SpaMedica® Botox® Injection Techniques

You have diluted the 100 units of Botox® with the 2 cc of preservative free normal saline and have drawn up 6 syringes of Botox®, each with 15 units of BTX A. Each incremental 2 lines of this insulin syringe has 1 unit of BTX. You have some gauze, gloves and an alcohol swab at your side. The patient has undergone a thorough history, physical examination and has undergone a thorough SpaMedica® consent process. OKAY… you are ready to go?… Not yet you are not! The average SpaMedica® lift patient that undergoes SpaMedica® Botox® will require up to 90 units (Fig. 37), but the precise location, amount and depth will determine the beauty of the contour outcome.

Performing SpaMedica® Botox® therapy requires a sense of artistic perception of the aging face and knowledge of how Botox® can assist in the SpaMedica® facial contouring process and in the perception of vertical elevation of the soft-tissue envelope of the face. Remember, one of the essential principles of SpaMedica® Botox® therapy is a synchronous paralysis of facial depressors combined with electrical Isotonic MyoFacial® Hypertrophy, allowing uncoupling and unrestricted activity of the prime facial elevators. You must have a clear understanding of which facial muscle groups contribute to facial muscle ptosis and whose selective paralysis will assist the facial contouring and resistance MyoFacial® therapy in providing an elevated appearance. The SpaMedica® lift expert must become skilled in the diagnosis and BTX therapy of specific constellations of facial muscle patterns.

SpaMedica® non-surgical facelifting patients have characteristic patterns of facial muscle depressors, elevators and hyperdynamic rhytidogenic muscles. Although every patient's facial musculature is characteristic and individual, I have found that most faces can be classified in several characteristic patterns that facilitate a standardized algorithm for SpaMedica® Botox® therapy. Below you will find a SpaMedica® BTX classification and treatment algorithm. All doses of BTX are with the 2 cc dilution technique and the D and B, Ultra thin II 30 unit syringe.
Orbital-Brow SpaMedica® BTX Therapy

1. Low Horizontal Brow with Lateral Brow Ptosis

This is probably the most common aging pattern to the adult brow. In this pattern, the medial, middle and lateral brow elements are descending, usually evident by the fourth decade. In some patients, when you examine their earlier facial pictures, you will find that they have always had low brows. The descent of the lateral brow results in excess lateral upper lid skin. The emotional projection of this brow position is often a tired, saddened, dolorous expression. There is a loss of the lateral brow elevation that is perceived as elegant, with the loss of the outline of the lateral orbital rim. In some extreme low brow situations, the client can have a very malevolent, dangerous or angry appearance.

Pathophysiology of Descent

1. Elevators: The prime brow elevator, the frontalis, is proportionally weak and overpowered by the medial and lateral depressors. SpaMedica® lift therapy will involve uncoupling the frontalis activity from the depressors by weakening the depressors and then strengthening the frontalis through Isotonic Resistance MyoFacial® therapy.

2. Depressors: The depressors of the brow can be divided into the medial and lateral depressor complexes. In the Horizontal Low Brow, these depressors are strong and dominate the aesthetic balance. For optimal SpaMedica® lift outcome, the depressors should also be weakened with BTX therapy to uncouple the elevator action of the frontalis, which is then hypertrophied with SpaMedica® Isotonic MyoFacial® therapy, to provide the elevated, rejuvenated appearance.

   a. Medial Brow Depressors:
      (i) The Corregator Supracilli
      (ii) The Depressor Supracilli
      (iii) The Procerus Muscle

   b. Lateral Brow Depressor:
      (i) The vertical, lateral fibers of the orbicularis oculi: these muscle fibers pull the lateral brow complex down upon squint.

Clinical Low Brow Assessment

(i) Have the patient frown. Note the location of the lateral origin of the corregator complex and the width and strength of the muscle bellies.

(ii) Have the patient scrunch up the nose and the procerus will be identified, note the presence of the horizontal nasal radix lines.

(iii) Have the patient squint and smile. Note the lateral brow descent, the number of crow’s feet wrinkles and their position, as well as the lateral insertion of the orbicularis fibers into the lateral temporal dermis.
SpaMedica® Lift Low Brow BTX Goal
To create a gradual ascent and elevation of the medial, central and lateral brow. To elevate maximally the lateral brow and uncover the elegance of the lateral orbital bone and lift some of the loose skin off of the lateral upper lid.

