



Review Article

## Where and how to use botulinum toxin on the face and neck – Indications and techniques

Gulhima Arora<sup>1</sup>, Sandeep Arora<sup>2</sup>

<sup>1</sup>Department of Dermatology, Mehektagul Dermaclinic, <sup>2</sup>Department of Dermatology, Base Hospital, New Delhi, India.



**\*Corresponding author:**  
Gulhima Arora,  
Department of Dermatology,  
Mehektagul Dermaclinic,  
New Delhi, India.  
[gulhima@gmail.com](mailto:gulhima@gmail.com)

Received : 23 May 2021  
Accepted : 02 June 2021  
Published : 19 June 2021

DOI  
[10.25259/CSDM\\_16\\_2021](https://doi.org/10.25259/CSDM_16_2021)

Quick Response Code:



### ABSTRACT

Botulinum toxin (BT) is a proteinaceous substance that is derived from the bacterium *Clostridium botulinum*. It was initially used for the treatment of strabismus by Dr. Alan Scott in the late 1970s after which, it was regularly being used for the cosmetic correction of benign essential blepharospasm by the Carruthers couple. Jean Carruthers while treating one such patient noticed an improvement in the glabellar furrows with an effect on the brow of the patient as well. By the late 1980s through the 1990s, BT was used rampantly as an off-label indication to treat glabellar frown lines. In 2002, the US Food and Drug Administration approved the use of BT type A for the treatment of glabellar furrows. This changed the global scene of facial rejuvenation, heralding a new era. Ever since then, BT has proved to be effective and safe for the treatment of dynamic facial rhytides and is currently being used for various indications. These indications and techniques have evolved with a better understanding of the face and neck musculature and their interactions and actions as well as efficacy of the BT formulations. The authors present an overview of the various cosmetic indications of BT for the face and neck along with the approach to injection techniques for various muscle groups involved.

**Keywords:** Botulinum toxin, Neurotoxin, Botulinum neurotoxin, Botulinum toxin techniques, Acetylcholine release inhibitors

### INTRODUCTION

With its discovery as a substance that can be used to treat dynamic glabellar frown lines in 1992, botulinum toxin (BT) is now increasingly being used for treating dynamic rhytides elsewhere on the face, contouring the face and even lifting it. Some of these are US Food and Drug Administration (FDA) approved, while others are considered off-label. The understanding of the usage of BT has evolved a lot, from its different types to newer indications, techniques employed for injection to variations in dosages to side effects.

This article aims to review and present the different cosmetic indications and injection techniques of BT on the face that has been reported in literature so far.

### INDICATIONS

The recent published statistics report by the American Society of Plastic Surgery reported over 7.4 million BT type A treatments in 2019.<sup>[1]</sup> It is the most requested for minimally invasive cosmetic procedure worldwide.

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2021 Published by Scientific Scholar on behalf of Cosmo Derma

BT is mainly used as a cosmetic procedure for smoothening or softening dynamic wrinkles on the face. It is also used to soften skin lines, to contour and lift the face.<sup>[2]</sup> The cosmetic indications are treated with BT type A and the subtypes mostly used are onabotulinum, abobotulinum, and incobotulinum.

A smooth, wrinkle-free face is synonymous with youthfulness.<sup>[3]</sup> The increasing awareness of minimally invasive procedures as anti-aging tools is leading to increased BT treatments being performed due to its effectiveness, minimal side effects, and minimal downtime.

The US FDA approved indications of onabotulinum type A are moderate-to-severe glabellar frown lines associated with procerus and/or corrugator muscle overactivity, moderate-to-severe lateral canthal lines associated with orbicularis muscle overactivity, and moderate-to-severe horizontal forehead lines associated with frontalis overactivity.<sup>[4]</sup> The

FDA approval for abobotulinum A and incobotulinum A is limited to the treatment of glabellar lines only.<sup>[5]</sup>

BT injections are appropriate for those patients who have cosmetic concerns related to hyperactivity of muscles or groups of them. Younger patients with good skin elasticity benefit more.<sup>[6,7]</sup> Static rhytides can only soften with the treatment. The various indications for which BT type A can be used are enumerated in Table 1. The target muscles and their mechanisms of action are also mentioned.

