MEDICAL POLICY

POLICY TITLE	**OTHER THERAPIES OF HYPERHIDROSIS**
POLICY NUMBER	**MP 2.005**

CLINICAL BENEFIT	☐ MINIMIZE SAFETY RISK OR CONCERN. ☒ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☒ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**10/1/2025**

I. POLICY

Treatment of primary hyperhidrosis using the therapies in Table PG1 may be considered **medically necessary** for individuals with any of the following:

- acrocyanosis of the hands; **OR**
- history of recurrent skin maceration with bacterial or fungal infections; **OR**
- history of recurrent secondary infections; **OR**
- history of persistent eczematous dermatitis despite medical treatments with topical dermatological or systemic anticholinergic agents.

Table PG1. Treatments for Hyperhidrosis

Focal Regions	Treatments Considered **Medically Necessary**	Treatments Considered **Investigational**
Axillary	• Aluminum chloride 20% solution • ETS, Iontophoresis or surgical excision of axillary sweat glands, if conservative treatment (i.e., aluminum chloride or botulinum toxin, individually and in combination) has failed	• Axillary liposuction • Microwave Treatment • Radiofrequency Ablation
Palmar	• Aluminum chloride 20% solution • ETS, Iontophoresis if conservative treatment (i.e., aluminum chloride or botulinum toxin type A, individually and in combination) has failed	• Microwave Treatment • Radiofrequency Ablation

Plantar	• Aluminum chloride 20% solution • Iontophoresis	• Lumbar sympathectomy • Microwave treatment • Radiofrequency ablation
Craniofacial	• Aluminum chloride 20% solution • ETS, if conservative treatment (i.e., aluminum chloride) has failed	• Iontophoresis • Microwave Treatment • Radiofrequency Ablation

ETS: endoscopic transthoracic sympathectomy; FDA: Food and Drug Administration.

Treatment of primary hyperhidrosis is considered **investigational** in the absence of functional impairment or medical conditions as there is insufficient evidence to support a general conclusion supporting the health outcomes or benefits associated with this procedure.

Secondary Gustatory Hyperhidrosis

The following treatments may be considered **medically necessary** for the treatment of severe secondary gustatory hyperhidrosis. (See Policy Guidelines section for examples of gustatory hyperhidrosis conditions):

- aluminum chloride 20% solution
- surgical options (i.e., tympanic neurectomy), if conservative treatment has failed.

Other treatments for severe secondary gustatory hyperhidrosis including, but not limited to iontophoresis, are considered **investigational**. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure for this condition.

*Botulinum Toxin as a treatment for hyperhidrosis is addressed in Capital policy titled **Botox**.*

POLICY GUIDELINES

Primary Focal Hyperhidrosis

Primary focal hyperhidrosis is defined as excessive sweating induced by sympathetic hyperactivity in selected areas that is not associated with an underlying disease process. The most common locations are underarms (axillary hyperhidrosis), palms (palmar hyperhidrosis), soles (plantar hyperhidrosis), or face (craniofacial hyperhidrosis).

A multispecialty working group defines primary focal hyperhidrosis as a condition that is characterized by visible, excessive sweating of at least 6 months' duration without apparent cause and with at least 2 of the following features: bilateral and relatively symmetric sweating, impairment of daily activities, frequency of at least once per week, age at onset younger than 25 years, positive family history, and cessation of focal sweating during sleep.

The Hyperhidrosis Disease Severity Scale is used by patients to rate the severity of their symptoms on a scale of 1 to 4 (see **Table PG2**):

Table PG2. The Hyperhidrosis Disease Severity Scale

Score	Definition
1	My underarm sweating is never noticeable and never interferes with my daily activities
2	My underarm sweating is tolerable but sometimes interferes with my daily activities
3	My underarm sweating is barely tolerable and frequently interferes with my daily activities
4	My underarm sweating is intolerable and always interferes with my daily activities

Secondary Hyperhidrosis

Secondary hyperhidrosis is excessive sweating that can be generalized or craniofacial sweating and may occur as a result of olfactory or gustatory stimuli, neurologic lesions, intrathoracic neoplasms, Raynaud's disease, and Frey's syndrome.