SpaMedica® Low Brow BTX Technique (Fig. 38, Fig. 39 and Fig. 40)
1. For sensitive patients, or needle-phobics or every patient, have the patient apply topical anesthesia 20–60 minutes prior to having the procedure and use Cryo 5 if available.

2. Have the patient frown and identify the lateral insertion of the corregator supracilli muscle.

3. Inject 5 units (syringe from 30 to 20 in the 2cc technique) into the subperiosteal space of the lateral corregator frontalis. (Use the deep technique to avoid paralysis of frontalis fibers and further medial brow ptosis.) This is injected at the level of the mid-pupillary line and 1–1.5 cm above the supraorbital notch and rim. This will provide a conjoined paralysis of the lateral corregator insertion to minimize depressor effect and the adjacent frontalis to minimize over elevation of the medial brow (Fig. 38–40).

4. With the patient still frowning, grab the corregator body between your thumb and index finger. This will contain in proximity fibers of the body of the corregator and depressor supracilli. Orient the needle 45 degrees to the forehead and oriented inferiorly. Inject 5–6 units in this direction into the deep sub-periosteal space. Either of these two techniques, the subcutaneous diffusion technique, or the deep muscle injection, will paralyze the strong depressor effect of the corregators and depressor supracilli. (Avoid the subcutaneous technique in a “low brow” patient to avoid drooping the brow.) Withdraw the needle slowly and part way and, without withdrawing it completely, turn the needle superiorly and inject 5 units in the deep space in the superior vector. This will capture and paralyze the upper fibers and the depressive corregators and depressor supracilli, while avoiding weakening some low fibers of the frontalis and further brow ptosis.

DO NOT: Inject into the subcutaneous plane if you desire elevation of the medial brow or the ascending fibers of frontalis will be paralyzed, dropping the medial brow and facilitating the “Diabalo” look of lateral elevated brow arch (Fig. 40).

5. Ask the patient to perform a nasal crunch, activating the procerus. Identify the nasal crunch lines, grab the skin and pull away from the nasal root. Inject 5 units into the subcutaneous space. This will remove the strong central depressive effects of the procerus.
6. Finally, ask the patient to smile and squint. Identify the lateral dermal insertion of the vertical fibers of the orbicularis occuli. Then palpate the lateral orbital rim. Stay 1.5 cm lateral to the lateral orbital rim to minimize the risk of diffusion over the rim and paralysis of the extracoronal or intracanal muscles, producing diplopia and strabismus. Inject 5 units superiorly, at the level of the lateral brow into the subcutaneous space, either in a horizontal direction (to avoid a vein) or vertical direction. Stay subcutaneous with this injection as the orbicularis muscle is quite superficial. Withdraw the needle and move inferiorly to the level of the lateral canthus and inject 5 units at this level, again 1.5 cm lateral to the orbital rim. Finally, move inferiorly and medially and inject the last 5 units. This injection pattern forms a C-shape around the crow’s feet and lateral vertical fibers of the orbicularis occuli. This BTX injection pattern will weaken the depressor action of the orbicularis occuli upon the lateral brow, which will uncouple the elevator action of the frontalis. The frontalis, acting unopposed and strengthened through SpaMedica® Isotonic MyoFacial® therapy, will elevate the lateral brow, taking loose skin of the lateral upper lid and uncovering more of the lateral orbital rim. To accentuate the lateral brow elevation, you may inject 10–15 units into the medial 1⁄3 of the frontalis to drop the medial brow, producing a “Diabalo” appearance, emphasizing the lateral elevation.

The overall effect of the SpaMedica® horizontal low brow injection technique is to create a gentle sweeping brow that is often lowest medially and highest laterally. There is not an exaggerated, “Diabalo” appearance, but a gently subtle, elegant and beautiful sweep to the brow complex. The overall effect is a more alert, youthful and vital appearance. To create a more arched brow from a horizontal low brow, you would avoid the mid-pupillary injection, maintain the medial depressor and lateral orbicularis paralysis, add 2.5–5.0 units to the lateral frontalis (to drop the lateral brow slightly) and use the superficial technique for the “frown” region to paralyze the medial frontalis, as well as the depressors and drop the medial brow. The overall sculptural BTX effect will be to drop the medial and lateral brow and elevate the central brow into a gentle arch, by uncoupling the central frontalis, which, of course, is hypertrophied through the Isotonic Resistance MyoFacial® therapy (Fig. 38–40).
Fig. 38: Low Horizontal SpaMedica® Botox® technique.

