

Clinical Policy: Posterior Tibial Nerve Stimulation for Voiding Dysfunction

Reference Number: PA.CP.MP.133

Effective Date: 01/18

Date of Last Review: 07/26/2022

[Coding Implications](#)

[Revision Log](#)

Description

Posterior tibial nerve stimulation (PTNS), also known as peripheral tibial nerve stimulation, is a minimally invasive form of electrical neuromodulation used to treat overactive bladder (OAB) syndrome and associated symptoms of urinary urgency, urinary frequency, and urge urinary incontinence. This policy describes the medical necessity requirements for posterior tibial nerve stimulation.

Policy/Criteria

- I. It is the policy of Pennsylvania Health and Wellness[®] (PHW) that PTNS is **medically necessary** for the treatment of moderate to severe urinary dysfunction and OAB symptoms when all of the following criteria are met:
 - A. Urinary dysfunction has persisted for at least 12 months and the condition has resulted in significant disability (i.e., the urinary urgency, frequency, and/or severity of symptoms are limiting the member's/enrollee's ability to participate in activities of daily living); and
 - B. There has been a failure of, contraindications to, or intolerance to conservative medical management (e.g. pharmacotherapy with oral anti-muscarinics or β 3-adrenoceptor agonists and/or antibiotics for urinary tract infections); and
 - C. Service is provided in accordance with the standard treatment regimen of 30-minute weekly sessions for 12 weeks.
- II. It is the policy of PHW that once a month maintenance treatments with PTNS are **medically necessary** for patients who experience significant improvement in their OAB symptoms after the 12 initial treatments. Treatment frequency may vary depending on return of symptoms.
- III. It is the policy of PHW that PTNS beyond 12 months or when there is no improvement in urinary dysfunction.
- IV. It is the policy of PHW that that implantable tibial nerve stimulation for the treatment of urinary voiding dysfunction.

Background

The term "voiding dysfunction" has been used to refer to urinary incontinence, urinary retention, and symptoms of frequency and urgency. OAB is a specific type of voiding dysfunction that includes any of the following symptoms: urinary frequency, urinary urgency, urge incontinence, and nocturia. OAB can significantly impact quality of life; including physical function, sexual function, and social interactions. Treatments for OAB include lifestyle changes, bladder training, pelvic floor muscle training and anticholinergic (anti-muscarinic) drugs.

PTNS involves indirect modulation of the specific nerve that controls bladder function (i.e., the sacral nerve plexus) via stimulation of the posterior tibial nerve accessed just above the ankle.

CLINICAL POLICY

Posterior Tibial Nerve Stimulation for Voiding Dysfunction

This minimally invasive form of neuromodulation consists of insertion of a 34-gauge needle electrode approximately 5 centimeters (cm) cephalad to the medial malleolus and 2 cm posterior to the tibia near the tibial nerve. A surface electrode is placed on the medial aspect of the foot. The needle electrode is connected via a lead wire to a low-voltage electrical stimulator. Stimulation is administered at a current level of 0.5 to 9 milliamperes (mA) at 20 hertz (Hz) and continues for 30 minutes. Initial treatment regimens typically consist of 12 weekly sessions, with responders exhibiting some symptom improvement after 6 to 8 sessions. Maintenance treatment sessions may be required to sustain the response to treatment.¹

A battery-less, leadless, miniature, implantable tibial nerve neuromodulation system is currently under investigation for the management of OAB, however, it has not received FDA approval in the U.S at this time

National Institute for Health and Care Excellence

Current evidence on PTNS for OAB syndrome shows that it is efficacious in reducing symptoms in the short and medium term. There are no major safety concerns, therefore the procedure may be used provided that normal arrangements are in place for clinical governance, consent and audit.²

A NICE guidance on urinary incontinence in women does not recommend the “routine” use of PTNS to treat OAB. Rather, they recommend PTNS for OAB for following:

- There has been a multidisciplinary team (MDT) review, and
- Conservative management including OAB drug treatment has not worked adequately, and
- The woman does not want botulinum toxin A or percutaneous sacral nerve stimulation.¹³

American Urological Association

Clinicians may offer PTNS as third-line treatment in a carefully selected patient population, characterized by moderately severe baseline incontinence and frequency and willingness to comply with the PTNS protocol. Patients must also have the resources to make frequent office visits both during the initial treatment phase and to obtain maintenance treatments in order to achieve and maintain treatment effects because treatment effects dissipate once treatment ceases. The most common protocol is the application of 30 min of stimulation once a week for 12 weeks (the trial duration; for continued benefit, weekly stimulation would have to continue).³

