

**BEAUTY STORE**  
**BUSINESS**  
magazine



**Skincare Spotlight**



**Inflammation + Aging = Inflammaging**

Help your customers understand inflammation's impact on aging skin and how they can stay looking youthful for as long as possible.

by Ada S. Polla

**WHEN THINKING ABOUT WHAT CAUSES ACCELERATED or premature skin aging, we typically think about free radicals; the sun; maybe smoking; maybe sugar. Not often do we think about inflammation. Yet we should—inflammation is a pro-ager. What exactly does this mean, and why is this the case? This column may be slightly more technical or scientific than my usual review of industry trends or ingredients; but it is key that our industry understand inflammation—and its role in aging (of the skin and beyond). Only with this clear understanding can we perform one of our key roles, which is to reeducate (or sometimes reeducate) our customers and help them lead the healthiest life possible, and look youthful for as long as possible.**

**SOME INFLAMMATION IS GOOD**

As is usually the case in science, it would be too simple to just say that inflammation is bad. It is not a question of black or white; it is all in shades of grey. Between the interior of the human body and the harmful factors present in its environment, the skin provides a reactive, self-renewing, "smart" barrier of protection. But if this barrier of protection is compromised, the second line of defense comes into play. This defense is the process of inflammation, which occurs to protect the body from infection and stimulate repair. We are all familiar with the signs of swelling, pain, heat and redness that occur with inflammation. Inflammatory protection has been key to ancestral human survival, which depended largely on the ability to resist infection and disease. Short-term inflammation is thus an important response to infection or harm being done to the body.

**TOO MUCH INFLAMMATION IS BAD**

However, over the long-term, inflammation has been found to be associated with aging and several diseases that are often observed later in life.

*Inflammation accelerates the aging process*

Diabetes, Alzheimer's disease and heart disease are just some of the ailments that are associated with

inflammation. Aging itself appears to be a result of an accumulation of inflammation over a lifetime. As opposed to all other systems that decrease with time or become destabilized, inflammation actually progressively accumulates with age. A measure of inflammation can also predict the future occurrence of cancers, diabetes and heart disease. What helps the body survive in the short-term appears to be detrimental for long-term health.

Dermal fibroblasts produce collagen; but in a state of chronic inflammation, instead of producing collagen, these cells produce enzymes that destroy collagen and other skin tissues. This destruction allows the immune system to have easy access to the detected inflammation site to treat the infection. However, in the case of chronic inflammation, there is often no infection present that can be solved by means of free radical attack. The

**"Inflammaging" is a term that refers to inflammation associated with the acceleration of the aging process.**

"Inflammaging" is a term that refers to inflammation associated with the acceleration of the aging process. This is a chronic inflammation response that comes from both low-level exterior irritants and interior accumulation of free radical damage.

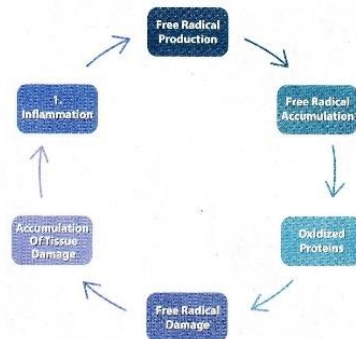
Constant exposure to low-level pollution, irritants, smoke, cytotoxic substances and UV light leads the body to believe that it is being constantly invaded. This triggers chronic inflammation that sets in over time, to be ready to fight against this perceived constant invasion and protect the body.

While initially triggered as a protection system, chronic inflammation leads to an increase in free radicals within our bodies.

**"INFLAMMAGING" AGES THE SKIN**

As we know, the skin is particularly susceptible to the damage produced by free radicals. Collagen and elastin, the components in the skin which maintain its healthy appearance, are easily degraded in the presence of free radicals resulting from inflammation. A state of chronic inflammation thus accelerates skin aging due to destruction of collagen, elastin and hyaluronic acid in the skin tissue.

result can be overall chronic damage to delicate tissues such as skin tissue. In combination with the increased amount of free radicals, which accumulate in the cells, the result is more inflammation and damaged skin tissue in a vicious cycle leading to accelerated aging.



**REEDUCATING OUR CUSTOMERS**

The long-term effects of inflammation on skin aging are important to keep in mind when using skincare treatments and products. Chronic inflammation can be induced or



aggravated by harsh treatments that can sometimes be understood by the body as an invasion. Steps should be taken to protect and enforce the skin's natural barrier function. Healthy skin's barrier role is to block harmful invasion of the body before the inflammatory response is launched, but at the same time allow beneficial factors such as moisture to pass. Some steps to help skin barrier function can include: protecting the skin from water loss, UV damage and oxidative damage by moisturizing creams with UV protection and antioxidants.

The customer will often need to be reeducated in terms of inflammation, in particular when it comes to skincare products and treatments. Indeed, the concept that inflammation accelerates aging goes against the popular idea in skin care that "if it doesn't tingle, it is not working." Whether discussing professional peels, acid-based home-care products, or both, it is essential to

## The customer will often need to be reeducated in terms of inflammation ... when it comes to skin care and treatments.

understand that there is a downside to aggressive efficacy—and that downside is inflammation.

It is therefore essential to complement more intense products and treatments with home care that has anti-inflammatory effects. Various ingredients, including vitamins, minerals, and phyto-chemicals help manage or avoid inflammation. Antioxidants counteract the formation of free radicals, which play a large role in accelerated aging related to inflammation with oxidative damage. Resveratrol, from grape seeds and blueberries, has been found to be both a

natural anti-inflammatory and antioxidant agents, which is why it is a particularly popular ingredient in skincare products. Antioxidants such as quercetin, also found in blueberries, can neutralize free radicals and help prevent and reduce cell damage from free radicals.

### BEYOND SKIN CARE ...

Of course, a healthy lifestyle is always the answer. Managing inflammation in general appears to be one of the keys to aging gracefully. Beyond skin care, exercise and a healthy diet help with chronic inflammation. Regular physical activity

has been found to reduce fat mass and tissue inflammation, which can lead to overall reduced chronic inflammation. A Mediterranean diet rich in fruit, vegetables, whole grains, fish and olive oil and low in red meat has been associated with low inflammation and may help reduce chronic inflammation. Diets that can possibly stimulate inflammation should be avoided: such as those that contain high levels of processed grains, saturated fat and red meat. ■

---

*Ada S. Polla is the president and CEO of Alchimie Forever. She is the co-creator of her family's Swiss-based skincare line, which she launched in the United States in 2004. Her skincare knowledge and business skills have yielded double-digit annual-revenue growth for the brand. She holds an MBA from Georgetown University and received a bachelor of arts degree from Harvard University.*