

# Botulinum Toxin

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## 1-What is the Treatment with Botox Cosmetic ®

The expression marks appear in the face, in the form of furrows or wrinkles. They are provoked by the action of the expression muscles. The use of these muscles varies from a person to another. Some people use these muscles much more and another less. What happens along the time is that the muscle being contracted repeated times is hypertrophied and with increased tonicity (Tonus is the contraction degree that stays even when the muscle is resting). It happens as if the muscle of the expression had been submitted to a muscle fitness program. This hypertrophy forms furrows and wrinkles that appear in a very marked way in the moment of the expression and it stays, a little less marked, even when we are not contracting the muscle. Those furrows and wrinkles stay exactly by the effect of the muscle hypertrophy and tonus.

In the course of the time, and with the installation of the aging process, the skin can be broken and the wrinkles are more accentuated and marked. The action of the sun light provoking the photoaging, it removes the elasticity and the whole process increases, giving to the skin of the face an aged aspect.

The Botulinum Toxin(Botox Cosmetic ®) that is a substance produced by the bacterium *Clostridium Botulinum*, has a potent action, but used in small doses, doesn't make any badly effect, and can improve the aspects of facial aging. The dose used for aesthetic purpose is from 25 to 50 units and the one that can cause problems the human being is around 3000 units. The small amount used with aesthetic purposes obtains the effects without dangers for the human health.

Botox Cosmetic ® is used to correct the expression wrinkles. The wrinkles of the forehead, the furrow between the brows and the famous Crow's feet can be benefitted with this method. Other areas can also be treated. Lifting with Botox Cosmetic ®, is a technique that elevates the corner of the brows and opens the eyes, with a very interesting effect. The technique consists of injecting the substance in the muscle whose hypertrophy and Tonus provoke the emergence of the wrinkles. Then, it is obtained a temporary paralysis (obviously, of unnecessary muscles), with the disappearance of the lightest wrinkles and reduction of the deepest.

Botox Cosmetic ® performed with efficiency, back a great result. These results are the responsible for the explosion in his use. The patient, his family circle, friends and work friends notice the improvement, but this improvement should be natural, and it is desirable that him do not notice easiness that Botox Cosmetic ® was applied. The goal, is that people say patient is well, with a good aspect and with better

appearance, The exaggeration of the use of Botox Cosmetic® presents little natural results, that should not be the objective of the treatment. At the Naturale Clinic, we preferred Botox Cosmetic® for the Crow's feet, to wrinkles of the forehead and to reduction of the wrinkles of the glabella. We left wrinkles and furrows of other locations to treat with another techniques, and , then, this way , we maintain the natural results.

The duration of the effects is around 6 months, and later it disappears. What happens is that the muscle forced to rest by Botox Cosmetic®, is a little weaker, and even, when the contraction action returns, it takes some time for the muscular activity effect cause hypertrophy and the return of the muscular tonus like before the treatment.

Botox Cosmetic's® application can be then repeated. The muscular movement turns a little before, around the fifth month of the application , but the wrinkles only return around 6 months, that it is when Botox Cosmetic® should be reapplied. The return of the movement, doesn't mean that Botox Cosmetic® should be reapplied immediately, because the muscle that causes the wrinkles is still weak and it should only be treated when it recovers the normal Tonus, what happens around from 5 to 6 months, in the first applications and around from 6 to 8 months, in patients that make the treatment regularly.

With the lack of temporary function of the muscle, the habit conditioned that forms expression wrinkles decreases, and with this Deconditioning, the speed of emergence of new wrinkles is smaller. Then, even stopping the use, a beneficial effect stays for a certain time. But with the repeated applications, in the right time, around 6 months, a trend exists to an effect lasting more and more.

Some people however can present a "vaccine-like effect" and the toxin turns not so efficient, but that happens in small percentage of cases. The ones that happens is that some patients, can develop immunological defense to botulinum toxin and it is as if he was vaccinated, and the toxin is not more efficient. That rarely happens, in a small quantity of patients and now it is already available the Type B Toxin - Myobloc®, to be used in possible resistant patients. This toxin B was developed with a group different from clostridium, and therefore has different properties. If a patient has the lack of the lucky of being resistant to one type of toxin she can have a great possibility to answer to another types, like the Myobloc®.

