

ASU/NCRC Human Performance Laboratory

The mission of the ASU/NCRC Human Performance Laboratory is to investigate the influence of nutrition and unique plant molecules (e.g, flavonoids) on obesity- and exercise-induced changes in immune function, oxidative stress, and inflammation.



Left: Dr. Andrew Shanely is an expert in sarcopenia, or the age-related loss in muscle.

Below: Dr. Amy Knab supervises a treadmill test in the ASU/NCRC Human Performance Lab. Dr. Knab researches the link between brain genetics and physical activity patterns.



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Exercise-Nutrition-Health
Research

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The ASU/NCRC Human Performance Laboratory is a national leader in the area of nutrition-exercise immunology. Research has been conducted with athletes participating in competitive marathon and ultramarathon race events including the 100 Mile Western United States Endurance Run



The 100-mile WSER

(WSER), Comrades Ultramarathon in South Africa, Ironman Triathlon in Kona, Hawaii, the Grandfather Mountain Marathon, and lab-controlled exercise bouts lasting 2-3 h. The ASU research team has investigated the influence of several nutritional countermeasures

to exercise-induced immune alterations including carbohydrate beverages, vitamin C and E supplements, blueberries, quercetin, isoquercetin, EGCG, omega-3 fatty acids, chia seed, beta glucan, and other food components.



Research Discoveries

Discoveries by Dr. Nieman and his research team include the protective effect of regular moderate exercise in augmenting immunity and decreasing illness, the anti-inflammatory benefits of ingesting one liter of sports drink with 60 grams carbohydrate per hour of heavy exertion, the pro-oxidative (thus harmful) effect of using large dose vitamin E supplements prior to competing in the Ironman race, the pro-inflammatory (thus harmful) influence of using ibuprofen during competitive ultramarathon races, the anti-pathogenic influence of quercetin (1,000 mg/day) in endurance athletes, the anti-inflammatory benefits of ingesting isoquercetin with EGCG during heavy exertion, and the positive influence of quercetin supplements in lowering disease risk factors and illness in the general community.



Personnel

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