Gustatory hyperhidrosis conditions include, but aren't limited to, the following:

- Frey syndrome
- Encephalitis
- Syringomyelia
- Diabetic neuropathies
- Herpes zoster parotitis
- Parotid abscess

Cross-Reference:
MP 4.013 Iontophoresis/Phonophoresis

II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. Please see additional information below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at:
https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies

III. DESCRIPTION/BACKGROUND

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Hyperhidrosis

Hyperhidrosis has been defined as excessive sweating, beyond a level required to maintain normal body temperature, in response to heat exposure or exercise. It can be classified as

primary or secondary. Primary focal hyperhidrosis is idiopathic, typically involving the hands (palmar), feet (plantar), or axillae (underarms). Secondary hyperhidrosis can result from a variety of drugs (e.g., tricyclic antidepressants, selective serotonin reuptake inhibitors) or underlying diseases/conditions (e.g., febrile diseases, diabetes mellitus, menopause). Secondary hyperhidrosis is usually generalized or craniofacial sweating.

Secondary gustatory hyperhidrosis is excessive sweating on ingesting highly spiced foods. This trigeminovascular reflex typically occurs symmetrically on the scalp or face and predominately over the forehead, lips, and nose. Secondary facial gustatory, occurs independently of the nature of the ingested food. This phenomenon frequently occurs after injury or surgery in the region of the parotid gland. Frey syndrome is an uncommon type of secondary gustatory hyperhidrosis that arises from injury to or surgery near the parotid gland resulting in damage to the secretory parasympathetic fibers of the facial nerve. After injury, these fibers regenerate, and miscommunication occurs between them and the severed postganglionic sympathetic fibers that supply the cutaneous sweat glands and blood vessels. The aberrant connection results in gustatory sweating and facial flushing with mastication. Aberrant secondary gustatory sweating follows up to 73% of surgical sympathectomies and is particularly common after bilateral procedures.

The consequences of hyperhidrosis are primarily psychosocial. Symptoms such as fever, night sweats, or weight loss require further investigation to rule out secondary causes. Sweat production can be assessed with the Minor starch-iodine test, which is a simple qualitative measure to identify specific sites of involvement.

Treatment

A variety of therapies have been investigated for primary hyperhidrosis, including topical therapy with aluminum chloride, oral anticholinergic medications, iontophoresis, intradermal injections of botulinum toxin, endoscopic transthoracic sympathectomy, and surgical excision of axillary sweat glands. Treatment of secondary hyperhidrosis focuses on treatment of the underlying cause, such as discontinuing certain drugs or hormone replacement therapy as a treatment of menopausal symptoms.

Iontophoresis uses electrical current to deliver medication transdermally. A charged ionic drug is placed on the skin with an electrode of the same charge, which drives the drug into the skin, with the purpose of achieving better penetration of the drug into underlying tissue. The benefits of this method would be an enhancement of treatment effects and a reduction in adverse events associated with systemic administration of the drug. Iontophoresis used in conjunction with tap water or anticholinergic agents is a long-standing treatment of palmar (palms) or plantar (soles) and more recently axillary (underarm) idiopathic hyperhidrosis. The mechanism of action is not precisely known, but it is thought to be related to plugging of the sweat glands. During this procedure, trays are filled with tap water and the patient inserts the hands or feet or positions the device in the axilla, and the current is turned on. Patients are treated for approximately twenty (20) minutes, with treatments every two (2) to three (3) days for five (5) to ten (10) sessions before an effect is observed. Maintenance therapy may be required every two (2) weeks after normal sweating is achieved.

Surgical treatment options include removal of the eccrine glands and/or interruption of the sympathetic nerves. Eccrine sweat glands produce an aqueous secretion, the overproduction of which is primarily responsible for hyperhidrosis. These glands are innervated by the sympathetic nervous system. Surgical removal has been performed in patients with severe isolated axillary hyperhidrosis.

