

## **The Athlete's Kitchen**

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### **Super Sports Foods: Do They Really Need to be Exotic?**

Do you ever get tired of reading yet-another headline about *The 10 Best Super Sports Foods*, only be instructed to buy exotic fruits, ancient grains, and other unusual items? Do we really need chia, spelt, and quinoa? Is anything wrong with old-fashioned peanut butter, broccoli and brown rice? Doubtful! Powerful nutrients are found in standard foods that are readily available at a reasonable cost. You know, oranges, bananas, berries, oatmeal, almonds, hummus, lowfat yogurt, brown rice, tuna ... the basic, wholesome foods recommended by the government's My Plate ([www.ChooseMyPlate.gov](http://www.ChooseMyPlate.gov)). Are those foods exotic? No. But do they still do a great job of offering super nutrition? Yes!

To add to the confusion about exotic sports foods, the sports food industry touts their list of engineered super sports supplements. Ads lead you to believe you really need to buy these products to support your athletic performance. The question arises: Are there really special nutrients or components of food that can help athletes to go faster, higher or stronger? If so, can they be consumed in the form of whole foods or do we actually need special commercial supplements?

At a 2014 meeting of Professionals in Nutrition for Exercise and Sport (PINESNutrition.org), exercise researchers from around the globe discussed that topic and provided the following answers to the following thought-provoking questions.

*Is there any difference between consuming pre-exercise caffeine in the form of pills, gels or coffee?*

Regardless of the source of caffeine (pill, gel, coffee), it is a popular way to enhance athletic performance. Take note: High doses of caffeine (2.5 to 4 mg/lb body weight; 6 to 9 mg/kg) are no better than the amount athletes typically consume in a cup or two of coffee (1.5 mg/lb; 3 mg/kg). Hence, drinking an extra cup of coffee is unlikely to be advantageous, particularly when consumed later in the day before an afternoon workout and ends up interfering with sleep.

*Do tart (Montmorency) cherries offer any benefits to sports performance? If so, what's the best way to consume them?*

Tart cherries (and many other deeply colored fruits and veggies) are rich in health-protective antioxidants and polyphenols. Tart cherries can reduce inflammation, enhance post-exercise recovery, repair muscles, reduce muscle soreness, and improve sleep. Athletes who are training hard, participating in tournaments, or traveling through time zones might be wise to enjoy generous portions. Yet, to get the recommended dose of cherries that researchers use to elicit benefits, you would need to eat 90 to 110 cherries twice a day for seven days pre-event. Most athletes prefer to swig a shot of tart cherry juice concentrate instead!

*What about food polyphenols such as quercetin and resveratrol?*

Polyphenols are colorful plant compounds that are linked with good health when they are consumed in whole foods. Yet, polyphenol supplements, such as quercetin or resveratrol, do not offer the same positive anti-oxidant or anti-inflammatory benefits. An explanation might be that once in the colon, where most polyphenols go, parts leak into the bloodstream during heavy

exercise. These smaller compounds create the anti-inflammatory effect. Athletes who routinely eat colorful fruits during endurance training offer their gut the opportunity to distribute good health!

*Does curcumin reduce chronic inflammation?*

Curcumin (an active constituent of tumeric, the spice that gives the yellow color to curry and mustard) has beneficial properties that have been shown to help prevent cancer, enhance eye health, and reduce inflammation. Subjects with osteoarthritis (an inflammatory condition) who took curcumin supplements for 8 months reported less pain (due to less inflammation) and better quality of life. Unfortunately, curcumin is rapidly metabolized and therefore has low bioavailability when consumed in the diet. To increase absorption, supplements often contain curcumin combined with piperine (black pepper extract).

*Does green tea help improve body composition in athletes? What is the best way to take it?*

Green tea reportedly enhances fat oxidation and helps with weight loss, particularly when combined with caffeine. But the amount of additional fat burned is minimal, and the 10 to 12 cups of green tea needed to create any effect is a bit overwhelming. (Hence, most studies use a green tea extract.) Because green tea has not been studied in lean athletes, we can only guess that it is unlikely to offer a significant improvement in body composition.

*Is watermelon juice a powerful stimulant for sports performance?*

Watermelon juice is a source of L-citrulline, an amino acid that contributes to production of nitric oxide. Nitric oxide helps relax the blood vessels and thus enhances blood flow so more oxygen can get transported to the working muscles. One study with athletes who consumed L-citrulline supplements reports they attained a 7% higher peak power output as compared to when they exercised without L-citrulline.

Yet, when athletes were given watermelon juice (contains L-citrulline) or apple juice (that has no L-citrulline), the peak power was only slightly higher and the L-citrulline gave no significant benefits. The bottom line: Watermelon is a nourishing fruit and a welcome refreshment for thirsty athletes. You would need to eat a *lot* of watermelon to get the equivalent of L-citrulline found in (expensive) supplements. Your best bet is to enjoy watermelon in standard portions as a tasty addition to your sports diet.

*What can be done with pea, hemp, or other plant protein to make them as effective as whey for building muscle?*

In general, plants (such as peas, hemp) contain less leucine than found in animal proteins. Leucine helps drive the muscle's ability to make new protein. Hence, to increase the muscle-building properties of plant proteins, you need to either eat large portions of, let's say, hemp or pea protein (to get a bigger dose of leucine), or you can combine those plant-foods with leucine-rich proteins, such as soy, egg, or dairy foods.

*The bottom line:* Your best bet to optimize performance is to optimize your total sports diet. No amount of any supplement will compensate for lousy eating, though a few just might enhance a proper diet.

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