

Effective Date: 03/2016 Last P&T Approval/Version: 04/27/2022

Next Review Due By: 10/2023 Policy Number: C8755-A

# **Botulinum Toxin**

#### **PRODUCTS AFFECTED**

Botox/Botox Cosmetic (onabotulinumtoxinA), Dysport (abobotulinumtoxinA), Myobloc (rimabotulinumtoxinB) and Xeomin (incobotulinumtoxinA)

Requests for Jeuveau<sup>™</sup> (prabotulinumtoxinA-xvfs)

Jeuveau<sup>™</sup> (prabotulinumtoxinA-xvfs) is indicated for the temporary improvement in the appearance of moderate to severe glabellar (frown) lines between the eyebrows in adults. Currently, Jeaveau is FDA approved only for cosmetic use; it has no other indications.

Cosmetic use is excluded from coverage and therefore Jeuveau™ (prabotulinumtoxinA- xvfs) is excluded from coverage

#### **COVERAGE POLICY**

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

This Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide Molina Healthcare complete medical rationale when requesting any exceptions to these guidelines

#### **Documentation Requirements:**

Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive

#### **DIAGNOSIS:**

FDA approved or compendia approved off-label uses

#### REQUIRED MEDICAL INFORMATION:

This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. If a drug within this policy receives an updated FDA label within the last 180 days, medical necessity for the member will be reviewed using the updated FDA label information along with state and federal requirements, benefit being administered and formulary preferencing. Coverage will be determined on a case-by case basis until the criteria can be updated through Molina Healthcare, Inc. clinical governance. Additional information may be required on a case-by-case basis to allow for adequate review

#### FOR ALL INDICATIONS:

- 1. Prescriber attests to both of the following: (a) the medication is not prescribed concurrently with other botulinum toxin products; AND (b) Botulinum toxin therapy for cosmetic or medical conditions has not been administered within the last 12weeks.
- 2. Prescriber provides documentation of total requested units required for therapy duration. [REVIEWER NOTE: if not supplied- FDA limit will be approved] AND
- Prescribed product has an FDA labeled or compendia supported indication for age (see Appendix for guidance on FDA label/compendia and guantity limits)

#### A. CHRONIC MIGRAINE HEADACHE

- 1. Documented diagnosis of chronic migraines (i.e., ≥ 15 headache days per month for at least3 months with headache lasting 4 hours a day or longer)
- 2. Documentation of trial (2 months per agent) and ineffectiveness/failure or clinical intolerance or contraindication to THREE of the following therapeutic classes: beta blockers (propranolol, timolol, atenolol, metoprolol, nadolol), antiepileptics (divalproex sodium, topiramate), antidepressants (amitriptyline, nortriptyline, venlafaxine, duloxetine), antihypertensive (verapamil, lisinopril, candesartan)
- 3. Prescriber attests that botulinum toxin will not be used in combination with prophylaxis CGRP agents (e.g., Aimovig, Ajovy, Emgality, Vyepti)
- 4. Documentation of baseline (prior to start of requested therapy) migraine/headache days per month.

# B. ESOPHAGEAL ACHALASIA

- 1. Member has a diagnosis of esophageal achalasia AND ONE of the following: High risk for complications associated with pneumatic dilation or surgical myotomy; or Failure of a prior dilation or myotomy; or Previous perforation due to pneumatic dilation; or Epiphrenic diverticulum or hiatal hernia; or Esophageal varices AND
- 2. Member is not a candidate for pneumatic dilation or laparoscopic surgical myotomy(e.g., due to age, comorbidity)

# C. CHRONIC ANAL FISSURE:

- 1. Member has documentation of chronic anal fissure refractory to conventional nonsurgical medical therapy (e.g., sitz baths, stool softeners, bulk agents, diet modifications)
- 2. Documentation of a trial (2 weeks) and failure or absolute contraindication to topical nifedipine or topical nitroglycerin

#### D. AXILLARY HYPERHIDROSIS (excessive underarm sweating):

- 1. Documented diagnosis of primary axillary hyperhidrosis AND
- 2. Documentation of a trial (6 months) and failure of a topical 20% aluminum chloride agent or oral glycopyrrolate, unless contraindicated or clinically significant adverse reactions were experienced AND
- 3. Presence of medical complications of hyperhidrosis, including skin. maceration with secondary infection or significant functional impairment

# E. UPPER AND LOWER LIMB SPASTICITY(INCLUDESSPASMS/PALSIES):

 Diagnosis of ANY of the following upper or lower limb spasticities: Cerebral palsy (including spastic equinus foot deformities, Localized adductor muscle spasticity in multiple sclerosis, Spinal cord injury, Traumatic brain injury, Hereditary spastic paraplegia, Hemifacial spasms, Seventh cranial nerve palsy (Bell's Palsy), Gaze palsies causing persistent pain or vision impairment

AND

- Member has a documented failure of intolerance to or unable to receive BOTH preferred first line treatment options: baclofen and ONE formulary benzodiazepine AND
- 3. Prescriber attests that the spasticity causes significant decrease of function or Activities of Daily Living (for example, washing, eating) in pediatric or adult individuals

#### F. STRABISMUS:

- 1. Diagnosis of ONE of the following:
  - a) Vertical strabismus (superior and inferior rectus muscles, superior and inferior oblique muscles);
     OR
  - b) Horizontal strabismus (medical and lateral rectus muscles) (i or ii): i. Horizontal strabismus < 20 prism diopters; OR ii. Horizontal strabismus 20 to 50 prism diopters; OR
  - c) Persistent sixth cranial nerve (VI; abducens nerve) palsy of ≥ one month involving the lateral rectus muscle

#### G. BLEPHAROSPASM:

Diagnosis of blepharospasm

2. Member is experiencing significant disability in daily functional activities due to interference with vision

#### H. SIALORRHEA:

- Member has a documented disability due to conditions such as Parkinson's disease or motor neuron disease (cerebral palsy) AND
- 2. Failure of, intolerance to or unable to receive a trial of glycopyrrolate.