In some cases, what is not so rare, it can happen that a patient that answers correctly to Botulinum Toxin's use, in a certain application, obtain a smaller answer in another one. That can happen by the vaccine-like effect , as we already said, but it can be for some other technique cause, as an inadvertent inactivation of the Toxin. The toxin is very labile, be inactivated easily, the simple placement in the syringe, if it is not careful, it can inactivate the product. The transport, storage and dilution can also disable the Toxin. Then , if the toxin was not efficient in an application, it should be repeated and only then , if it is again inefficient, to attribute the fact to the "vaccine-like effect "

The Toxin is liberated by FDA (control of medicines) American, and by ANVISA, the Brazilian Health Authority , as muscle blocking and performed by trained physicians doesn't present serious complications. It can be used with another techniques.

It is important, to choose well trained physicians in the technique of application of Botox Cosmetic®. The Naturale Clinic was one of the first clinics to use the Botulinum Toxin in Brazil and it already performed hundreds of treatments. Their physicians perform researches and they use to perform conferences on the subject.

## 2. Where the Botulinum Toxin can be applied

The Toxin presents better results in the superior part of the face. It can be applied to the forehead wrinkles, glabelars wrinkles (between the brows) and around the eyes (Crow's feet). In these areas the toxin presents the best results and is considered one of the best treatment, for this cases of aging and of expression wrinkles.

Another great application of Botox Cosmetic® is Lifting with Botox Cosmetic®, the elevation of the corner of the brows and increase of the aperture of the eyes.

Botox Cosmetic® can be applied at other places as the inferior eyelid and for the depression of the corner of the lip and it has also been applied in other locations, but the wrinkles of the forehead, the Crow's feet and the glabella wrinkles are the best indication.

A small dose of Botox Cosmetic® in the inferior eyelid helps to minimize the eyelids wrinkles. Controlled doses of Botox Cosmetic® in the mouth area, they help to reduce the wrinkles around of the mouth of smokers, however the Fillers has better results in this location. An application of Botox Cosmetic® in the infralabial muscles elevate the corner of the mouth, leaving a more pleasant expression.

The application with special techniques of Botox Cosmetic® in the front area, elevates the corner of the brow, performing a true brow lifting, without surgery. Platysma, muscle of the neck, can have contraction state attenuated with Botox Cosmetic®, with interesting results.

## 3. How the Botulinum Toxin is applied

In the initial consultation, Naturale Clinic's physician explained to the patient the indications, and the expected results of the treatment of the skin, in an individualized detailed way. He has presented all options, and decided with the patient which is the most appropriate techniques for the case. Botox Cosmetic® is frequently used.

The patient comes to the clinic in the day and hour previously scheduled for the application. Should not use on this day, any medicine, cosmetic or make-up in the face. When the patient arrives to the Clinic is applied an anesthetic ointment on the area that will be treated. This ointment stays some minutes in contact with the skin, when it is obtained a transient anesthetic numbness of the skin. The patient is ready to receive Botox Cosmetic®.

An asepsis of the skin is performed with medicinal antiseptic, a demarcation of the applications points with a paint is proceeded. This demarcation is based on study that the physician performs for each patient's muscular movements, and it serves as orientation for the application. Some patients possess the muscles of the face contracting in a same way, in this case the application points are drawn in a symmetrical pattern, other patients possess the muscles asymmetrics, in this case Botox Cosmetic® should also be applied asymmetric, trying this way to correct the

muscular difference. The demarcation also allows to program the Lifting Effect, that should be natural, without altering, negatively, the expression.

Botox Cosmetic® is applied with micro needles, very thin, imported from Europe, and that possess a layer of protecting silicone, that allows the puncture to be very easy, and with low pain. After the application that lasts about 10 minutes, the patient receives a protection of antiallergic adhesive plasters, that maintains Botox Cosmetic® in the points where was applied.

The patient can return the normal activities immediately, if she wants, removing the adhesive plasters two hours later. The recommendation home is not to lie down for 4 hours, to avoid heavy gymnastics in the day of the application, and not to massage the area in the day of the application. The following day, the activities are totally regular.

The results appear in 2 to 3 days, and they are stabilized in 10 to 14 days. Botox Cosmetic® is so much used and it is frequently associated to Fillers and Bioplasty in our clinic.

#### 4. Lifting with Botox Cosmetic®

The muscles of the front area have a balance, when the Botulinum Toxin, Botox Cosmetic® or Dysport® are applied, it happens a blocking of the muscular movement.