Fig. 38a

Fig. 38b

Fig. 38c

Fig. 38d

Fig. 38e

Fig. 38f

Fig. 38g

Fig. 38h
Desired Brow = Symmetrical horizontal brow elevation

15 units are injected into each of the brow depressors depicted. All of the central brow depressors, corrugator, depressor supracilii and procerus and the lateral brow depressor, the vertical fibers of the orbicularis oculi are treated with, on average, 15 units on each side. The central depressors will be paralyzed and, by using the deep subperiosteal technique (indicated by the “D” beside the number of units of Botox® used in each site) and the medial frontalis will be spared, allowing a medial elevation of the brow with the Hypertrophic MyoFacial® frontalis treatments. A finger is used to ensure the Botox® is injected about the orbital rim at the lateral extent of the tail of the corrugator as determined by frowning (Fig. 38a). The main body of the corrugator is injected with 4 units superiorly (Fig. 38b) and 6 units inferiorly (Fig. 38c). 4–5 units are placed centrally in the procerus (Fig. 38d). 5 units are placed under the tail of the brow to paralyze the uppermost vertical depressor fibers of orbicularis oculi, (Fig. 38e) with another 5 units placed at both the lateral canthus (Fig. 38f) and the inferomedial orbital rim (Fig. 31g). If the patient has a lower lid orbicularis oculi hypertrophy (a lower lid “roll”) on smiling and does not have evidence of lower lid laxity, they may be a candidate for 2–3 units of Botox® in the lower lid (Fig. 38h). Take care to not inject too near the orbital rim to avoid dispersion and diplopia or low on the malar eminence to avoid dispersion and zygomaticus major or minor weakness and a unilateral lip ptosis. The precise brow shape and elevation will then be modified and determined by resistance MyoFacial® Hypertrophy. Initial pre SpaMedica® low brow position and deep central Botox® technique (Fig. 39a) and post SpaMedica® desired high horizontal brow contour (Fig. 39b).
Desired Brow = High lateral brow and relative low medial brow

A more superficial, subcutaneous technique (as indicated by the “s” after the number of units used in each area) in the central brow will also paralyze fibers of the frontalis rising up to attach to the dermis of the eyebrow and this will prevent an elevation of the medial brow in those patients that desire a more elegant, lateral elevation and sweep of the brow (Fig. 40a). The medial brow can be dropped even further, accentuating the elevated lateral brow with 6–10 units placed across the medial frontalis (Fig. 40b–c) (either deep or superficial technique). The precise brow shape can then be modified and determined by resistance MyoFacial® Hypertrophy. The initial pre SpaMedica® low brow position and superficial central Botox® technique (Fig. 40d) and desired post SpaMedica® high lateral brow contour (Fig. 40e).
2. Diabolical Low Medial Brow

This is a relatively common brow attitude and patients present with an exaggerated low medial brow complex and an overly exaggerated elevation of the lateral brow complex. The overall emotive projection is one of a devious or diabolical expression that can be quite debilitating.

**Pathophysiology of Low Medial Brow**

**Depressors:** The medial depressors complex, the corregator supracilli, procerus and depressor supracilia muscles, are very strong and dominating the frontalis in the central brow. The central elevator, the frontalis, is comparatively weak. In the lateral brow, the prime lateral depressor, the vertical, lateral fibers of the orbicularis oculi, is relatively weak and is dominated by a strong lateral elevator, the lateral frontalis.

**Elevators:** In the Low Medial Brow, the frontalis is weak medially and comparatively strong laterally.

**SpaMedica® lift Low Medial Brow BTX goal**

To weaken the strong central depressors with Botox®. Depending upon the specific sculptural shape goals of the patient, the lateral frontalis may be weakened with BTX to drop the exaggerated lateral brow. Isotonic MyoFacial® Hypertrophy will focus upon strengthening and elevating the central and medial frontalis.

**SpaMedica® Low Medial Brow BTX Injection Technique** (Fig. 41a–b)

1. Have the patient frown. Identify the insertions of the corregator and inject 5 units in the mid-pupillary line, 1–1.5 cm above the orbital rim, using deep direct infusion technique (to avoid paralysis of the frontalis and dropping the brow further).

2. With the patient frowning again, grab the central corregator complex and inject 5–6 units inferiorly. Withdraw the needle slightly, turn it superiorly and inject another 4–5 units into the superior muscle body. Use the deep subgaleal intramuscular technique to avoid any weakness to the frontalis.