#### I. OVERACTIVE BLADDER AND URINARY INCONTINENCE:

1. Documented diagnosis of urinary incontinence due to EITHER of the following:

(a) Overactive bladder and member's history is positive for urinary urgency, frequency, and nocturia with or without incontinence;

OR

- (a) Urinary incontinence and member's history is positive for an associated neurologic condition (e.g., spinal cord injury, spinal dysraphsim, multiple sclerosis neurogenic detrusor over activity or overactive bladder AND
- Documented inadequate response to or clinically significant adverse reaction to at least two anticholinergic agents (oxybutynin immediate and extended-release tabs, Oxytrol patch, Gelniquegel, tolterodine immediate and extended release Toviaz, Enablex, Vesicare, trospium immediate and extended release) AND
- 3. Prescriber attests to no evidence of current urinary tract infection

#### J. CERVICAL DYSTONIA:

- Documented diagnosis of cervical dystonia AND
- Prescriber attests: (a) that member is experiencing involuntary contractions of the neck and shoulder muscles (e.g., splenius capitis, sternocleidomastoid, levator scapulae, scalene, trapezius, semispinalis capitis) resulting in abnormal postures or movements of the neck, shoulders, or head AND (b) Contractions are causing pain and functional impairment
- K. ALL REMAINING INDICATIONS (Larynx closure, Adjunct to surgical procedure, Organic voice tremor, Spasm, Of pharyngoesophageal segment -Total laryngectomy, Spastic dysphonia)
   1. Documentation of member diagnosis requiring treatment

#### **CONTINUATION OF THERAPY:**

#### A. CHRONIC MIGRAINE:

- 1. If member has received >2 botulinum toxin treatment sessions, member has experienced and maintained a 30% reduction in monthly migraine frequency (monthly migraine days) from baseline OR stabilization of migraine headaches from baseline with quality-of-life improvement AND
- Prescriber provides documentation of previous injections as well as the future treatment plan details to include number of units per injection site and treatment sessions AND
- 3. Prescriber attests to absence of unacceptable toxicity from the drug. Examples of unacceptable toxicity include: symptoms of a toxin spread effect (e.g., asthenia, generalized muscle weakness, diplopia, ptosis, dysphagia, dysphonia, dysarthria, swallowing/breathing difficulties, etc.), severe hypersensitivity reactions, severe pulmonary effects (e.g., reduced pulmonary function), corneal exposure/ulceration, retrobulbar hemorrhage, bronchitis/upper-respiratory tract infections, autonomic dysreflexia, urinary tract infection, and urinary retention, etc. AND
- 4. Prescriber attests that botulinum toxin will not be used in combination with prophylaxis CGRP agents. Reviewer Note: Dual therapy may be considered if the member is refractory to at least two preventative treatments and has experience a partial response to Botox.

#### **B. ALL OTHERINDICATIONS:**

- Documentation that member is responding positively to therapy AND
- Prescriber provides documentation of treatment plan details to include number of units per injection site and treatment sessions AND
- 3. Prescriber attests to absence of unacceptable toxicity from the drug. Examples of unacceptable toxicity include: symptoms of a toxin spread effect (e.g., asthenia, generalized muscle weakness, diplopia, ptosis, dysphagia, dysphonia, dysarthria, swallowing/breathing difficulties, etc.), severe hypersensitivity reactions, severe pulmonary effects (e.g., reduced pulmonary function), corneal exposure/ulceration, retrobulbar hemorrhage, bronchitis/upper-respiratory tract infections, autonomic dysreflexia, urinary tract infection, and urinary retention, etc.

#### **DURATION OF APPROVAL:**

Initial authorization: 24 weeks, Continuation of Therapy: 24 weeks.

#### PRESCRIBER REQUIREMENTS:

All indications Prescribed by a board eligible or board-certified neurologist, ophthalmologist, pain management specialist, physician certified in headache medicine or specialist in the field that is being treated.

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 4 of 17

# **AGE RESTRICTIONS:**

# **BOTOX: Treatment of:**

Upper limb spasticity, Lower limb spasticity, Hirschsprung Disease, Internal Anal Sphincter Achalasia, Chronic Anal Fissure: ≥2 years of age

Severe axillary hyperhidrosis, Cervical dystonia, overactive bladder, chronic migraine,

esophageal achalasia: ≥18 years of age

Neurogenic detrusor overactivity (NDÖ): ≥ 5 years of age

Blepharospasm associated with dystonia: ≥ 12 years of age Strabismus : ≥ 12 years of age

Xeomin: Treatment of:

Cervical Dystonia, Blepharospasm: ≥18 years Chronic Sialorrhea, Upper Limb Spasticity:

≥2 years

**Dysport:** Treatment of:

Cervical Dystonia, Blepharospasm, Hemifacial spasm: ≥18 years Spasticity: ≥2 years

Myobloc: Treatment of:

Cervical Dystonia, Chronic Sialorrhea: ≥18 years

#### QUANTITY:

Quantity limit approvals are subject to dosing limits in accordance with FDA-approved labeling, accepted compendia and/or evidence-based practice guidelines. (see Appendix for dosage labeled limits)

Botox – up to 400 units every 3 months (max); in 100 or 200-unit increments, units up to the vial size(s)medically necessary for the use J0585- Injection, onabotulinumtoxinA, 1 unit

Dysport – up to 1500 units every 3 months for adults, 1000 units every 3 months for peds (max); in 300- or 500-unit increments, units up to the vial size(s) medically necessary for the use J0586 Injection, abobotulinumtoxinA, 5 units

Myobloc – up to 10,000 units every 3 months (max); in 2500, 5000, or 10000 unit increments, units up to the vial size(s) medically necessary for the use J0587 Injection, rimabotulinumtoxinB, 100 units

Xeomin – up to 400 units every 3 months (max); in 50 or 100 unit increments, units up to the vial size(s)medically necessary for the use J0588 Injection, incobotulinumtoxinA, 1 unit

#### PLACE OF ADMINISTRATION:

The recommendation is that injectable medications in this policy will be for pharmacy or medical benefit coverage and the intramuscular injectable products be administered in a place of service that is a nonhospital facility-based location.

