

SUBJECT RECRUITMENT FLYER: TITLE OF STUDY: Nutritional-Based Strategy to Counter Exercise-Induced Muscle Damage and OxInflammation

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What is the purpose of this research?

Eccentric muscle movement occurs when the muscle lengthens as it contracts. Common exercises that cause an eccentric contraction include going down stairs, running downhill, lowering weights, and the downward motion of squats, push-ups, or pull-ups. Exercise with eccentric muscle contractions often cause some muscle damage, inflammation (i.e., swelling and pain), and oxidative stress (i.e., cell damage from oxygen-containing molecules). Muscle soreness from eccentric exercise can last several days. Nutrition supplements may help reduce muscle damage, soreness, oxidative stress, and inflammation during recovery from eccentric exercise. The old Indian spice called turmeric gives curry its yellow color. Other herbs and plant extracts will be included in the supplement. **The PURPOSE** of this study is to see if using this supplement for two weeks will reduce muscle damage, soreness, inflammation, and oxidative stress during several days of recovery from a 90-minute eccentric exercise bout.

Why am I being invited to take part in this research?

This study will include up to 58 male and female adults ages 18 to 50 years. To be a participant in this study, you must be healthy and not lifting weights on a regular basis (defined as less than 3 sessions/week). You must agree to avoid the use of protein and large-dose vitamin/mineral supplements (above 100% of recommended levels), herbs, and all medications (in particular, anti-inflammatory medications such as ibuprofen and aspirin) during the 3 weeks of the project. You must not have a history of allergic reactions to turmeric, vitamin C, or cherry and berry fruit extracts, and female participants must not be post-menopausal, pregnant, or breastfeeding.

What will I be asked to do?

The research procedures will be conducted at the Human Performance Laboratory (HPL) (Room 1201, Plants for Human Health Institute Building, 600 Laureate Way), operated by Appalachian State University at the North Carolina Research Campus (NCRC) in Kannapolis, NC. You will first come to the HPL for an orientation to study procedures (about 1.5 hours) (visit #1). This will be followed by another lab session for pre-study measurements and sample collection (visit #2). You will be randomized to turmeric or placebo groups, and provided a 2-weeks supply of supplements. You will consume 2 tablets each day in the morning just prior to breakfast. The study will include 5 other lab visits during a one-week period starting on a Monday (visit #3), with morning visits at about 7:00 am on Tuesday through Friday (visits 4-7). At each of the 7 lab visits, you will come to the lab at 7:00 am (fasted, rested). The Monday session will take about 2.5 hours (7:00 to 9:30 am), and the Tuesday through Friday sessions will take about 30-45 minutes each. The total amount of time you will be asked to volunteer for this study is about 8-9 hours at the performance lab. Seven blood samples will be collected and analyzed for various measures of muscle damage, inflammation, and oxidative stress. Two urine samples will be collected (before and after the 2-week supplementary period) and analyzed for key metabolic markers of turmeric ingestion.

Will I be paid for taking part in the research?

We will pay you \$500 for the time you volunteer while being in this study.

How do I sign up for the study or obtain more information?

Please send an email message to ASU-NCRC@appstate.edu, or call 704-250-5352.