The patient should not have any contraindication to the treatment like being allergic to the toxin or its components, suffering from a neuromuscular disorder like myasthenia gravis or Eaton-Lambert syndrome, have an active infection at the site of injection, be on any neuromodulator drugs, etc. [Table 2].<sup>[7]</sup>

The upper face muscles are muscles of expression. Targeting them can also lead to a change in the emotional attributes of

**Table 1:** Indications for BT on the face.

Area	Anatomical region	Indication	Muscles targeted	Muscle action
Upper face	Forehead	Horizontal forehead lines (“worry lines”)	Frontalis	Brow elevation
	Glabella	Frown lines	Procerus, corrugator supercillii	Brow depression
	Periorbital	Lateral lines (Crow’s feet), lower eye wrinkles, opening of palpebral aperture	Orbicularis oculi Pre-tarsal orbicularis oculi	Eyelid closure
	Brow	Lifting	Procerus, corrugator supercillii, depressor supercillii, lateral fibers of orbicularis oculi	Brow depression
Mid-face	Nose	Shaping	Same as for lifting	
		Elevation of nasal tip	Depressor septi nasi ± dilator naris	Depression of nasal tip
		Bunny lines (“nasal scrunch lines”)	LLSAN, procerus, transverse nasalis	Upper lip elevation, brow depression Wrinkles skin of dorsum of nose
Lower face	Lips	Reducing nasal flare, nasal flutter	Dilator naris	Flaring of nostrils
		Prominent nasolabial folds	Lip elevator complex (LLSAN, LLS, and LAO)	
	Perioral	Gummy smile	LLSAN, zygomaticus minor	Upper lip elevation
		Eversion	Orbicularis oris	Protrusion of lips
Chin	Perioral lines (“Lipstick lines” “Smoker’s lines”)	Orbicularis oris	Mouth closure, protrusion of lips	
	Marionette lines “Mouth droop/frown”	DAO	Depression of oral commissures	
Lower face	Dimpled chin (“Popply/Pebbled chin”), softening the mental crease	Mentalis	Elevation and protrusion of lower lip	
	Slimming the lower face and defining the jawline	Masseter	Masticator	
Neck	Neck	Face lift	Platysma	
		Platysmal bands, horizontal neck lines (“Venus rings”), Crepey neck, turkey neck	Platysma	Retraction and depression of lower lip tenses skin of anterior neck

LLSAN: Levator labii superioris alaeque nasi, LLS: Levator labii superioris, DAO: Depressor anguli oris, LAO: Levator anguli oris, BT: Botulinum toxin

**Table 2:** Contraindications to BT.

Body dysmorphophobia
Unrealistic expectations
Pregnancy and breastfeeding
Immunocompromised
Neuromuscular disorders
Motor weakness of the treatment area
Positive snap test
Keloidal scarring
Infection in the treatment area
Active dermatoses in the treatment area
Sensitivity or allergy to constituents of the BT product
Concomitant drug intake which interfere with BT
Scheduled surgery under general anesthesia

BT: Botulinum toxin

the face. The face can look less angry after treatment of the glabellar frown lines or less worrisome after the treatment of the forehead horizontal lines.<sup>[8]</sup>

BT is also used to create a balance in a particular anatomical area among the group of antagonist muscles by an indirect action. This is exemplified by treating the elevators causing a stronger pull of the depressors and vice versa. Certain asymmetries can also be tackled with the use of BT by utilizing the action of antagonist muscle groups.<sup>[9]</sup>

## RELEVANT ANATOMY

Before embarking on treatment with BT, it is pertinent to have a thorough knowledge of the muscles involved to treat a particular indication. This gives a better insight into the science of the treatment as well as helps to deliver the desired clinical outcomes with minimal side effects.

Most of the BT injections are intramuscular with its action on the neuromuscular end plate causing chemical denervation to the muscle, leading to its relaxation.<sup>[10]</sup> An understanding of the interaction between muscle groups is essential. Injections are subdermal in those areas where the muscles are very superficial like the orbicularis oculi or where complete relaxation of the muscle is not desired such as the frontalis.

The muscle action is strongest at its origin and maximum dosage should be thus injected at the site where the muscle originates. Those muscles whose fibers insert into the skin can be targeted with intradermal injections and those which are superficial can be targeted with subdermal injections. Expression lines are formed perpendicular to the axis of muscle traction.

