

## BOTOX® & HYPERHIROSIS

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### What is hyperhidrosis?

Localized hyperhidrosis is a common disorder of sweating. The cause is unknown. The sweat glands are entirely normal, but they have a heightened response to stimulus. Most commonly affected are underarms, palms, and soles. In severe cases, sweat literally runs down the trunk or drips from the hands and feet.

### What is Botox® & how does it work?

Botox® is one brand name for botulinum protein. In the late 1960's researchers began harnessing its powers to heal spastic muscle disorders. Minute doses of the drug were used to relax over-reacting nerves that caused muscle contraction. Acetylcholine, the chemical blocked by Botox®, is the same neurotransmitter involved in sweating. In 1992 it was discovered that Botox® could also be used to block acetylcholine from triggering sweat production. As a protein, Botox® is eventually fully metabolized by the body. Treatment must be repeated at periodic intervals.

### When does it take effect?

Sweating decreases within 48 hours. The full effect is seen within one week. With underarm treatments there may be some associated reduction of odor. Reduction of odor is not 100% since skin bacteria and apocrine sweat, which is not affected by Botox®, cause much of it.

### Hyperhidrosis treatment options:

#### Common treatment:

- Aluminum salts (Drysol Solution)
- Botox®
- Iontophoresis (Drionic Device)

#### Less common treatment:

- Anticholinergic drugs e.g. Robinul
- Diltiazem
- Indomethacin
- Liposuction
- Surgical Excision
- Transthoracic Sympathectomy

### How are Botox® treatments done?

Fine gauge needles are used to inject Botox® solution immediately beneath the skin surface. Pain is minimal because of the very fine needles used. Topical anesthetic creams are an additional easy option when treating underarms. Pain is more of an issue when injecting palms or soles. Anesthetic options for palms/soles are: **complete nerve block** at the wrist/ankle, **topical anesthetic cream**, or **ice packs** before therapy. When considering anesthesia it is important to know that anesthetics dilate blood vessels, increasing blood flow and thereby somewhat reducing the effect of Botox® (It gets flushed out). Similarly, to decrease spread of the injected Botox® exercise should be avoided for 12 hours, and the treated area should not be rubbed or massaged.

**Risks and Complications:**

- **Bruising** at injection sites.
- Persistent focal areas of **sweating** could occur. This would require a touch-up treatment.
- **Pain** during injection.
- Botox® therapy is **temporary**. It will need to be repeated at regular intervals to maintain the desired effect. Individual's responses vary and cannot be predicted before therapy.
- **High cost** of Botox®.
- **Weakness** of thumb movements and handgrip force might occur and persist up to three months after treatment.
- Microscopically the appearance of sweat glands is normal following treatment. However, the **long-term effects** of botulinum protein on sweat glands remain to be established.

**Exclusion Criteria:**

- Muscle **weakness** or atrophy in the area targeted for injection.
- Past **spinal cord injury**.
- Prior surgical treatment of hyperhidrosis.
- Allergy or sensitivity to any component of the medication.

**Contraindications:**

- **Hypersensitive** to the ingredients, e.g. **albumin**.
- Any disease that might interfere with neuromuscular transmission e.g. **myasthenia gravis, Eaton Lambert Syndrome, amyotrophic lateral sclerosis**.
- Simultaneous use of drugs that transmission e.g. **aminoglycoside** antibiotics or **penicillamine**. These could increase Botox® effects.
- **Pregnancy** or breastfeeding.

**How long does Botox® last?**

Long-term studies of Botox® use in spastic muscle disorders have shown that the duration of Botox® action at the nerve-muscular junction is about 3 months on average. However, for unknown reasons, the effects seem to last significantly longer for hyperhidrosis. Most patients obtain 5 to 6 months of decreased sweating. In some, the effects can last as long as 8 to 10 months. Then injections can be repeated.

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**CONSENT: My signature signifies my willingness to proceed with therapy, fully realizing risks outlined above as well as alternative therapies.** I have had opportunity to discuss these issues and proposed treatment with my physician. Also, I understand that Botox® injections are considered an elective or cosmetic procedure. Health insurance does not pay for treatment. Also, I fully understand that the practice of medicine and surgery is not an exact science, and that not results can be guaranteed.

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Date

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Guardians Signature, if applicable

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Patient's Signature

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Witness' Signature