



Botox for the Aging Face

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Almost 20 years have passed since the first Botox Cosmetic® (botulinum toxin A) injections were done for unsightly frown lines between the eyebrows. Now that the long-term safety of Botox® has become clinically established, with millions of men and women having received injections, Botox treatments have become the #1 cosmetic procedure in the US.

How did the Botox phenomenon develop to become a regular

part of grooming for so many millions? The answer is quite simple: Since Botox injections target wrinkles that are caused by daily muscle contraction – smiles, frowns, squinting at the sun – almost anyone is a suitable candidate. Furthermore, all of our wrinkles are exacerbated by sun exposure. One 10-minute treatment – a few tiny injections – blocks the nerve impulses and relaxes the muscles. As the muscle relaxes, the dynamic wrinkle overlying the muscle is smoothed away.

Botox for the Aging Face *cont'd*

Facial Expression and Sensation

In that the treatment only relaxes the muscle beneath the line at the injection site, it has little effect on other elements of facial expression and on sensation in the area. A few days following a Botox injection, most people see a more relaxed, calmer, friendlier appearance when looking in a mirror. The effects of Botox Cosmetic usually last three to four months, at which time another injection is required. After several treatments, improvements often appear to last longer as the skin "redrapes" itself. Repeated use is truly anti-aging.

Botox® targets wrinkles caused by daily muscle contraction.

Botox is close to being the perfect cosmetic procedure. When done properly, it is quick, relatively painless and results in no downtime without any serious adverse consequences. Side effects such as bruising or the unattractive "droopy eyelid" are rare when the procedure is done by a skilled and experienced physician. Furthermore, any problem that does develop is temporary and usually mild.

Treatment is quick and relatively painless; side effects are rare.

Botox can be combined with laser procedures, chemical peels, microdermabrasion and fillers. A natural temporary filler, Restylane®, is made of hyaluronic acid, the gel that holds you



Figure 1a. Restylane®, Levulan® and laser treatment used to improve skin tone and fine lines.



Figure 1b. Note the elevation of the brow and widening of the eyes.

together. Levulan® is another natural product that removes early skin cancers. It is a clear liquid that is applied to the face, and then activated with a laser light. Botox, Restylane®, and Levulan® can be combined on the same visit to produce an even better result as is shown in Figure 1.

Guide to "Off-Label" Uses

While Botox has FDA approval only for the glabellar frown lines between the eyebrows, it is used "off-label" (use not approved by FDA) by physicians for many other cosmetic concerns including:

- 1. Horizontal forehead lines:** Look in the mirror and lift your eyebrows. Some foreheads have so many lines that they resemble a plowed field. A good practitioner will put in just enough Botox to soften those forehead lines without having the patient completely lose the ability to lift the brow. People communicate with their brows, and if the forehead does not move at all, the appearance is one of fatigue or the "deadpan" expression that everyone dreads.
- 2. Around the eyes:** As we age, the sun, wind, time and laughter all create "crows' feet" wrinkles around the eyes. Some patients tell me that they've "earned those lines," but that is like saying middle-age spread points to a well-spent life. Just 6-12 units of Botox around each eye can often result in a more wide-eyed, alert and attractive appearance.

Botox can also lift the brow, and for most women, the brow is everything. They like to have more of a "plateau" for their eye makeup, and some have called the skin below the lateral brow the most valuable "real estate" on a woman's face. (Figure 2)

Used properly, Botox does not produce the dreaded "deadpan" expression.

- 3. Around the mouth:** Vertical lip lines are, like cellulite, the bane of most women's existence. The appearance of these lines, as well as their progression, can be improved by the judicious use of a few units of Botox around the mouth. Often the Botox injections into the upper lip result in more lip showing, with better profile of the upper lip border.

As we age, we also develop a downturn of the lateral edges of the mouth. This is called "mouth frown" and it portrays a bitter expression. Who doesn't like the Mona Lisa smile? Botox can help your smile muscles lift the corners of your mouth when injected into the opposing muscles that pull it down. We can't do anything about gravity, but we can weaken the muscles that pull your face down.



Figure 2a. Before: Botox® to elevate the brow and open the eyes.



Figure 2b. After: Note the elevation of the brow and smoothing of the skin around the eyes.

Botox can also be injected into the point of the chin, softening a dimpled chin appearance. Studies have shown that if the lip is enhanced with a filler at the same time as the Botox treatment, the filler will last longer.

- 4. The neck and décolleté:** Horizontal necklace lines, vertical muscle bands running down the neck and V-shaped grooves on the sun-exposed upper chests of women can all be softened with Botox.

Treatment can also result in blissful breaks from migraine.

- 5. Medical conditions:** During the last two decades, Botox has also been used with increasing frequency for a growing number of medical conditions. One of the most exciting observations by patients undergoing Botox injections in their frown areas was that they experienced fewer headaches. In the FDA approval study for Botox Cosmetic, more headaches were reported with the placebo injections than the Botox injections. In fact, experience has subsequently borne out that about 80% of people can experience blissful breaks from migraine and tension headaches.

Botox is also used to treat excessive sweating (hyperhidrosis) of the underarms, palms and feet. People with this problem suffer in silence, frequently avoiding social situations and clothing that shows their profuse perspiration. The treatment can also do amazing things for cervical and laryngeal (voice box) spasms. These are uncontrolled contractions of shoulder, neck, laryngeal and limb muscles following a stroke, multiple sclerosis, and brain and spinal cord injuries.

The uses of Botox continue to expand. It has recently been investigated as a way to alleviate prostate enlargement, a condition that affects more than half of men over the age of 75. The agent works by relaxing the prostate gland and improving urine flow. Botox can also be useful in treating people with overactive bladders. Another recent study showed that it helped patients suffering from tinnitus (ringing in the ears).

Medical uses are varied and many, ranging from sweating to spasms.

But Is It Safe?

The safety of Botox was questioned in November, 2004, when Bach McComb, an osteopath with a suspended Florida license, injected himself, his girlfriend and another couple with raw botulinum toxin. All four became quite ill. The press blamed Botox, but that was not what was injected. Scientists have calculated that these four individuals received hundreds of thousands or even millions of units of toxin which was not approved for human use. (The usual dose for Botox Cosmetic in the face is about 30 units to treat the frown between the brows.)

Investigators subsequently discovered that at least 219 physicians throughout the US bought this toxin in a formulation designed to imitate Botox Cosmetic from an Arizona supplier. This supplier has been shut down, and the owners have been indicted on federal charges. The moral of the story is that you should see only reputable physicians who use Botox Cosmetic purchased from a reliable and safe source.

The moral: See only only reputable doctors and avoid risk of raw botulinum toxin.

Look better, feel better and more confident. As a cosmetic physician, I have heard many patients describe treatment with Botox as "the miraculous antidote of the 21st century." That is why I recommend the treatment to those who wish to repair the damage of photoaging and the toll taken on their faces by too many smiles and too many frowns in too many passing years. **SCFJ**

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