Individual muscles specially those present in groups, should be respected, as each muscle has a unique action and has the potential of disrupting the balance of the facial features if inadvertently targeted.

The muscles of the face are depicted in Figure 1. Their origins and insertions are indicated in Table 3.

## INJECTION TECHNIQUES

The treatment with BT is considered as one of the most gratifying in terms of clinical outcomes. The results are dramatic when used for expression lines. Doses less than those used for the upper face are used to give results in the lower face and neck for indications such as softening of lines, creating a balance, and contouring or correcting asymmetry.<sup>[11]</sup>

It is important to know the correct injection points to prevent inadvertent complications. The correct dose, depth of injection, and centering, apart from a thorough knowledge of the anatomy, are all to be paid attention to for optimal clinical outcomes. It may sometimes be prudent to inject the antagonist group of muscles to maintain harmony and to avoid unopposed hyperactivity of the antagonist muscles. General considerations are shown in Table 4.

## FRONTALIS INJECTIONS

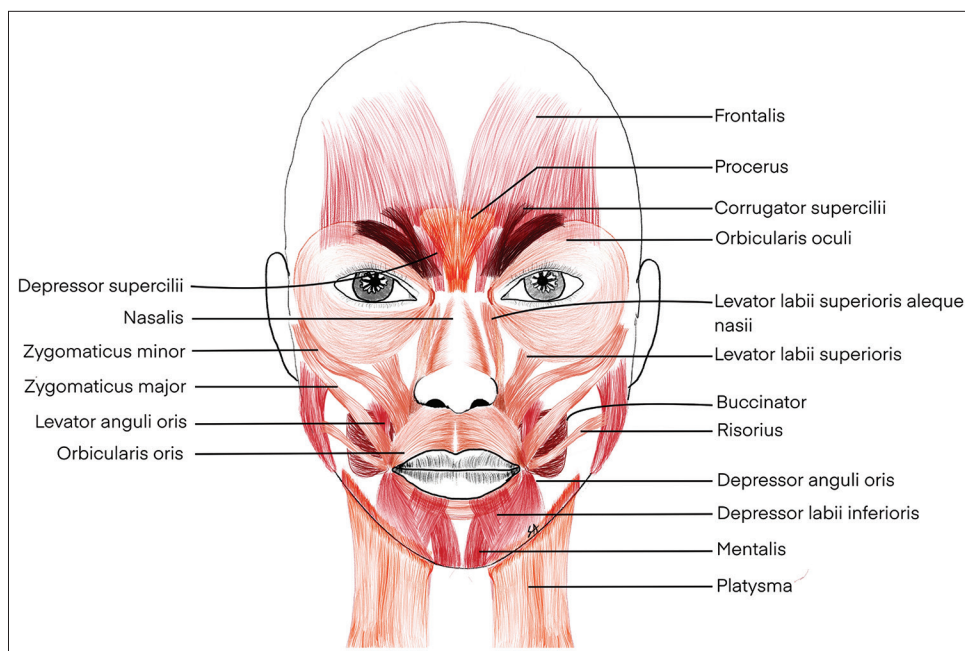
This is the muscle targeted to treat dynamic horizontal forehead lines caused by the contraction of this muscle. These lines appear on raising the brows.

Not freezing the forehead and maintaining a little activity of the muscle are the key to a good esthetic result, as the frontalis is the only elevator of the brow. The lower 1–2 cm of the muscle above the orbital rim should not be treated to prevent a brow ptosis.<sup>[12]</sup> When numerous fine lines are present on the forehead, it is prudent to use a hyperdiluted form of BT and inject intradermally, to tackle the insertion fibers. Injections should be at an angle so as not to hit the periosteum to avoid a painful injection.

The muscle shows two patterns anatomically. The first is a single, broad muscle which gives rise to continuous wrinkles on the forehead. The second pattern is a bifid muscle, with a central separation, which gives rise to non-continuous wrinkling on the forehead, on either side of the midline. Clinically, four patterns are visible. Their injection points are shown in Figure 2.