3. Have the patient perform a nasal crunch and identify the horizontal procerus lines. Grab the skin of the radix and lift off the nose and inject, with subcutaneously or with the deep technique, 5 units of BTX.
4. The above injection maneuvers, together with Isotonic Resistance MyoFacial® therapy of the central and lateral frontalis, will produce an elevation of the central brow. If the patient would like to maintain a persistent lateral brow elevation and sweep, then do not inject BTX into the lateral frontalis. If, however, after elevation of the central brow, there is still a high lateral brow that the patient does not like, then you can titrate the injection of BTX into the lateral frontalis complex, starting with 2–3 units. This lateral frontalis BTX injection therapy will drop the lateral brow, de-emphasizing the high lateral brow arch appearance (which sometimes occurs after the SpaMedica® lift in a horizontal low brow correction).

5. In this patient variant, you should rarely inject BTX into the lateral, vertical orbicularis fibers as this may elevate the tail of the brow even further. If the patient is insistent on improving the crow’s feet with BTX, inject the lateral depressor orbicularis, only after having injected the lateral frontalis and allowed enough time for lateral brow descent. Only inject the crow’s feet at and inferior to the lateral canthus, but not above.

6. The Isotonic Resistance MyoFacial® therapy for the brow complex is focused on central frontalis hypertrophy and elevation.

Fig. 41: Diabolical Low Medial Brow Technique.

Desired Brow = a. High horizontal brow  
b. High lateral Diabalo brow

a. Inject 15 units into each central brow depressor complex. Use the deep technique that will uncouple the strong depressors but not weaken the central frontalis (see above). The most lateral of the corrugator injections may be superficial to weaken the strong lateral frontalis. The Hypertrophic MyoFacials® will elevate the central brow (and lateral brow if the patient so desires). The lateral depressors should also receive 15 units (as per above). If the patient wants to elevate the lateral brow proportionately, alternatively, the lateral brow may be left alone in favor of central brow elevation to achieve a more horizontal brow contour. If the lateral brow is too high, it may be dropped by 1–2 units of Botox® into the lateral frontalis. The precise brow shape can then be modified and determined by resistance MyoFacial® Hypertrophy. Initial pre SpaMedica® brow position (Fig. 41a) and post SpaMedica® desired high horizontal brow contour (Fig. 41b).

b. For an even more Diabalo brow shape, inject the 15 units into each central depressor complex using the subcutaneous technique which will uncouple the depressors, but weaken the inferior frontalis and moderate, to some extent, the medial brow elevation. Uncouple the lateral brow depressors to facilitate lateral brow elevation. The precise brow shape can then be modified and determined by resistance MyoFacial® Hypertrophy.
3. Medial High Brow
Although a less common brow posture, patients who present with this brow attitude project an emotion of pain, dolorous concern and grief.

Pathophysiology of the Medial High Brow

Depressors: In the medial high brow, the medial depressor complex, the corregator, procerus and depressor supracilli are weak and overpowered by a strong central frontalis. The lateral depressor, vertical orbicularis occuli are very strong and overpower a comparatively weak lateral frontalis.

Elevators: The central frontalis is comparatively strong and overpowers the weaker depressors. The lateral frontalis is comparatively weak and is dominated by a strong lateral brow depressor, the orbicularis occuli, vertical fibers. The Isotonic MyoFacial® Hypertrophy therapy is directed at strengthening the lateral frontalis.

SpaMedica® Medial High Brow Goal
Allow the central brow to drop and, depending upon the aesthetic goals of the patient, provide some lateral brow elevation. The central brow is dropped by avoiding the injection of any BTX into the depressor complex, which we want to uncouple from the strong frontalis and allow the depressors to act unopposed. The central frontalis is injected with 10–20 units of BTX injected into the subcutaneous and subgaleal space, which will drop the elevated central brow. If the patient would like to gain further elevation of the lateral brow, 10–15 units of BTX are injected into the lateral brow depressors, the vertical lateral fibers of the orbicularis occuli. The Isotonic Resistance MyoFacials® will strengthen the lateral frontalis and elevate the tail of the brow.

SpaMedica® Medial High Brow BTX Technique: (Fig. 42a–b)
1. Have the patient elevate their brow and define the medial decussation of the frontalis. Inject 5–10 units of BTX into the medial frontalis on either side of the decussation. Be sure to stay medial and you may use the subcutaneous or subgaleal techniques.