Various surgical techniques of sympathectomy have been tested. The second (T2) and third (T3) thoracic ganglia are responsible for palmar hyperhidrosis, the fourth (T4) thoracic ganglion controls axillary hyperhidrosis, and the first (T1) thoracic ganglion controls craniofacial hyperhidrosis. Thoracic sympathectomy has been investigated as a potentially curative procedure, primarily for combined palmar and axillary hyperhidrosis unresponsive to nonsurgical treatments. While accepted as an effective treatment, sympathectomy is not without complications. In addition to the immediate surgical complications of pneumothorax or temporary Horner syndrome, compensatory sweating on the trunk generally occurs in most patients, with different degrees of severity. Medical researchers have investigated whether certain approaches (e.g., T3 sympathectomy vs T4 sympathectomy) result in less compensatory sweating, but there remains a lack of consensus about which approach best minimizes the risk of this adverse effect. In addition, with lumbar sympathectomy for plantar hyperhidrosis, there has been concern about the risk of postoperative sexual dysfunction in both men and women.

Outcome Measures

Outcomes from different surgical and medical treatment modalities are best assessed using a combination of tools. Quantitative tools include gravimetry, evaporimetry, and the Minor starch iodine test. Qualitative assessment tools include general health surveys and hyperhidrosis-specific surveys. Of these, the Hyperhidrosis Disease Severity Scale (see Table PG2) has had good correlation to other assessment tools and is practical in the clinical setting.

REGULATORY STATUS

Drysol™ (Person and Covey), an aluminum chloride (hexahydrate) 20% topical solution, was approved by the U.S. Food and Drug Administration (FDA) as an aid in the management of hyperhidrosis (axillae, palmar, plantar, craniofacial); it is available by prescription. Additional topical medicines approved by the FDA include Hypercare Topical and Xerac AC.

In 2011, the miraDry® System (Miramar Labs) was cleared for marketing by FDA through the 510(k) process for treating primary axillary hyperhidrosis. This microwave device is designed to heat tissue at the dermal-hypodermal interface, the location of the sweat glands. Treatment consists of 2 sessions for a total duration of approximately 1 hour. Sessions occur in a physician's office, and a local anesthetic is used. The device is currently not approved for the treatment of palmar or plantar hyperhidrosis.

IV. RATIONALE

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Summary of Evidence

PRIMARY FOCAL HYPERHIDROSIS

Iontophoresis

For individuals who have primary focal hyperhidrosis (i.e., axillary, palmar, plantar, craniofacial) who receive iontophoresis, the evidence includes a systematic review, a randomized controlled trial (RCT), and case series. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. The RCT found that iontophoresis was less effective than botulinum toxin in the short-term treatment of palmar hyperhidrosis. Additional RCTs are needed comparing iontophoresis with sham or active treatment in patients with various types of primary focal hyperhidrosis. For axillary, palmar and plantar hyperhidrosis, the evidence is sufficient to determine the effects of the technology on health outcomes.

Microwave

For individuals who have primary focal hyperhidrosis (i.e., axillary, palmar, plantar, craniofacial) who receive microwave treatment, the evidence includes a systematic review, an RCT, and case series. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. The RCT, conducted in patients with primary axillary hyperhidrosis, found a short-term benefit of microwave treatment vs sham therapy, but there was a high rate of skin-related adverse events. However, these adverse events did resolve completely overtime.

In a systematic review, Hsu and colleagues (2017) evaluated the literature on the use of the microwave-based device for subdermal thermolysis of the axilla and its effectiveness for the treatment of axillary hyperhidrosis. They performed the review using PubMed, Embase, SCOPUS, and Cochrane databases on June 2, 2016. These investigators reviewed 5 clinical trials and 189 patients, all of which were published between 2012 and 2016. There was 1 randomized controlled trial (RCT), 1 retrospective study, and the remainder were prospective studies. Although all of the studies were conducted with a small sample size, the results indicated that microwave-based device treatment of axillary hyperhidrosis had long-term effectiveness with mild AEs. In addition, most patients were satisfied with the outcomes in these studies. The authors concluded that microwave-based device treatment may be an effective alternative treatment for axillary hyperhidrosis; however, further investigation is needed to ascertain its long-term safety and effectiveness. The evidence is insufficient to determine the effects of the technology on health outcomes.