## GLABELLAR INJECTIONS

The glabellar complex is formed by the procerus, corrugator supercillii, and depressor supercillii muscles. All these are depressors of the brow. These muscles are injected to treat the glabellar frown lines and raise the brows. Horizontal, vertical, and oblique frown lines are formed by these muscles along with the medial fibers of the orbicularis oculi and lower frontalis fibers.



**Figure 1:** The muscles of the face.

**Table 3:** Origin and insertion of the muscles of the face.

Region	Muscle	Origin	Insertion
Upper face	Frontalis	Galea aponeurotica	Skin of the forehead, interdigitating with fibers of the procerus, the corrugator supercilii and the orbicularis oculi
	Corrugator supercilii	Medial supraorbital ridge	Skin of the forehead, merging with the fibers of the frontalis
	Procerus	Periosteum of the inferior nasal bone and adjacent cartridge	Glabella skin, merging with fibers of the frontalis
Mid-face	Orbicularis oculi	Nasal part of the frontal bone, the medial palpebral ligament, and the frontal process of the maxilla	At the origin itself
	Nasalis	Alar fibers of the maxilla and the transverse nasal fibers originate from the nasal bone	Alar fibers insert into the alar facial crease and the external skin, adjacent to the alar crease. The transverse nasal fibers insert into the skin, bilaterally, just above the nasal ala.
	Depressor septi nasi	Maxillary periosteum adjacent to the incisor fossa	Nasal septum
	Levator labii superioris alaeque nasi	Frontal process of maxilla	Skin of the upper lip and lateral nostril
Lower face	Orbicularis oris	Modiolus, mandible, and maxilla near incisor fossa	Skin of the lips and skin of the opposite side
	Depressor anguli oris	Oblique line of the mandible	Modiolus
	Mentalis	Incisor fossa of the mandible	Skin of the chin
	Masseter	Zygomatic arch	Masseter tuberosity
	Platysma	Outer aspect of the superficial thoracic fascia	Pars labialis inserts into the lateral half of the lower lip, the pars mandibularis inserts into the mandibular body, the pars modiolus inserts into the modiolus musculature, and the overlying cutaneous tissue

Different patterns of the glabellar complex muscles can give rise to different patterns of frown lines [Figure 3]. The conventional injection technique is shown in the figure.

Procerus is the first muscle to be injected. The first point is marked at the intersection between two lines drawn from the medial brow to the contralateral medial canthus on each side. This is where the maximum bulk of the procerus is. If the

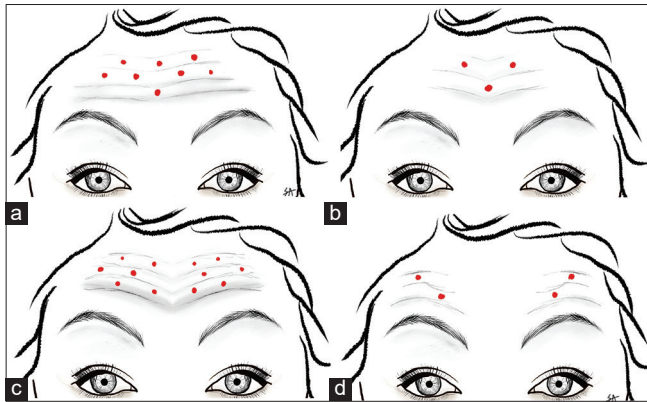


muscle is long, then another point is marked a cm above the first point. Injections are perpendicular.

The corrugators have a medial and lateral part. Injections into the medial part are deeper, into the muscle bulk. The lateral injections are more superficial, taking care not to

be too superficial so that the interdigitating frontalis fibers can be avoided. The conventional injection technique is shown in Figure 4a. Additional benefit has been found by giving one injection on either side into the lateral eyebrow leading in further reduction in the glabellar frown lines.<sup>[12]</sup>

Injections should not cross the mid-pupillary line to avoid ptosis of the brow. The non-dominant thumb should be placed at the supraorbital ridge to prevent diffusion into the intraocular muscles which may lead to ptosis of the upper



**Figure 2:** Frontalis patterns. (a) Full form causing straight lines across the entire forehead; (b) central type forming lines over medial half of orbital rims and joining centrally; (c) V-shaped creating gull-shaped lines across the forehead; (d) lateral located over lateral half of orbital rims and their injection points.