2. Have the patient smile and squint and identify the lateral, vertical origins of the orbicularis occuli muscle. Inject 10–15 units into the lateral orbicularis, again ensuring that you are lateral to orbital rim and halfway between the rim and the lateral most insertion point.

3. The Isotonic MyoFacial® brow therapy will focus upon strengthening the lateral and central frontalis muscle.
Desired Brow = a. Horizontal brow  
b. Diabolo high lateral brow

a. The depressors of the central brow are injected with 15 units on each side using the superficial technique, allowing the frontalis to be weakened. As well, to further drop the medial brow, 8 units are injected into the medial frontalis (4 units on each side) and the Hypertrophic MyoFacial® therapy will focus on the area of the brow the patient wants to elevate. Pre SpaMedica® brow position (Fig. 42a) and post SpaMedica® brow contour (Fig. 42b).

b. The lateral depressors are also injected with 15 units of Botox® to uncouple the lateral frontalis. The MyoFacial® Hypertrophy process will then elevate further the lateral brow.

4. High Arched Brow

The exaggerated high arched brow is relatively uncommon, but when it exists, these patients present with complaints of a persistent “surprised” look, or “goosed look”, and will frequently have deep, grade three frontalis rhytides. The goal is to drop the central brow, with or without elevation of the lateral brow.

Pathophysiology of the High Arched Brow:

Depressors: The central depressors, corrugators, procerus and depressor supracilli and lateral depressor, the orbicularis occuli, are comparatively weak and overpowered by the strong, central frontalis muscle. The depressors are not generally injected as we want to uncouple their effect from a frontalis that will be weakened with BTX. If corrugators are injected stay superficial to chop the frontalis. The lateral depressors may be injected after descent of the central brow to facilitate elevation of the tail if the patient desires.
Elevators: The frontalis, particularly the central frontalis, is strong and overpowers the weaker depressors. The central frontalis is injected with BTX and lateral frontalis is strengthened through Isotonic Resistance MyoFacials®, if the patient desires an elevated tail.

SpaMedica® High Arched Brow Goal:
There are several different and potentially pleasing therapeutic end points for a high arched brow that a patient might desire. The most common pleasing brow architecture would be to drop the central arch slightly, diminish active frown muscles without causing further medial descent and facilitating a relative elevation of the brow tail. This diabolo lateral high brow would be accomplished in the central high arched brow phenotype with a careful titration of BTX into the central brow frontalis allowing the central brow to drop, the medial depressors and central frontalis with BTX preservation of the lateral third of the frontalis, uncoupling the lateral elevation effect with selective BTX into the lateral orbicularis occuli and Isotonic Resistance MyoFacials® to the lateral third of the frontalis.

Other central high arched brow patients may just want to drop the central brow elevation and preserve a moderate low horizontal brow appearance. This horizontal brow would be achieved with a titrated low dose central frontalis BTX therapy.

SpaMedica® High Central Arched Brow Technique: (Fig. 43a–b)
1. Isolate the central frontalis responsible for the high arched brow, which will be injected to allow the high central brow to drop. Inject 2–3 units of BTX in the subcutaneous or subgaleal technique about 2 cm from each previous location for a total of 15–20 units.

2. Uncouple the lateral brow by injecting the lateral orbicularis occuli. Use the technique described previously, have the patient smile and squint. Identify the lateral origin of the orbicularis into the dermis and palpate the lateral orbital rim medially. Inject between these two landmarks into the subcutaneous space. 15 units of BTX are injected into each orbicularis complex, starting with 5 units of BTX placed just under the tail of the brow, 5 units at the lateral canthal line and 5 units below, staying high enough on the malar eminence to avoid the origin of the zygomaticus major or minor.

3. For those clients who are also concerned with an excessive propensity to frown, one may judiciously inject 10 units into the inferior aspect of each corrugator complex and into the procerus. Avoid lateral corrugator injection to minimize the risk of further medial brow descent.
Keep injections deep and subperiosteal to avoid paralysis of some fibers of frontalis as it inserts into the dermis of the brow.

*Fig. 43: High Arched Brow SpaMedica® Technique*

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**Desire Brow**

- **Horizontal Brow**
- **Diabalo High Lateral Brow**

*a.* The central brow depressors are injected on each side with 15 units of Botox® using the deep technique, paralyzing the frown effects, the depressors and sparing the medial frontalis. The lateral most 5 units injected into the corrugator tail should be using the superficial technique to paralyze the frontalis. This will allow some elevation of the medial brow. 4 units are then placed over each central high arch of the central frontalis to drop the arch. The lateral brow depressors will not be injected if the patient does not desire their elevation. The precise brow shape can then be modified and determined by resistance MyoFacial® Hypertrophy. The pre SpaMedica® brow position (*Fig. 43a*) and post SpaMedica® brow contour (*Fig. 43b*).

