

Change in the emotion of Blepharospasm by Botox

Naoto Hara, MD & PhD

Department of Orthoptics and Visual Sciences,
School of Health Sciences,

International University Health and Welfare

Blepharospasm

- Blepharospasm is a neurological movement disorder
- The cause is **focal dystonia**, but fatigue, **mental stress**, or **an irritant** are possible contributing factors.

The main symptoms

1. Involuntary and sustained **contractions** of the muscles around the eyes.
2. **Discomfort** around the eyes : i.e. dryness/**photophobia**.
3. Mental symptoms = **depression**, **stress disorder**

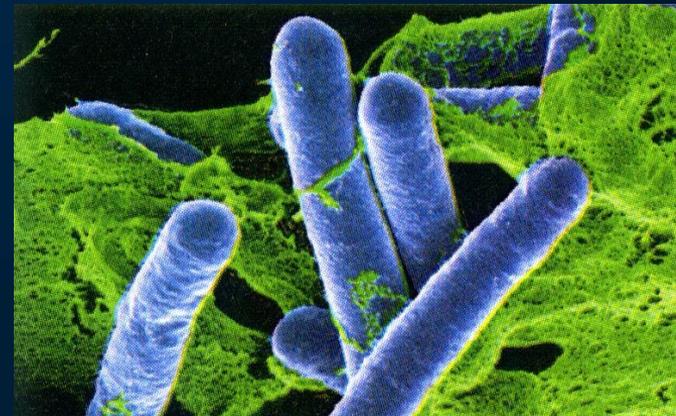


Botulinum toxin type A (**Botox®**) have been used to induces localized, partial paralysis.

How do it work?

- Botox works by blocking a chemical that aids in muscle contraction called **acetylcholine**
- When the nerve sends a signal to the muscle to contract, acetylcholine is released as before, but it can't bind anywhere on the muscle due to the Botox
- The muscle has no idea it is supposed to contract. It is essentially paralyzed, but not because the muscle or the nerve have been damaged.

Clostridium botulinum



Injection of Botox®

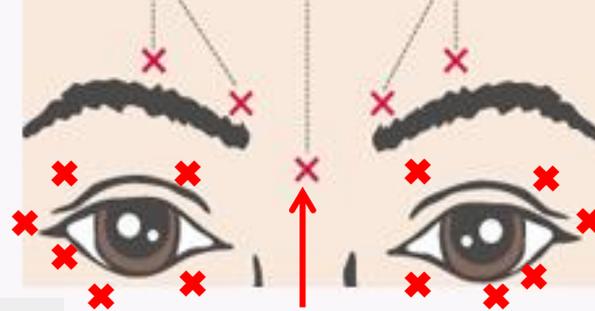


鼻根筋
(Procerus)
鼻の根元に
横じわを寄せる



皺眉筋
(corrugator
supercilii)
眉をひそめる

Corrugator Supercilii



Procerus

Orbicularis
Oculi

Kendall FP, et al: Muscles. Testing and function,
4th ed, Williams & Wilkins: 304, 1993

Botox is a muscle relaxant and can be injected into the Orbicularis Oculi, Procerus and Corrugator muscles to relax these muscles.

- The muscle is relaxed, the skin stretches up and out, and this can eliminate frown lines.
- Botox may also prevent the lines from becoming deeper, by reducing the habit of excessive frowning.



Pathways distributing somatosensory information

