Antioxidant Supplements: Do They Help

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Since Denham Harmon M.D. Ph.D (Gerentologist) first proposed the Free Radical Theory of aging in 1956, there have been numerous research studies carried to help us understand the influence of free radicals and antioxidants on the development or prevention of many diseases, including cancer, heart disease, Alzheimer's disease and many others. As research findings from various studies have trickled down to the public media over the years many consumers have embraced the idea that taking antioxidant supplements, like Vitamin C and Vitamin E, can reduce free radical damage to their body and help slow the aging process, and reduce their risk of developing at least 60 different degenerative diseases.

What Are Free Radicals And How To They Harm Us?

A free radical is an unstable molecule that is missing an electron and its sole mission is to strip an electron away from a neighbouring molecule, which, in turn, changes that molecule into a free radical. This newly formed free radical must now steal an electron from its nearest molecular neighbour, and on and on (like a dominos effect).

It is this aggressive chain reaction that causes extensive body tissue damage to accelerate aging, contribute to heart disease, stroke, Alzheimer's disease, age-related dementia, cataracts, macular degeneration of the eye, weakening of the immune system, wrinkles and other degenerative conditions or to create cancerous DNA mutations.

Where do free radicals come from?

The most glaringly obvious example is cigarette smoke, including second-hand smoke, which are both loaded with free radicals. Not only can it attack the DNA of lung cells to create lung cancer, but cigarette smoking is associated with approximately 30% of all human cancers cases.

Cancer expert Dr. Bruce Ames also reveals that during normal metabolism oxygen can be transformed into free radicals. He estimates that each cell in the body endures 10,000 free radical hits per day just from oxygen free radicals alone.

Other known free radical sources are: alcohol; heterocyclic amines – from charred barbeque or blackened meats and fish; polycyclic aromatic hydrocarbons (PAH) – in smoked meats and fish; pesticides (eg. DDT); nitrosamines – in foods containing nitrate and nitrite salts; UVB and UVA rays; x-rays; air pollution; occupational free radicals –carbon tetrachloride, asbestos, vinyl chloride; heavy metals - mercury, cadmium and lead.

So, there is no escaping some free radical damage during your lifetime, but the trick is to try to minimize your exposure to free radicals as much as possible.

What Do Antioxidants Do?

Antioxidants are the only molecules that can quench or neutralize free radicals in the body by converting them into non-harmful chemicals. Although the body makes several antioxidant enzymes our bodies require additional antioxidant protection form dietary antioxidants such as Vitamin C, Vitamin E, Vitamin A, Beta-carotene and other carotenoids (e.g. lycopene, lutein zeaxanthin) flavonoids, bioflavonoids, isoflavones and many other plant-based phytonutrients that provide antioxidant protection. As Bruce Ames points outs, individuals who consume at least 5 servings of any combination of fruits and vegetables (please don't include potatoes on this list boys) have cancer rates that are 50% lower than those who consume less than this amount. Experimental evidence is also strong showing that various

antioxidant supplements can inhibit cancer developmen, as well decrease incidence of many other degenerative conditions and slow the aging process itself.

Can Antioxidant Supplements Slow Aging In Humans And Decrease Risk Of Degenerative Diseases?

Although the debate continues and not all studies have shown positive outcomes, antioxidant supplements given to human subjects in various clinical trials have been shown to:

- Slow the progression of prostate Cancer (Ornish Dean 2005)
- Reduce overall cancer mortality (Blot WJ, et al. 1993)
- Reverse the precancerous conditions leukoplakia (a precancerous mouth condition) and cervical dysplasia (precancerous changes on the cervix of the uterus) (Garewal HS, 1995; deVet HC, 1991).
- Reverse a precancerous stomach condition known as atrophic gastritis (Rembiasz K, 2007)
- The study by K Lockwood and fellow researcher in Molecular Aspects of Medicine (1994 and 1996) showed that breast cancer survivors had better outcomes by taking high dosages of certain antioxidants supplements as a follow-up to surgery, radiation and/or chemotherapy, compared to women who receive standard medical care only.
- Block the formation of cancer-causing nitrosamines (Block G, 1991).
- Slow progression of Alzheimer;s disease (Grundman M, 2000)
- Slow progression of Parkinson's disease (Schultz C. 2007)
- Boost immune function in older subjects (Meydani SN et al *JAMA* 1997)
- Slow progression of macular degeneration (AREDS study 2001, Archives of Ophthalmology)
- Reduce skin damage from ultra-violet light (Firkle T, 2000)
- Improve blood circulation (endothelial function) in diabetics with vascular disease (Hamilton S et al. Diabetes Care 2009)

How To Protect Yourself From Free Radical Damage

To protect yourself against free radical damage it is best to reduce your exposure to the avoidable sources of sources of free radicals listed above. Of course, you should not reduce your exposure to oxygen because your body needs it for energy production. However, oxygen is a double-edged sword. Even though we need it for energy about 2-5% of oxygen in your cells are converted into free radicals, which can do an extensive amount of damage to your body over your lifetime. The same way that oxygen in the air causes the flesh of an apple to turn brown and rot (visible evidence of free radical damage), oxygen in our cells also causes us to rot (the only difference is that we call it aging, not rotting, when it happens to us). But, notice how squeezing lemon juice on the flesh of the apple slows down the rotting effect. This is because Vitamin C in lemon juice can quench free radicals (including oxygen free radicals) decreasing their damaging effects. The same appears to be true in the body; higher intake levels, blood levels and tissue levels of antioxidants help to quench free radicals in the body, minimizing the amount of damage they do to us. Hence, many experts suggest that we take targeted dosages of certain antioxidant supplements each day, in addition to eating fruits and vegetables that have a high concentration of natural antioxidants already built in.

So, I strongly recommend eating at least 5 servings of fruits and vegetables every day along with taking an antioxidant-enriched, high potency, multi-vitamin and mineral supplement that contains the following antioxidant dosages:

Vitamin C – 1,000 mg
Vitamin E Succinate – 400 IU
Selenium – 100-200 mcg
Vitamin A – 2500 IU
Beta-carotene – 10,000-20,000 IU
Lutein – 6 mg
Lycopene – 6 mg
Bioflavonoids – 50 mg

Keep in mind that higher doses may be required for nutritional management of certain health conditions.

To gain a better understanding of what supplement ingredients and dosages are most suitable in your case I suggest you take the free online Natural Health Test at www.naturalhealthtest.com