

## **BOTOX INFORMATION**

### **Background of the Cosmetic Use of BOTOX**

Cosmetic BOTOX injections were pioneered in 1988 by a Vancouver ophthalmologist, Dr. Carruthers, and her husband, a dermatologist. Since that time, this team of doctors has performed over 10,000 sessions on their patients. Dr. Carruthers noted that the wrinkles softened in her patients with eyelid spasms who were treated with BOTOX. This led to further research confirming the effectiveness and safety of BOTOX for improving wrinkles due to overactive muscles of the face.

In 1996 at the annual meeting of The American Academy of Dermatology, a presentation by dermatologist, Dr. Nicholas Lowe, showed that BOTOX was useful for facial expression lines. Significant improvement was noted in both forehead frown lines and crow's feet. No significant side effects were noted beyond the expected injection discomfort. Of 30 patients, only one experienced a mild drooping of the upper eyelid, which cleared spontaneously. The length of effective improvement for the forehead frown lines was approximately 18 weeks. The degree of improvement of the crow's feet was generally less than the forehead frown lines. BOTOX is not 100% effective in all patients.

### **BOTOX for Glabellar Frown Lines**

Between the eyebrows (glabella), the vertical frown lines result from over-active muscles. By drawing the eyebrows inward, one expresses anger, confusion and anxiety. Repeated often enough, permanent skin creases develop and even when relaxed, these frown lines remain. Neutralization of these overactive brow muscles helps eliminate these negative appearances. The FDA approved BOTOX for the treatment of these glabellar frown lines in 2002.

### **BOTOX for Crow's Feet**

Wrinkles, radiating from the corner of the eyes caused by smiling, laughing or squinting, are especially distressing to some individuals. Previously, no reasonable medical or surgical solution improved this problem due to the strong underlying muscles. Even with the deepest chemical peels or laser resurfacing techniques, rapid recurrence of these lines around the eyes is inevitable. It is the function of BOTOX to prevent the recurrence of wrinkles by inhibiting the underlying muscles.

### **BOTOX for Horizontal Forehead Lines**

Due to facial expressions, some individuals develop horizontal lines across their forehead. For those individuals, BOTOX may help reduce their appearance. However, not all patients are candidates as some may have heavy brows that may worsen with treatment. Please talk with your physician to determine if you are a candidate.

### **Other Specialties Use BOTOX for Their Patients**

BOTOX is used in many specialties as a nonsurgical therapy for spasmodic neck muscles, spasmodic laryngeal muscles, writer's cramp, certain tremors, tics, multiple sclerosis, cerebral palsy, post-stroke states, spinal cord injuries, nerve palsies, Parkinson's disease and facial spasms. GI indications include swallowing and ulcer problems. Speech problems including stuttering have also found BOTOX helpful. Also, genitourinary disorders of spastic bladder and other disorders have been studied.

### **Safety**

In clinical applications, it is used in very small quantities with high margins of safety. After a muscle is injected, its first effects are not seen for 24 hours and the complete effect on the muscle will not be complete for two weeks. Fifty units (one half vial) or less of BOTOX per session is generally used. To have toxic effects on a patient, over 2,000 units would need to be

injected at one time. BOTOX effects are only on the muscles; it has no effect on the central nervous system or on the body if injected accidentally into a nerve or blood vessel.

### **Commonly Asked Questions**

#### **What should be expected after BOTOX therapy?**

BOTOX is a remarkably safe therapeutic agent for wrinkles. Complications have been minor and only transient. Bruising may occur where injected, and a brief pain, heaviness, or headache may follow. Bruising may be greater in patients taking aspirin or any blood-thinning medicines. These products should be avoided if possible prior to the injection. Ice helps prevent bruising. Muscle weakness is not immediate.

#### **How long does BOTOX last?**

Ninety percent or more patients respond to BOTOX. Successful therapy is signaled by muscle weakness that begins at 24 to 48 hours after injection with a peaking weakness at 7 to 14 days. Muscle weakness after the initial injection lasts between three and five months for most patients.

#### **How often is reinjection needed?**

Reinjection is suggested every three or four months. This frequency will keep the muscles weakened and allow the furrows to completely smooth out. Once an area is smooth, patients are instructed to return for therapy only when they notice a return of muscle movement, which may not occur for four to six months.