# **DRUG INFORMATION**

#### **ROUTE OF ADMINISTRATION:**

Intramuscular

#### DRUG CLASS:

Neuromuscular Blocking Agent

#### FDA-APPROVED USES:

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated Page 5 of 17 with Molina Healthcare.

# Botox (onabotulinumtoxinA):

- 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
- Treatment of urinary incontinence due to detrusor overactivity 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
- Prophylaxis of headaches in adult patients with chronic migraine (≥15 days per month with headache lasting 4 hours a day or longer)
- Treatment of spasticity in patients 2 years of age and older
- Treatment of cervical dystonia in adult patients, to reduce the severity of abnormal head position and neck pain
- Treatment of severe axillary hyperhidrosis that is inadequately managed by topical agents in adult patients
- Treatment of blepharospasm associated with dystonia in patients 12 years of age and older
- Treatment of strabismus in patients 12 years of age and older
- 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

# Important Limitations: Safety and effectiveness of BOTOX have not been established for:

- Prophylaxis of episodic migraine (14 headache days or fewer per month)
- Treatment of hyperhidrosis in body areas other than axillary

#### Dysport (abobotulinumtoxinA):

#### Indicated for:

- treatment of cervical dystonia in adults
- treatment of spasticity in patients 2 years of age and older

# Xeomin (incobotulinumtoxinA):

indicated for the treatment or improvement of patients with:

- chronic sialorrhea in patients 2 years of age and older
- upper limb spasticity in adults
- upper limb spasticity in pediatric patients 2 to 17 years of age, excluding spasticity caused by cerebral palsy
- · cervical dystonia in adults
- blepharospasm in adults

# Myobloc (rimabotulinumtoxinB):

#### indicated for:

- Treatment of cervical dystonia to reduce the severity of abnormal head position and neck pain associated with cervical dystonia in adults
- Treatment of chronic sialorrhea in adults

# **COMPENDIAL APPROVED OFF-LABELED USES:**

#### Dysport (abobotulinumtoxinA):

Blepharospasm, Hemifacial spasm

# Xeomin (incobotulinumtoxinA):

None

# **Botox (onabotulinumtoxinA):**

Esophageal Achalasia, Spasmodic torticollis, Larynx closure, Adjunct to surgical procedure, Organic voice tremor, Spasm, Of pharyngoesophageal segment - Total laryngectomy, Spastic

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 6 of 17

# Drug and Biologic Coverage Criteria dysphonia

# Myobloc (rimabotulinumtoxinB):

None

#### **APPENDIX**

#### **APPENDIX:**

International Headache Society Criteria for Migraine Diagnosis (ICHD-3) for **Chronic Migraine** A. Headache (tension-type-like and/or migraine-like) on  $\geq$  15 days per month for > 3 months and fulfilling criteria B and C;

- B. Occurring in a patient who has had at least five attacks fulfilling criteria B-D for 1.1 Migraine without aura and/or criteria B and C for 1.2 migraine with aura;
- C. On  $\geq$  8 days per month for > 3 months, fulfilling any of the following:
  - 1. Criteria C and D for 1.1 Migraine without aura; or
  - 2. Criteria B and C for 1.2 Migraine with aura; or
  - 3. Believed by the patient to be migraine at onset and relieved by a triptan or ergot derivative; Not better accounted for by another ICHD-3 diagnosis

Migraine without aura Migraine with aura	Migraine without aura Migraine with aura
A. At least five attacks fulfilling criteria B–D	A. At least two attacks fulfilling criteria B and C
B. Headache attacks lasting 4-72	B. One or more of the following fully reversible
hours (untreated or unsuccessfully	aura symptoms:
treated)	1. visual
C. Headache has at least two of the	2. sensory
following four characteristics:	3. speech and/or language
1. unilateral location	4. motor
2. pulsating quality	5. brainstem
<ol><li>moderate or severe pain intensity</li></ol>	6. retinal
4. aggravation by or causing	C. At least three of the following six characteristics:
avoidance of routine physical	at least one aura symptom
activity (e.g., walking or climbing	spreads gradually over ≥5
stairs)	minutes
D. During headache at least one of the following:	2. two or more aura
1. nausea and/or vomiting	symptoms occur in
<ol><li>photophobia and phonophobia</li></ol>	succession
E. Not better accounted for	each individual aura
by another ICHD-3 diagnosis.	symptom lasts 5- 60
	minutes
	at least one aura symptom is unilateral
	5. at least one aura symptom is positive
	6. the aura is accompanied, or
	followed within 60 minutes,
	by headache

and bloogic coverage criteria				
	Migraine without aura Migraine with aura	Migraine without aura Migraine with aura		
	Migraine without aura Migraine with aura  A. At least five attacks fulfilling criteria B–D  B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated) C. Headache has at least two of the following four characteristics:  1. unilateral location 2. pulsating quality 3. moderate or severe pain intensity 4. aggravation by or causing avoidance of routine physical activity(e.g., walking or climbing stairs) D. During headache at least one of the following:  1. nausea and/or vomiting 2. photophobia and phonophobia  E. Not better accounted for	Migraine without aura Migraine with aura  A. At least two attacks fulfilling criteria B and C B. One or more of the following fully reversible aura symptoms: 1. visual 2. sensory 3. speech and/or language 4. motor 5. brainstem 6. retinal C. At least three of the following six characteristics: 1. at least one aura symptom spreads gradually over ≥5 minutes 2. two or more aura symptom lasts 5-60 minutes		
	<ol> <li>nausea and/or vomiting</li> <li>photophobia and phonophobia</li> </ol>	two or more aura symptoms occur in succession     each individual aura symptom lasts 5-60     minutes		
		<ul> <li>4. at least one aura symptom is unilateral</li> <li>5. at least one aura symptom is positive</li> <li>6. the aura is accompanied,</li> <li>or followed within60 minutes,</li> <li>by headache</li> <li>D. Not better accounted for by another</li> <li>ICHD-3 diagnosis</li> </ul>		

