



## **An Ideal Fueling Strategy For CrossFit & Improving Body Composition**

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Energy (ATP) demands increase more than 10-fold during high-intensity exercise. When ATP supply fails to meet demand, the price paid is fatigue (i.e., decreased force or power output). Fatigue may be due to depletion of energy substrates (e.g., decreased muscle phosphocreatine, reduced glycogen, decreased glucose availability) and/or accumulation of metabolic products (e.g., hydrogen ion, ammonia, phosphate). Nutritional countermeasures to combat fatigue can help maximize the high intensity training stimulus and ensure optimal health and performance adaptations.

### **One factor that may limit the success of high intensity mixed modality training is our blood sugar levels.**

A major factor contributing to decreased force/power output is a diminishing supply of glucose (sugar) to skeletal muscle and the brain. During high-intensity exercise most of the active muscle's glucose requirements are met by glycogen, but muscle can also extract glucose from the blood. As muscle glycogen concentrations decline, reliance on glucose uptake from blood increases. The brain also needs an uninterrupted supply of glucose (~600 kcal/day) to function properly. Thus, high intensity training creates a competition for a disappearing fuel source between muscle and brain. The result can be mild impairment (i.e., gym brain) or a more severe manifestation commonly referred to as 'hitting the wall' or 'bonking'. Although this phenomenon is associated with low muscle glycogen, the driving factor is inadequate glucose delivery to the brain.

### **The ability to maintain our blood sugar levels is the key to optimal and sustained performance.**

During exercise our muscles cells are selfish; they want to use all the available energy-- especially glucose-- as fuel during the workouts. As a result, a problem develops: how do we maintain our blood sugar levels during a high intensity workout?

The answer is now clear: Generation UCAN. UCAN contains SuperStarch, which, because of its proprietary cooking process, slows digestion and absorption of the carbohydrate into the body. CrossFit athletes using UCAN train harder and longer at higher intensities, have more stable energy during training, improve their focus and mental clarity toward the end of workouts, and recover quicker.

**"I've been waiting for a product like UCAN since I started training. With UCAN, I feel the same at the beginning of the workout as I do at the end. It allows me to sustain the power and intensity throughout the entire workout."**

~ Craig Kenney, CrossFit Athlete

SuperStarch has not been laboratory tested in the context of CrossFit, but there are several reasons why users experience positive effects. The most distinguishing feature of SuperStarch is its slow digestion and absorption delivering a smooth and extended supply of glucose throughout the body. SuperStarch is better able to meet the high demands for glucose during high-intensity exercise by delivering a steady source of sugar to the brain and a back-up supply to skeletal muscle to help preserve limited glycogen stores. Because of its slow absorption, SuperStarch does not spike blood sugar and it elicits a minimal insulin response. Since insulin is a potent inhibitor of fat breakdown and fat oxidation at rest and during exercise, this means that SuperStarch can provide a source of blood sugar without impairing fat oxidation. Greater fat oxidation, especially during the low-intensity exercise periods of training, facilitates blood sugar maintenance and muscle glycogen preservation.

### **Summary:**

During a workout, UCAN releases steadily into our bloodstream, which keeps your blood sugar stable. UCAN also provides a low insulin response allowing our body to breakdown and burn fat. This becomes especially important in mixed modality training environments that combine explosive movements with power endurance exercises. Amazingly, including UCAN is akin to having access to *two fuels sources* to deliver energy: both carbohydrates *and* fats.

### **Practical Application:**

UCAN is bringing blood sugar management to the forefront of exercise. Practically, UCAN can be used pre-exercise to support improved fuel flow during exercise, and post-exercise to facilitate improved recovery and enhanced adaptations. Training programs vary and people respond differently to the same exercise stimulus and food/supplement intake. Thus, there are no one-size fits all recommendations on use of UCAN.

Nutrition post-exercise has a profound effect on how the high intensity exercise stimulus is translated. UCAN offers SuperStarch combined with whey protein for use post-exercise (Protein Enhanced UCAN). A source of protein that provides all the essential amino acids, especially leucine, is critical in order to promote muscle protein synthesis and net anabolism. SuperStarch provides an ideal carbohydrate substrate for glycogen synthesis without impairing post-exercise fat oxidation. The significantly muted insulin response is associated with a better overall metabolic and hormonal milieu for promoting a quicker and healthier recovery.

### **Pre-Exercise:**

Consume 1 serving of UCAN 20-30 minutes before you exercise

### **Post-Exercise:**

Consume 1 serving of Protein Enhanced UCAN

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