If the toxin was applied with a certain care, we blocked the part that provokes the wrinkles and we left active the one that elevates the corner of the brow.

With that, the part that didn't receive the toxin is hiper-active and elevates the corner of the brow, opening the eyes and getting an lifting effect. This technique has to be very well applied to avoid exaggerations and to leave the natural look, that it is the objective of the treatment.

5. Treatment of the wrinkles of other locations with Botox Cosmetic® or Dysport®  
Botox Cosmetic® that is already very known and applied to correct and to control the wrinkles in the superior part of the face, has been applied in other locations. A small dose of Botox Cosmetic® in the inferior eyelid helps to minimize the palpebral wrinkles. Controlled doses of Botox Cosmetic® in the perilabial área helps to reduce the wrinkles around of the mouth and that of smokers. An application of Botox Cosmetic® in the infralabial muscles elevate the corner of the mouth, leaving a more pleasant expression. The application with special techniques of Botox Cosmetic® on the front area, elevates the corner of the brow, performing a true lifting without surgery. The Platisma, the muscle of the neck, can have a contraction state attenuated with Botox Cosmetic®, with interesting results. Although Botox has all these applications, at the Naturale Clinic, we applied on the area of the forehead, on the Crow's feet, and on the glabella's wrinkles, and we performed the lifting frequently with Botox Cosmetic®. For the problems of aging of another locations, we preferred other techniques, like Fillers and Bioplasty.

#### 6. Myobloc® - Type B Toxin

Exist several types of Botulinum Toxin: Botox Cosmetic® and Dysport® are the type A. Myobloc® is the type B. the toxin type B has similar effects, but we can use in the few patients that present resistance to the type A, or the ones that receive the application but with small effects or a small duration of the effects. In these cases the type B Botulinum Toxine, Myobloc® can be used. Myobloc® is already liberated and it has been used in the USA, however, it was still not regulated by the Brazilian authorities of health and it is not available for this use.

## 7. Botulinum Toxin History

It was a German poet, that was also a physician and scientist, that explained the illness called botulism. Dr. Justinus Kerner of Wurttemberg, from 1817 to 1822 published the first studies of that illness.

Dr. Kerner, a representative of the German romantic poetic movement had their poetries turns in music by Schumann. But in other ares, with their first studies of the botulism, Dr. Kerner already imagined that the toxin that caused such serious illness could be used to treat illnesses as the muscular spasms and hyper movement alterations. What a great poet! What a great physician! What a magnificent scientist! That amazing human being that always stood out in all areas that acted. But the doctor-poet could not glimpse that this toxin would be one day used to treat the people's appearance and that, certainly makes him happier.

In 1978, the toxin was applied in humans, as treatment, by Scott, and surprisingly we find a safe drug, that would be used in many other medical indications, even on the aesthetics. Jean Carrhuthers worked with Scott applying the toxin for strabismus treatment. A strabismus patient treated by Carrhuthers told that their wrinkles got better a lot when the toxin was applied. With her husband, Jean Carrhuthers started to use the Botulinum Toxin to cosmetic purposes beginning the revolution that we observed in the treatment of the wrinkles and of the aging.

The use of toxins as medicine are part of the history of the medicine, it was this way with the penicillin produced by a fungus, and with the captopril, a drug so much utilized for hypertension, derived of the jararaca's snake poison and many other.

The doses utilized for the treatment of the wrinkles with the toxin are around 30 times less then the ones that would be capable to cause complications, similar to the illnesses. This offers a great safety.

The doctor- poet and scientist Kerner, would be satisfied in seeing such dangerous toxin to be domesticated and utilized to the happiness and the quality of the people's life.

## 8. Questions and answers on Botox Cosmetic®

What is the uses of Botox Cosmetic® in Aesthetic Medicine?

Botox Cosmetic® has been used for immediate treatment of the wrinkles of the face. The best results are for the wrinkles of the forehead, the ones of the area among the brows and for the ones of the corner of the eyes, the Crow's feet.

Can Botox remove the naturalness of the expression and to leave to a "hardened" face?

