

UTILIZATION MANAGEMENT MEDICAL POLICY

POLICY: Botulinum Toxins – Botox Utilization Management Medical Policy

- Botox[®] (onabotulinumtoxinA injection – Allergan/AbbVie)

REVIEW DATE: 10/11/2023

OVERVIEW

Botox (onabotulinumtoxinA) is indicated for the following uses:¹

- **Blepharospasm** associated with dystonia, including benign essential blepharospasm or seventh (VII) nerve disorders in patients ≥ 12 years of age.
- **Cervical dystonia**, in adults to reduce the severity of abnormal head position and neck pain associated with cervical dystonia.
- **Hyperhidrosis, severe primary axillary** which is inadequately managed with topical agents in adults.
- **Migraine headache prophylaxis (prevention)**, in adults with chronic migraine (≥ 15 days per month with headache lasting 4 hours a day or longer).
- **Neurogenic detrusor overactivity** in pediatric patients ≥ 5 years of age who have had an inadequate response to or are intolerant of an anticholinergic medication.
- **Overactive bladder** with symptoms of urge urinary incontinence, urgency, and frequency, in adults who have had an inadequate response to or are intolerant of an anticholinergic medication.
- **Spasticity** in patients ≥ 2 years of age.
- **Strabismus** in patients ≥ 12 years of age.
- **Urinary incontinence due to detrusor overactivity** associated with a neurological condition (e.g., spinal cord injury, multiple sclerosis) in adults who have had an inadequate response to or are intolerant of an anticholinergic medication.

In regard to the indication of migraine headache prophylaxis, an updated assessment of the preventive and acute treatment of migraine by the American Headache Society (2018; update 2021) notes that several medications are cited as having established or probable efficacy in migraine prevention.^{39,40} Based on the level of evidence for efficacy and the American Academy of Neurology scheme for classification of evidence, the following oral treatments have established efficacy and should be offered for migraine prevention: antiepileptic drugs (divalproex sodium, valproate sodium, topiramate [not for women of childbearing potential without a reliable method of birth control]); beta-blockers (metoprolol, propranolol, timolol); and frovatriptan (for short-term preventive treatment of menstrual migraine). The following treatments are probably effective and should be considered for migraine prevention: antidepressants (amitriptyline, venlafaxine); beta-blockers (atenolol, nadolol); and angiotensin receptor blockers (candesartan). Additionally, the following treatments are possibly effective and can be considered for migraine prevention: calcium channel blockers (e.g., verapamil) and angiotensin converting enzyme inhibitors (e.g., lisinopril).^{41,42}

Other Uses with Supportive Evidence

Botulinum toxin type A has been used to treat a multitude of disorders characterized by abnormal muscle contraction.² The benefit of these products has also been demonstrated in the treatment of gastrointestinal, genitourinary, ocular, and autonomic nervous system disorders.^{2,3}

Botulinum toxins have been studied in a variety of indications outside of FDA-approved uses. Literature is available to support use of Botox in the following conditions:

