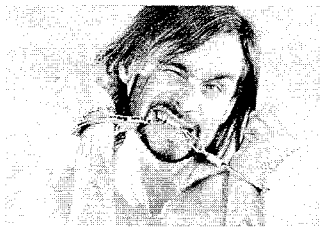
Who Set Those Radicals Free?



Antioxidants Neutralize Free Radicals, Slow the Aging Process, and Prevent Chronic and Degenerative Diseases

Free radicals have received a lot of publicity in recent years, because modern medical research has identified free radical damage as an underlying cause of premature aging and many chronic and degenerative diseases. Overall, free radicals have been implicated in the pathogenesis of at least 50 diseases.

Free radicals are molecules that are missing electrons. Since these compounds are "hungry" for electrons they "steal" them from other compounds, such as cell membranes, DNA or other cellular components. This destabilizes the tissues that have been robbed of electrons, causing them to also steal electrons perpetuating the damage. This process is also known as oxidation.

Oxidation is a natural process occurring all around us. For example, when a fire is burning, wood or other fuel is being rapidly oxidized or broken down to release heat and light. Most oxidation takes place more slowly, such as iron rusting or silver tarnishing.

The body uses controlled oxidation to burn carbohydrates, fats and proteins, releasing the energy stored in them for cellular functions. The body also uses oxidation to destroy invading microbes as part of the immune response.

So, as long as oxidation is controlled, it is a useful part of the process of life. Free radicals, however, cause oxidation to spin out of control, thus damaging life. You see this process at work when you cut into an apple and it turns brown. Oxidation or free radical damage causes the apple to start to decay.

Neutralizing Free Radicals with Antioxidants

Antioxidants are compounds that prevent oxidation from causing healthy tissues to decay. They are like the radiator or cooling system in your car. Your car engine burns or oxidizes gasoline in a controlled way, but this generates excess heat. The cooling system of your car removes this heat to keep it from damaging the engine. Antioxidants have the same function in living tissues—they keep the metabolic engine from "overheating" and causing damage to the body.

An antioxidant is a substance that can donate an electron without becoming immediately unstable. The antioxidant donates an electron to the free radical, making it stable. This is why putting slices of apple into some water containing vitamin C, an antioxidant, will keep them from turning brown as quickly.

Without the aid of antioxidants, oxidation can damage DNA, causing cells to mutate and become cancerous. Oxidative damage will also give rise to arterial plaque, causing heart disease and increasing the risk of strokes. Without antioxidants, free radicals can damage brain tissue, leading to Parkinson's disease, Alzheimer's disease or senility.

In short, antioxidants are Nature's anti-aging compounds, protecting us from diseases associated with aging. So, in this *Sunshine Sharing*, we'll discuss how to use antioxidants to keep free radicals under control and protect your body from prematurely "rusting" and "rotting."

Look inside to learn how to neutralize free radicals with antioxidants...

SUNSHINE SHARING

Your guide to better health the natural way.

Vol. 24 No. 6

Important Notice

The information in *Sunshine Sharing* is for educational purposes only and should not be used to diagnose and treat diseases. If you have a health problem, we recommend you consult a competent health practitioner before embarking on any course of treatment.

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A Rainbow of Antioxidants

Plants, like people, are subject to free radical damage, so they protect themselves by producing a lot of antioxidants. When we eat these plants, we get the benefit of those antioxidants. That's why most nutritional experts agree that eating 5 to 7 one-half cup servings of fresh fruits and vegetables is one of the best things anyone can do to improve their health.

The beautiful colors of fresh produce are primarily the result of antioxidant compounds. So, by eating a "rainbow" of brightly colored fruits, vegetables and herbs, we are providing the body with a wide variety of protective antioxidants.

While it's true that we can get isolated antioxidants from supplements, these are not nearly as effective as whole food antioxidants. Here's why. Remember the apple and the vitamin C water we talked about on page one? Putting slices of apples in water with vitamin C inhibits them from turning brown, but it won't keep them fresh forever. That's because antioxidants wear out.

When an antioxidant donates an electron to a free radical, it will remain stable for a while, but it is now missing an electron. Eventually, the antioxidant will destabilize and become a free radical itself, unless a more powerful antioxidant comes along and donates an electron to it. In other words, antioxidants need to be refreshed or recycled.

Nature does this by pairing multiple antioxidants together. For example, in plants, vitamin C is always found in combination with bioflavonoids. Bioflavonoids are also antioxidants, which help to replenish vitamin C. So, the vitamin C in rose hips, oranges and other foods has a more powerful effect on health than isolated vitamin C, because the other nutrients found with it act synergistically to protect the body.

So, let's take a look at some of these colorful nutrients that keep free radicals in check and discover where they are naturally found. You'll see why eating the rainbow makes good nutritional sense.

Yellow Antioxidants

Xanth is Latin for yellow, which is why yellow-colored antioxidants have names like viola*xanth*in, beta*xanth*in and zea*xanth*in. Violaxanthin is universally found in green leaves and is also found in many yellow vegetables. It has anticancer properties and is part of why eating green, leafy vegetables helps prevent cancer.