Radiofrequency Ablation

For individuals who have primary focal hyperhidrosis (i.e., axillary, palmar, plantar, craniofacial) who receive radiofrequency ablation, the evidence includes 2 small RCTs and a nonrandomized cohort study. One nonrandomized comparative study found RFA inferior to surgical sympathectomy for patients with severe bilateral palmar hyperhidrosis resistant to conservative treatment. Two small RCTs that compared RFA to botulinum toxin A in patients with palmar or axillary hyperhidrosis had conflicting results. The evidence is insufficient to determine the effects of the technology on health outcomes.

Surgery

For individuals who have primary axillary hyperhidrosis who receive surgical excision of axillary sweat glands, the evidence includes review articles. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. The evidence has shown that excision is highly effective,

and this treatment is considered standard of care for this indication. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have primary axillary and palmar hyperhidrosis who receive endoscopic transthoracic sympathectomy, the evidence includes several RCTs, a meta-analysis, and case series. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. The meta-analysis found a high rate of clinical efficacy after endoscopic transthoracic sympathectomy, although the rate of postoperative compensatory sweating was substantial. Subsequent studies have supported these findings. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have primary plantar hyperhidrosis who receive lumbar sympathectomy, the evidence includes one RCT conducted at a single center in Brazil, case series, and a systematic review. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. Case series have reported high rates of clinical efficacy, but findings are inconclusive due to lack of control groups. The RCT was limited by its small sample size and lack of blinded outcome assessment. Moreover, there have been substantial rates of compensatory sweating and concerns about adverse events on sexual functioning. The evidence is insufficient to determine the effects of the technology on health outcomes.

Secondary Gustatory Hyperhidrosis

For individuals who have severe secondary gustatory hyperhidrosis who receive iontophoresis or botulinum toxin, the evidence includes uncontrolled studies and systematic reviews. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. The systematic reviews did not identify any relevant RCTs. RCTs are needed to evaluate the safety and efficacy of these treatments for severe secondary gustatory hyperhidrosis. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have severe secondary gustatory hyperhidrosis who receive tympanic neurectomy, the evidence includes uncontrolled studies and systematic reviews. Relevant outcomes are symptoms, quality of life, and treatment-related morbidity. This treatment has high success rates, without the need for repeated interventions, and is considered standard of care for this indication. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

V. DEFINITIONS

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ACROCYANOSIS is a blue or purple mottled discoloration of the extremities, especially the fingers, toes and/or nose.

BASIC ACTIVITIES OF DAILY LIVING include and are limited to walking in the home, eating, bathing, dressing, and homemaking

BOTOX® is a therapeutic muscle-relaxing agent that works at motor nerve endings (nerves that lead to muscles). It belongs to a class of drugs called neurotoxins.

CERVICAL DYSTONIA IS a movement disorder (nervous system disease) characterized by sustained muscle contractions. This results in involuntary, abnormal, squeezing and twisting

muscle contractions in the head and neck region. These muscle contractions result in sustained abnormal positions or posturing. Sideways or lateral rotation of the head and twisting of the neck is the most common finding in cervical dystonia. Muscle hypertrophy occurs in most patients.

DYSTONIA is a series of involuntary prolonged muscle contractions, often distorting body posture. Dystonia may be primary (idiopathic) or secondary to degenerative or metabolic central nervous system disorders (e.g., Wilson's disease, various lipidoses, multiple sclerosis, cerebral palsy, stroke, brain hypoxia) or drugs (most often phenothaizines, thioxanthenes, butyrophenones, and antiemetics).

FUNCTIONAL IMPAIRMENT A condition that describes a state where an individual is limited in the performance of basic activities of daily living**.**

GUSTATORY pertains to taste**.**

IONTOPHORESIS is a technique that involves the use of an electric current to introduce various ions through the skin. The mechanism of action is not precisely known, but it is thought to be related to plugging of the sweat glands.

