

# BEAUTY *is more than skin deep*



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*For ageless ageing, you must nourish the skin from within,* writes Carolyn Moody.

**T**he beauty products industry – hair and skin care, cosmetics and perfumes – is worth \$170 billion annually worldwide\*. The \$60 bn that Europeans spend on beauty products and \$2.2 bn on cosmetic surgery is testament to our desire to look young and beautiful. Dealing with the external signs of ageing through expensive face

*Can diet help us protect skin and keep us looking younger and healthier?*

creams, fillers and surgery may make us feel better, but at a price. Understanding the fundamental process of ageing may provide a less expensive way of slowing down the formation of wrinkles and create better health into old age.

Our skin, hair and nails, like every cell in the body, are made up of different kinds of protein. Research into diabetes and anti-ageing over the last 20 years has shown how over time these proteins are damaged in all of us by a process known as glycation – a sugar molecule attaches itself to a protein or fat molecule resulting in the formation of a ‘glycated protein structure’ called Advanced Glycation End product or AGE.

In connective tissue, glycation causes cross linking, a process that binds cells to each other causing them to malfunction. Connective tissue is found throughout the body (muscles, joints and skin) and is vital to the structure of the body and its organs. Glycation and AGEs are linked to many diseases of old age, as well as the external signs of ageing through this cross linking of connective tissues. Most affected in skin are collagen and elastin. Internally when collagen and elastin become damaged, the result is a loss of elasticity

in arteries (leading to high blood pressure), the weakening of the heart's ability to pump blood, and damage to nerves, kidneys and other organs. Externally, glycation and cross linking of collagen and elastin make the skin lose its youthful elasticity and muscles sag. Starting as early as 35, we develop wrinkles and start looking older.

To make things worse, glycation and AGEs combine with free radicals to make the skin more vulnerable to damage. Free radicals are cells produced by biological processes as well as other factors, such as pollution, cigarette smoke, sun, drugs, pesticides, heavy metals and diet.

### THE BENEFITS OF A GOOD DIET

So can diet help us protect skin and keep us looking younger and healthier? While a 2007 study in the British Journal of Dermatology found that sugar is the main culprit, other research shows that glycation is also caused by heated fats. Yet more studies have shown that eating vegetables and raw foods helps to avoid glycation and the formation of AGEs.

Here are a few simple tips for reducing the production of AGEs in the body and for feeding protective antioxidising enzymes.

- Control blood sugar by avoiding or reducing blood sugar disruptors. These are sugar (including fructose unless contained in a piece of fruit); caffeine found in coffee, tea, cocoa and cola drinks; alcohol; white refined starches (white rice, pasta, peeled potatoes, cakes, biscuits, breakfast cereals); tobacco; some prescribed medications and recreational drugs.
- As AGEs form faster at high temperature and in foods cooked in fat or oil, try cooking food at lower temperatures in water or own juice. Browning or caramelised food, while tasting great, contains more AGEs. Adding acid foods like tomatoes, lemon juice or vinegar to food helps reduce AGEs.
- Eat a raw salad meal every day, even during the winter. Raw vegetables contain enzymes that help with digestion and detoxification, and they are low in AGEs.
- Make sure every meal consists of at least 50% plant-based foods, such as fruits, vegetables, nuts and seeds as they are low in AGEs.
- Choose cold pressed seed and nut oils, including coconut oil, over refined fats found in bakery products and fast foods. Refined fats contain higher levels of AGEs. Fat from organically reared animals contains good mono-unsaturated fat as well as small amounts of saturated fat needed to produce healthy hormones (also important for healthy skin).
- Reduce cheese consumption. All cheeses are acidic and their fermentation process encourages the formation of AGEs. Aged cheeses like parmesan are particularly high in AGEs.
- Switch from coffee to green tea which is full of antioxidants that interfere with glycation while stimulating collagen production.
- Take a daily supplement containing zinc, selenium, vitamin C, B vitamins, beta carotene, vitamin E and plant-based antioxidants.
- Some research shows that taking the amino acid, carnosine, protects against the build up of AGEs.

### USEFUL WEBSITES

\*[www.datamonitor.com](http://www.datamonitor.com)  
[www.Aging-No-More.com](http://www.Aging-No-More.com)  
[www.ncbi.nlm.nih.gov/pubmed/20497781](http://www.ncbi.nlm.nih.gov/pubmed/20497781)  
<http://lpi.oregonstate.edu/fw04/browning.html>

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