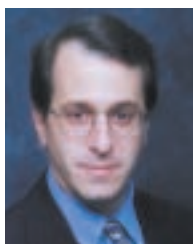




Brow Lifts with Botulinum Toxin

BY KENNETH BEER, M.D.



Botulinum toxin has many uses in dermatology — including brow shaping. But, sculpting eyebrows with botulinum toxin (Botox) requires a great deal of knowledge and technical ability. A brow that is too low will result in patients who appear tired. One that is too high or too peaked will lead to patients who appear quizzical. And somewhere between these two extremes is the Goldilock's brow — one that is “just right”.

AN INDIVIDUALIZED APPROACH

In order to create the perfect brow, the first thing you need to realize is that not all brows are created equally. This was first taught to me by Jean Carruthers, M.D., who illustrated various instances of treatment results that were entirely different despite each being reached through brow lift. For instance, men tend to need horizontal orientation of their brows while women require arches. The exception to this rule is for some men with “pretty” faces (as Dr. Tim Flynn has pointed out) such as may be seen in models and film stars.

In addition to brow differences between the sexes, there are profound differences in brows of the same sex across the age divide. As we age, the upper third of the face typically begins to drift southward. Eyelids and eyebrows tend to fall, creating a laxity that can be easily exacerbated with poor botulinum toxin technique. A patient with lax or redundant brows and eyelids will tend to use his or her frontalis to maintain the brow in a neutral position. To correctly shape the brow, you need to treat the frontalis with this in mind. Since the frontalis pulls the brow superiorly when engaged, the upward vector will compensate for some component of lid and brow ptosis. Failure to recognize this will result in a brow and/or eyelid ptosis in patients that need their frontalis for neutral brow and eyelid position.

SCULPTING FEMALE BROWS

To sculpt the brow of a female with good tone and no significant laxity, you need to relax the medial brow depressors. This can be accomplished with three to five injections of about 20 to 25 units of Botox Cosmetic into the glabella area. If you want to enhance the lateral lift in a patient with dynamic frontalis muscles and no laxity, you should inject 15 to 20 units of Botox in the medial frontalis. This will result in a compensatory lifting by the lateral frontalis. Two to three units of Botox injected at the lateral orbicularis, where it tugs the lateral brow downward (which may be easily visualized by asking the patient to close their eyes tightly), will neutralize the downward vector laterally. This little addition will frequently produce dra-

matic brow lifting. Combining injections of the medial and lateral depressors with injection of the medial frontalis will produce a lateral brow lift that is aesthetically pleasing in young women.

In older women, care must be taken not to address them as older women. In addition, you must avoid relaxing the frontalis to a degree that drops the entire brow. This over relaxation is common in overzealous Botox treatments of the frontalis in women over the age of 50, who rely on this muscle to hold everything up. For women in this group, injection of the medial depressors with 20 units of botox and the lateral orbicularis with 2 units of Botox will raise the lateral brow. Care should be taken when injecting the frontalis and it should almost never be injected in its lower 1/3.

CONSIDERATIONS FOR TREATING MEN

Brow treatments for men are, in general, much simpler. One significant difference from women is that treatment of the brow in men may require 50% more botulinum toxin. For instance, the medial brow in women may be treated with 20 to 25 units whereas in men this area requires 25 to 35 units depending on the muscle mass of the individual. Treatment of the frontalis and lateral



orbicularis also requires more Botox than the same areas in women.

As mentioned, the shape of the male brow is also different from that of a female. In men, the most common aesthetic shape is a horizontal brow. One consideration for male treatments is that most men have receding hairlines that give a larger forehead surface. Thus, when treating the brow by relaxing the frontalis and brow muscles, you need to be careful not to accentuate an already obvious lack of hair. In order to avoid

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Illustration from the textbook Baumann L. "Cosmetic Dermatology: Principles and Practice" McGraw Hill, Philadelphia, March 2002.

accentuating a lack of hair, something that I as a follicularly challenged individual am sensitive to, it helps to avoid getting rid of every last wrinkle. If you smooth out the entire forehead of someone with a receding or high hairline, you'll draw attention to the upper third of the face.

Injections for men typically involve 30 to 35 units across the frontalis with 25 to 35 units for treatment of the glabella. In most instances, it is best to forego the injection placed in the lateral orbicularis that is used to arch the female brow.

THE TEMPORAL FUSION PLANE

One key to sculpting brows is understanding the temporal fusion plane. This is the plane where the frontal and temporal bones join. Lateral to this seam, the frontalis muscle has diminished activity while the area medial to this is quite active. In order to achieve an arched brow, treatment of the female brow should allow the lateral portion of the frontalis to raise the brow. Shaping a male brow, in contrast, requires a more horizontal injection line that extends lateral to the fusion plane.

Brow shape is innately dependent on frontalis muscle activity and shape. The shape of the muscle may vary from one person to the next with some being bifid while others are more uniform in distribution. Bifid muscles may be distinguished by palpation and observation during attempts to raise the brows. In a bifid muscle, injection of the medial aspect will have no effect on the brow as there is no muscle to treat. In a uniform muscle, injection of the medial aspect will have the effect of reducing medial frontalis contractions, producing a compensatory lateral brow lift. These nuances are important for shaping brows and are very variable among individuals.

In addition to the gravitational forces and chronologic forces pulling the brow downward, there are muscular forces that pull downward as well. Medially, these include the corrugator supercilli and depressor supercilli. Laterally, the supero-lateral quadrant of the orbicularis oculi pulls the lateral brow downward. ■

RECOGNIZING DIFFERENCES

Using botulinum toxin for brow sculpting can lead to excellent results, however it is a technique that requires a great deal of knowledge and advanced injection techniques. For me, the key to doing this successfully is recognizing the differences among individuals and between the sexes. ■

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Disclosure: Dr. Beer is a speaker for SkinMedica and performs clinical trials for Medicis. He also conducts clinical trials and speaks for CollaGenex and Dermik.