MACERATION is the process of softening a solid by steeping in a fluid.

PRIMARY FOCAL HYPERHIDROSIS is a condition that is characterized by visible, excessive sweating of a least 6 months' duration without apparent cause and with at least 2 of the following features: bilateral and relatively symmetric sweating, impairment of daily activities, frequency of a least once per week, age at onset younger than 25 years, positive family history, and cessation of focal sweating during sleep.

VI. DISCLAIMER

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Capital Blue Cross' medical policies are used to determine coverage for specific medical technologies, procedures, equipment, and services. These medical policies do not constitute medical advice and are subject to change as required by law or applicable clinical evidence from independent treatment guidelines. Treating providers are solely responsible for medical advice and treatment of members. These polices are not a guarantee of coverage or payment. Payment of claims is subject to a determination regarding the member's benefit program and eligibility on the date of service, and a determination that the services are medically necessary and appropriate. Final processing of a claim is based upon the terms of contract that applies to the members' benefit program, including benefit limitations and exclusions. If a provider or a member has a question concerning this medical policy, please contact Capital Blue Cross' Provider Services or Member Services.

VII. CODING INFORMATION

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This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Investigational; therefore, not covered:

Procedure Codes								
15877	15878	97024						

Covered when medically necessary:

Procedure Codes								
11450	11451	32664	69676	97033				

Covered when medically necessary:

ICD-10-CM Diagnosis Code	Description
L74.510	Primary focal hyperhidrosis, axilla
L74.511	Primary focal hyperhidrosis, face
L74.512	Primary focal hyperhidrosis, palms
L74.513	Primary focal hyperhidrosis, soles
L74.519	Primary focal hyperhidrosis, unspecified
L74.52	Secondary focal hyperhidrosis
R61	Generalized hyperhidrosis

VIII. REFERENCES

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1. *Wade R, Rice S, Llewellyn A, et al. Interventions for hyperhidrosis in secondary care: a systematic review and value-of-information analysis. Health Technol Assess. Dec 2017;21(80):1-280. PMID 29271741*
2. *Rajagopal R, Mallya NB. Comparative evaluation of botulinum toxin versus iontophoresis with topical aluminium chloride hexahydrate in treatment of palmar hyperhidrosis. Med J Armed Forces India. Jul 2014;70(3):247-252. PMID 25378778*
3. *Solish N, Bertucci V, Dansereau A, et al. A comprehensive approach to the recognition, diagnosis, and severity-based treatment of focal hyperhidrosis: recommendations of the Canadian Hyperhidrosis Advisory Committee. Dermatol Surg. Aug 2007;33(8):908-923. PMID 17661933*
4. *Dogruk Kacar S, Ozuguz P, Eroglu S, et al. Treatment of primary hyperhidrosis with tap water iontophoresis in paediatric patients: a retrospective analysis. Cutan Ocul Toxicol. Dec 2014;33(4):313-316. PMID 24405389*
5. *McAleer MA, Collins P. A study investigating patients' experience of hospital and home iontophoresis for hyperhidrosis. J Dermatolog Treat. Aug 2014;25(4):342-344. PMID 23356798*
6. *Mirkovic SE, Rystedt A, Balling M, et al. Hyperhidrosis substantially reduces quality of life in children: a retrospective study describing symptoms, consequences and treatment with botulinum toxin. Acta Derm Venereol. Jan 12 2018;98(1):103-107. PMID 28761964*

