

## Federal Employee Program.

#### BOTOX (onabotulinumtoxinA)

# **RATIONALE FOR INCLUSION IN PA PROGRAM**

## Background

Botulinum toxin (abbreviated either as BTX or BoNT) is a protein neurotoxin produced by the bacterium *Clostridium botulinum*. The botulinum toxins are characterized as 7 separate neurotoxins (labeled as types A, B, C [C1, C2], D, E, F, and G), which are antigenically and serologically distinct but structurally similar. The neuromuscular blockade is achieved through prevention of docking/fusion of neurosecretory with the nerve synapse plasma membrane and release of neurotransmitters (1).

The various botulinum toxins have approved cosmetic and non-aesthetic uses. They possess individual potencies, and care is required to assure proper use and avoid medication errors. Recent changes to the established drug names by the FDA were intended to reinforce these differences and prevent medication errors (1-2).

#### **Regulatory Status**

FDA-approved indications: Botox is an acetylcholine release inhibitor and a neuromuscular blocking agent indicated for: (3)

- 1. Treatment of overactive bladder (OAB) with symptoms of urge urinary incontinence, urgency, and frequency, in adults who have an inadequate response to or are intolerant of an anticholinergic medication.
- 2. Treatment of urinary incontinence due to detrusor over-activity associated with a neurologic condition [e.g., spinal cord injury (SCI), multiple sclerosis (MS)] in adults who have an inadequate response to or are intolerant of an anticholinergic medication.
- 3. Treatment of neurogenic detrusor overactivity (NDO) in pediatric patients 5 years of age and older who have an inadequate response to or are intolerant of anticholinergic medication.
- Prophylaxis of headaches in adult patients with chronic migraine (≥15 days per month with headache lasting 4 hours a day or longer).
- 5. Treatment of spasticity in patients 2 years of age and older.
- 6. Treatment of cervical dystonia in adult patients, to reduce the severity of abnormal head position and neck pain.
- 7. Treatment of severe axillary hyperhidrosis that is inadequately managed by topical agents in adult patients.

Botox FEP Clinical Rationale



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- 8. Treatment of blepharospasm associated with dystonia in patients  $\geq$ 12 years of age.
- 9. Treatment of strabismus in patients  $\geq$ 12 years of age.

## Limitations of Use:

Safety and effectiveness of Botox have not been established for the prophylaxis of episodic migraine (14 headache days or fewer per month) or for the treatment of hyperhidrosis in body areas other than axillary (3).

## Off-Label Uses: (4-11)

- 1. Achalasia
- 2. Chronic anal fissures
- 3. Essential tremor
- 4. Excessive salivation secondary to advanced Parkinson's disease
- 5. Hemifacial spasm
- 6. Spasmodic dysphonia (laryngeal dystonia)

Safety and effectiveness of Botox have not been established for the treatment of hyperhidrosis in body areas other than axillary (4).

Botulinum toxins are not interchangeable. Total accumulated dose should not exceed 400 IU over a 3-month interval (3).

Some products have cosmetic indications which are excluded from coverage.

#### Summary

Botulinum toxin (abbreviated either as BTX or BoNT) is a protein neurotoxin produced by the bacterium *Clostridium botulinum*. The botulinum toxins are characterized as 7 separate neurotoxins (labeled as types A, B, C [C1, C2], D, E, F, and G), which are antigenically and serologically distinct but structurally similar (1).

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Prior authorization is required to ensure the safe, clinically appropriate, and cost-effective use of Botox while maintaining optimal therapeutic outcomes.

## References

- 1. Blasi J, Chapman ER, Link E, et al. Botulinum neurotoxin A selectively cleaves the synaptic protein SNAP-25. Nature. Sep 9 1993;365(6442):160-3.
- Brin MF. Botulinum toxin: chemistry, pharmacology, toxicity, and immunology. Muscle Nerve Suppl. 1997;6:S146-68.
- 3. Botox [package insert]. Irvine, CA: Allergan Inc.; November 2023.
- 4. Reisfeld R, Berliner KI. Evidence-based review of the nonsurgical management of hyperhidrosis. *Thorac Surg Clin.* 2008;18: 157-166.
- Pasricha, P. J., Ravich, W. J., Hendrix, T. R., Sostre, S., Jones, B., & Kalloo, A. N. Intrasphincteric botulinum toxin for the treatment of achalasia. New England Journal of Medicine, 1995. 332(12), 774-778.
- Menteş, B. B., Irkörücü, O., Akın, M., Leventoğlu, S., & Tatlıcıoğlu, E. Comparison of botulinum toxin injection and lateral internal sphincterotomy for the treatment of chronic anal fissure. *Diseases of the colon & rectum*, 2003. 46(2), 232-237.
- Ahsan, S. F., Meleca, R. J., & Dworkin James, P. Botulinum toxin injection of the cricopharyngeus muscle for the treatment of dysphagia. *Otolaryngology—Head and Neck Surgery*, 2000. 122(5), 691-695.
- Lagalla, G., Millevolte, M., Capecci, M., Provinciali, L., & Ceravolo, M. G. Botulinum toxin type A for drooling in Parkinson's disease: a double-blind, randomized, placebocontrolled study. *Movement Disorders*, 2006.21(5), 704-707.
- Sorgun, M. H., Yilmaz, R., Akin, Y. A., Mercan, F. N., & Akbostanci, M. C. Botulinum toxin injections for the treatment of hemifacial spasm over 16 years. *Journal of Clinical Neuroscience*, 2015. 22(8), 1319-1325.
- Slotema, C. W., van Harten, P. N., Bruggeman, R., & Hoek, H. W. Botulinum toxin in the treatment of orofacial tardive dyskinesia: a single blind study. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 2008. 32(2), 507-509.
- Wehrmann, T., Seifert, H., Seipp, M., Lembcke, B., & Caspary, W. F. Endoscopic injection of botulinum toxin for biliary sphincter of Oddi dysfunction. *Endoscopy*, 1998. *30*(08), 702-707.