- **Achalasia:** The American College of Gastroenterology (ACG) clinical guideline for the diagnosis and management of achalasia (2020) recommends the use of botulinum toxin as first-line therapy for patients with achalasia who are unfit for definitive therapies for the treatment of achalasia such as pneumatic dilation or surgical myotomy.⁵
- **Anal Fissures:** The ACG clinical guideline for the management of benign anorectal disorders (2021) suggests that botulinum toxin A injections may be attempted for patients in whom calcium channel blockers fail or as an alternative option to calcium channel blockers (conditional recommendation; quality of evidence low).⁶
- **Chronic Facial Pain/Pain Associated with Temporomandibular Dysfunction:** Data from several open-label studies, as well as one randomized, placebo-controlled trial, support the efficacy of Botox in the treatment of chronic facial pain/chronic facial pain associated with hyperactivity of the masticatory muscles.⁷⁻¹⁰
- **Chronic Low Back Pain:** In one 8-week, randomized, double-blind, placebo-controlled trial in 31 patients with chronic low back pain (no causative factor identified in the majority of patients; history of disc disease in 6 patients, discectomy in 3 patients, and trauma in 4 patients), Botox in addition to their current pharmacologic treatment regimen resulted in significantly greater improvement in pain relief and degree of disability compared with placebo.¹¹ A 14-month, open-label, prospective study evaluated the short- and long-term effects of paraspinal muscle injections of Botox in 75 patients with refractory chronic low back pain. A total of 53% and 52% of patients reported significant pain relief at 3 weeks and 2 months, respectively.¹²
- **Dystonia, other than Cervical:** Guidelines from the American Academy of Neurology (AAN) support use of botulinum toxins in focal dystonias of the upper extremity (should be considered; Level B recommendation).¹³ Botulinum toxin A is the most widely accepted treatment for spasmodic dysphonia, a focal laryngeal dystonia, viewed as the treatment of choice by the American Academy of Otolaryngology-Head and Neck Surgery.¹⁴ Per the guideline, clinicians should offer, or refer to a clinician who can offer, botulinum toxin injections for treatment of dysphonia caused by spasmodic dysphonia and other types of laryngeal dystonia. AAN guidelines note that botulinum toxin is probably effective and should be considered for adductor type laryngeal dystonia (Level B).¹³
- **Essential Tremor:** According to the clinical practice parameter on essential tremor by the AAN, propranolol and primidone are first-line therapy in the treatment of essential tremor.¹⁵ Second-line medication options include alprazolam, atenolol, sotalol, gabapentin, and topiramate. Botulinum toxin A may also reduce tremor. The guidelines recommend that botulinum toxin A may be considered in medically refractory cases of limb, head, and voice tremor associated with essential tremor (Level C for limb, head, and voice tremor).
- **Hemifacial Spasm:** Per the AAN, botulinum toxin (formulation not specified) may be considered in hemifacial spasm (Level C).¹³ Data with Botox and Dysport[®] (abobotulinumtoxinA injection) are cited in the recommendations regarding hemifacial spasm.
- **Hyperhidrosis, Gustatory:** Botox is recommended as a first-line option for gustatory sweating by the International Hyperhidrosis Society.¹⁶
- **Hyperhidrosis, Palmar/Plantar and Facial:** The efficacy of Botox is well-established in the treatment of primary focal/palmar hyperhidrosis based on data from both randomized, double-blind, placebo-controlled studies and open-label studies.^{3,18,19} Guidelines from the International Hyperhidrosis Society support use of Botox in patients who have failed to respond to topical therapy.^{16,20,21}
- **Myofascial Pain:** Data from several retrospective reviews and open-label trials support the efficacy of Botox in the treatment of myofascial pain syndromes associated with various muscle groups.^{7,22} In one randomized, controlled trial in 40 patients with chronic myofascial pain of various forms, Botox resulted in a significantly greater reduction in pain score from baseline

compared with intramuscularly administered methylprednisolone at 30 days and 60 days post injection.^{23,24}

- **Ophthalmic Disorders, other than Blepharospasm or Strabismus:** Botulinum toxin A has been successful in improving or treating many ophthalmic disorders. One retrospective review (n = 54) concluded that Botox may have a role in the treatment of esotropia in patients > 18 months of age.²⁵ Botox improved visual acuity in case reports and one small, open-label study in patients with acquired symptomatic nystagmus from multiple sclerosis or brain-stem hemorrhage.^{26,27} Data from uncontrolled studies have shown Botox to be beneficial in the treatment of sixth nerve palsy.^{28,29}
- **Plantar Fasciitis:** In one randomized, double-blind study (n = 36), botulinum toxin A exhibited more rapid and sustained improvement over the duration of the study as compared with patients who received steroid injections.³⁰ The clinical consensus statement on the diagnosis and treatment of heel pain (developed by the American College of Foot and Ankle Surgeons) published in 2010 list botulinum toxin injection as a Tier 2 option (Grade I); Tier 1 treatment options include: padding and strapping of the foot (Grade B), therapeutic orthotic insoles (Grade B), oral anti-inflammatory agents (Grade I), corticosteroid injections (Grade B), and Achilles and plantar fascia stretching (Grade B) [Grade B recommendations are supported by fair evidence, Grade I recommendations indicate there is insufficient evidence to make a recommendation].³¹
- **Sialorrhea, Chronic:** Botulinum toxin A has been studied in the treatment of sialorrhea associated with Parkinson's Disease, parkinsonian syndromes, cerebral palsy, head and neck carcinoma, neurodegenerative disease, stroke, and amyotrophic lateral sclerosis.³ A review of the literature on medical treatment of sialorrhea found that Botox is probably effective for the treatment of this condition (level B evidence).³²

