



Before and after the biostimulating Sculptra treatment

Inflammation: Source of Aging or Anti-Aging Tool?

When asked about the impact of inflammation on her practice, Dr. Cynthia Gregg, one of the Triangle's most highly respected facial plastic surgeons, responds with a smile. "In a way, you could say that inflammation is pretty well central to everything we do.

"You have to understand what 'inflammation' means," she explains. "From my perspective, inflammation—or, rather, the inflammatory response—is about healing, it's about aging, and it's also an anti-aging tool."

Health&Healing: Tell us more.

DR. GREGG: Let's begin with healing. From a surgeon's point of view, wound healing has several phases. One of those early phases is the inflammatory phase—which is the body's natural healing mechanism. That's the good inflammation: you cut your finger; the body rushes blood, fluid, and protein to the injury. There is heat, swelling, and pain; but healing takes place.

That process is a part of every surgery we do. The surgery itself is a wound and inflammation is a critical part of the healing process. Our job is to both use and manage the inflammatory response as our patients heal.

He&H: How to you "manage" the inflammatory response?

DR. GREGG: Basically, we want just the "right" amount of inflammation. The initial inflammatory response is essential, but we don't want it to become excessive or last too long.

Every surgery is influenced by many factors and we need to take these into account. For example, patients with an inflammatory condition such as rosacea or diabetes need special attention. Because they have such a high level of inflammation in their skin, not only do their wounds not heal as well, but they're also more prone to infection. That's particularly true with a diabetic patient whose glucose is not well-controlled.

So, we work with those patients to reduce their inflammation—*before* surgery. We want to make sure their blood sugar is controlled and their primary care doctor is involved—all this is important because surgery is a stress, and that increases inflammation.

For folks who have rosacea—a chronic inflammatory skin condition—there are other challenges. Their skin is already inflamed, so it's got more blood flow to it and is more irritated and more fragile. As a consequence, what I've noticed with rosacea patients is that they tend to bruise more and swell more postoperatively. It's not a reason not to do surgery, but the better job we can do in getting their rosacea under control, the better result they'll have. In such cases, I'll bring in our aestheticians who have many options for calming the skin and getting active rosacea under control. Again, this is something we do *before* surgery.

There are other ways we manage inflammation. If multiple procedures are needed, we often limit these to one at a time, allowing the body time to recover between procedures.

"By triggering the right amount of inflammation, we can also produce beneficial cell-level reactions."

And, although inflammation is absolutely a part of early wound healing, we don't want it to go on too long. Even before surgery, we'll start patients on arnica montana and bromelain, anti-inflammatory supplements that are excellent for wound healing support. Post-op, an anti-inflammatory diet—low on sugar and carbs, high on protein—is critically important.

He&H: What's the connection between inflammation and aging?

DR. GREGG: Aging is basically an inflammatory process. There's even a term for the impact of inflammation on the skin—it's called "inflammaging." Your skin ages not so much from the number of years you've lived, but from the stresses you've experienced over those years.

Whatever its source, chronic inflammation damages your cells and speeds up skin aging; it also prevents your skin from recovering. A lot of aging is due to skin thinning and the laxity that develops with the aging process. There's a loss of elastin, a loss of collagen, and a loss of filler. All these processes are accelerated by inflammation.

Also, the "inflammaging" process is unique to each patient. For one it can be damage from years of smoking or sun; for another, stress or disease may have played a role. Genetic factors are also important—especially those affecting the texture and thickness of the skin. However, inflammatory stressors—diet, sun, pollution—contribute significantly to skin aging, regardless of genetic factors.

So, an inherent part of every surgery I do is to respect the skin that the patient has, and work with what it can and can't do. With a face lift patient, for example, I can pull the muscles back and remove excess skin. But, if their skin is particularly thin, they may also need a biostimulating filler or hyaluronic acid for skin care.

He&H: You have described inflammation as a tool; what do you mean by that?

DR. GREGG: This is why understanding the inflammatory response is so important. By triggering the right amount of inflammation, we can also produce beneficial cell-level reactions.

Collagen offers a perfect example: it's a protein responsible for healthy joints and skin elasticity. As we age, we lose our collagen and it gets harder for our bodies to produce more.



This patient—in her late fifties—was an excellent candidate for CO2 laser therapy based on her skin type and her skin's response to the sun. She was mainly concerned with the coarse and fine wrinkles (Rhytids) in her facial skin, especially in her cheeks and around her mouth.

But, thanks to the natural inflammatory response, there are now ways to restore collagen. We use a number of biostimulating products—such as Sculptra—to harness the inflammatory response. This is an example of inflammation reversing skin aging rather than accelerating it.

Microscopic Sculptra crystals induce a mild inflammatory reaction under the skin where they are injected, triggering the formation of new collagen, as white blood cells surround the microcrystals. Over time, collagen production gradually increases, making the volume-enhancing results of the Sculptra treatment apparent in about six to eight weeks. The true and lasting effects evolve slowly, requiring weeks or months to become fully evident.

Another option we have for stimulating collagen production is the CO2 aesthetic laser. This is considered the gold standard, and for people with the right indications and skin type, CO2 laser therapies are the closest thing to "ironing" out the wrinkles in the skin.

The laser's heat causes an inflammatory response, stimulating more collagen and the growth of brand-new skin cells, while at the same time removing old skin cells. Like biostimulating fillers, the CO2 laser takes some time to produce full results, typically between six and ten months. *h&h*

For more information, contact:

**CYNTHIA GREGG, MD
FACE & BODY SPECIALISTS**

**Cynthia Gregg, MD
Cindy Wu, MD**

**3550 NW Cary Parkway, Suite 100
Cary, NC 27513
Telephone: (919) 297-0097
www.cynthiagreggmd.com**