**Table 4:** General considerations for BT injections.

- Marking of injection points is a good idea even for expert injectors
- A good lighting is a prerequisite to see visible veins and prevent inadvertent injection into them to cause a bruise
- Load the syringes with the doses required before hand so that no time is wasted
- Look for and document existing asymmetries
- Avoid hitting the periosteum to prevent painful injections
- Consent forms should be signed and pre-photography should be maintained

BT: Botulinum toxin



**Figure 3:** Glabellar wrinkle patterns and their wrinkle points.

eyelid. Caution should be exerted to keep dosages low in elderly patients in whom the orbital septum may be weak causing diffusion into the intraocular muscles.

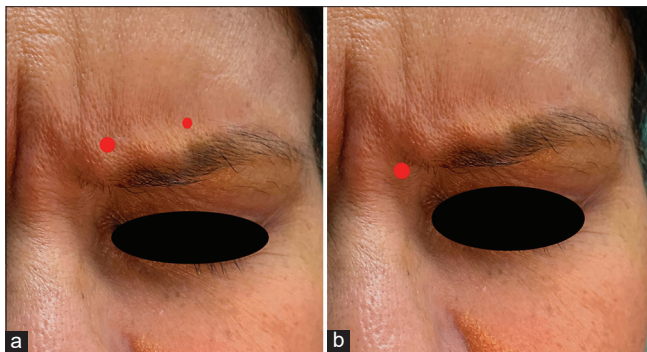
The medial brow is elevated by injecting the depressor supercillii [Figure 4b].

## ORBICULARIS OCULI INJECTIONS

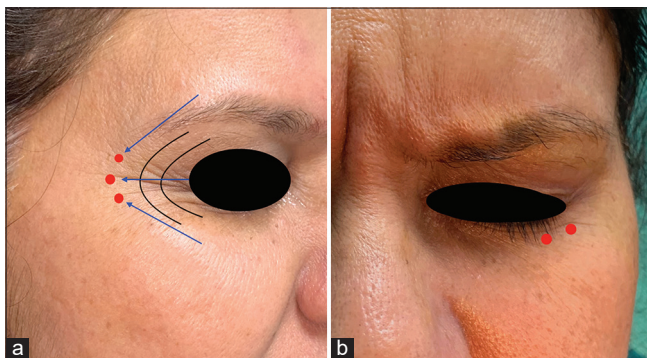
It is a superficial muscle. Injections should be superficial, raising a bleb. Superolateral fibers are injected to raise the lateral brow. Lateral fibers are injected for the crow's feet. The needle should be directed away from the orbit, a cm away from the orbital rim.

The patterns of crow's feet that are formed and their injection points are shown in Figure 5a. Multiple injections are required as the muscle is large and is innervated diffusely.<sup>[13]</sup> The inferior part of the muscle is injected 3 mm below the ciliary margin to treat the inferior orbital lines, also known as "jelly rolls." Injections can be given at two points after stretching the lower eyelid skin. A total of 1–2 units are recommended [Figure 5b].

Diluted BT (microbotulinum toxin) can also be given in the under eye area. A positive snap test, lower eyelid puffiness,



**Figure 4:** Injection points for (a) corrugator supercillii and (b) depressor supercillii.



**Figure 5:** Injection points for orbicularis oculi. (a) Lateral (crow's feet); (b) inferior (jelly rolls).

and prior lower lid blepharoplasty are contraindications to infraorbital injections.<sup>[14]</sup>

## BROW INJECTIONS

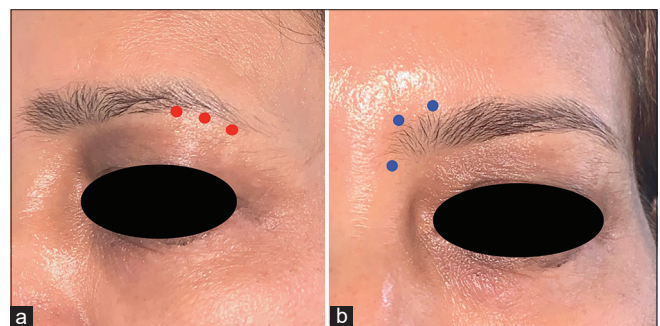
Although the muscles injected for lifting or shaping the brow have already been discussed above, brow injections deserve a special mention as they are advanced injections. Lifting and shaping depend on the interplay between the only elevator, the frontalis, and the depressors. The medial depressors are injected to cause a medial elevation and lateral depressors for lateral elevation.