Dosing Considerations

Definitive dosing has not been established for off-label uses of botulinum toxins, including Botox. In general, Botox is not recommended to be injected more frequently than once every 3 months, and botulinum toxins appear to have an approximately 3-month duration of effect or longer, depending on the site of injection. The Botox prescribing information advises that in a 3-month interval, adults should not exceed a total dose of 400 units. Pediatric patients should not exceed a total dose of the lesser of 10 units/kg or 340 units in a 3-month interval. Specific considerations by indication are noted below:

- **Achalasia:** Botox has been studied for achalasia in several trials. Doses higher than 100 units per treatment have not been shown to be more effective.³⁴
- **Sialorrhea, Chronic:** Xeomin[®] (incobotulinumtoxinA injection) is indicated for this use.³⁵ Per Xeomin labeling, the maximum recommended dose for adults is 100 units (50 units per side) and for pediatric patients is 75 units (37.5 units per side), administered not more frequently than once every 16 weeks. Recommendations for maximum dosing and frequency for Botox are based on suggested relative conversion of 1:1 for Botox to Xeomin.^{36,37}

POLICY STATEMENT

Prior Authorization is recommended for medical benefit coverage of Botox. Approval is recommended for those who meet the **Criteria** and **Dosing** for the listed indications. Requests for doses outside the established dosing documented in this policy will be considered on a case-by-case basis by a clinician (i.e., Medical Director or Pharmacist). All approvals are provided for the duration noted below. Previous therapy is required to be verified by a clinician in the Coverage Review Department when noted in the criteria as **[verification of therapies required]**.

Medical benefit coverage is not recommended for Botox Cosmetic or cosmetic conditions.

Automation: None.

RECOMMENDED AUTHORIZATION CRITERIA

Coverage of Botox is recommended in those who meet one of the following criteria:

FDA-Approved Indications

1. **Blepharospasm.** Approve for 1 year if the patient is ≥ 12 years of age.

Note: This includes blepharospasm associated with dystonia, benign essential blepharospasm, seventh (VII) nerve disorders.

Dosing. Approve up to a maximum dose of 200 units, administered not more frequently than once every 3 months.

2. **Cervical Dystonia.** Approve for 1 year if the patient is ≥ 18 years of age.

Note: Cervical dystonia is also referred to as spasmodic or cervical torticollis.

Dosing. Approve up to a maximum dose of 300 units, administered not more frequently than once every 3 months.

3. **Hyperhidrosis, Primary Axillary.** Approve for 1 year if the patient meets the following (A and B):

A) Patient is ≥ 18 years of age; AND

B) Patient has tried at least one topical agent for axillary hyperhidrosis.

Note: Examples of topical agents for the treatment of axillary hyperhidrosis include topical aluminum chloride, Qbrexza (glycopyrronium cloth 2.4% for topical use).

Dosing. Approve up to a maximum dose of 50 units per axilla, administered not more frequently than once every 3 months.