*b.* For a diabalo high lateral brow contour, the same technique as outlined above is used, however, the lateral brow depressors will be injected with 15 units of Botox®. The precise brow shape can then be modified and determined by resistance MyoFacial® Hypertrophy.

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**Midfacial SpaMedica® BTX Therapy**

In a youthful, attractive face, the midface and cheek region is characterized by an ogee, which is a curvilinear, s-shaped curve formed by an elegant convexity of the malar eminence, concavity of the cheek and convexity over the mandibular border. The aging process results in a significant descent of the midface. With descent of the midface there is a noticeable loss of youthful malar volume and sweep. As the cheek descends, there develops large, deep, noticeable smile lines, or nasolabial folds. The descending cheek also vacates the lower lid and creates a hollowed, sunken appearance to the eyes, often with dark circles and a malar-palpebral groove. As the cheek descends, excess flesh and subcutaneous tissue gathers along the jawline forming a jowl, which bottoms out and squares off a usually oval shaped, youthful picture. Cheek descent removes tonic support of the modiolus by the cheek elevators and the commissures and corner of the mouth begin to droop (*Fig. 44*).
Pathophysiology of the Midface Descent

As we age the fleshy, full contoured malar eminence is subjected to the depressive forces of gravity and prime facial midface depressors.

Midface Elevators: The prime elevators of the midface are the zygomaticus major and minor. The levator labii superioris and alequa nasi have much less significant mass effect but to help create a full, youthful lateral lip.

Midface Depressors: The prime depressor muscle of the midface is the depressor angularis oris and the secondary depressor the medial platysmal complex.

In addition to the strong midface depressor muscle activity, the soft tissues of the midface also descend as a result of the relentless effects of gravity and the hormonal and hereditary loss of elasticity of the fibrous attachments between the dermis and the elevator muscles. In many individuals, this inferior descent is accompanied by a loss of midface fat and involution loss of tissue.

SpaMedica® Midface Goal

The goal of the SpaMedica® lift midface elevation is to create an elevation and fullness to the midface and malar region, simulating the fullness of youth and some of the aesthetic benefits of a facelift. This midface elevation is accomplished by Isotonic Resistance MyoFacials® and the hypertrophy of the zygomaticus major and minor. Simultaneous to the Isotonic MyoFacials®, BTX is used to uncouple the prime elevators by paralyzing the prime depressors of the midface, the depressor angularis oris and medial platysma.

Fig. 44: Classic signs of moderate midface, cheek fat-pad descent. Elongation of the lower lid-cheek prominence, malar-palpebral grooves, descent of the commissures, deepened nasolabial and labiomental grooves and early jowls.
SpaMedica® Midface Technique

1. Have the patient grimace and make a lower lip pout by asking them to contract the corners of their mouth in a down-going fashion. This facial animation will identify the broad attachment of the orbicularis angularis oris along the mandibular border. Generally this attachment lies along a line from the commissure, down through the central trough of the labial-mental groove, or marionette line, running at a 45 degree angle to the mandibular border (Fig. 44).

2. At this point along the mandibular border, in the middle of the depressor angularis oris, inject 5–6 units of BTX, using the superficial subcutaneous technique (as the BTX will diffuse for 1.5 to 2 cm onto the depressor labial inferioris) or the more direct and painful subperiosteal technique.

3. With the prime midface depressors paralyzed, the strong midface elevators, the zygomaticus major and minor, are uncoupled and their effects are amplified by the Isotonic MyoFacials®.

4. To “roll out” the lateral red lip, I then inject 1–2 units of Botox® into the lateral 1/3 of the orbicularis oris, which is the prime depressor of the lateral lip. With the depressor weakened, the Isotonic MyoFacial® will hypertrophy to levator labii superioris and “roll out” the upper red lip (Fig. 45).