A full lift requires injecting all the muscles involved with depressing the brow. Lifting the brow can do away with lateral hooding of the upper eyelid which gives a tired look to the eyes. Injection points are shown in Figure 6. Not all patients respond to a chemical brow lift. Those with excessive brow ptosis or those who use the frontalis to compensate for the brow ptosis do not benefit much.

## NASAL INJECTIONS

The nose has a complex of multiple muscle groups [Figure 7]. The muscles of the nose are injected to treat bunny lines, a nasal flare, or a depressed nasal tip. The major muscle involved in the formation of bunny lines is the transverse nasalis. It must be noted that other muscles such as the procerus, the LLSAN, and the medial fibers of the orbicularis oculi may also contribute, depending on the pattern of lines formed. Assessment after 4 weeks is prudent to address minor muscles if the lines remain. A study from Korea showed that in 90% of the cases, the LLSAN gives off fibers to the nasalis. The injection point is shown in Figure 8a. Injections should not be made too lateral or inferior to prevent diffusion into the levator labii superioris, LLSAN, or levator anguli oris to prevent a lip droop.

The alar nasalis (dilator nasalis) muscle is injected to reduce a nasal flare or nasal flutter [Figure 8b]. The depressor septi nasi is injected to treat a nasal tip droop. The patient is asked to stretch the upper lip and injection should be



**Figure 6:** Brow lift injection points. (a) Lateral; (b) medial.



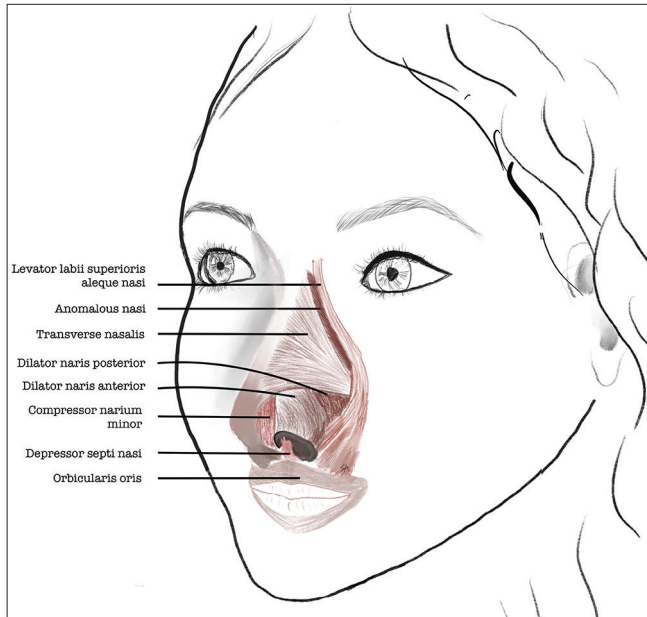


Figure 7: The muscles of the nose.



Figure 8: Injection points for the (a) nasalis; (b) dilator nasi; (c) depressor septi nasi; (d) Yonsei point for gummy smile.

half-tip deep into the muscle to prevent diffusion into the orbicularis oris, Figure 8c. These injections only work when

there is a flare or nasal tip droop is observed on animation. Treating the nasal droop may lead to the elongation of the upper lip.

According to Tjan *et al.*, an excessive shows of the gingival tissue of 3 mm or more is defined as a gummy smile.<sup>[15]</sup> The major muscle involved is the LLSAN, with LLS and zygomaticus minor (ZMi) being the minor ones. Injections should be of low dose and superficial to prevent lip droop. The conventional injection point is the Yonsei point, 1 cm lateral and below the nasal ala. This point forms the center of the triangle formed by the LLSAN, LLS, and the ZMi muscles [Figure 8d].<sup>[16]</sup>

The nasolabial folds can be softened slightly with injections into the lip elevator complex. Just a unit should be injected just above the nasolabial groove.