Beta is the Latin name for beets, so *beta*xanthin is an antioxidant that gives yellow beets their color. Its highest source, however, is an herb (also a common garden weed) called purslane.

Zea is Latin for corn, so *zea*xanthin is a major pigment in yellow corn. Zeaxanthin is also found in orange peppers and leafy vegetables like spinach, kale and collard greens.

Zeaxanthin and an antioxidant pigment called lutein, are extremely important antioxidants for the eyes. The name lutein comes from the Latin *lutea*, a word for the color saffron (a yellow-orange color). Both zeaxanthin and lutein are essential for the health of the macula at the back of the eye. The portion of the macula where light falls on the eye is colored yellow by these two pigments, which is why it is called the macula lutea (lutea again meaning saffron yellow). These antioxidant pigments protect the eye from ultraviolet (UV) radiation damage, which can help to prevent macular degeneration, a common cause of blindness. Both of these yellow antioxidants are found in the formula **Perfect Eyes**, a combination of antioxidant nutrients to protect the eyes.

Orange Antioxidants

Many orange-colored foods, such as carrots, apricots, peaches and sweet potatoes, get their color from carotenes or carotenoids. These precursors to vitamin A are also found in collards, kale, spinach, pumpkins, chard, winter squash and tomatoes. They are powerful antioxidant and anti-carcinogenic compounds. They help to protect the health of the lungs, eyes, cardiovascular system and the skin.

Carotenoid Blend contains a blend of both beta-carotene and alpha-carotene, plus lutein and zeaxanthin, mentioned above. It also contains lycopene, cryptoxanthin, phytoene, phytofluence and astaxanthin. The standard dose is one capsule three times daily.

Two more orange pigments with antioxidant properties are cryptoxanthin (which is found in oranges, peaches, mangos, papaya and tangerines) and curcumin from turmeric. Curcumin is a powerful antioxidant that reduces inflammation, protecting the liver, brain and cardiovascular system from damage. It inhibits cancer cell formation, stimulates bile production, aids liver detoxification and helps the body fight infection. It is also helpful for reducing pain associated with inflammation in osteoarthritis and other chronic inflammatory diseases. **Curcumin^{BP}** is a concentrated extract of this compound from turmeric with black pepper to aid its absorption.

Red Antioxidants

One of the most well-known red pigments is the antioxidant lycopene. Lycopene makes tomatoes red and is also found in guava, watermelon, pink grapefruit and dried apricots. Research suggests that lycopene may help prevent cancer, especially cancers of the prostate, lung and stomach. Lycopene is an important ingredient in **Men's Formula**, which helps protect prostate health, but it is also found in **Brain-Protex**, an antioxidant blend for protecting brain tissue from free radical damage. Brain Protex is a good antioxidant supplement for people who want to avoid losing their memory and mental ability as they age.

Red peppers contain the antioxidants capsanthin and capsorubin. These are very stable antioxidants derived from violaxanthin as peppers ripen, and contribute to the health benefits of **capsicum**.

Anthocyanins are red antioxidants which change color with pH. They are pink or red in an acidic environment and then turn blue in an alkaline environment. In plants, they are "blue blockers," filtering out ultra-violet (UV) light and protecting tissues from UV damage. Bright light stimulates anthocyanin production in plants.

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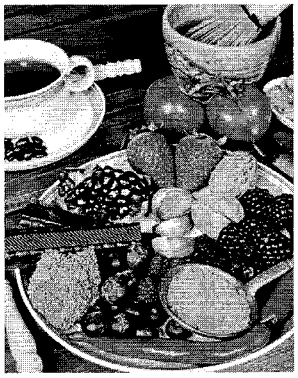

Antioxidant Supplements

For a lot of people, dietary supplements offer a convenient, easy way to get the antioxidants they need to quench free radicals and ensure optimum health. There are general antioxidant supplements with wide-ranging effects, like Thai-Go and specific antioxidants for more specific health issues, such as alpha lipoic acid and Co-Q10. Here are some good options.

Thai-Go

Thai-Go is a blend of fruit juices and other botanical ingredients that are rich in naturally occurring antioxidants such as polyphenols, flavonoids, xanthones and vitamin C. A key ingredient in Thai-Go is mangosteen, a tropical fruit high in xanthones, antioxidant compounds that are also antibiotic, antiviral, anti-allergenic and anti-inflammatory.

Thai-Go also contains wolfberries, also known as goji berries or lycium. These berries, which are becoming increasingly popular in health food stores because of their antioxidant activity, are a major Chinese tonic herb. They have a cooling quality—reducing fever, sweating, irritability and thirst.

Thai-Go also supplies proanthocyanins in the form of grape skin and seed extracts and anthocyanins from blueberries. Green tea extract, rich in antioxidants called polyphenols, provides further protection from free radical damage. Other ingredients in Thai-Go include sea buckthorn, rich in vitamin C, red raspberry, apple and concord grape.

Thai-Go has a certified ORAC value (ORAC is a measurement of something's ability to neutralize free radicals) and has the highest ORAC value of any product of its kind. It can help protect the cardiovascular system, boost immunity, reduce allergic reactions, reduce inflammation and more. It is easy and pleasant to take. In fact, it tastes so good that children will readily take it. A couple of tablespoons twice daily is all that is needed, although many people take more.