7. *Lowe NJ, Glaser DA, Eadie N, et al. Botulinum toxin type A in the treatment of primary axillary hyperhidrosis: a 52-week multicenter double-blind, randomized, placebo-controlled study of efficacy and safety. J Am Acad Dermatol. Apr 2007;56(4):604-611. PMID 17306417*
8. *Baumann L, Slezinger A, Halem M, et al. Double-blind, randomized, placebo-controlled pilot study of the safety and efficacy of Myobloc (botulinum toxin type B) for the treatment of palmar hyperhidrosis. Dermatol Surg. Mar 2005;31(3):263-270. PMID 15841624*
9. *Baumann L, Slezinger A, Halem M, et al. Pilot study of the safety and efficacy of Myobloc (botulinum toxin type B) for treatment of axillary hyperhidrosis. Int J Dermatol. May 2005;44(5):418-424. PMID 15869543*
10. *Naumann MK, Hamm H, Lowe NJ, et al. Effect of botulinum toxin type A on quality of life measures in patients with excessive axillary sweating: a randomized controlled trial. Br J Dermatol. Dec 2002;147(6):1218-1226. PMID 12452874*
11. *Heckmann M, Ceballos-Baumann AO, Plewig G, et al. Botulinum toxin A for axillary hyperhidrosis (excessive sweating). N Engl J Med. Feb 15 2001;344(7):488-493. PMID 11172190*
12. *Dressler D. Comparing Botox and Xeomin for axillar hyperhidrosis. J Neural Transm (Vienna). Mar 2010;117(3):317-319. PMID 20143241*
13. *Talarico-Filho S, Mendonca DO, Nascimento M, et al. A double-blind, randomized, comparative study of two type A botulinum toxins in the treatment of primary axillary hyperhidrosis. Dermatol Surg. Jan 2007;33(1 Spec No.):S44-50. PMID 17241414*
14. *Frasson E, Brigo F, Acler M, et al. Botulinum toxin type A vs type B for axillary hyperhidrosis in a case series of patients observed for 6 months. Arch Dermatol. Jan 2011;147(1):122-123. PMID 21242408*
16. *An JS, Hyun Won C, Si Han J, et al. Comparison of onabotulinumtoxinA and rimabotulinumtoxinB for the treatment of axillary hyperhidrosis. Dermatol Surg. Aug 2015;41(8):960-967. PMID 26218729*
17. *Lowe NJ, Yamauchi PS, Lask GP, et al. Efficacy and safety of botulinum toxin type a in the treatment of palmar hyperhidrosis: a double-blind, randomized, placebo-controlled study. Dermatol Surg. Sep 2002;28(9):822-827. PMID 12269876*
18. *Saadia D, Voustianiouk A, Wang AK, et al. Botulinum toxin type A in primary palmar hyperhidrosis: randomized, single-blind, two-dose study. Neurology. Dec 11 2001;57(11):2095-2099. PMID 11739832*
19. *Campanati A, Giuliodori K, Martina E, et al. Onabotulinumtoxin type A (Botox((R))) versus Incobotulinumtoxin type A (Xeomin((R))) in the treatment of focal idiopathic palmar hyperhidrosis: results of a comparative double-blind clinical trial. J Neural Transm. Jan 2014;121(1):21-26. PMID 24052109*
20. *Hsu TH, Chen YT, Tu YK, et al. A systematic review of microwave-based therapy for axillary hyperhidrosis. J Cosmet Laser Ther. Oct 2017;19(5):275-282. PMID 28281850*
21. *Glaser DA, Coleman WP, 3rd, Fan LK, et al. A randomized, blinded clinical evaluation of a novel microwave device for treating axillary hyperhidrosis: the dermatologic reduction in underarm perspiration study. Dermatol Surg. Feb 2012;38(2):185-191. PMID 22289389*