#### **Who should not use BOTOX?**

1. Although there have been no reports of birth defects with this medicine, no pregnant patients will be treated. It is also our policy not to inject BOTOX into nursing mothers.
2. Patients with a history of neuromuscular disease (multiple sclerosis and myasthenia gravis) or other types of diseases involving neurotransmission should avoid this medicine.
3. Patients taking the following medicines may potentiate BOTOX: aminoglycoside antibiotics (Streptomycin, Tobramycin, Gentamycin, and Garamycin injections), penicillamine, quinine and calcium channel blockers (Calan, Cardizem, Dilacor, Norvasc, Procardia, Verelan).

#### **What are alternatives to BOTOX?**

*Filling agents* including fat, collagen and hyaluronic acid; *resurfacing* procedures with acids or lasers; and *lifting operations* of the forehead, temporal, neck and mid-face regions. Each of these treatments has its strengths for particular types of wrinkles and should be discussed with your Dermatologist.

#### **What unexpected benefits have come from the use of BOTOX?**

Tension headaches for some patients have disappeared. This relief occurred in patients who were recruiting forehead and brow muscles during periods of stress and tension. When these muscles were relaxed, the headaches faded.

#### **How exactly does BOTOX inactivate the muscle?**

BOTOX inhibits the release of acetylcholine at the joining site of the nerve to the muscle so that the muscle never gets the message to contract. Remember, muscles only have the ability to contract: an opposing muscle contracts to produce movement in the opposite direction. To rejoin the nerve to the muscle, the body organizes and produces new motor endplates, which reestablishes the connection.

#### **Does the body make antibodies to the BOTOX protein?**

Yes, especially if enough toxin is injected often enough. The crucial amount is about 100 units (more than the usual cosmetic dosage) and booster injections placed within one month of the initial injections. Antibodies have been more of a problem for neurological disorders where larger amounts of BOTOX are required. When significant amounts of antibodies are formed, the therapeutic effects of BOTOX are greatly reduced.

**Have there been any reported cases of allergic reactions or hives to BOTOX?**

No reported cases of a true allergic reaction in nearly 20,000 treatments. People who are known to be allergic to Botulism toxin or albumin should avoid BOTOX.

**What happens if a female patient becomes pregnant shortly before or after treatment?**

A number of neurological and ophthalmological patients have delivered normal children after receiving their injections. **For safety reasons, no pregnant or nursing females will be treated.**

**How painful are the injections?**

The smallest needles are used and the medicine itself does not sting as much as the usual local anesthetic. An over-the-counter topical anesthetic can be applied 30-60 minutes prior to injection. Some patients find that two Tylenol tablets (NOT aspirin or NSAIDS) before the injections reduce the discomfort.

**What can be done for the drooping eyelid if this occurs?**

There are two ophthalmological preparations which are helpful: the first is 10% phenylephrine drops and the second is iopidine. Transient drooping of one eyelid or both is the most significant complication and occurs in one to two percent of all injections. This is a result of the local dissemination of the toxin in the injection site and can be minimized by accurate dosing, as well as proper placement, as well as keeping the patient in an upright position for three to four hours after injection. If drooping eyelids occur, it is usually minimal and is usually resolved by two weeks.

**As a patient, after receiving my injections, how can I help BOTOX be more effective and avoid side effects?**

First, do not massage the area of the injection. Second, do not lie down for a nap; keep upright. Third, use the muscle; intentionally making the muscle contract helps localize the protein to the selected muscle for ablation.

**When injecting muscles at one site, will this affect muscles remote?**

BOTOX spreads along muscle fibers and does not spread distantly by way of the blood stream.

**For the deepest frown furrows, what is the recommended best method to get this deep line to disappear?**

Reinjection every 3-4 months is recommended rather than waiting for the muscle to recover. This keeps the muscle weakened. It takes approximately 12 months of local muscle paralysis before maximum effects on the wrinkles are seen.

**What accounts for the fact that no treatments may be necessary in some patients after repeated injection sessions?**

What happens is that the patient is broken of the "bad frowning" habits and may not relearn them for some time in the future.