4. **Migraine Headache Prevention.** Approve for 1 year if the patient meets the following (A, B, C, D, E and F):

A) Patient is ≥ 18 years of age; AND

B) Patient has ≥ 15 migraine headache days per month with headache lasting 4 hours per day or longer (prior to initiation of Botox therapy); AND

C) Patient has tried at least TWO standard prophylactic (preventative) pharmacologic therapies, each from a different pharmacologic class **[verification of therapies required]**; AND

Note: Standard prophylactic (preventative) pharmacologic therapies include angiotensin receptor blocker, angiotensin converting enzyme inhibitor, anticonvulsant, beta-blocker, calcium channel blocker, tricyclic antidepressant, other antidepressant. A patient who has already tried a calcitonin gene-related peptide (CGRP) inhibitor indicated for the prevention of chronic migraine, is NOT required to try two standard prophylactic pharmacologic therapies **[verification of therapy required]**.

D) Patient meets ONE of the following (i, ii, or iii):

i. Patient has had inadequate efficacy to both of those standard prophylactic (preventive) pharmacologic therapies, according to the prescriber; OR

- ii. Patient has experienced adverse event(s) severe enough to warrant discontinuation of both of those standard prophylactic (preventive) pharmacologic therapies, according to the prescriber; OR
 - iii. Patient has had inadequate efficacy to one standard prophylactic (preventive) pharmacologic therapy and has experienced adverse event(s) severe enough to warrant discontinuation to another standard prophylactic (preventive) pharmacologic therapy, according to the prescriber; AND
- E) Botox is being prescribed by or after consultation with a neurologist or headache specialist; AND
- F) If the patient is currently taking Botox for migraine headache prevention, the patient has had a significant clinical benefit from the medication as determined by the prescriber.

Note: Examples of significant clinical benefit include a reduction in the overall number of migraine days per month or a reduction in number of severe migraine days per month from the time that Botox was initiated.

Dosing. Approve up to a maximum dose of 155 units, administered not more frequently than once every 12 weeks.

5. Neurogenic Detrusor Overactivity (NDO), Pediatric. Approve for 1 year if the patient meets the following (A and B):

- A) Patient is ≥ 5 years of age; AND
- B) Patient has tried at least one other pharmacologic therapy for the treatment of neurogenic detrusor overactivity (NDO).

Note: Examples of other NDO pharmacologic therapies include a beta-3 adrenergic agonist or an anticholinergic medication.

Dosing. Approve up to a maximum dose of 200 units, administered not more frequently than once every 12 weeks.

6. Overactive Bladder with Symptoms of Urge Urinary Incontinence, Urgency, and Frequency (Adult). Approve for 1 year if the patient meets the following (A and B):

- A) Patient is ≥ 18 years of age; AND
- B) Patient has tried at least one other pharmacologic therapy for the treatment of overactive bladder (OAB).

Note: Examples of other OAB pharmacologic therapies include a beta-3 adrenergic agonist or an anticholinergic medication. For treatment of adult urinary incontinence associated with a neurological condition, refer to FDA-Approved Indications below.

Dosing. Approve up to a maximum dose of 100 units, administered not more frequently than once every 12 weeks.

7. Spasticity, Limb. Approve for 1 year if the patient is ≥ 2 years of age.

Dosing. Approve one of the following regimens (A or B):

- A) Lower limb spasticity: Approve one of the following regimens (i or ii):

- i. Patient is ≥ 18 years of age: Approve up to a maximum dose of 400 units, administered not more frequently than once every 12 weeks.

- ii. Patient is < 18 years of age: Approve up to a maximum dose of 8 units/kg (not to exceed 300 units), administered not more frequently than once every 12 weeks.
- B) Upper limb spasticity: Approve one of the following regimens (i or ii):
 - i. Patient is ≥ 18 years of age: Approve up to a maximum dose of 400 units, administered not more frequently than once every 12 weeks.
 - ii. Patient is < 18 years of age: Approve up to a maximum dose of 6 units/kg (not to exceed 200 units), administered not more frequently than once every 12 weeks.

8. **Strabismus.** Approve for 1 year if the patient is ≥ 12 years of age.

Dosing. Approve up to a maximum dose of 25 units in any one muscle, administered not more frequently than once every 3 months.

9. **Urinary Incontinence Associated with a Neurological Condition (Adult).** Approve for 1 year if the patient meets the following (A and B):

Note: Examples of neurological conditions associated with urinary incontinence include spinal cord injury, multiple sclerosis, or spina bifida.

