

Do Antioxidant Supplements Help Athletic Performance?



by Tasha Gerken

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You may have heard that excess amounts of “free radicals” increase your risk of cell and DNA damage, or worse, your risk of cancer. What you may not know is that overdoing it with antioxidant supplements designed to quench those free radicals may actually thwart your body’s own immune mechanisms. When you exercise, the body uses oxygen and the energy it converts from food to produce energy for exertion. When the food-derived energy is broken down, it generates substances called “reactive oxygen species” (ROS, or “free radicals”).

Free radicals (ROS) are what damage muscle cells, forcing the body to undergo repairs after each bout of exercise. Antioxidants – namely, vitamins C, E, beta-carotene, and selenium – have the opposite role, working as a team to counteract free radicals and [protect your cells](#) from oxidative damage. It’s no wonder sports scientists and athletes are enthralled by the potential for antioxidants to prevent damage (and post-workout pain). So, are antioxidant supplements a worth-while investment, or should you leave well-enough alone when it comes to fighting the exercise-induced uptick in ROS?

Biologically-speaking, your immune cells require ROS to zap bacteria and harmful viruses that pose a threat to your health. Additionally, new research gives us reason to believe that ROS and other by-products of exercise have more than just immune functions. They appear to be a key reason why exercise increases our insulin sensitivity and helps our cells take up glucose for energy (therefore lowering blood sugar) post-workout. Furthermore, their presence helps promote the body’s own natural antioxidant response. In fact, experts are beginning to think that ROS may not be the *cause* of muscle damage at all, but possibly just a by-product instead.

So despite the increased levels of ROS, regular exercise seems to help your body respond to oxidative stress caused by free radicals much better than your couch-potato friend’s body can. In other words, the extra ROS your body produces during exercise may not actually cause harm. To the contrary: ROS may enhance your exercise performance and endurance by boosting the number of mitochondria (energy production sites) in your muscle cells. **Should you take an antioxidant supplement after exercising? Probably not. But should you stop eating antioxidant-rich fruits, vegetables and tree nuts as a regular part of your diet? Definitely not!**