

The Power of Antioxidants

Dr. Cyndi Yag-Howard explains the truth behind the antioxidant craze and how you can harness their power to improve your skin.

Until the past decade, "antioxidant" was an unfamiliar term. Today, however, we discover through media and advertising that antioxidants are important for our health. Yet, do we know why? Let's uncover the mystery behind antioxidants and learn why they are important, particularly as they relate to skin health. First, it is important to understand a little bit about our skin. Healthy skin has a brick-and-mortar-type structure that acts like protective armor for our bodies. It allows healthy

nutrients to pass into our bodies, yet protects our bodies from damaging external elements like bacteria, viruses, fungi, pollutants and ultraviolet radiation.

SKIN DAMAGE
When skin is damaged or depleted of its natural defenses, it loses its ability to function properly, leading to problems like severely dry skin, eczema, infection, or skin cancer. Statistically, you have a one in five chance of developing basal cell carcinoma

or squamous cell carcinoma and a 1 in 55 chance of developing melanoma over your lifetime. Research has helped us learn more about the many factors that cause skin cancer: genetic predisposition, complexion and skin type, certain diseases, exposure to toxic elements like pollution and cigarette smoke, and exposure to ultraviolet radiation. All of these factors can cause genetic mutations that signal skin cancer cells to develop and multiply, and free radicals are often a key ingredient in this process.



A healthy, plant-based diet is a great source of antioxidants.

Highly reactive compounds that can be induced by environmental factors like ultraviolet light, free radicals can destroy not only proteins and fats within our bodies, but also DNA, the genetic instructions that tell our cells what to do and how to behave. Once DNA is damaged, our cells no longer follow the directions. Instead, they lose control and multiply irresponsibly, the hallmark of cancerous cells.

ANTIOXIDANTS TO THE RESCUE
Enter antioxidants. Antioxidants combat free radicals by combining with them to neutralize their force, thereby squelching free radicals of their potentially damaging power. While our bodies naturally produce certain antioxidants, excessive free radical production can overwhelm our natural antioxidants' neutralizing potential. Therefore, alternative sources of supplemental antioxidants may be necessary to help in the free radical fight.

Plant-derived nutrients called phytochemicals are the most potent antioxidants, which makes sense. Day in and day out, plants are exposed to harsh environmental factors like ultraviolet radiation and pollution without the ability to protect themselves via any mechanism other than that which the plant can produce itself. These plant-derived antioxidants include carotenoids and polyphenols.

The most important Carotenoid antioxidants include beta-carotene, (from mango, apricot, carrots, kale, broccoli, spinach, squash and sweet potatoes), alpha-carotene, lutein (from red

peppers, broccoli, corn, peas, spinach, kale and leek), zeaxanthin and lycopene (from tomatoes, pink grapefruit, watermelon and guava). Retinoids serve as an example of carotenoids that are found in many popular topically-applied cosmeceuticals.

Polyphenols are a very large group of natural compounds found in a wide variety of fruits, vegetables, berries and leaves. Included within this group are tea, coffee, cocoa, red wine, grape seed extract, various spices, onions, soy and flax. Topical polyphenols that are particularly important to skin health are green tea extracts, ferulic acid (from tomatoes and rice bran), caffeine (from coffee, cocoa and green tea), coffeeberry (from the unripened coffee arabica plant), resveratrol (from grapes, cocoa and berries) and genistein (from soybeans). In fact, within the past decade or so, antioxidants have become popular additions to the list of ingredients in many cosmeceutical products to protect against ultraviolet radiation damage and help you slow the aging process.

One particularly interesting polyphenol is polypodium leucotomos extract, which is a key ingredient in an oral supplement intended to protect the skin in all individuals during periods of prolonged sun exposure and in individuals who are sensitive to sunburns and polyphenols. Not only does it possess powerful antioxidant capabilities, its anti-inflammatory properties may make it a stalwart tool in the fight to protect the skin from cancer-causing ultraviolet radiation.

BEST SOURCE OF ANTIOXIDANTS

So what is your best source of antioxidants? A healthy, plant-based diet containing a variety of very colorful vegetables and fruits. This may be combined with oral supplements to ensure adequate intake. Additionally, topically-applied, antioxidant-rich cosmeceuticals from reputable manufacturers aid in the antioxidant-versus-free-radical battle.

How do you know if you are getting the antioxidants you might need? Your skin carotenoid levels, which correlate to total tissue antioxidant levels, can be determined by obtaining a tissue carotenoid score, which is a 90-second, non-invasive test that measures carotenoids in your skin. Alternatively, you can obtain a blood carotenoid level, but results are not immediately available. It is wise to ask your primary physician more about these options.

The study and understanding of antioxidants and their potential far-reaching health benefits is growing exponentially. Antioxidants not only help prevent disease, but may actually reverse disease while seemingly slowing the aging process. This very exciting field of study deserves the attention it gets and reminds us to return to our roots—literally.

Dr. Cyndi Yag-Howard is a board-certified dermatologist who is a nationally-recognized speaker, author and leader in organized medicine.



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