

OPHTHALMOLOGY

A jab in time

Botox is not just used for anti-ageing, it can also be used to treat various eye conditions.



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Botox is a brand name for botulinum toxin type A, a drug that is derived from a neurotoxin produced by the *Clostridium botulinum* bacteria. This bacteria is normally found in an inactive form in the natural environment, such as forests and cultivated soils, and in the sediment of lakes, streams, coastal and untreated waters; as well as in the intestinal tract of certain animals.

Botox can be injected in extremely small concentrations into humans to help minimise or temporarily weaken the targeted muscles. In order for muscles to work and contract, they usually require a signal that is released from the nerves. Botox works by preventing the release of this signal from the nerve, hence stopping the muscles from contracting.

Most people are familiar with the use of Botox for the treatment of wrinkles, but are probably less familiar with its usage to treat medical conditions. Botox has been found to be useful in treating a variety of medical conditions including eye problems such as blepharospasm, hemifacial spasm, squint and exposure keratopathy of the eyes.

Blepharospasm is a condition where there is abnormal involuntary twitching or blinking of the eyelids. It is associated with an abnormal function of the brain that controls muscles. The cause of this occurrence is usually unknown. The symptoms typically occur spontaneously with a gradual increase in the frequency of blinking.

Botox is an FDA-approved drug for the treatment of blepharospasm. Small concentrations are injected



DID YOU KNOW?

Botox was first used to treat muscle spasms around the eye.

into the eyelid muscles that are responsible for the twitching and this provides patients with great relief from their symptoms.

Hemifacial spasm refers to the abnormal involuntary contraction of one side of the facial muscles, including the eyelids. It can occur from a compression of the nerve controlling the facial muscles or from unknown causes. The involuntary contraction makes it difficult for many patients socially and Botox treatment of the facial muscles provides very effective treatment for these patients.

Squint refers to the condition where the eyes are misaligned either inwards or outwards. The condition usually arises when there is imbalance in coordination between the brain and the eyes. Botox has been found to be a useful alternative to surgery in certain types of squints where the Botox is injected directly into the muscle controlling eye movement in a certain direction, in order to weaken it and allow the correct alignment of the eyes.


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Exposure keratopathy refers to the exposure of the cornea of the eyes due to poor eyelid closure for various reasons such as nerve problems. When a temporary closure of the eyelids is required, Botox provides a useful alternative to surgery to help bring the eyelids down, in order to protect the cornea from drying out and from infections.

Whether for medical or cosmetic reasons, Botox typically takes about three to five days for one to see its effect and the drug usually wears out after four to six months. Hence most patients usually require repeat injections when the symptoms start to reappear.

There are other options to treat these medical conditions, such as oral medication and surgery. However, oral medication may have unpredictable results and other unwanted side effects while surgery is usually much more invasive. Hence Botox provides a very effective treatment that can be performed as a simple outpatient procedure with almost no downtime. 

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