#### QUANTITY LIMITS BY INDICATION:

Botox – up to 400 units every 3 months(max); [J0585-Injection, onabotulinumtoxinA, 1unit]

FDA Indication and Dose- labeled-

# **Axillary hyperhidrosis:**

50 units (2 mL of a 2.5 units/0.1 mL reconstituted solution) per axilla injected intradermally divided into 0.1 to 0.2mL aliquots evenly distributed into 10 to 15 sites approximately 1 to 2 cm apart; reinjection may be performed when the benefit of the previous injection lessens

**Bladder muscle dysfunction** - Overactive, refractory to or intolerant of anticholinergic medication 100 units administered as twenty 0.5-mL injections (10 mL of a 10 units/1 mL reconstituted solution) into the detrusor muscle via flexible or rigid cystoscope; i MAX 100 units per treatment (FDA dosage)

## Blepharospasm, Associated with dystonia

Initial, 1.25 to 2.5 units (0.05 to 0.1 mL) injected into medial and lateral pretarsal orbicularis oculi muscle of upper lid and into lateral pretarsal orbicularis oculi muscle of lower lid; dose may be increased up to two- fold if the response from the initial treatment is considered insufficient to a max of 5 units per site. treatment may be repeated every 3 months; cumulative MAX, 200 units/30days may be performed when the benefit of the previous injection lessens

#### Cervical dystonia (Spasmodic Torticollis):

Treatment naive: Use lower initial dose. Limit total dose administered into sternocleidomastoid muscles to 100units or less to decrease dysphagia occurrence, Patients with history of Botox tolerance: 198 to 300 units (mean, 236 units) divided among affected muscles. Limit total dose administered into sternocleidomastoid muscles to 100 units or less to decrease dysphagia occurrence

#### **Chronic migraine:**

155 units (3.1 mL of a 50 unit/mL reconstituted solution) as 5 units (0.1 mL) IM into each of 31 sites divided across 7 specific head/neck muscle areas (20 units divided in 4 sites in frontalis muscle,

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 8 of 17

10units divided in 2 sites in corrugator muscle, 5 units in 1 site in procerus muscle, 30 units divided in6 sites in occipitalis muscle,40 units divided in 8 sites in temporalis muscle, 30 units divided in 6 sites in trapezius muscle, and 20 units divided in 4 sites in cervical paraspinal muscle group); doses should be evenly distributed bilaterally in all muscles (except for procerus muscle); usual retreatment every 12 weeks

## Incontinence due to detrusor instability, Associated with a neurologic condition

Adults and Pediatric Members weighing ≥ 34 kg: 200 units administered as thirty 1-mL (30 mL of a 6.7 units/1 mL reconstituted solution) injections; Median time to retreatment is 42 to 48 weeks, but no sooner than 12 weeks; MAX 200 units per treatment [3].

Pediatric members weighing <34 kg: 6 units/kg administered as twenty 1-mL injections; Median time to retreatment is 30 weeks, but no sooner than 12 weeks

## Lower limb spasticity

Start with lowest dose. Total dose of 300 to 400 units. May be repeated when the effects have lessened, but generally no sooner than 12 weeks after the previous injection.

#### Strabismus

Vertical muscles and horizontal strabismus less than 20 diopters: Initial, 1.25 to 2.5 units injected into any 1 muscle; assess efficacy 7 to 14 days after injection and subsequent doses may be increased up to 2-fold to MAX, 25 units/any muscle as a single injection and 0.15 mL volume per muscle

# Horizontal strabismus between 20 to 50 diopters:

Initial, 2.5 to 5 units injected into any 1 muscle; assess efficacy 7 to 14 days after injection and subsequent doses may be increased up to 2-fold to MAX, 25 units/any muscle as a single injection and 0.15 mL volume per muscle

Persistent sixth nerve palsy for at least 1 month: Initial, 1.25 to 2.5 units injected in the medial rectus muscle; assess efficacy 7 to 14 days after injection and subsequent doses may be increased up to 2-fold to MAX, 25units/any muscle as a single injection and 0.15 mL volume per muscle

# **Upper limb spasticity:**

Start with lowest dose; usual dosage ranged from 75 to 400 units; MAX 50 units/site; may be repeated when the effects have lessened, but generally no sooner than 12 weeks after the previous injection;

## Accepted off-labeled indication

#### Achalasia

80 to 100 units IM in lower esophageal sphincter (20 to 25 units to each of 4 quadrants in the lower esophageal sphincter) (off-label dosage)

Bladder muscle dysfunction: overactive, Refractory to or intolerant of anticholinergic medication<sup>46</sup> Men with no prior prostate surgery: 100 to 300 units intra- detrusor injection (off- label dosage), Men with previous prostate surgery: 100 to 200 units intra- detrusor injection (off-label dosage)

Chronic anal fissure: 25 Units per treatment session (off-label dosage)

# Larynx closure, Adjunct to surgical procedure

200 to 280 units IM into the laryngeal musculature prior to surgery for larynx closure was used in a clinical trial (n=6) (Pototshnig et al, 1996)

#### Organic voice tremor

0.6 to 5 units IM bilaterally OR 15 units IM unilaterally into affected muscles (off-label dosage)

# Spasm, Of pharyngoesophageal segment - Total laryngectomy

30 to 100 units IM (off-label dosage)

Initial, 2.5 to 5 units IM and additional injections up to 30 units (off-label dosage)

## Spastic dysphonia

1.25 to 5 units IM into affected muscles, with doses up to 25 units (off-label dosage)

Dysport – up to 1500 units every 3 months for adults, 1000 units every 3 months for peds (max); [J0586Injection, abobotulinumtoxin A, 5 units]

# FDA Indication and Dose- labeled-

## Cervical dystonia

Initial, 500 units IM, divided among 2 to 4 affected muscles

Maintenance, 250 units to maximum of 1000 units IM total dose in a single treatment, divided among 2 to 4 affected muscles; retreat as needed at least every 12 weeks or longer