## PERIORAL INJECTIONS

Smoker's lines are caused by an overactive orbicularis oculi muscle and aging in this area. Injections should be of low dosage, around 1 U in each quadrant and superficial. The mouth's functional competence may be lost with excessive dosing of the orbicularis oris muscle. Injections at these points also lead to a lip eversion.<sup>[17]</sup>

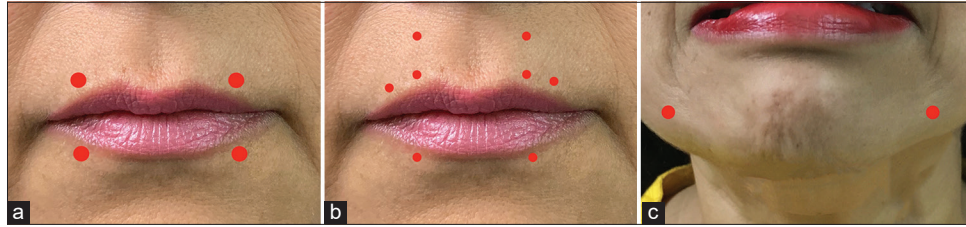
The marionette lines develop as a part of aging. Targeting the depressor anguli oris causes an upturn of the corner of the mouth. The injections must be very precise to prevent inadvertently hitting the levator anguli oris leading to an asymmetrical smile [Figure 9]. These injection points should be slightly internal to the cross points of the extension of the nasolabial fold and the jaw line.<sup>[18]</sup>

## CHIN INJECTIONS

The peau d'orange appearance of the chin is caused by a hyperactive mentalis muscle. Injection techniques are shown in Figure 10. The superficial fibers of the mentalis should be tackled. Deeper injections closer to the lower lip may cause a lower lip droop, which can be avoided by injecting lower in the chin. Injecting the muscle also relaxes the mental crease increasing the chin length slightly.

## MASSETER INJECTIONS

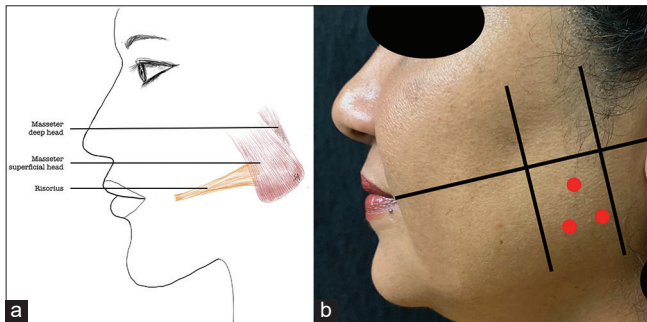
A hypertrophied masseter leads to a broad face and a square jaw. It is injected to slim and contour the lower face and define the jaw. The superficial and deep parts of the muscle should both be targeted. To give a "sunken cheek" appearance, the superior portion of the muscle can be targeted. The safe area and the injection points are marked in Figure 11. Care should be taken to be inferior to the line drawn from angle of the mouth to the lower end of the ear.



**Figure 9:** Injection points for orbicularis oris (smokers lines). (a) Option I; (b) option II; and (c) marionette lines.



**Figure 10:** Injection point options for mentalis.



**Figure 11:** (a) The masseter muscle and its relationship to the risorius and (b) injection points.

## NECK INJECTIONS

The platysma is a depressor of the face and treating it lifts the jaw and lower face. The Nefertiti Lift is a “mini lift,” defining the border of the jaw and angle of the mandible.<sup>[9]</sup> Injection should stay posterior to the line of extrapolation of the nasolabial fold down to the mandible.

Hyperactivity due to the platysma supporting the ptotic face and loss of tone of the anterior part leads to vertical bands, called “Turkey neck” deformity. Younger patients with good skin elasticity respond better. The horizontal neck bands form due to increased skin laxity. Continuous movement leads to static creases. Injections are intradermal and deeper injections should be avoided to prevent hitting a perforating vein. Injection points for neck indications are shown in Figure 12.



**Figure 12:** The injection points for the Nefertiti lift (red) and platysmal bands (blue).

## CONCLUSION

Knowing the play between antagonist muscle groups, the anatomy of muscles involved in causing an indication amenable to treatment and adopting the right injection technique gives a desirable clinical outcome with BT injections with balance and harmony to the face.



### Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

### Financial support and sponsorship

Nil.