Super ORAC

For those who don't want to take a liquid formula, Super ORAC has some of the same benefits as Thai-Go in capsule form. It contains mangosteen extract, turmeric root, polyphenols from green tea, açaí berries and more. Take 1-2 capsules of Super ORAC twice daily for prevention of chronic illness or for reducing inflammation and pain in the body.

Super Antioxidant

Another encapsulated antioxidant product is Super Antioxidant, which contains tocotrienols, lycopene, alpha lipoic acid, rose hips, milk thistle and tumeric. This product helps protect the body against free radical damage and assists in the process of liver detoxification to help remove toxic chemicals from the body. It's a good formula to try if you are frequently exposed to chemicals.

Alpha Lipoic Acid (ALA)

Most antioxidants are either water or fat-soluble. Alpha Lipoic Acid is both, making its protective powers available to all of the cells in the body. This is why ALA is called the universal antioxidant, as it can protect the integrity of the cell membrane, while offsetting cellular stress. ALA protects nerve cells and promotes mitochondrial activity to keep your body and its tissues young. It also helps support the body's natural removal of toxins by aiding detoxification pathways in the liver.

Co-Q10 50

Co-Q10 is a vitamin-like substance present in every cell in the body. It is vital for cellular energy, cardiovascular health and longevity. Co-Q10 is required for energy production in the mitochondria of the cell where carbohydrates and fatty acids are converted into energy (ATP). As an antioxidant Co-Q10 scavenges free radicals, reducing oxidative stress on cells throughout the body, but it is particularly helpful for the heart and cardiovascular system. It protects cardiac cells, prevents lipid oxidation and promotes the regeneration of vitamin E, another antioxidant important for the cardiovascular system.

An important sign that a person might benefit from Co-Q10 is gingivitis or gum disease. There is a high correlation between inflammation of the gums and inflammation of the arteries, which promotes the formation of arterial plaque. Co-Q10 reduces this inflammation, helping both the gums and the arteries to heal. Co-Q10 50 is a highly absorbable form of Co-Q10 that is eight times more bioavailable than most other Co-Q10 products. One to two capsules per day is sufficient for most needs.

Green Tea Extract

Green tea contains catechins, a type of polyphenol with powerful antioxidant effects. This is a decaffeinated, standardized extract that concentrates these polyphenols, giving you the antioxidant equivalent of ten cups of green tea in just three capsules. These polyphenols are 200 times stronger than vitamin E in neutralizing free radicals. Green Tea Extract helps normalize vascular blood clotting and total cholesterol levels as well as having antimicrobial properties. Take 1 capsule three times daily with a meal.

There are many other antioxidant supplements available. It isn't necessary (or beneficial) to take all of them. Pick the one or two that are best suited to your needs and obtain the rest of the antioxidants you need from your diet.

Additional Help and Information

For more information on free radicals and antioxidants, contact the person who gave this newsletter to you or seek professional help. You can also consult the following sources:

The Comprehensive Guide to Nature's Sunshine Products by Tree of Light
The Antioxidant Prescription by Bryce Wylde

SUNSHINE SHARING
Your guide to better health the natural way.

Eat the Rainbow

Discover the antioxidant benefits of the pigments that make fruits and vegetables so colorful in this *Sunshine Sharing*.

There's been a lot of publicity in recent years about the discovery that oxidative stress or free radical damage is at the roots of many chronic health problems.

Antioxidants are nutrients in foods that counteract this free radical damage, slowing the aging process, protecting your health and reducing your risk of degenerative diseases.

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These anti-inflammatory compounds are found in cranberries, blood oranges, red apples, red onions, red cabbage and red wine.

Blue and Purple Antioxidants

Blueberries and bilberries are rich in blue-colored anthocyanins. These antioxidant compounds have become famous for their ability to improve night vision and protect blood vessels from inflammation. Bilberries, a key ingredient in Perfect Eyes, are used to strengthen veins and capillaries and to protect the eyes.

Purple anthocyanins give color to eggplants, grapes, elderberries and black currents. Found in combination with these purple compounds are colorless antioxidant nutrients called proanthocyanidins. Proanthocyanidins are condensed tannins (tannins create astringency in herbs) that are potent antioxidants. Proanthocyanidins are found in red wine, grape skins and seeds, elderberries, blueberries, cranberries, hawthorn, ginkgo and green tea.

The most famous of these compounds are oligomeric proanthoyanidins or OPCs for short. These short chains of flavonols such as catechin are found in pine bark and grape seeds. They are available in the formulas **Grapine with Protectors** and **High Potency Grapine** and have been used for arthritis, auto-immune disorders, macular degeneration and protection from environmental toxins.

As you can see, the rainbow of beautiful colors in fruits and vegetables is not just pleasing to the eye, it's also a sign of their health-protecting abilities. So, protect your health by eating 5-7 portions of these antioxidant powerhouses daily and using antioxidant supplements (when appropriate) for specific health needs.