

boards fodder

Neuromodulators

Botulinum toxin: neurotoxin derived from the anaerobic gram(+) bacilli Clostridium botulinum

by Stefanie Altmann, DO

Name	Composition	Molecular Weight	Units Per Single Use Vial	FDA approved indication
Botulinum toxin type A Target protein: Snap-25				
Botox® (onabotulinumtoxinA)	BoNT-A + complexing proteins	900 kDa	50 or 100	Moderate to severe glabellar lines, lateral canthus lines, forehead lines, axillary hyperhidrosis, chronic migraine, blepharospasm, cervical dystonia
Dysport® (abobotulinumtoxinA)	BoNT-A + complexing proteins	500-900 kDa	300 or 500	Moderate to severe glabellar lines, cervical dystonia
Xeomin® (incobotulinumtoxinA)	BoNT-A (purified protein)	150 kDa	50 or 100	Moderate to severe glabellar lines, blepharospasm, cervical dystonia
Jeveau® (prabotulinumtoxinA-xvfs)	BoNT-A + complexing proteins	900 kDa	100	Moderate to severe glabellar lines
Botulinum toxin type B Target protein: Synaptobrevin				
Myobloc® (rimabotulinumtoxinB)	BoNT-B + complexing proteins	700 kDa	2500, 5000, or 10,000	Cervical dystonia

BoNT-A Contraindications

Neuromuscular disorders

Aminoglycoside antibiotics: increase neuromodulatory effects

BoNT-A High Yield Complications

Eyelid ptosis: May treat with apraclonidine 0.5% eyedrops (α_2 -adrenergic agonist) which stimulates contraction of the Müller muscle

Cheek droop: Due to spread of toxin to the zygomaticus major

Asymmetric smile: Due to spread of toxin to depressor labii inferioris

Difficulty speaking: Due to spread of toxin to orbicularis oris

Dysphagia: Platysma injections

Abbreviations:

BoNT-A: botulinum toxin type A

BoNT-B: botulinum toxin type B

References:

1. Bologna J, Jorizzo J, Schaffer I. *Dermatology*. Philadelphia: Elsevier; 2017.
2. Alikhan A, Hocker TL. *Review of Dermatology*. Elsevier; 2017.
3. Frevert J, Ahn KY, Park MY, Sunga O. Comparison of botulinum neurotoxin type A formulations in Asia. *Clin Cosmet Investig Dermatol*. 2018;11:327-331. Published 2018 Jul 5. doi:10.2147/CCID.S160723

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Stefanie Altmann, DO,
is a PGY-3 dermatology resident at Orange Park Medical Center in Florida.