#### Lower limb spasticity

**Adult:** Total doses of 1000 and 1500 units divided among selected muscles were used in clinical studies for a given treatment session; no more than 1 mL should be injected into any single injection site; MAX dose for upper and lower limb combined is 1500 units—[5]

Gastrocnemius (medial head, lateral head): Initial, 100 to 150 units IM in 1 injection site per muscle Soleus: Initial, 330 to 500 units IM in 3 injection sites per muscle

Tibialis posterior: Initial, 200 to 300 units IM in 2 injection sites per muscle

Flexor digitorum longus: Initial, 130 to 200 units IM in 1 to 2 injection sites per muscle

Flexor hallucis longus: Initial, 70 to 200 units IM in 1 injection site per muscle;

**Pediatric:** Total dose per treatment session is 10-15 units/kg for unilateral lower limb injections or 20-30 units/kg for bilateral lower limb injections; MAX 15 units/kg for unilateral lower limb injections or 30 units/kg for bilateral lower limb injections or 1000 units, whichever is lower; When possible the dose should be distributed across more than 1 injection site in any single muscle; Repeat dosage no sooner than 12 weeks after the previous injection.

Gastrocnemius: 6-9 units/kg IM in up to 4 injection sites per muscle

Soleus: 4-6 units/kg IM in up to 2 injections sites per muscle

Total: 10-15 units/kg divided across both muscles IM in up to 6 injection sites per muscle

# Upper limb spasticity

**Adult:** Total doses of 500 and 1000 units divided among certain muscles were used in clinical trials no more than 1 mL should be injected into any single injection site; MAX dose for upper and lower limb combined is 1500 units; ;Repeat dosage no sooner than 12 weeks after the previous injection.

Flexor carpi radialis, flexor carpi ulnaris, flexor digitorum profundus, flexor digitorum superficialis,

brachioradialis: Initial, 100 to 200 units IM in 1 to 2 injection sites per muscle;

Pronator teres: Initial, 100 to 200 units IM in 1 injection site per muscle

Brachialis, biceps brachii: Initial, 200 to 400 units IM in 1 to 2 injection sites per muscle

**Pediatric:** MAX dose of 16 units/kg or 640 units, whichever is lower; no more than 0.5 mL should be injected into any single injection site; Repeat dosage no sooner than 16 weeks after the previous injection Brachialis, Biceps brachii: Initial 3-6 units/kg IM in up to 2 injection sites per muscle

Brachioradialis, Flexor carpi ulnaris (FCU): Initial, 1.5-3 units/kg IM in 1 injection site per muscle Pronator teres, Flexor digitorum profundus (FDP): Initial, 1-2 units/kg IM in 1 injection site per muscle Pronator quadratus: Initial, 0.5-1 unit/kg IM in 1 injection site per muscle

Flexor carpi radialis (FCR): Initial, 2-4 units/kg IM in up to 2 injection sites per muscle

Flexor digitorum superficialis (FDS): Initial, 1.5-3 units/kg IM in up to 4 injection sites per muscle

#### Accepted off-labeled indication

# **Blepharospasm**

40 units, 80 units, or 120 units per eye subQ in 0.1 mL aliquots into 6 areas of the orbicularis oculimuscle

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 10 of 17

(0.6 mL total volume/eye) (off-label dosage)

# Hemifacial spasm

28 to 220 units subQ per treatment session based on sites and severity of the spasm. Subsequent injections were administered upon recurrence of spasm (off-label dosage)

#### **Anal fissure**

90 to 150 units in 2 divided doses injected into the internal anal sphincter on each side of the anterior midline (off-label dosage)

#### **Axillary Hyperhidrosis, primary**

100 to 200 units per axilla; injections should be evenly distributed into multiple sites 1 to 2 cm apart (10 to 20 injections). May repeat when clinical effect diminishes. Mean duration of effect ranges from 5.5 months to 8.5 months (off-label dosage)

#### Sialorrhea

Intraglandular (Ventral) (off-label route): 15 to 75 units injected per gland (submandibular, parotid or both) either unilaterally or bilaterally with intervals of 4 to 6 months between treatments (off-label)

Myobloc – up to 10,000 units every 3 months (max); [J0587 Injection, rimabotulinumtoxinB, 100 units]

#### FDA Indication and Dose- labeled

# **Cervical Dystonia**

2500 to 5000 Units IM divided among affected muscles

#### Chronic sialorrhea:

Intraglandular: 1,500 to 3,500 units divided among the parotid (500 to 1,500 units/gland) and submandibular (250 units/gland) glands. Subsequent dosing should be optimized according to patient's response and should generally be repeated no sooner than every 12 weeks

#### Accepted off-labeled indication

None

Xeomin – up to 400 units every 3 months (max); J0588 Injection, incobotulinumtoxinA, 1 unit

#### FDA Indication and Dose- labeled-

#### **Blepharospasm**

(Treatment-naive members): Initial, 50 units (25 units per eye) Maximum dosage: 100 units per treatment session (50 units per eye)

Retreatment: May repeat based on clinical response, but no more frequently than every 12 weeks

#### Cervical dystonia

Initial total dose, 120 units divided and injected among affected muscles; repeat treatment no more frequently than every 12 weeks

## **Excessive salivation, Chronic**

Adults: 100 units via intra-salivary gland injection May repeat treatment after no fewer than 16 weeks. Pediatric: weight based dosing in a 3:2 ratio into the parotic and submandibular glands, respectively. May repeat treatment after no fewer than 16 weeks.