A) Patient is ≥ 18 years of age; AND

B) Patient has tried at least one other pharmacologic therapy for the treatment of urinary incontinence.

Note: Examples of other pharmacologic therapies for urinary incontinence include a beta-3 adrenergic agonist or an anticholinergic medication. For treatment of adult overactive bladder with symptoms of urge urinary incontinence, urgency, and frequency, see FDA-Approved Indications above.

Dosing. Approve up to a maximum dose of 200 units, administered not more frequently than once every 12 weeks.

Other Uses with Supportive Evidence

10. **Achalasia.** Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 100 units, administered not more frequently than once every 3 months.

11. **Anal Fissure.** Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

12. **Chronic Facial Pain/Pain Associated with Temporomandibular Dysfunction.** Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

13. Chronic Low Back Pain. Approve for 1 year if the patient meets the following (A, B and C):

A) Patient is ≥ 18 years of age; AND

B) Patient has tried at least TWO other pharmacologic therapies for the treatment of chronic low back pain; AND

Note: Examples of pharmacologic therapies include nonsteroidal anti-inflammatory drugs (NSAIDs), antispasmodics, muscle relaxants, opioids, or antidepressants.

C) Botox is being used as part of a multimodal therapeutic pain management program.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

14. Dystonia, other than Cervical. Approve for 1 year if the patient is ≥ 18 years of age.

Note: Examples of dystonias include focal dystonias, tardive dystonia, anismus, or laryngeal dystonia/spasmodic dysphonia. For cervical dystonia, refer to FDA-Approved Indications above.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

15. Essential Tremor. Approve for 1 year if the patient meets the following (A and B):

A) Patient is ≥ 18 years of age; AND

B) Patient has tried at least one other pharmacologic therapy for the treatment of tremors.

Note: Examples of pharmacologic therapies for essential tremor include primidone, propranolol, benzodiazepines, gabapentin, topiramate.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

16. Hemifacial Spasm. Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

17. Hyperhidrosis, Gustatory. Approve for 1 year if the patient is ≥ 18 years of age.

Note: Gustatory hyperhidrosis is also referred to as Frey's Syndrome.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

18. Hyperhidrosis, Palmar/Plantar and Facial. Approve for 1 year if the patient meets the following (A and B):

A) Patient is ≥ 18 years of age; AND

B) Patient has tried at least one topical agent for the treatment of hyperhidrosis (e.g., aluminum chloride).

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

19. Myofascial Pain. Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

20. Ophthalmic Disorders, other than Blepharospasm or Strabismus. Approve for 1 year if the patient is ≥ 18 years of age.

Note: Examples of ophthalmic disorders include esotropia, exotropia, nystagmus, or facial nerve paresis. For blepharospasm or strabismus, refer to FDA-Approved Indications above.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

21. Plantar Fasciitis. Approve for 1 year if the patient meets the following (A and B):

A) Patient is ≥ 18 years of age; AND

B) Patient has tried two other treatment modalities for the treatment of plantar fasciitis.

Note: Examples of other treatment modalities include padding and strapping of the foot, therapeutic orthotic insoles, oral anti-inflammatory drugs, corticosteroid injections, or stretching.

Dosing. Approve up to a maximum dose of 400 units, administered not more frequently than once every 3 months.

22. Sialorrhea, Chronic. Approve for 1 year if the patient is ≥ 18 years of age.

Dosing. Approve up to a maximum dose of 100 units (50 units per side), administered not more frequently than once every 16 weeks.

CONDITIONS NOT RECOMMENDED FOR APPROVAL

Coverage of Botox is not recommended in the following situations:

1. Cosmetic Uses. Cosmetic use is not recommended for coverage as this indication is excluded from coverage in a typical medical benefit.

Note: Examples of cosmetic uses include facial rhytides, frown lines, glabellar wrinkling, horizontal neck rhytides, mid and lower face and neck rejuvenation, platysmal bands, or rejuvenation of the periorbital region.