22. *Hong HC, Lupin M, O'Shaughnessy KF. Clinical evaluation of a microwave device for treating axillary hyperhidrosis. Dermatol Surg. May 2012;38(5):728-735. PMID 22452511*
23. *Purtuloglu T, Atim A, Deniz S, et al. Effect of radiofrequency ablation and comparison with surgical sympathectomy in palmar hyperhidrosis. Eur J Cardiothorac Surg. Jun 2013;43(6):e151-154. PMID 23428574*
24. *Hafner J, Beer GM. Axillary sweat gland excision. Curr Probl Dermatol. Dec 2002;30:57-63. PMID 12471699*
25. *Deng B, Tan QY, Jiang YG, et al. Optimization of sympathectomy to treat palmar hyperhidrosis: the systematic review and meta-analysis of studies published during the past decade. Surg Endosc. Jun 2011;25(6):1893-1901. PMID 21136103*
26. *Baumgartner FJ, Reyes M, Sarkisyan GG, et al. Thoracoscopic sympathicotomy for disabling palmar hyperhidrosis: a prospective randomized comparison between two levels. Ann Thorac Surg. Dec 2011;92(6):2015-2019. PMID 22115211*
27. *Yuncu G, Turk F, Ozturk G, et al. Comparison of only T3 and T3-T4 sympathectomy for axillary hyperhidrosis regarding treatment effect and compensatory sweating. Interact Cardiovasc Thorac Surg. Aug 2013;17(2):263-267. PMID 23644731*
28. *de Andrade Filho LO, Kuzniec S, Wolosker N, et al. Technical difficulties and complications of sympathectomy in the treatment of hyperhidrosis: an analysis of 1731 cases. Ann Vasc Surg. May 2013;27(4):447-453. PMID 23406790*
29. *Karamustafaoglu YA, Kuzucuoglu M, Yanik F, et al. 3-year follow-up after uniportal thoracoscopic sympathicotomy for hyperhidrosis: undesirable side effects. J Laparoendosc Adv Surg Tech A. Nov 2014;24(11):782-785. PMID 25376004*
30. *Smidfelt K, Drott C. Late results of endoscopic thoracic sympathectomy for hyperhidrosis and facial blushing. Br J Surg. Dec 2011;98(12):1719-1724. PMID 21928403*
31. *Wait SD, Killory BD, Lekovic GP, et al. Thoracoscopic sympathectomy for hyperhidrosis: analysis of 642 procedures with special attention to Horner's syndrome and compensatory hyperhidrosis. Neurosurgery. Sep 2010;67(3):652-656; discussion 656-657. PMID 20647968*
32. *Lembranca L, Wolosker N, de Campos JRM, et al. Videothoracoscopic sympathectomy results after oxybutynin chloride treatment failure. Ann Vasc Surg. Aug 2017;43:283-287. PMID 28478174*
33. *de Campos JRM, Lembranca L, Fukuda JM, et al. Evaluation of patients who underwent resympathectomy for treatment of primary hyperhidrosis. Interact Cardiovasc Thorac Surg. Nov 1 2017;25(5):716-719. PMID 29049566*
34. *Fukuda JM, Varella AYM, Teivelis MP, et al. Video-Assisted thoracoscopic sympathectomy for facial hyperhidrosis: the influence of the main site of complaint. Ann Vasc Surg. Jan 2018;46:337-344. PMID 28689957*
35. *Rieger R, Pedevilla S, Pochlauer S. Endoscopic lumbar sympathectomy for plantar hyperhidrosis. Br J Surg. Dec 2009;96(12):1422-1428. PMID 19918855*
36. *Reisfeld R. Endoscopic lumbar sympathectomy for focal plantar hyperhidrosis using the clamping method. Surg Laparosc Endosc Percutan Tech. Aug 2010;20(4):231-236. PMID 20729691*

