

WHERE THE **EXCHANGE** ON AESTHETIC PERSPECTIVE BEGINS

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On point with off-label Botox

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By Lisette Hilton

Reasons to Smile

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ADAMSTOCK

On point with off-label Botox

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Whether they intend to or not, cosmetic surgeons are treating botulinum toxin patients for more than to diminish facial lines.

Beverly Hills facial plastic surgeon Behrooz Torkian, M.D., Dr. Torkian says lots of his botulinum toxin type A patients come in initially for cosmetic issues. The migraine sufferers among them, however, know the neuromodulator treatment is wearing off when their headaches return.

“I just do the same cosmetic Botox that I do for everybody else, but there happen to be some people that say it works for their migraines, so they’ll come back for that,” Dr. Torkian says.

The cosmetic practice is fertile ground for blossoming botulinum toxin use. Newly released 2016 plastic surgery statistics by the American Society of Plastic Surgeons (ASPS) show Botox [Allergan], Xeomin [Merz Aesthetics] and Dysport [Galderma] treatment were by leaps and bounds the most popular among the minimally invasive procedures member plastic surgeons performed in 2016. Of the 15.5 million minimally invasive procedures that year, botulinum toxin type A treatments exceeded 7 million, according to [ASPS](#).



A Wonder Drug

Possible botulinum toxin type A uses are indeed growing, although some alternatives to traditional cosmetic treatment are not well studied and are used off-label.

“It seems as if every day there is a new use for Botox,” says Miami, Fla., plastic surgeon Jacob Freiman, M.D.

Dr. Freiman

In fact, uses for botulinum toxin type A have a history of morphing. Researchers noted health benefits from the powerful toxin in the 1950s and 1960s. Those were the decades in which Physiologist Vernon Brooks discovered that injecting small amounts of the toxin into hyperactive muscles impacted local nerve endings and resulted in a temporary relaxation of the muscles. Later, in the ‘60s, ophthalmologist Alan B. Scott conducted experiments injecting botulinum toxin type A into monkeys. His theory was that the botulinum’s muscle-relaxing effect might treat strabismus. And he was right. It worked for blepharospasm, too.



Quite by accident, in the early 1990s, Canadian ophthalmologist Jean Carruthers noticed the frown lines on her blepharospasm patients were fading. So started botulinum toxin type A’s cosmetic journey to FDA approval for glabellar lines and more.

It didn't stop there.

“Botulinum toxin ... is FDA approved for treatment of a myriad of pathologies, such as hyperhidrosis, migraine headaches, urinary incontinence caused by an overactive bladder, muscle spasms in multiple sclerosis, etc.,” Dr. Freiman says. “It is also being used ‘off label’... for many more pathological conditions, such as painful sex, premature ejaculation, relieving tension on cleft lip repairs, Raynaud’s phenomenon and neck spasm, among others. One study even showed a vast improvement in depression. Some are calling Botox a wonder drug.”

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Off-Label Cosmetic Use

Patient shown before and after botulinum toxin type A to the chin to treat "cobblestoning." Photos courtesy Dr. Larry Lickstein.



Even physicians trained in cosmetic medicine underutilize Botox, Dysport or Xeomin for routine cosmetic concerns, says plastic surgeon Larry H. Lickstein, M.D. Among those uses: to treat the wide lower face; soften facial appearance and improve skin quality; to treat dynamic neck bands; to smooth “cobblestoning” over the chin; to soften fine lip lines; to improve corners of the mouth that have turned down; and to address the gummy smile.

Using botulinum toxin type A to treat a wide lower face is popular in Korea and other parts of the Far East, according to Dr. Lickstein, who practices in Northern Virginia.

“It is now being used regularly on women who have a square-shaped face and broad jawline. Frequently this is attributable to a well-developed masseter muscle, and may be associated with bruxism...,” Dr. Lickstein says.

Washington, DC, facial plastic surgeon Houtan Chaboki, M.D., says he also uses neuromodulators, such as Botox, to soften large jaw muscles and finds the approach has more than cosmetic appeal.

“I perform this procedure for cosmetic purposes, but patients with TMJ, or teeth grinding, have reported benefits. Unlike Botox for

wrinkles, results for masseter muscle treatment gradually develop over weeks, but the treatment needs to be repeated less often, usually after several months,” Dr. Chaboki says. “Botox jaw reduction lasts approximately three to six months. Treatments need to be performed at least two to three times a year to maintain results.”