2. Gastroparesis. The ACG issued clinical guidelines on the management of gastroparesis (2013).³⁸ ACG does not recommend the use of botulinum toxin injected into the pylorus as a treatment for gastroparesis. This is based on two double-blind, placebo-controlled studies which did show some improvement in gastric emptying, but no improvement in symptoms compared with placebo.

- Coverage is not recommended for circumstances not listed in the Recommended Authorization Criteria. Criteria will be updated as new published data are available.

REFERENCES

- Botox[®] injection [prescribing information]. Madison, NJ: Allergan; August 2022.
- Micromedex[®]. IBM Corporation. Available at: <http://www.micromedexsolutions.com>. Accessed on October 9, 2023. Search terms: Botox.
- Bhidayasiri R, Truong DD. Expanding use of botulinum toxin. *J Neurol Sci*. 2005;235(1-2):1-9.
- American Headache Society. The American Headache Society position statement on integrating new migraine treatments into clinical practice. *Headache*. 2019;59:1-18.
- Vaezi MF, Pandolfino JE, Yadlapati RH, et al. ACG Clinical Guidelines: diagnosis and management of achalasia. *Am J Gastroenterol*. 2020;115(9):1393-1411.
- Wald A, Bharucha AE, Limketkai B, et al. ACG Clinical Guidelines: management of benign anorectal disorders. *Am J Gastroenterol*. 2021;116(10):1987-2008.
- Lang AM. Botulinum toxin type A therapy in chronic pain disorders. *Arch Phys Med Rehabil*. 2003;84(3 Suppl 1):S69-73.
- von Lindern JJ, Niederhagen B, Berge S, Appel T. Type A botulinum toxin in the treatment of chronic facial pain associated with masticatory hyperactivity. *J Oral Maxillofac Surg*. 2003;61(7):774-778.
- Borodic GE, Acquadro MA. The use of botulinum toxin for the treatment of chronic facial pain. *J Pain*. 2002;3(1)21-27.
- Freund B, Schwartz M, Symington JM. Botulinum toxin: new treatment for temporomandibular disorders. *Br J Oral Maxillofac Surg*. 2000;38(5):466-471.
- Foster L, Clapp L, Erickson M, Jabbari B. Botulinum toxin A and chronic low back pain: a randomized, double-blind study. *Neurology*. 2001;56:1290-1293.
- Jabbari B, Ney J, Sichani A, et al. Treatment of refractory, chronic low back pain with botulinum neurotoxin A: an open-label, pilot study. *Pain Med*. 2006;7(3):260-264.
- Simpson DM, Blitzer A, Brashear A, et al. Assessment: botulinum neurotoxin for the treatment of movement disorders (an evidence-based review): Report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. *Neurology*. 2008;70:1699-1706.
- Stachler RJ, Francis DO, Schwartz SR, et al. Clinical practice guideline: hoarseness (dysphonia). *Otolaryngology – Head and Neck Surgery*. 2018;Supplement:1-42.
- Zesiewicz TA, Elble R, Louis ED, et al. Evidence-based guideline update: treatment of essential tremor: report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology*. 2011;77:1752-1755.
- International Hyperhidrosis Society. Primary focal craniofacial and gustatory hyperhidrosis (Frey's Syndrome). Updated January 15, 2012. Available at: <https://sweathelp.org/treatments-hcp/clinical-guidelines/primary-focal-hyperhidrosis/primary-focal-facial-and-gustatory.html>. Accessed on October 9, 2023.
- Naumann M, So Y, Argoff CE, et al. Assessment: botulinum neurotoxin in the treatment of autonomic disorders and pain (an evidence-based review) [RETIRED]. Report of the therapeutics and technology assessment subcommittee of the American Academy of Neurology. *Neurology*. 2008;70(19):1707-1714.
- Cheng CM, Chen JS, Patel RP. Unlabeled uses of botulinum toxins: A review, part 1. *Am J Health Syst Pharm*. 2006;63(2):145-152.
- Lowe N, Campanati A, Bodokh I, et al. The place of botulinum toxin type A in the treatment of focal hyperhidrosis. *Br J Dermatol*. 2004;151(6):1115-1122.
- International Hyperhidrosis Society. Primary focal palmar hyperhidrosis. Updated January 15, 2012. Available at: <https://sweathelp.org/treatments-hcp/clinical-guidelines/primary-focal-hyperhidrosis/primary-focal-palmar.html>. Accessed on October 9, 2023.
- International Hyperhidrosis Society. Primary focal plantar hyperhidrosis. Updated January 15, 2012. Available at: <https://sweathelp.org/treatments-hcp/clinical-guidelines/primary-focal-hyperhidrosis/primary-focal-plantar.html>. Accessed on October 9, 2023.
- Porta M, Maggioni G. Botulinum toxin (BoNT) and back pain. *J Neurol*. 2004;251(Suppl 1):1/15-1/18.
- Porta M. A comparative trial of botulinum toxin type A and methylprednisolone for the treatment of myofascial pain syndrome and pain from chronic muscle spasm. *Pain*. 2000;85:101-105.
- Qerama E, Fuglsang-Frederiksen, Kasch H, et al. A double-blind, controlled study of botulinum toxin A in chronic myofascial pain. *Neurology*. 2006;67(2):241-245.
- Ruiz MF, Moreno M, Sanchez-Garrido CM, et al. Botulinum treatment of infantile esotropia with abduction nystagmus. *J Ped Ophthal Strabismus*. 2000;37:196-205.
- Repka MX, Savino PJ, Reinecke RD. Treatment of acquired nystagmus with botulinum neurotoxin A. *Arch Ophthalmol*. 1994;112(10):1320-1324.
- Leigh RJ, Tomsak RL, Grant MP, et al. Effectiveness of botulinum toxin administered to abolish acquired nystagmus. *Ann Neurol*. 1992;32(5):633-642.
- Kao LY, Chao AN. Subtenon injection of botulinum toxin for treatment of traumatic sixth nerve palsy. *J Pediatr Ophthalmol Strabismus*. 2003;40(1):27-30.

