

Supplement Talk

Antioxidants, bioflavonoids, phenols and tannins, oh, my! Does supplement terminology seem confusing and make you wonder what exactly the terms mean for your health? Advisor Carol Jamison, NMD clears up the mystery.



There is an abundant amount of evidence that the burden of oxidative stress on the human body is responsible for many chronic conditions, cardiovascular disease, cancer, and nerve degeneration diseases. Our bodies have a way to manage this burden through the use of antioxidants we make and ingest. By purposefully reducing things that create extra oxidative stress – poor diet, smoking, sedentary lifestyle, etc. – and by supporting detoxifying pathways and antioxidant levels, we can fight oxidative stress damage better. Here we will focus on antioxidants.



Antioxidants are a complex system that is made up of a group of substances that inhibit oxidation. Oxidation is like rusting on the inside, causing cell damage and interfering with cell function. The process of oxidation creates “free radicals”, which is any atom or molecule that has an unpaired electron in the outer shell. Free radicals accelerate cell aging. The role of the antioxidant is to sacrifice itself to neutralize the threat of the free radical, by donating an electron.

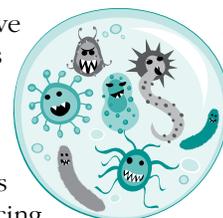
Most types of antioxidants can regenerate themselves. But others like melatonin are called terminal antioxidants because they irreversibly sacrifice themselves – thus, creating the need to take in this type of antioxidant daily. Antioxidants are added to foods, industrial and other products to prevent harmful chemical reactions. For example often fish oil will have alpha tocopherol (vitamin E) or rosemary extract added because they are natural antioxidants that keep the oil from going rancid, which is a good thing.

An article found in the *Journal of Oxidative Medicine and Cellular Longevity* identified 9 categories of antioxidants that include carotenoids (lycopene, lutein and beta-carotene), enzymes (SOD, catalase, glutathione), hormones (melatonin, oestrogen), lipid associated chemicals (CoQ10, N-acetyl cysteine and alpha lipoic acid), minerals (zinc, selenium, copper), phenolics (quercetin, catechin and more), saponines/steroids (cortisone, estradiol and estriol) and vitamins (alpha tocopherol, ascorbic acid). Another category that should be included are antioxidant herbs such as curcumin and ginkgo.



Here are a few examples of what some of these antioxidants do for us. Melatonin is a powerful free radical scavenger and helps to detoxify cells. Melatonin is important for the ability to sleep and helps to protect the brain. The phenolics category include resveratrol, quercetin, bioflavonoids, tannins and polyphenols. This class of

antioxidants are found in plants and have many benefits including fighting infections by acting as defense against damage from bacteria or fungi. There are many cardiovascular protective effects such as contributing to inhibition of thrombus formation and platelet aggregation, reducing the risk of atherosclerosis and hypertension. Plus, they reduce oxidative stress and vessel inflammation and have a positive impact on blood lipids. Alpha lipoic acid is a sulfur containing antioxidant that can also chelate some metals and has the ability to help protect cells from damage of elevated blood sugar as with diabetes.



Carotenoids are found in plants and microorganisms and are known to prevent or inhibit certain types of cancer and atherosclerosis. They also help prevent age related muscle degeneration and other diseases.

With all this great information you may be tempted to start gobbling up loads of antioxidant supplements, but as with everything moderation is best. A few precautions if you have cancer and are undergoing chemotherapy or radiation, taking antioxidant supplements is contraindicated. The concern is that they work so well to repair tissues the cancer cells may use them to protect against the cancer treatments. If you are on contraceptives, under age 18 or pregnant, always check with your health care professional before supplementing. Bioflavonoid supplements should be avoided during pregnancy as well. Remember, blood thinning medications have many interactions. Always speak with your doctors first. Don't forget, you also get more antioxidants by increasing dietary intake of fresh, colorful organic fruits and veggies, green and black teas. And occasionally, even a little high quality dark chocolate!

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References omitted for space consideration. Available on request.
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