To soften facial appearance and improve skin quality, Dr. Lickstein says he uses the concept of “micro-Botox,” which entails using very dilute doses and injecting intradermally, as opposed to subcutaneously or intramuscularly.

“[The concept] was introduced by Woffles Wu in Singapore in the early 2000s,” Dr. Lickstein says. “The low dose does not paralyze muscles as dramatically, but rather softens their actions by affecting the fibers inserting in the skin. We also know that Botox affects glands in skin (consider its use for sweating), and many patients observe improved skin and even reduced pores.”

Botulinum toxin type A treatment of the dynamic neck bands also seems to be gaining ground among cosmetic surgeons.

Most neck bands are redundant skin or platysmal muscle bands or margins, according to Dr. Lickstein.

“In some individuals, these bands are quite active and will move during speech. In those select patients the bands can be softened and made inactive with Botox,” Dr. Lickstein says.

San Diego, Calif.-based plastic surgeon Paul Chasan, M.D., says Dr. Chasan Botox treatment for early neck banding is an exciting area in cosmetic surgery.

“Many patients in their early and mid-40s have neck banding but are not ready for a mini facelift. Botox in this area works beautifully,” Dr. Chasan says.



Yet another potential botulinum toxin use: to relax muscles over the chin to treat “cobblestoning,” according to Dr. Lickstein.

“Some individuals will notice a wrinkled, irregular, almost corrugated appearance over their chin when they make certain expressions or speak certain words,” Dr. Lickstein says.

NEXT: [Reasons to Smile](#)

Reasons to Smile

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Patient shown before and after botulinum toxin type A to treat a gummy smile. Photos courtesy Dr. Larry Lickstein.

“In small doses (8 to 10 units total), this result can be achieved without impacting lip movement,” Dr. Lickstein says.

Botox can also weaken the depressor angularis oris, which pulls down the corners of the mouth, according to Dr. Lickstein.

San Francisco-based plastic surgeon Jonathan Kaplan M.D., MPH, Dr. Kaplan says he uses Botox to treat that downturn of the lip corners.

“I ... place it on either side of the chin to allow the corners of the mouth to go up (turning that frown upside down),” Dr. Kaplan says.

Dr. Kaplan also uses it for sweaty palms, as he demonstrates in [this YouTube video](#).



And to address the gummy smile, physicians like Dr. Lickstein use Botox to weaken lip elevators and soften smiles that show the gums above the upper dentition.

Antiaging specialist Lionel , D.O., who practices in New York, Dr. Bissoon N.Y., says he also uses Botox for gummy smiles.

“... we'll inject one to two units of Botox into the upper lip muscles and below the nose to relax and weaken the muscles, which then lowers the upper lip down the teeth for a normal, gum-free smile,” Dr. Bissoon says.

No Sweat

Cosmetic surgeons are among the providers using botulinum toxin type A to treat hyperhidrosis.

Again, it's not something Dr. Torkian says he pursues, but he'll do it when patients ask and are candidates for treatment.

“Every year, around this time of year, before summer, I'll do about a handful of armpit injections. I don't do many hands or soles of the feet because they tend to be more painful. The armpit can be tolerated very easily,” Dr. Torkian says.



Wound Healing

Botulinum toxin type A's potential use in scar contracture could be particularly interesting for cosmetic surgeons, according to Dr. Torkian. Studies suggest that injecting botulinum toxin into a wound might improve the cosmetic results of wound healing and scar formation.

“It’s a little counterintuitive based on what we know about the mechanism of botulinum toxin because there’s no nerve to target or organ junction-mediated activity that occurs through scar contracture or wound healing. But somehow or another, it improves wound healing. I’m very excited to see how that develops,” Dr. Torkian says.

Researchers are experimenting with watering down botulinum toxin A to correct crepey areas of the neck.

“It requires a lot of units of botulinum toxin to get the effect that [researchers] were seeing, and it doesn’t last long enough at this point, but it’s interesting how the little dermal junction between the muscle and skin can be manipulated to improve some of the crepey lines that we didn’t think we could do anything about,” Dr. Torkian says.

Disclosures:

Drs. Freiman, Lickstein, Torkian, Chaboki and Chasan report no relevant disclosures.