29. Hung HL, Kao LY, Sun MH. Botulinum toxin treatment for acute traumatic complete sixth nerve palsy. *Eye*. 2005;19(3):337-341.
30. Elizondo-Rodriguez J, Araujo-Lopez Y, Moreno-Gonzalez JA, et al. A comparison of botulinum toxin A and intralesional steroids for the treatment of plantar fasciitis: a randomized, double-blinded study. *Foot Ankle Int*. 2013;34(1):8-14.
31. Thomas JL, Christensen JC, Kravitz SR, et al. The diagnosis and treatment of heel pain: a clinical practice guideline – revision 2010. *J Foot Ankle Surg*. 2010;49:S1-S19.
32. Lakraj AA, Moghimi N, Jabbari B. Sialorrhea: anatomy, pathophysiology and treatment with emphasis on the role of botulinum toxin. *Toxins*. 2013;5:1010-1031.
33. Simpson DM, Hallett M, Ashman EJ, et al. Practice guideline update summary: botulinum neurotoxin for the treatment of blepharospasm, cervical dystonia, adult spasticity, and headache. Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. 2016;86:1818-1826.
34. Clinical Pharmacology [database online]. Tampa, FL: Elsevier, Inc.; 2022. Available at: <https://www.clinicalkey.com/pharmacology/>. Accessed on October 9, 2023. Search terms: Botox.
35. Xeomin® injection [prescribing information]. Raleigh, NC: Merz; August 2021.
36. Walker TJ, Dayan SH. Comparison and overview of currently available neurotoxins. *J Clin Aesthet Dermatol*. 2014;7(2):31-39.
37. Scaglione F. Conversion ratio between Botox®, Dysport®, and Xeomin® in clinical practice. *Toxins (Basel)*. 2016;8(3):65.
38. Camilleri M, Parkman HP, Shafi MA, et al. Clinical guideline: management of gastroparesis. *Am J Gastroenterol*. 2013;108(1):18-38.
39. American Headache Society. The American Headache Society position statement on integrating new migraine treatments into clinical practice. *Headache*. 2019;59:1-18.
40. Ailani J, Burch RC, Robbins MS, on behalf of the Board of Directors of the American Headache Society. The American Headache Society Consensus Statement: update on integrating new migraine treatments into clinical practice. *Headache*. 2021;00:1-19.
41. Micromedex. Merative LP. Available at: <https://www.micromedexsolutions.com/>. Accessed on August 7, 2023. Search terms: lisinopril, verapamil.
42. Clinical Pharmacology. ClinicalKey. Available at: <https://www.clinicalkey.com/pharmacology/>. Accessed on August 7, 2023. Search terms: lisinopril, verapamil.