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**Fig. 45:** Midface Depressor Angularis Oris (DAO) Technique. 2.5–6 units of Botox® are injected into each depressor. The depressor is located by having the patient grimace and form a pouty lower lip. The triangular body of the DAO can then be visualized and the injection is performed just above the mandibular border.
SpaMedica® Cervical BTX Therapy

Pathophysiology of Cervical Laxity

Cervical Depressors: Aging changes result in senile flaccidity, elongation and relative laxity of the medial and central platysma muscles. The medial platysma is an extrinsic depressor of the commissures and modiolus. The lateral platysma is important in “holding” or supporting the submandibular glands. The facial attachments to the overlying skin loosen and the skin becomes less closely coapted to the underlying platysmal musculature. Despite being lax depressors, the platysmal muscles are still active, contractile muscles and form bands running down the central neck, at their decussation.

Cervical Elevators: There is a relative laxity of the prime cervical angle elevators, the suprahyoid muscles, particularly the anterior and posterior bellies of the digastric muscle and laxity of the digastric sling.

This suprahyoid laxity of the digastric sling accounts for some of the loss of a youthful, acute cervical mental angle. The lateral fibers of the platysma have an elevating and tightening effect upon the soft tissue of the neck and Resistance MyoFacial® therapy also attempts to hypertrophy these fibers.

Goal of SpaMedica® Cervical BTX Therapy

BTX is used along the medial borders of the platysmal muscle, paralyzing its contraction and lessening the visible borders of the bands and accessory depressor effects on the modiolus and the depressive effects upon the midface. Simultaneous Isotonic MyoFacial® Hypertrophy of the lateral platysma and the suprahyoid digastric sling muscles results in a lifting and tightening of the neck and moderate sharpening of the cervical-mental angle. The Resistance MyoFacials® of the lax digastric muscles result in a hypertrophic and tonic tightening of the digastric sling. The digastric sling will retrodisplace the hyoid and, if the cervical skin is still attached to the underlying cervical musculature, will retrodisplace the skin with the hyoid, creating a more acute youthful neck angle.
**SpaMedica® Cervical BTX Therapy**

1. Have the patient forcibly contract their cervical muscles. This action will bring out the platysmal muscles. Identify their medial border and grasp the skin and medial muscle border between your thumb and forefinger. Inject 5 units above the hyoid, 5–10 units at the level of the hyoid and 5–10 units at the level of the thyroid cartilage (Fig. 46). Use only the subcutaneous technique to avoid inadvertent injection into the intrinsic constrictors of the neck or larynx. Caution: do not use cervical BTX in any patient with a neurological disorder or degenerative muscle disease.

**Fig. 46:** SpaMedica® Botox® technique into the medial platysmal bands. The length of the actual band will determine the quantity of Botox® injected. 5 units are injected into each band above the hyoid, 5 units at the level of the thyroid cartilages of the larynx and, if needed, 5 units below the larynx.

2. Simultaneous Isotonic Resistance MyoFacial® Hypertrophy of the suprahyoid digastric sling and the lateral platysmal muscle fibers will produce a tightening effect on the neck and enhancement of the cervicomental angle.

**SpaMedica® Botox® Special areas**

1. **Orbicularis Oris** (vertical smoker lines)
   The dynamic oral competency sphincter is created by the orbicularis oris. This strong skeletal muscle encircles the mouth and apposes lip elevation and puckers the lips. The hyperdynamic pucker influence, over time, rolls the lateral red lip inwards, contributing to a loss of lateral lip fullness and creating vertical lip lines.

   **Technique:**
   Inject 1 unit of Botox® on either side of the large vertical lip lines (only 1–2 units per side) (Fig. 47).
Adjunctive Specialized Midface SpaMedica® BTX Therapy

(i) **Lower lid hypertrophic orbicularis oculi roll**

Some patients form a large, displeasing roll under the lower lid ciliary lash line on animation. This visually represents a large hypertrophic roll of orbicularis oculi and can be softened with BTX. Before treatment, it is important to perform a lower lid retraction and snap back test to rule out lower lid laxity. DO NOT inject BTX in the lower lid with loss of lower lid tone or frank scleral show, or this laxity will be exaggerated (Fig. 48).

![Fig. 47: Upper red lip “Roll Out” technique: The prime depressor of the lateral red lip is the orbicularis oris. 1–2 units injected into the lateral third of the upper lip, precisely at the junction of the red and white lip, is performed. The depth of the injection is deep down to the junction of the dry and wet red lip. Be very careful not to use too much Botox®, or clinically and physiologically evident loss of oral sphincter control will be evident. Inject more medially on either side of the lip line to treat the wrinkle. Again, no more than 1 unit on each side of the rhytide.](image)

(ii) **Lateral upper lip orbicularis oris**

With age, there is often a loss of upper lip volume and involution. There is a loss of upper, lateral red lip volume and show. The orbicularis oris is a strong sphincter and, when hyperdynamic, will create vertical upper lip lines and a constricted lateral upper red lip. Injecting a small quantity of BTX into the lateral upper lip orbicularis oris will minimize vertical lip lines and relax the constrictive effect of the sphincter, uncoupling the levator labii superioris (which is also strengthened by Resistance MyoFacials®), allowing a subtle elevation and rolling out of the upper lip red lip.

