

555 GOLF NUTRITIONAL TIPS

'PERFORMANCE EXCELLENCE'

RESVERATROL

One last antioxidant that we believe is helpful in reducing oxidative stress is the polyphenol resveratrol. This antioxidant is commonly found in the skins and seeds of red grapes, blueberries, cranberries and peanuts, and the roots and leaves of certain herbs.

Resveratrol first received attention when scientists examined the diets of the southern Mediterranean populations seeking clues as to why there is such a low incidence of cardiovascular disease in these cultures despite the fact that the people of this region consume significant amounts of bread, pasta and fats. In examining the daily diet patterns of the region's adult population, the researchers noticed the prevalence of whole grains (versus processed grains), monounsaturated and polyunsaturated fats (versus saturated fats), and red wine. In looking more closely at the components of red wine, researchers isolated resveratrol as an antioxidant with oxidative-stress-relieving properties.

While a range of research studies have demonstrated resveratrol's impact on oxidative stress, most of these studies have been conducted on laboratory animals and human tissue samples versus live human subjects:

Resveratrol modifies cardiovascular risk factors in porcine model. A 2011 study found that Yorkshire pigs fed a high-cholesterol diet and supplemented with 100 mg/kg/day of resveratrol over a seven-week period had lower BMI, lower cholesterol, improved glucose tolerance and lower levels of a common inflammation marker, C-reactive protein in comparison to pigs fed the same diet but without supplemental resveratrol.[1]

Resveratrol inhibits melanoma cell growth in murine model. A 2011 study found that laboratory mice injected with cancer cells and fed 1 mg/kg/day of resveratrol had 75 percent less liver melanoma cell growth compared to laboratory mice who were injected with the metastatic cancer cells alone.[2]

Resveratrol improves oxidative stress and inflammation markers in diabetic mice. A 2010 study examined the impact of 20 mg/kg/day of supplemental resveratrol in healthy mice and mice with type-2 diabetes compared to control mice of both populations, which received no resveratrol. Results showed diabetic mice who received resveratrol had significantly higher levels of nitric oxide (an indicator of enhanced antioxidant activity)

and significantly lower levels of the inflammation marker TNF (tumor necrosis factor).[3]

Interestingly, when researchers have tried to test resveratrol in various dosages up to 5,000 mg per day in live human studies, they have been unable to produce results that demonstrate conclusively resveratrol's effectiveness. This is in contrast to NAC, CoQ10 and omega-3 fatty acid supplementation where there have been a number of live human studies demonstrating efficacy in different measurements.

This contrast puzzles researchers because the average glass of red wine only contains 2 mg to 3 mg of resveratrol and the average southern Mediterranean adult consumes one to two glasses of red wine per day. One school of thought among researchers as to why large doses of resveratrol don't seem to produce the effects that they see in lab animal and human tissue studies is that the body doesn't need massive doses of resveratrol. Instead, the body needs a regular, consistent source of the polyphenol. Put another way, the body will use resveratrol effectively and efficiently when it knows it will have a consistent source of the antioxidant rather than periodic large doses. As a case in point, one laboratory rat study examining various resveratrol dosage levels found cardiovascular-protecting effects at relatively low doses that diminish at higher dosage levels.[4]

Therefore, we do not recommend taking massive doses of resveratrol. Resveratrol is typically sold as grape seed extract or Japanese knotweed extract. These formulas typically contain 100 mg to 200 mg daily doses, which is more than adequate for most people, but keep in mind that only a portion of the grape seed extract or Japanese knotweed contains resveratrol molecules. For example, when looking at the supplement facts box on the label of a resveratrol product, you might see that it contains 100 mg of grape seed extract with an 8 percent resveratrol concentration (meaning there is only 8 mg of resveratrol in each daily dose of the product).

In our opinion, increasing your blood serum levels of these four powerful antioxidants mentioned in this report can help reduce oxidative stress and inflammation with three of them, NAC, omega-3 fatty acids and CoQ10, also providing energy to help improve exercise performance/tolerance.

As we mentioned in relation to NAC and CoQ10, omega-3 fatty acids and resveratrol do not appear on the government's DRI list. So if you're only taking a one-a-day type multi-nutrient, you are not getting four of the most powerful antioxidants used in your body.

Further, if you're not consuming a Mediterranean-style diet, you are missing out on significant sources of these powerful antioxidants. Supplementing your current diet with these four antioxidants can provide your body with significant elements of a

Mediterranean-style diet, but we'd still recommend that you consider substituting foods in your current diet wherever possible to incorporate those commonly found in the southern Mediterranean diet.

**“Welcome Aboard!”
“Enjoy The Ride!”**

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