HISTORY

Type of Revision	Summary of Changes	Review Date
Early Annual Revision	Hemifacial Spasm: This Other Use with Supportive Evidence was reworded to as listed; previously, the indication was titled “Spasticity, other than Limb (i.e., spasticity or hypertonia due to cerebral palsy, stroke, brain injury, spinal cord injury, multiple sclerosis, hemifacial spasm)”.	01/11/2023
Selected Revision	Migraine Headache Prevention: The following sentence was added to the current Note regarding the requirement for standard prophylactic (preventative) pharmacologic therapies: A patient who has already tried a calcitonin gene-related peptide (CGRP) inhibitor indicated for the prevention of chronic migraine, is not required to try two standard prophylactic pharmacologic therapies [verification of therapy required]. The Overview was updated to include a list of medications with established efficacy from the American Headache Society for the treatment of migraine prevention.	08/02/2023
Update	08/08/2023: The Overview was updated to include the following sentence: Additionally, the following treatments are possibly effective and can be considered for migraine prevention: calcium channel blocker (e.g., verapamil) and angiotensin converting enzyme inhibitors (e.g., lisinopril).	N/A
Early Annual Revision	Blepharospasm: Diagnosis was changed from “Blepharospasm associated with dystonia or Strabismus” to “Blepharospasm” with the following Note added: “This includes blepharospasm associated with dystonia, including benign essential blepharospasm and seventh (VII) nerve disorders.” An age requirement of ≥ 12 years was added. Previously there was not an age requirement in place. Cervical Dystonia: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Hyperhidrosis, Primary Axillary: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Migraine Headache Prevention: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Neurogenic Detrusor Overactivity (NDO), Pediatric: New indication, age ≥ 5 years, criteria, and dosing added. Previously, diagnosis and dosing was captured under FDA	10/11/2023

	<p>Labeled Indications as “Urinary Incontinence Associated with a Neurological Condition”.</p> <p>Overactive Bladder with Symptoms of Urge Urinary Incontinence, Urgency, and Frequency (Adult): An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. “Adult” was added to diagnosis to distinguish from pediatric NDO indication.</p> <p>Spasticity, Limb: An age requirement of ≥ 2 years was added. Previously there was not an age requirement in place.</p> <p>Strabismus: New indication, requirement of age ≥ 12 years, criteria, and dosing added. Previously, diagnosis and dosing was captured under FDA Labeled Indications as “Blepharospasm associated with dystonia or Strabismus”.</p> <p>Urinary Incontinence Associated with a Neurological Condition (Adult): An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. “Adult” was added to diagnosis to distinguish from pediatric NDO indication. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Achalasia: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Anal Fissure: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Chronic Facial Pain/Pain Associated with Temporomandibular Dysfunction: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Chronic Low Back Pain: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Dystonia other than cervical: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Essential Tremor: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Hemifacial Spasm: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Hyperhidrosis, Gustatory: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Hyperhidrosis, Palmar/Plantar and Facial: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Myofascial Pain: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Ophthalmic Disorders, other than Blepharospasm or Strabismus: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Plantar Fasciitis: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p> <p>Sialorrhea, Chronic: An age requirement of ≥ 18 years was added. Previously there was not an age requirement in place. Dosing considerations for patients ≤ 18 years of age were removed.</p>	
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