### Conflicts of interest

Gulhima Arora is on the editorial board of this journal.

### REFERENCES

- 2019 Plastic Surgery Statistics, American Society of Plastic Surgeons 2020; 2021. Available from: <https://www.plasticsurgery.org/news/plastic-surgery-statistics?sub=2019+plastic+surgery+statistics>. [Last accessed on 2021 Apr 10].
- Farolch-Prats L, Nome-Chamorro C. Facial contouring by using dermal fillers and botulinum toxin a: A practical approach. *Aesthetic Plast Surg* 2019;43:793-802.
- Thappa D, Konda D. Age reversing modalities: An overview. *Indian J Dermatol Venereol Leprol* 2013;79:3.
- Available from: [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2017/103000s5303lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/103000s5303lbl.pdf). [Last accessed on 2021 May 02].
- Available from: [https://www.accessdata.fda.gov/drugsatfda\\_docs/nda/2019/761085orig1s000otherr.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/nda/2019/761085orig1s000otherr.pdf). [Last accessed on 2021 May 02].
- Cheng CM. Cosmetic use of botulinum toxin Type A in the elderly. *Clin Interv Aging* 2007;2:81-3.
- Carruthers J. Overview of botulinum toxin for cosmetic indications. In: Dover SJ editor. In: UpToDate. United States: UpToDate; 2021.
- Bulnes LC, Mariën P, Vandekerckhove M, Cleeremans A. The effects of Botulinum toxin on the detection of gradual changes in facial emotion. *Sci Rep* 2019;9:11734.
- Gassia V, Beylot C, Béchaux S, Michaud T. Botulinum toxin injection techniques in the lower third and middle of the face, the neck and the décolleté: The "Nefertiti lift". *Ann Dermatol Vénéréol* 2009;136:S111-8.
- Jaspers GW, Pijpe J, Jansma J. The use of botulinum toxin Type A in cosmetic facial procedures. *Int J Oral Maxillofac Surg* 2011;40:127-33.
- Small R. Botulinum toxin injection for facial wrinkles. *Am Fam Physician* 2014;90:168-75.
- Carruthers J. Overview of botulinum toxin for cosmetic indications. In: Dover SJ, editor. UpToDate. United States: UpToDate; 2021. Available from: [https://www.uptodate.com/contents/botulinum-toxin-for-cosmetic-indications-treatment-of-specific-sites?source=history\\_widget](https://www.uptodate.com/contents/botulinum-toxin-for-cosmetic-indications-treatment-of-specific-sites?source=history_widget). [Last accessed on 2021 Apr 27].
- Meski AP. Botulinum toxin for periorbicular area. In: Issa MC, Tamura B, editors. *Botulinum Toxins, Fillers and Related Substances*. Cham: Springer International Publishing; 2019. p. 27-32. Available from: <http://www.link.springer.com>. [Last accessed on 2021 May 02].
- Ozgun OK, Murariu D, Parsa AA, Parsa FD. Dry eye syndrome due to botulinum toxin Type-A injection: Guideline for prevention. *Hawaii J Med Public Health* 2012;71:120-3.
- Tjan AH, Miller GD, The JG. Some esthetic factors in a smile. *J Prosthet Dent* 1984;51:24-8.
- Al Wayli H. Versatility of botulinum toxin at the Yonsei point for the treatment of gummy smile. *Int J Esthet Dent* 2019;14:86-95.
- Arora G, Arora S. Smokers lines (lip lines). In: Sarkar R, Nair V, editors. *Cosmetic Injectables in Practice-Dermal Fillers and Botulinum Toxin*. 1<sup>st</sup> ed. India: Jaypee Brothers Medical Publishers Pvt. Ltd.; 2020. p. 208-12.
- Ascher B, Talarico S, Cassuto D, Escobar S, Hexsel D, Jaén P, *et al*. International consensus recommendations on the aesthetic usage of botulinum toxin Type A (Speywood Unit)-Part II: Wrinkles on the middle and lower face, neck and chest: Consensus on lower facial wrinkles treatment with BoNT-A. *J Eur Acad Dermatol Venereol* 2010;24:1285-95.

**How to cite this article:** Arora G, Arora S. Where and how to use botulinum toxin on the face and neck – Indications and techniques. *CosmoDerma* 2021;1:17.