

Color Your Diet — stave off aging

By Marcia Zimmerman, CN

The power of antioxidants is in the foods you eat

The principal theory of aging proposes that oxygen-free radicals disrupt cellular metabolism and are the root cause of chronic disease. Reactive oxygen species (ROS) are rogue molecules generated as a natural byproduct of energy production within cells. We aren't entirely unprotected against ROS assault. Fortunately, nature provided us with an internal antioxidant system to neutralize them. But as a person ages, their body's level of free radicals increases beyond what the internal antioxidant system can neutralize. This leads to oxidative stress. Here's where antioxidants from your diet are needed to boost antioxidant defenses.

There are distinct classes of antioxidants, each with a unique way to protect the body. Attempting to isolate a single antioxidant in the prevention or reversal of disease has eluded scientists because antioxidants work within a kind of "buddy system."

Studies show that the benefits of fruits and vegetables may be due to the synergistic effects of their components (pigmented phytochemicals) in their natural food matrix. Fruits and vegetables of a similar color contain the same phytochemicals. Might certain color groups make up a "designer" diet plan to prevent a particular disease? Read about the benefits associated with different colors below and then look to our chart for foods that may address your specific needs.

The Color Green

Broccoli sprouts are a good source of sulforaphane, a phytonutrient that helps reduce oxidative stress and inflammation—hallmarks of Type 2 diabetes.

In a recent study, 81 people with Type 2 diabetes took a broccoli sprout extract powder for four weeks. The group was divided into thirds with one-third consuming 10 grams (g) a day of broccoli powder. Another third received 5 g a day, and the rest were given a placebo. Blood samples taken after four weeks showed a significant reduction in oxidative stress and inflammation among those taking the broccoli sprout powder.

The Color Orange/Yellow

Fruits and veggies of these hues are loaded with carotenoids with powerful anticancer and antiaging benefits. These fat-soluble compounds protect plants from sun and environmental damage. In humans, carotenoids perform similar functions, altering harmful metabolic processes including inflammation, cancer cell growth, and other degenerative processes.

The Color Purple/Red

Resveratrol is a phytonutrient found in purple grapes, grape juice, and red wine. It has been linked with reduced cardiovascular, cerebrovascular, and peripheral vascular risk, and reduced risk of cancer.

Pomegranate juice is rich in flavonoids that are potent antioxidants. A recent study of eight rheumatoid arthritis patients revealed striking benefits from drinking 10 milliliters of POM pomegranate extract juice daily for 12 weeks. A 62 percent reduction in tender joints was reported.

The Color White

With so much attention given to brightly colored, antioxidant-rich foods, it's easy to overlook white foods. Don't forget that these offer phytochemical protection too. A recent Dutch study reported that those who ate the most white fruits (like pears and apples) and veggies (such as cauliflower, cucumbers, and mushrooms) had the lowest incidence of stroke. Each 25-gram-a-day increase in white fruit and vegetable consumption was associated with a 9 percent lower risk of stroke. A single apple is about 120 grams.

SELECTED SOURCES "Apples, Pears May Reduce Stroke Risk" by Bill Hendrick, www.webmd.com, 9/15/11 ■ "Broccoli Sprouts Reduce Oxidative Stress in Type 2 Diabetes: A Randomized, Double-Blind Clinical Trial" by Z. Bahadoran et al., *Eur J Clin Nutr*, 8/11 ■ "Carotenoids and Apocarotenoids in Cellular Signaling Related to Cancer" by Yoav Sharoni et al., *Mol Nutr Food Res*, 11/21/11 ■ "Colors of Fruit and Vegetables and 10-Year Incidence of Stroke" by L. M. Oude Griep et al., *Stroke*, 9/15/11 ■ "Consumption of Pomegranate Decreases Serum Oxidative Stress and Reduces Disease Activity in Patients with Active Rheumatoid Arthritis: A Pilot Study" by A. Balbir-Gurman et al., *Isr Med Assoc J*, 8/11 ■ "Longevity Nutrients Resveratrol, Wines, and Grapes" by I. Lekli et al., *Genes Nutr*, 3/10 ■ "Taking a 'Good' Look at Free Radicals in the Aging Process" by S. Hekimi et al., *Trends in Cell Biology*, 8/11

COLOR GROUP	Fruit and Vegetable Subgroup	Try These
Green	Cabbages	Brussels sprouts, broccoli, green cabbages
	Dark, green leafy vegetables	Kale and spinach
	Lettuces	Endive and other lettuces
	Other green fruits and vegetables	French beans, green sweet pepper, honeydew melon, kiwi
Orange/ Yellow	Citrus fruits	Citrus fruit juices, grapefruit, orange, tangerine
	Deep orange fruits and vegetables	Cantaloupe, carrot, carrot juice, peach, apricot
Purple/Red	Berries	Cherries, grapes, grape and berry juices, strawberries
	Red vegetables	Red beet, red beet juice, red cabbage, red sweet pepper, tomato, tomato juice and sauce
White	Allium family bulbs	Garlic, leek, onion
	Hard fruits	Apples, pears, apple juice and sauce
	Other white fruits and vegetables	Banana, cauliflower, cucumber, mushroom