

## **Botox® for Chronic Migraine**

BOTOX® (onabotulinumtoxinA) is a prescription medicine that is injected into muscles and indicated to prevent chronic headaches. Botox® has been approved for treating headaches that are present more than 15 days per month. It is used to prevent headaches in adults with chronic migraine, who have 15 or more days each month with headache lasting 4 or more hours each day, in people 18 or older.

Also referred to as Botulinum toxin, it is a neurotoxin produced by Clostridium botulinum, the bacteria that thrive in conditions without oxygen (ie: anaerobic state), and may produce severe food poisoning called Botulism. This is the toxin that paralyzes nerves by blocking the release of a substance called acetylcholine which blocks nerve signals to muscles and prevents them from contracting thereby causing relaxation. The toxin is a poison only if ingested with a spoiled food.

However, for medicinal use, Botox® is injected directly into muscles rather than absorbed from the stomach. The injected dose is a fraction of that which causes botulism. No single case of Botulism related to Botox has ever been reported.

Botox® is well known for its use in treatment of wrinkles. It has approval for use in treating facial tics and spasms, dystonia and other forms of spasticity (cerebral palsy for example). Its tolerability and safety record for these uses are excellent.

The discovery of Botox® for treatment of migraine was quite by accident. Several patients who were using Botox® for injection of wrinkles and also happened to have migraine reported improvement in headaches following injection into their brow and forehead muscles.

The mechanism of action involved in the alleviation of headache is not entirely clear. One possibility is that Botox® may decrease muscle contraction that may act as a trigger to migraine. Another theory is that Botox® may act on the brain chemicals called neurotransmitters and mediators that trigger pain and migraine.

Clinical trials studying migraine and chronic headache patients continue to examine the efficacy of Botox®. Several clinical trials including a large placebo controlled study, have been completed and demonstrated effectiveness of this therapy. Botox® is approved by FDA and Health Canada for prevention of chronic migraine. Health Canada approved Botox® for the prevention of chronic migraines in 2011. More studies exploring Botox® benefits in migraine and other types of headaches, are ongoing.

The average dose is 100-200 units. The onset of action is usually within the first 2-3 weeks of injection. However, patients may require a set of 2-3 injections before a maximum benefit is seen. Injections are spaced at 12 week intervals.

Safety is always a concern. However, Botox® record since 1989 is excellent. There is no significant absorption as there is with oral medication; therefore no systemic side-effects are seen. Occasionally, patients may experience short-lived symptoms resembling a mild flu. Drooping eyelids may occur with improper injection techniques, but this is transient. Botox® can be considered in patients when other migraine treatments fail or are contradicted. BOTOX® is covered who have 15 or more headache days a month, 8 of which meet the criteria for migraine AND patients must have failed on 3 medications from two different classes and the medications must have been taken in the proper dose for at least 2 months.

Botox® was never restricted in its use to Headache centres but it is available in Headache centres as well as from a variety of physicians who can inject Botox using the PREEMPT protocol. Some of the physicians who inject Botox® are not Headache specialists so if the Botox is not working or only working partially they may not be able to provide further advice on Headache treatment.

On the Help for Headaches website there is a newly updated Find-a-Headache-Doctor program, that covers all Canadian provinces. If you are searching for a Headache Neurologist, this program can help you find one. The online program is on the charity website on the lower-right bottom of the homepage. A direct link to this Ontario program can be found at [www.headache-help.org/doctor\\_list/ontario](http://www.headache-help.org/doctor_list/ontario) or if you suspect Chronic Migraine visit [www.myChronicmigraine.ca](http://www.myChronicmigraine.ca) There is also a Doctor Locator at the my chronic migraine website found here. [www.mychronicmigraine.com/find-chronic-migraine-specialist](http://www.mychronicmigraine.com/find-chronic-migraine-specialist)

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