#### Upper limb spasticity

**Adult:** MAX 400 units/treatment session; frequency of treatments no sooner than every 12 weeks; in previously untreated members, initiate dosing with the low end of the dosing range and titrate as

Molina Healthcare, Inc. confidential and proprietary  $\ensuremath{\mathbb{C}}$  2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 11 of 17

necessary

Clenched fist (flexor digitorum superficialis or flexor digitorum profundus) 25 to 100 units IM in 2 injection sites per muscle

Flexed wrist (flexor carpi radialis) 25 to 100 units IM in 1 to 2 injection sites per muscle

Flexed wrist (flexor carpi ulnaris) 20 to 100 units IM in 1 to 2 injection sites per muscle

Flexed elbow (biceps) 50 to 200 units IM in 1 to 4 injection sites per muscle

Flexed elbow (brachialis) 25 to 100 units IM in 1 to 2 injection sites per muscle;

Flexed elbow (brachioradialis) 25 to 100 units IM in 1 to 3 injection sites per muscle

Pronated forearm (pronator quadratus) 10 to 50 units IM in 1 injection site per muscle

Pronated forearm (pronator teres) 25 to 75 units IM in 1 to 2 injection sites per muscle

Thumb-in-palm (adductor pollicis, flexor pollicis brevis, or opponens pollicis) 5 to 30 units IM in 1 injection site per muscle

Thumb-in-palm (flexor pollicis longus) 10 to 50 units IM in 1 injection site per muscle; untreated member s, initiate dosing with the low end of the dosing range and titrate as necessary -

# Pediatric, excluding spasticity caused by cerebral palsy

MAX 8 Units/kg up to a maximum dose of 200 units/single upper limb, if both upper limbs are treated, total dose should not exceed 16 units/kg up to a maximum of 400 units; frequency of treatments no sooner than every 12 weeks

Flexed elbow (biceps) 2-3 units/kg (MAX 75 units) IM in 1 to 3 injection sites per muscle Flexed elbow (brachialis, brachioradialis) 1-2 units/kg (MAX 50 units) IM in 1 to 2 injection sites per

muscle

Flexed wrist (flexor carpi radialis, flexor carpi ulnaris) 1 unit/kg (MAX 25 units) IM in 1 injection site per muscle

Pronated forearm (pronator quadratus) 0.5 unit/kg (MAX 12.5 units) IM in 1 injection site per muscle Pronated forearm (pronator teres) 1-2 units/kg (MAX 50 units) IM in 1 to 2 injection sites per muscle

Clenched fist (flexor digitorum superficialis or flexor digitorum profundus) 1 unit/kg (MAX 25 units) IM in 1 injection site per muscle

Thumb-in-palm (adductor pollicis, flexor pollicis brevis, or opponens pollicis) 0.5 unit/kg (MAX 12.5 units) IM in 1 injection site per muscle

Thumb-in-palm (flexor pollicis longus) 1 unit/kg (MAX 25 units) IM in 1 injection site per muscle

#### Accepted off-labeled indication

None

# **BACKGROUND AND OTHER CONSIDERATIONS**

#### **BACKGROUND:**

Botulinum neurotoxins produced by Clostridium botulinum, a gram-positive anaerobic bacterium, can prevent the release of acetylcholine, carrying chemical denervation and blockage of neuromuscular transmission.

Botulinum toxins produce a presynaptic neuromuscular blockage by preventing release of acetylcholine from motor nerve terminals. The resulting chemical denervation of muscle induces local paresis or paralysis and individual muscles can be weakened selectively. Botulinum toxins have the advantage of being potent neuromuscular blocking agents with good selectivity, long duration of action and few side effects. Of seven known distinct neurotoxins (A-G), onabotulinumtoxinA (Botox®/Botox Cosmetic), abobotulinumtoxinA (Dysport™), rimabotulinumtoxinB (Myobloc®) and incobotulinumtoxinA (Xeomin®) have been approved by the U.S. Food and Drug Administration for clinical use.

#### CONTRAINDICATIONS/EXCLUSIONS/DISCONTINUATION:

Molina Healthcare, Inc. confidential and proprietary © 2022

This document contains confidential and proprietary information of Molina Healthcare and cannot be reproduced, distributed, or printed without written permission from Molina Healthcare. This page contains prescription brand name drugs that are trademarks or registered trademarks of pharmaceutical manufacturers that are not affiliated with Molina Healthcare.

Page 12 of 17

All other uses of botulinum toxins are considered experimental/investigational and therefore, will follow Molina's Off-Label policy.

Conditions Not Recommended for Approval:

- Cosmetic Uses (e.g., facial rhytides, frown lines, glabellar wrinkling, horizontal neck rhytides, mid and lower face and neck rejuvenation, platsymal bands, rejuvenation of the periorbital region). Cosmetic use is not recommended for coverage as this indication is excluded from coverage in a typical medical or pharmacy benefit.
- o Fibromyalgia. More data are needed to define the place in therapy of botulinum toxin in the treatment of fibromyalgia. A small pilot study involving 16-member s concluded botulinum toxin A injections into fibromyalgia trigger points offered more relief (up to 16weeks minimum) compared with local saline or anesthetic injections; it was concluded Botox is effective in the treatment of fibromyalgia. Other small studies have shown effectiveness of Botox in pain relief post injection. botulinum toxin is not mentioned in guidelines for the treatment of fibromyalgia.
- Gastroparesis. The ACG issued clinical guidelines on the management of gastroparesis (2013). 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.
- Vaginismus. More data are needed to define the place in therapy of botulinum toxin in the treatment of vaginismus. The use of botulinum toxin for the treatment of vaginismus has been evaluated in a few small studies with successful outcomes.
- Requests for Jeuveau<sup>™</sup> (prabotulinumtoxinA-xvfs)- Jeuveau<sup>™</sup> (prabotulinumtoxinA- xvfs) is indicated for the temporary improvement in the appearance of moderate to severe glabellar (frown) lines between the eyebrowsin adults. Currently, Jeaveau is approved only for cosmetic use; it has no other indications.
- Anismus (pelvic floor dyssynergia)
- Behcet's syndrome Brachial Plexus Palsy
- o Carpal tunnel syndrome Chronic motor tic disorder Disorders of the esophagus
- Epicondvlitis
- Low back pain
- Myofascial pain syndrome
- Neck pain not related to conditions mentioned above Nystagmus
- o Parkinson's disease
- Post-mastectomy reconstruction syndrome Reynaud's syndrome Sphincter of Oddi dysfunction Stuttering
- o Tics associated with Tourette's Syndrome Tinnitus
- Tourette's Syndrome
- Urinary and anal sphincter dysfunction (except as listed above) Vaginismus
- Whiplash related disorders Zygomatic Fractures

