

SUGAR: WHY IT'S NOT SO SWEET FOR YOUR SKIN

Part 1: Focus on Glycation - What it is, and How to Stop it

Hi, I'm Dr. Whitney Bowe, author of *The Beauty of Dirty Skin*. This video is all about sugar. I have a sweet tooth. I love dessert. I also spent over a decade on the study of how different foods impact your skin and your overall health and wellness. Being a research scientist in this area took some of the fun out of eating my favorite chocolate bourbon pecan pie.

To start, eating sugar causes glycation -- a silent process that is taking a toll on your skin. I'm here to tell you what glycation is, and how to stop it from happening in the first place. Let's first talk about how sugar hides in plain view. Apart from the obvious places, if you look on a label—even in unlikely places such as hamburger buns, French fries, potato chips, and processed meats – I bet you will find it. It may be called something other than “sugar”—cane sugar, sucrose, fructose, agave nectar, high fructose corn syrup—but sugar is sugar, no matter how you spell it. There are more than 50 names for sugar! And it can be hard to avoid if you don't make a conscious effort and know what to look for.

Sugar in any form causes multiple changes in our body, from our cellular membranes and our arteries to our hormones, immune systems, gut, and even microbiome—the microbes in our intestines that affect our biology all the way out to our skin. Now, there's a lot going on when it comes to how sugar impacts your skin through myriad pathways in the body. Spiking insulin and inflammatory pathways are just a couple of ways. There's another big reason to avoid too much sugar that has a direct hit on skin: glycation, which is our focus today.

Glycation is the biochemical term for the bonding of sugar molecules to proteins, fats, and amino acids—not something you want to have happen – trust me. This bonding is a prominent feature of aging; in the late stages of the reaction, so-called advanced glycation end

products (commonly shortened, appropriately, to AGEs) are formed. When proteins become glycated, they become stiff and much less functional. Imagine what that does to the proteins in your skin. They also tend to attach themselves to other similarly damaged proteins and form cross linkages that further inhibit their ability to function. But, far more important is that once a protein is glycated, it becomes the source of a dramatic increase in the production of free radicals. And you probably know what that means: damaged tissues in the wake of a free radical's path—inside and out. Researchers have linked advanced glycation end products to hardened arteries, tangled nerves, wrinkles, and multiple disease processes. Collagen and elastin, the fibers you know keep skin firm and elastic, are among the most vulnerable proteins in this process.

To see AGEs in action, simply look at someone who is prematurely aging—someone with a lot of wrinkles, sagginess, discolored skin, and a loss of radiance for their age. What you're seeing is the physical effect of proteins latching on to renegade sugars. Scientists can document a parallel in animal research between how much sugar they consume and how fast their skin ages. More sugar equates with prematurely “older looking” skin that has lost its elasticity and suppleness.

Or check out a heavy smoker: the yellowing of the skin is another hallmark of glycation. Smokers have fewer antioxidants in their skin, and the smoking itself increases oxidation in their bodies and skin. So, even if smokers are careful about their sugar intake, and limit the production of AGEs, their skin still suffers because they can't break their AGEs down! They cannot combat the by-products of normal processes like glycation because their bodies' antioxidant potential is severely weakened and, frankly, overpowered by the volume of oxidation. For most of us, smokers and non-smokers, the external signs of glycation begin to show up in our mid-thirties,

when we've experienced enough hormonal change and environmental oxidative stress, including sun damage. But heavy smokers will have more extreme signs of glycation.

Don't get me wrong: Glycation *to some degree* is an inevitable fact of life. It's a product of our normal metabolism and fundamental in the aging process. But we want to limit or slow down the glycation process. Many strategies to promote longevity and a youthful appearance are now focused on how to reduce glycation and even break those toxic bonds. But this can't happen when we consume a high-carb diet, which speeds up the glycation process. Sugars in particular are rapid stimulators of glycation, as they easily attach themselves to proteins in the body. And guess what: High fructose corn syrup is among the top dietary sources of calories in America. This form of sugar increases the rate of glycation by a factor of ten!

So the take home message here is that you **HAVE** to reduce your sugar intake to maintain healthy skin. I said reduce- I still eat my pecan pie when I want to splurge. I'm all about realistic living and moderation, so what I'm saying is be mindful of your sugar intake and realize what you are putting into your body and how it is impacting your skin. Start limiting those refined and processed sugars found in lots of packaged, processed foods. Whole, fresh foods are the way to go whenever possible.

And, if you're really serious about healing your skin from the inside out and the outside in and you want to increase your energy, productivity, and lose weight as an added bonus, check out my book – *The Beauty of Dirty Skin* and my website at www.drwhitneybowe.com which is full of information to help you achieve your skin goals.

Thank you for taking the time to focus on your most healthy, radiant skin! Until next time!