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A QUICK LESSON IN ANTIOXIDANTS FOR SWIMMERS

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A young swimmer emailed me and wanted to know if antioxidants would help her swim better and recover faster. A great question, so here is a primer on antioxidants, with tips to help you choose antioxidant-rich foods.

When you exercise, you take in more oxygen by deep breathing and then you deliver that oxygen in your blood to working muscles.

As your muscles work, they generate power for sport but also generate molecules called free radicals. These molecules are very unstable and they can "oxidize" leading to muscle fatigue.

Oxidation is a normal process, and you see examples of it around you all the time. A car rusting is oxidation and an apple or avocado slice that turns brown is oxidation. To prevent oxidation, you need an antioxidant. That is why dipping apple slices in orange juice or squirting lemon juice on avocado when making guacamole prevents browning (the result of oxidation).

Your body is pretty good at making its own antioxidants, and we have several systems in place to repair oxidation damage.

Several nutrients are key players in the body's natural antioxidant systems, most notably vitamin C and vitamin E. All of this sounds like swimmers should load up on antioxidants, but not so fast.

Some researchers think that high doses of antioxidants in supplement form may impair muscle function or delay the training adaptation of muscle. Maybe those free radicals are signaling the muscle to help it adapt to hard training.

For now, the best advice is not take supplements of vitamin C or vitamin E or other antioxidants, but get a wide variety of antioxidant-rich foods so the muscles get the nutrients they need without getting too much. (Editor's Note: Regarding supplements, it's also worth noting that USA Swimming considers dietary supplements "take at your own risk," placing full responsibility for any effects and repercussions on the athlete).

Antioxidant rich-foods are not only found in fruits and vegetables, but also in whole grains, nuts and seeds, and those are exactly the kinds of foods sports dietitians (and moms and dads) have been encouraging young swimmer to eat for a long time. Here are the top food choices for antioxidants. And, with the summer months in full swing, you should be able to find plenty of antioxidant-rich fruits and veggies at your farmer's market.

ANTIOXIDANT-RICH FRUITS

Berries (all types)
Cantaloupe
Grapefruit and grapefruit juice
Kiwi fruit
Olives
Oranges and orange juice



ANTIOXIDANT-RICH VEGGIES

Baked potato
Broccoli
Brussels sprouts
Cabbage
Cauliflower
Peppers (all kinds, including hot peppers)
Tomato



ANTIOXIDANT-RICH NUTS AND SEEDS

Almonds and almond butter
Hazelnuts
Peanuts and peanut butter
Pecans
Pistachios
Sunflower seeds
Walnuts



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