



# AIS Sports Nutrition Cycling Study

## Reward: \$600+

AIS Sports Nutrition is seeking trained male cyclists to participate in a study investigating the impact of creatine supplementation on the effectiveness of carbohydrate loading. A secondary outcome is to assess whether increases and decreases in muscle creatine and glycogen content show up as changes in lean mass (muscle mass) on a DXA body composition scan. Finally, the study also provides an opportunity determine if ultrasound can be used to accurately measure muscle glycogen.

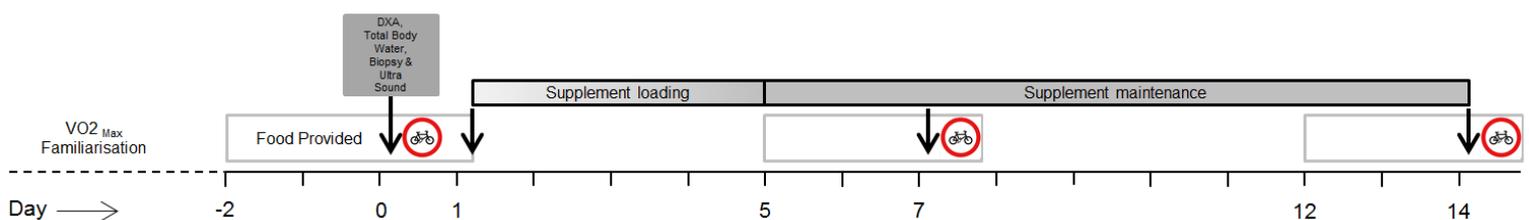
We are looking for:

- Males aged 18-40 years
- Cycle >250 km per week
- >2 year road cycling competition history

Specifically, the project will determine whether creatine loading helps to further increase muscle glycogen levels following a carbohydrate loading program, and whether this provides an additional performance boost. The project will:

- be conducted at the AIS in Canberra
- involve ~35 hours of your time over 6 visits between Aug-2014-Jan 2015
- involve a  $VO_{2max}$  test to determine your aerobic capacity and peak cycling power output
- involve 3 performance trials – each of which follows a 48 hour standardised diet (2 x normal carbohydrate intake and 1 x carbohydrate loading). Each performance test consists of a 100 km time trial followed by a ride to exhaustion on your own bike on an inclined treadmill which simulates a climb. See diagram of study outline below.
- Involve a 2 week protocol of creatine loading and maintenance or a placebo protocol over the same timeframe
- involve 1 non-exercise trial day, the day after the first performance trial – following a low carbohydrate diet
- provide you with all food needed in the standard diets
- require muscle biopsies during each trial (4 in total) to enable us to measure your muscle glycogen prior to each exercise session and also on the non-exercise trial day
- involve 4 DXA body composition scans to determine whether changes in muscle glycogen concentration influence the lean mass measure
- involve 4 measures of total body water and 8 ultrasound images of your thigh

On completion of all trials, participants will be reimbursed **\$600** for their time **plus** a share of \$10,000 in prize money.



For more information on the study, please contact:

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