (~ 7 -10 days).
- We will take a sample of your thigh muscle at the end of the follow-up testing period.

Compensation: up to \$100 for military personnel and on-duty Federal Government Civilians; up to \$600 for off-duty Federal employees and non-Federal employees.

This research is being conducted by USARIEM's Military Nutrition Division (PI: Dr. Tracey Smith).

For more information contact: Tracey Smith @ 508-206-2390 or Claire Whitney @ 508-206-2410.