## **OTHER SPECIAL CONSIDERATIONS:**

Botulinum toxin products are not interchangeable, and dosing units of one product cannot be converted or compared with dosing units of another botulinum toxin product. When treating one or more indications, the maximum cumulative dose of bonabotulinumtoxinA should generally not exceed 400 units in a 3-month interval

# **CODING/BILLING INFORMATION**

Note: 1) This list of codes may not be all-inclusive. 2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement

HCPCS CODE	DESCRIPTION
J0585	Botox - Injection, onabotulinumtoxinA, 1 unit
J0586	Dysport - Injection, abobotulinumtoxinA, 5 units
J0587	Myobloc - Injection, rimabotulinumtoxinB, 100 units
J0588	Xeomin - Injection, incobotulinumtoxinA, 1 unit

#### **AVAILABLE DOSAGE FORMS:**

Dysport 300Unit Dysport 500Unit Botox 100Unit Botox 200Unit

Myobloc 2500Unit/0.5ML Myobloc 500Unit/ML Myobloc 1000Unit/2ML

Xeomin 50Unit Xeomin 100Unit Xeomin 200Unit

#### **REFERENCES**

- 1. Botox (OnabotulinumtoxinA) [prescribing information]. Madison, NJ: Allergan USA,Inc; July 2021.
- 2. Myobloc (rimabotulinumtoxinB) [prescribing information]. Rockville, MD: SolsticeNeurosciences, LLC; March 2021.
- 3. Bhidayasiri R, Truong DD. Expanding use of botulinum toxin. J Neurol Sci. 2005;235(1-2):1-9.
- 4. Gormley EA, Lightner DJ, Burgio KL, et al. Diagnosis and Treatment of Overactive Bladder (Non- Neurogenic) in Adults: AUA/SUFU Guideline. JUrol. 2012;188(6 Suppl):2455-2463.
- 5. Dysport (abobotulinumtoxinA) [prescribing information]. Basking Ridge, NJ: Ipsen Biopharmaceuticals Inc; July 2020
- 6. Xeomin (IncobotulinumtoxinA) [prescribing information] Raleigh, NC: MerzPharmaceuticals LLC; August 2021.
- 7. Walling HW, Swick BL. Treatment options for hyperhidrosis. Am J Clin Dermatol. 2011;12(5):285- 295. Haider A, Solish N. Focal hyperhidrosis: diagnosis and management. CMAJ. 2005;172(1):69- 75.
- 8. Cheng CM, Chen JS, Patel RP. Unlabeled uses of botulinum toxins: A review, part 1. AmJHealth Syst Pharm. 2006 15;63(2): 145–152.
- 9. Eisenach JH, Atkinson JLD, Fealey RD. Hyperhidrosis: evolving therapies for a well-established phenomenon. Mayo Clin Proc. 2005;80(5):657-666.
- 10. Lowe N, Campanati A, Bodokh I, et al. The place of botulinum toxin type A in the treatment of focal hyperhidrosis. Br JDermatol.2004;151(6):1115-1122.
- 11. Silberstein SD, Holland S, Freitag F, etal. Evidence-based guideline update: pharmacologic treatment for episodic migraine prevention in adults: report of the QualityStandards Subcommitteeof the American Academy of Neurology and the American Headache Society. Neurology. 2012;78(17):1337-1345. Available at: http://www.neurology.org/content/78/17/1337.full.html.
- 12. Sahai A, Khan M, Fowler CJ, Dasgupta urinary tract symptoms: a review. Neurourol Urodyn. 2005;24(1):2-12.
- 13. Hoebeke P, De Caestecker K, Vande Walle J, et al. The effect of botulinum-A toxin in incontinent children with therapy resistant overactive detrusor. J Urol. 2006Jul;176(1):328-30; discussion330-331.
- 14. Brisinda G, Bentivoglio AR, Maria G, Albanese A. Treatment with botulinum neurotoxin

- of gastrointestinal smooth muscles and sphincters spasms. Mov Disord. 2004;19(Suppl8):S146-S156
- 15. Camilleri M, Parkman HP, Shafi MA, et al. Clinical guideline: management of gastroparesis. AmJ Gastroenterol. 2013;108(1):18-38. Available at: http://gi.org/guideline/management-of-gastroparesis/.
- 16. Vaezi MF, Pandolfino JF, Vela MF. ACG clinical guideline: diagnosis and management of achalasia. Am J Gastroenterol. 2013;108(8):1238-1249. Available at: <a href="http://gi.org/guideline/diagnosis-and-management-of-achalasia/">http://gi.org/guideline/diagnosis-and-management-of-achalasia/</a>...
- 17. Wald A, Bharucha AE, Cosman BC, et al. ACG clinical guideline: management of benign anorectal disorders. Am J Gastroenterol. 2014;109(8):1141-57. Available at: http://gi.org/clinical-guidelines/clinical-guidelines-sortable-list/.
- 18. Bansal C, Omlin KJ, Hayes CM, et al. Novel cutaneous uses for boluinum toxin type A. JCosmet Dermatol. 2006; 5(3):268-272.
- 19. Cheng CM, Chen JS, Patel RP. Unlabeled uses of botulinum toxins: A review, part 2. Am JHealth Syst Pharm. 2006;63(3):225-232.
- 20. Jankovic J, Schwartz K, Donovan DT. Botulinum toxin treatment of cranial-cervical dystonia, spasmodic dysphonia, other focal dystonias and hemifacial spasm. J NeuroNeurosurg Psychiatry.1990;53:633-639.
- 21. Comella CL, Shannon KM, Jaglin J. Extensor truncal dystonia : successful treatment with botulinum toxin injection. MovDiord. 1998;13:552-555
- 22. Kanovsky P, Streitova H, Bares M, et al. Treatment of facial and orolinguomandibular tardive dystonia by botulinum toxin A: evidence of a long-lasting effect. Move Disord. 1999;14:886-888.
- 23. Tarsy D, Kaufman D, Sethi KD, et al. An open-label study of botulinum toxin A for treatment of tardive dystonia. Clin Neuropharm. 1997;20:90-93.
- 24. Cole R, Hallett M, Cohen LG. Double-blind trial of botulinum toxin for treatment of focalhand dystonia. Mov Disord. 1995;10(4):466-471.
- 25. Schwartz SR, Cohen SM, Dailey SH, et al. Clinical Practice Guideline:Hoarseness (Dysphonia). Otolaryngology–Head and Neck Surgery. 2009;141:S1-S31.

