



OVERVIEW: Botox injections are noted primarily for their ability to reduce the appearance of facial wrinkles. They also treat conditions such as neck spasms (cervical dystonia), excessive sweating (hyperhidrosis), an overactive bladder and lazy eye. Botox injections may also help prevent chronic migraines.

What is Botox?

Botulinum toxin (Botox) consists of 7 types of neurotoxins; however, only toxins A and B are used clinically. Botox A is used for several disorders in the field of medicine, particularly in dermatology, for cosmetic purposes. It is produced by the bacterium *Clostridium botulinum* and can be used as a treatment to reduce the appearance of wrinkles in the upper areas of the face, elevate the eyebrows and treat problems such as hyperhidrosis, lichen simplex, pompholyx (dyshidrotic eczema) and acne vulgaris. Healthcare providers inject small amounts of Botox into specific muscles to smooth wrinkles, prevent migraine headaches and treat a wide range of other health conditions.

Botox® is one of the most widely known brands of botulinum toxin injections. Botulinum toxins are neurotoxins that affect nerves and cause muscle weakening. You might get a botulinum toxin injection for cosmetic or medical reasons.

What is Botox made from? Botox injections use a toxin called onobotulinumtoxinA to temporarily prevent a muscle from moving. This toxin is produced by the microbe that causes botulism, a type of food poisoning.

Botox was the first drug to use botulinum toxin. Other products now include abobotulinumtoxinA (Dysport), rimabotulinumtoxinB (Myobloc) and incobotulinumtoxinA (Xeomin). Each is a little different, particularly when it comes to dosage units, so they aren't interchangeable.

How does Botox work?

Botox blocks nerve signals to muscles. As a result, injected muscles can't contract (tense up). These effects are always temporary, but can last for several months. The muscle injected depends on the primary area of concern. Several areas can be treated in one session.

What cosmetic conditions can be treated with Botox? Botox cosmetic injections are used to address signs of aging. This treatment can smooth fine lines and wrinkles in several areas of your face, including your - Eyebrows; Forehead; Nose; Eyes (crow's feet); Lips; Chin; Jawline; Neck.

What medical conditions can be treated with Botox? Botox has been used for decades in the medical industry. These injections may be recommended for the treatment of: Crossed eyes (strabismus); Excessive muscle contractions (dystonia); Excessive sweating (hyperhidrosis); Eyelid twitching; Chronic migraines; Overactive bladder; Pediatric upper limb spasticity; Adult spasticity; Blepharospasm; Cervical dystonia.

Can Botox help reduce pain?

Yes. Many healthcare providers recommend Botox for pain management. Botox blocks nerve signals that control muscle activity, resulting in relaxation and pain relief. Botox injections can be successful in treating: Back pain; Neck pain; Jaw pain; Nerve pain; Sciatica pain; Neuropathy (peripheral neuropathy); Pelvic pain; Chronic myofascial pain (CMP); Osteoarthritis; Joint pain; TMJ pain.

Why is Botox injection and dermal fillers done and are they different?

Cosmetically, Botox and dermal fillers offer similar results. Both help reduce the appearance of facial lines and wrinkles. While Botox is made from botulinum toxin, dermal fillers are made from other natural or synthetic materials, including collagen, hyaluronic acid or calcium hydroxylapatite. Botox injections temporarily paralyze muscles to reduce wrinkles, while dermal fillers add volume and help retain moisture. Your healthcare provider can discuss the pros and cons of each treatment and help you determine which option is best for you. There isn't a known risk of receiving multiple Botox treatments. Many people find that Botox significantly improves their overall quality of life.

Botox injections block certain nerve chemical signals, mostly signals that cause muscles to contract. The most common use of these injections is to temporarily relax the facial muscles that cause wrinkles in the forehead and around the eyes. Botox injections are also used to treat conditions that affect how the body functions. Examples include:

<p>Hyperhidrosis. In this condition, excessive sweating occurs even when the temperature isn't hot and you're not exerting yourself.</p>	<p>Lazy eye. The most common cause of lazy eye is an imbalance in the muscles responsible for positioning the eye.</p>	<p>Muscle contractures. Some neurological conditions, such as cerebral palsy, can cause your limbs to pull in toward your center. In some cases, these contracted muscles can be relaxed with Botox injections.</p>
<p>Eye twitching. Botox injections may help relieve contracture or twitching of muscles around the eye.</p>	<p>Bladder dysfunction. Botox injections can also help reduce urinary incontinence caused by an overactive bladder.</p>	<p>Chronic migraine. If you experience migraines more than 15 days a month, Botox injections may help reduce headache frequency.</p>

The most widely used types of dermal fillers are those made from hyaluronic acid, which is a glycosaminoglycan unit, which is composed of replicated glucuronic acid and N-acetyl-glucosamine units. Hyaluronic acid is naturally a polysaccharide found in body tissues such as the skin and cartilage. It is very hydrophilic (attracts water), which causes pressure swelling which can withstand compressive forces that make hyaluronic acid the ideal substance as dermal fillers.