37. *Hornberger J, Grimes K, Naumann M, et al. Recognition, diagnosis, and treatment of primary focal hyperhidrosis. J Am Acad Dermatol. Aug 2004;51(2):274-286. PMID 15280848*
38. *Li C, Wu F, Zhang Q, et al. Interventions for the treatment of Frey's syndrome. Cochrane Database Syst Rev. Mar 17 2015;3(3):CD009959. PMID 25781421*
39. *Clayman MA, Clayman SM, Seagle MB. A review of the surgical and medical treatment of Frey syndrome. Ann Plast Surg. Nov 2006;57(5):581-584. PMID 17060744*
40. *de Bree R, van der Waal I, Leemans CR. Management of Frey syndrome. Head Neck. Aug 2007;29(8):773-778. PMID 17230557*
41. *Cerfolio RJ, De Campos JR, Bryant AS, et al. The Society of Thoracic Surgeons expert consensus for the surgical treatment of hyperhidrosis. Ann Thorac Surg. May 2011;91(5):1642-1648. PMID 21524489*
42. *Naumann M, So Y, Argoff CE, et al. Assessment: Botulinum neurotoxin 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. May 6 2008;70(19):1707-1714. PMID 18458231*
43. *Naumann M, Dressler D, Hallett M, et al. Evidence-based review and assessment of botulinum neurotoxin for the treatment of secretory disorders. Toxicon. Jun 1 2013;67:141-152. PMID 23178324*
44. *National Institute of Health and Care Excellence (NICE). Endoscopic thoracic sympathectomy for primary facial blushing [IPG480]. 2014*
45. *National Institute of Health and Care Excellence (NICE). Endoscopic throacic sympathectomy for primary hyperhidrosis of the upper limb [IPG487]. 2014*
46. *Pariser DM, Ballard A. Iontophoresis for palmar and plantar hyperhidrosis. Dermatol Clin. 2014 Oct;32(4):491-4. PMID: 25152342*
47. *McConaghy JR, Fosselman D. Hyperhidrosis: Management Options. Am Fam Physician. 2018 Jun 1;97(11):729-734. PMID: 30215934*
48. *Smith C, Dellavalle R et al. Primary focal hyperhidrosis. In: UpToDate, Post TW (Ed), UpToDate, Waltham, MA. Updated May 13, 2024. Literature review through Nov. 2024.*
49. *Vasconcelos-Castro S, Soares-Oliveira M, Tuna T, et al. Thoracoscopic sympathotomy for palmar hyperhidrosis: How young is too young?. J Pediatr Surg. Dec 11 2019. PMID 31870560*
50. *Lima SO, Santos RS, Moura AMM, et al. A systematic review and meta-analysis to evaluate the efficacy of lumbar sympathectomy for plantar hyperhidrosis. Int J Dermatol. Aug 2019; 58(8): 982-986. PMID 31099425*
51. *Sánchez-Carpintero I, Martín-Gorgojo A, Ruiz-Rodríguez R. Microwave Treatment for Axillary Hyperhidrosis and Bromhidrosis. Tratamiento con microondas en la hiperhidrosis y bromhidrosis axilar. Actas Dermosifiliogr. 2017;108(5):418-422. doi:10.1016/j.ad.2016.12.011*
52. *National Institute of Health and Care Excellence (NICE). Transcutaneous microwave ablation for severe praimary axillary hyperhidrosis [IPG601]. 2017*
53. *Grove GL, Togsverd-Bo K, Schwensen JFB, et al. Impact of microwave thermolysis energy levels on patient-reported outcomes for axillary hyperhidrosis and*

osmidrosis. Lasers Surg Med. 2023;55(1):105-115. doi:10.1002/lsm.23610 PMID 36229952

54. *Abbasi M, Heath B. Iontophoresis and electroporation-assisted microneedles: advancements and therapeutic potentials in transdermal drug delivery. Drug Deliv Transl Res. Published online October 21, 2024. doi:10.1007/s13346-024-01722-7*

IX. POLICY HISTORY

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MP 2.005	**02/11/2020 Consensus Review.** Policy statements unchanged.
	04/06/2021 Minor Review. Iontophoresis changed to medically necessary for axillary, palmar and plantar hyperhidrosis. Background, Rationale, References and coding updated.
	07/19/2022 Consensus Review. Title changes to Other Therapies of Hyperhidrosis (formerly Non-Pharmacological Treatments of Hyperhidrosis) Formatting changes to policy and PG1. Updates to policy guidelines, and rationale. Coding and literature review. Updated references.
	08/31/2023 Consensus Review. Reformatted policy stance and policy guidelines. Intent unchanged. Literature and coding review. Updated references.
	01/19/2024 Administrative Update. Clinical benefit added.
	12/02/2024 Consensus Review. No change to intent. Updated references.
	06/18/2025 Consensus Review. No change to intent. Updated references.
	09/04/2025 Administrative Update. Removed Benefit Variations Section and updated Disclaimer.

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