  Availableat: http://www.aafp.org/dam/AAFP/documents/member care/clinical recommendations/RecBoard Chair-060810-AttachmentHoarseness- Guideline.pdf.
- 26. Hertegard S, Granqvist S, Lindestad PA. Botulinum toxin injections for essential voicetremor. Ann Otol Rhinol Laryngol. 2000;109:204-209.
- 27. Adler CH, Bansberg SF, Hentz JG, et al. Botulinum toxin type A for treating voice tremor. Arch Neurol. 2004;61:1416- 1420.
- 28. Schulte-Mattler WJ, Martinex-Castrillo JC. Botulinum toxin therapy of migraine and tension- type headache: comparing different botulinum toxin preparations Eur J Neurol 2006;13 Suppl 1:51-54.
- 29. Naumann M, So Y, Argoff E, et al. Assessment: Botulinum toxin in the treatment of autonomic disorders and pain (an evidence-based review): Report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology.Neurology.2008;70:1707-1714. Available at: http://www.neurology.org/content/70/19/1707.full.html.
- 30. Thompson AJ, Jarrett L, Lockley L, et al. Clinical management of spasticity. J NeurolNeurosurg Psychiatry. 2005;76(4):459-463.
- 31. Pathak MS, Nguyen HT, Graham HK, et al. Management of spasticity in adults: practical application of botulinum toxin. Eur J Neurol. 2006 Feb;13 Suppl 1:42-50 Park ES, Rha DW. Botulinum toxin type A injection for management of upper limb spasticityin children with cerebral palsy: a literature review. Yonsei Med J. 2006;47(5):589–603harmaceuticals, Inc. and Scottsdale, AZ; October2014.
- 32. Frei K, Truong DD, Dressler D. Botulinum toxin therapy of hemifacial spasm: comparing different therapeutic preparations. Eur J Neurol. 2006;13(Suppl 1):30-35.
- 33. Kollewe K, Mohammadi B, Dengler R, Dressler D. Hemifacial spasm andreinnervationsynkinesias: long-term treatment with either Botox or Dysport. J Neural Transm.

# Drug and Biologic Coverage Criteria 2010;117:759- 763.

- 34. Sulica L. Contemporary management of spasmodic dysphonia. Curr Opin OtolaryngolHeadNeck Surg. 2004;12:543-548.
- 35. Lewin JS, Bishop-Leone JK, Forman AD, et al. Further experience with Botox injection for tracheoesophagealspeech failure. Head Neck. 2001;23:456-460.
- Zormeier MM, Meleca RJ, Simpson ML, et al. Botulinum toxin injection toimprove tracheoesophageal speech after total laryngectomy. Otolaryngol Head Neck Surg. 1999;120:314-319.
- 37. Kendall KA, Leonard RJ. Treatment of ventricular dysphonia with botulinumtoxin.Laryngoscope. 1997;107:948-953.
- 38. Wan X, Dat Vuong K, Jankovic J. Clinical application of botulinum toxin type B in movement disorders and autonomic symptoms. Chin Med SciJ.2005;20(1):44-47.
- 39. Jost WH. Botulinum toxin type B in the treatment of anal fissures: First preliminary results. Dis Colon Rectum. 2001;44(11)1721-1722.
- 40. Ghei M, Maraj BH, Miller R, et al. Effects of botulinum toxin B on refractorydetrusor overactivity: a randomized, doubleblind, placebo controlled, crossover trial. J Urol. 2005;174(5):1873-1877.
- 41. Dykstra D, Enriquez A, Valley M. Treatment of overactive bladder with botulinum toxin type B: a pilot study. Int Urogynecol J Pelvic Floor Dysfunct. 2003;14:424-426. 43. Racette BA, Good L, Sagitto S, Perlmutter JS. Botulinum toxin B reduces sialorrhea in Parkinsonism. Mov Disord. 2003;18(9):1059-1061.
- 42. Lecouflet, M., Leux, C., Fenot, M., Célerier, P., & Maillard, H. (2013). Duration of efficacy increases with the repetition of botulinum toxin A injections in primary axillary hyperhidrosis: a study in 83 patients. Journal of the American Academy of Dermatology, 69(6), 960–964. https://doi.org/10.1016/j.jaad.2013.08.002
- 43. Heckmann, M., Ceballos-Baumann, A. O., Plewig, G., & Hyperhidrosis Study Group (2001). Botulinum toxin A for axillary hyperhidrosis (excessive sweating). *The New England journal of medicine*, 344(7), 488–493. https://doi.org/10.1056/NEJM200102153440704
- 44. Yiannakopoulou E. (2012). Botulinum toxin and anal fissure: efficacy and safety systematic review. *International journal of colorectal disease*, *27*(1), 1–9. https://doi.org/10.1007/s00384-011-1286-5
- 45. Reddihough, D., & Graham, H. K. (2011). Botulinum toxin type B for sialorrhea in children with cerebral palsy. *Developmental medicine and child neurology*, *53*(6), 488–489. https://doi.org/10.1111/j.1469-8749.2011.03977.x
- 46. Habashy, D., Losco, G., Tse, V., Collins, R. and Chan, L., 2015. Botulinum toxin (OnabotulinumtoxinA) in the male non-neurogenic overactive bladder: clinical and quality of life outcomes. BJU International, 116, pp.61-65.

SUMMARY OF REVIEW/REVISIONS	DATE
REVISION- Notable revisions:	Q2 2022
Required Medical Information	
Age Restrictions	
FDA Approved Uses	
Appendix	
References	
Q2 2022 Established tracking in new	Historical changes on file
format	