![Fig. 48: Lower lid Botox® technique into the lower lid orbicularis oculi technique. 1–2 units of Botox® are injected into the subcutaneous space, at the level of the mid-papillary line, just under the ciliary lash line.](image)

**Technique:**

Have the patient look up and with their eyes open. Inject 1–3 units in the mid-pupillary line 4–5 mm below the ciliary lash line.
Technique:
Inject 3–5 units of BTX into the lateral \( \frac{1}{3} \) of the upper lip, at the junction of the white roll and red lip (see Fig. 47).

(iii) **Depressor Septi Nasii**
As we age, the nasal tip often becomes ptotic. The ptosis of the nasal tip is exacerbated by activation of the depressor septi nasii muscle on smile or articulation. BTX injection into the depressor septi nasii muscle can result in a subtle elevation of the nasal tip and an improvement of the ptotic tendency.

Technique:
Palpate the nasal spine (the origin of the depressor septi nasii muscle) and pass the BTX needle down, parallel with the columella, into the soft tissue of the nasal base. You can palpate the anterior nasal spine with the needle, simply pull back a few millimeters and inject 5 units into the soft tissue (Fig. 49).

(iv) **Levator Aleque Nasi**
These paired muscles are the prime elevators of the central 40% of the upper lip, including the cupid’s bow and philtral columns. These muscles are also the elevator most responsible for the depth of the superior 50% of the nasolabial grooves. A small amount of BTX into these muscles will blunt the depth of these deep superior smile lines and will cause a descent of the upper lip on smile. The best candidates for this treatment are patients with deep, upper smile lines, a gummy, central \( \frac{1}{3} \) canine smile and who want to invoke a descent of this upper lip on smile.

Technique:
Place your non-dominant index finger at the base of the nasal alae, palpating the piriform aperture. Have the patient smile fully and you will palpate a “popping”, which is the levator aleque nasii muscle. Inject 3–5 units, using the deep periosteal technique, into this region (Fig. 50).
Mentalis muscle
The mentalis muscles are prime evertors of the lower lip. The superficial fibers of the mentalis attach to the dermis and, in some patients, will cause an unattractive dimpling of the skin, or peau d’orange effect, as well as protrusion of the pogonial soft-tissue pad.

Technique:
Inject 8 units in 4 equal quadrants using the subcutaneous technique into the mental soft-tissue pad. Avoid deep injections or the deep fibers of the mentalis will be inactivated, eliminating the lower lip eversion function (Fig. 51).

Levator Alae Nasi
Some patients, on smile or animation, will crunch the sides of the nose (levator alae nasi) and nasal root (procerus action). Over time, this “accordion effect” of the skin on the side of the nose may lead to “bunny lines” and wrinkles that often communicate with the procerus nasal base wrinkles to form an aged appearance to the skin of the nasal root.
Technique:
Have the patient actuate a full smile and inject using the subcutaneous technique into the soft tissue under the wrinkles of the lateral nasal side wall and procerus (Fig. 52).

![Fig. 52: SpaMedica® bunny line technique. 1–3 units are injected directly into the periosteum of the nasal side wall overlying the levator alae nasi muscle, which will soften the “bunny lines” that are helped to form nasal crunches on animation.](image)

(vii) **Pre-operative Botox®**
The SpaMedica® Botox® technique 90 units, brow, midface and cervical technique is used prospectively whenever these ⅓s are to be surgically elevated. Paralysis of the facial depressors will allow tension free soft-tissue healing after a facelift, browlift, or midfacelift procedure.
Acknowledgment of Complete Comprehension

I ______________________, franchisee trainee, on this date of __________ have carefully read and have a thorough understanding of every page of this chapter. I have initialed each page that signifies I have no further questions whatsoever regarding the information in this chapter, and that all my questions have been answered by the SpaMedica® franchisor trainer to my complete and total satisfaction.

Franchisee Signature

Name ___________________________ Date __________

Franchisor Trainer Signature

Name ___________________________ Date __________