Procedure Details

How should I prepare for Botox?

Make sure your healthcare provider has a current list of the medications and supplements you take. Certain medications increase the risk of bruising at the injection site. These include anticoagulants or blood thinners (Warfarin®) and nonsteroidal anti-inflammatory drugs (NSAIDs). Alcohol also makes you more prone to redness and bruising. Don't drink for 24 hours before a procedure.

What should I expect during Botox treatment?

Your healthcare provider uses a fine needle to inject small amounts of Botox into the treatment area. Depending on the issue, you may receive several injections in different spots.

Botox is an outpatient procedure. You'll be able to go home the same day.

Discomfort is usually mild. The injections may sting and feel uncomfortable, but the procedure is over quickly. Your healthcare provider might apply a topical numbing agent to your skin before giving injections.

You may be given anesthesia. If you're receiving injections for an overactive bladder, you may receive local or regional anesthesia.

What should I know about Botox aftercare?

Unless your healthcare provider says otherwise, you can return to work and most activities immediately after treatment. To reduce redness, swelling or bruising:

Don't rub or put pressure on the treatment area for 12 hours.

Stay upright (don't lie down) for three to four hours.

Avoid physical exertion for 24 hours.

How often should you get Botox?

On average, the effects of Botox last about three to four months. Retreatment is recommended at this time. Eventually, however, your muscles may train themselves to

contract less. As a result, treatments can be spaced out over longer periods of time. Your healthcare provider can let you know how often you should get Botox based on your unique needs.

Recovery and outlook

How long does it take for Botox to work?

After Botox treatment, most people notice the desired effects around the third or fourth day. Full results will be visible within 10 to 14 days.

How long does Botox last?

Within three to four months after Botox therapy, toxins wear off and muscles regain movement (relaxation effect). However, this can be shorter or longer based on the individual. As a result, wrinkles return and issues like migraines and sweating may resume. To maintain results, you may choose to receive more Botox injections. Your healthcare provider can let you know how often to undergo Botox treatment.

When to call the doctor?

When should I call my healthcare provider? Botox is a common procedure that's rarely accompanied by serious side effects. However, you should call your healthcare provider immediately if you experience:

Vision problems, including blurred vision or drooping eyelids	Trouble swallowing or Slurred speech
Signs of urinary tract infection, such as blood in your urine (hematuria)	Numbness or paralysis in an untreated area
Shortness of breath (dyspnea)	Severe stomach upset

The possible risks and/or complications, mainly temporary, associated with Neuromodulator Botox procedure are:

Tolerance: It is possible that over time patient can develop a tolerance to a neuromodulator which can appear as a reduction in the effect or length of time the muscle is weakened

Ptosis: In 2% of all injections, Neuromodulators can cause an eye droop to occur that can last up to 4 months

Diplopia: In rare cases, the Neuromodulator can diffuse to a muscle responsible for moving your eye from left to right, causing you to have temporary double vision that can last up to 3 months

Unwanted Facial Weakness: In some people, heaviness in the forehead, cheeks, mouth or other facial areas. Also, in the lower face, there is a risk of change in lip pursing, the ability to enunciate words, sip from a straw or cup, and the possibility of a lip droop. These effects are temporary and can last up to 3-6 months.

Asymmetry: All faces are not perfectly symmetrical, and although we strive to create balance, in some cases, one might notice some differences in effect from one side compared to the other

Pigment Changes: Although rare, during the healing phase, the treated area may appear darker. This is called PIH (post-inflammatory hyperpigmentation). PIH occurs more frequently with darker-coloured skin, after sun exposure to the treatment area, or with patients who already have a tan.

Infection: Every time you are injecting through the skin, there is a chance that there is a portal of entry for infection.

Allergic Reaction: Patients can be allergic to the neuromodulator and have varying allergic responses to it.

Systemic Spread: In the rarest of cases, the Neuromodulator can spread systemically, causing difficulty swallowing, muscle weakness, blurred vision, nausea, chest tightness, and respiratory difficulties.

Efficacy: Because all individuals are different, it is not possible to completely predict who will benefit from the procedure. Some patients will have very noticeable improvement, while others may not fall within the expected outcomes.

The possible risks and/or complications that are very likely to occur in the use of fillers because they are done by injection include bruising and hematoma. In addition, several side effects associated with injecting techniques, such as under and over-correction and lumping, can develop. The use of filler is very dependent on operator expertise.

Lumping is often caused by the placement of non-homogeneous filler material and a lack of massage in the injection area. The filler, when injected, will fill a narrow space in the skin by doing massage on the injection area; the filler will be compacted and then mixed to form a closer and smoother texture. Failure in this process can cause irregularities of the skin that can be seen and touched (lumping)

Focal necrosis is a serious complication that can occur in the use of fillers, although it is very rare. The glabella area is the most common place for focal necrosis in filler use. Early signs of focal tissue necrosis usually appear within 24–48 hrs of the procedure, and it is caused by occlusion caused by the direct effect of intravascular injection.

Reference

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