Botox Cosmetic® performed with efficiency, back a great result. These results are the responsible for the explosion in his utilization. The patient and family and friend circle of relationship notice the improvement, but this improvement should be natural, and is desirable that has not noticed with easiness that Botox Cosmetic® was applied. The people say that the patient is well, with a rested aspect and with better appearance, The exaggeration of the use of Botox presents small natural results, that should not be the objective of the treatment. At the Naturale Clinic, we preferred Botox Cosmetic® for the Crow's feet, for the wrinkles of the forehead and for reduction of the glabella's wrinkles. We left wrinkles and furrows of other locations for another techniques, like Bioplasty and Surgery and we maintain this way the natural results.

Is the Botox utilization dangerous?

No. The medicine was tested since 1984 in the United States and it is liberated by American FDA, that it is the most rigorous control of medicines of the world. It is liberated since 1992 by the Brazil Ministry of Health. His initial use was for people that had muscular spasms and more recently it began to be used in aesthetic medicine. It is a new medicine for aesthetics, but it is already very known by other medical uses that gives safety in his application. In the aesthetic treatments we utilize small doses, from 25 to 50 Units, while the dose that would provoke complications is larger, of 3000 Units. With the toxin being used by experienced physicians the problems are extremely rare.

Does exist Botox's creams®?

The so-called Botox's cream is the Argireline. The Biological Action of the cream is really similar to Botulinum Toxin's action, but in a smaller intensity. It doesn't substitute Botox Cosmetic®, but it can be used as an accomplice.

The cream, as well as Botox Cosmetic® acts in the liberation of the acetylcholine by vesicles that are part of the nerve and that promote the muscular contraction. The blocking of the contraction, provokes a smooth skin derived from the smaller action of the muscle.

In our clinic we utilized the Argireline, the cream with a so-called Botox effect, just as a supporting treatments, being part of the dermatologics formulations.

Do exist more than a type of Botulinum Toxin?

Several types of Botulinum Toxin exist Botox Cosmetic® and Dysport® are of the type A. Myobloc® is of the type B. the toxin type B has similar effects, can be utilized in the few patients that present resistance to the type A, or for the ones that receive the application but the effects are so small or with small duration. In these cases the type B, Myobloc® can be used.

How does Botox Cosmetic® work?

The medicine blocks the muscle action where it was injected. The muscle relaxes and it doesn't contract anymore for some time. The muscle where it toxin could be injected doesn't have a main function to the body and they are the ones that provoke

the wrinkles. With the relaxation of these muscles is obtained the disappearance of the wrinkles.

The area in what the medicine was applied turns anesthetized after the treatment? No, there is not any sensibility alteration. What changes is just the movement capacity of some muscles that are the responsible by wrinkles and expression furrows.

The treatment could be in all ages?

Yes, some people that presents these very strong muscles can have appearance of expression marks very early, same soon after the 20 years. In v senior people, the marks are deeper and they can need complemental treatment with Fillers, but almost all the ages can obtain benefit to the appearance with this treatment.

How long does the effect of the treatment lasting?

The movement can return in a variable period of time, but the wrinkles can return in about 6 months or more. Botox Cosmetic ® should be reapplied, no immediately when the movements return, but a little after, when the wrinkles begin to reappear. This way everything happens as if the time had been paralyzed, at least, to the wrinkles.

Does exist effect by long term period of time?

It exists the need of repeating the applications to maintain the effect, but the by a long term period of time exists a residual effect for impairment of the activity of the muscle and control of the habit of contracting. Then, it can be necessary smaller doses to obtain the wanted effect. But this doesn't happen equally for all of the people.

Does Botox Cosmetic ®'S Application cause pain?

Very delicate material is used to performer the applications, as micro needles, and it is also used previously an anesthetic cream that leaves the treatment tolerable and well accept. The very sensitive people can be submitted to an anesthetic blocking of the area of the forehead, what leaves the procedure still more tolerable.

Is a lasting time treatment? It is necessary resting after the application?

No, the application is quite simple and lasts on average of 10 minutes. It is performed at the clinic and the patient can return immediately to the work, They don't need any rest.

Can it take sun after the application?

There are no restrictions to the sun because of the treatment, however, the sunscreen use is recommended with the objective of facial aging prevention.

Is the treatment costly?

In Brazil , the medicine is relatively expensive, but the treatment no so costly because it is simple and doesn't need hospitalization to be performed.

Where the treatment is available?

The Nature Clinic was one of the first clinics to use the Botulinum Toxin in Brazil and in the World and performed thousands of treatments. Their physicians perform researches and they performs conferences on this subject.