Studies to date evaluating PTNS for the treatment of OAB conclude there is evidence of benefit, although most studies have been small and report short-term outcomes after 12 weeks of treatment. A small study of 33 PTNS responders who continued therapy for 6-12 months reported excellent durability through 12 months.⁴ Another small study reported sustained safety and efficacy of PTNS for the treatment of OAB symptom control over 24 months with initial success after 12 weekly treatments, followed by a 14-week prescribed tapering protocol and a personalized treatment plan with an average of 1.3 treatments per month.⁵

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2020, American Medical Association. All rights reserved. CPT codes and CPT descriptions are

CLINICAL POLICY

Posterior Tibial Nerve Stimulation for Voiding Dysfunction

from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT codes that support medical necessity

CPT® Codes	Description
64566	Posterior tibial neurostimulation, percutaneous needle electrode, single treatment, includes programming

CPT codes that do not support medical necessity

CPT® Codes	Description
0587T	Percutaneous implantation or replacement of integrated single device neurostimulation system including electrode array and receiver or pulse generator, including analysis, programming and imaging guidance when performed, posterior tibial nerve
0588T	Revision or removal of integrated single device neurostimulation system including electrode array and receiver or pulse generator, including analysis, programming, and imaging guidance when performed, posterior tibial nerve
0589T	Electronic analysis with simple programming of implanted integrated neurostimulation system (eg, electrode array and receiver), including contact group(s), amplitude, pulse width, frequency (Hz), on/off cycling, burst, dose lockout, patient-selectable parameters, responsive neurostimulation, detection algorithms, closed-loop parameters, and passive parameters, when performed by physician or other qualified health care professional, posterior tibial nerve, 1-3 parameters
0590T	Electronic analysis with complex programming of implanted integrated neurostimulation system (eg, electrode array and receiver), including contact group(s), amplitude, pulse width, frequency (Hz), on/off cycling, burst, dose lockout, patient-selectable parameters, responsive neurostimulation, detection algorithms, closed-loop parameters, and passive parameters, when performed by physician or other qualified health care professional, posterior tibial nerve, 4 or more parameters

HCPCS Codes	Description
N/A	

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
N32.81	Overactive Bladder
N39.41	Urge incontinence
N39.45	Continuous leakage
N39.46	Mixed incontinence
R32	Unspecified urinary incontinence

Posterior Tibial Nerve Stimulation for Voiding Dysfunction

ICD-10-CM Code	Description
R35.0-R35.8	Polyuria
R39.15	Urgency of urination
R39.81	Functional urinary incontinence

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Background updated. References reviewed and updated.	09/18	
Revised I.B, examples of pharmacotherapy, to include oral anti-muscarinics or β 3-adrenoceptor agonists. References reviewed and updated. Specialist review.	12/19	
Added to the policy criteria that implantable tibial nerve stimulation is investigational. Added the following CPT codes as investigational: 0587T, 0588T, 0589T and 0590T References reviewed and updated. Specialist review.	06/2021	
Annual review. Replaced “investigational” language with “insufficient evidence to support.” References reviewed, reformatted and updated. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” Replaced member with member/enrollee. Specialist review.	07/26/2022	

References

1. National Institute for Health and Care Excellence (NICE). Percutaneous posterior tibial nerve stimulation for overactive bladder syndrome, interventional procedures guidance [IPG362] Accessed at: <https://www.nice.org.uk/guidance/ipg362>. Published October 2010. Accessed August 4, 2021.
2. Lightner DJ, Gomelsky A, Souter L, Vasavada SP. Diagnosis and Treatment of Overactive Bladder (Non-Neurogenic) in Adults: AUA/SUFU Guideline Amendment 2019. *J Urol*. 2019;202(3):558-563. doi:10.1097/JU.0000000000000309
3. MacDiarmid SA, Peters KM, Shobeiri SA, et al. Long-term durability of percutaneous tibial nerve stimulation for the treatment of overactive bladder. *J Urol*. 2010;183(1):234-240. doi:10.1016/j.juro.2009.08.160
4. Peters KM, Carrico DJ, MacDiarmid SA, et al. Sustained therapeutic effects of percutaneous tibial nerve stimulation: 24-month results of the STEP Study. *Neurourol Urodyn* 2013;32(1):24-29. doi:10.1002/nau.22266
5. Blue Cross Blue Shield; Kaiser Foundation Health Plan; Southern California Permanente Medical Group. Percutaneous tibial nerve stimulation for the treatment of voiding dysfunction. Technol Eval Cent Assess Program Exec Summ. 2014;28(10):1-12.
6. Gaziev G, Topazio L, Iacovelli V, et al. Percutaneous Tibial Nerve Stimulation (PTNS) efficacy in the treatment of lower urinary tract dysfunctions: a systematic review. *BMC Urol*. 2013;13:61. Published 2013 Nov 25. doi:10.1186/1471-2490-13-61
7. van der Pal F, van Balken MR, Heesakkers JP, Debruyne FM, Kiemeneys LA, Bemelmans BL. Correlation between quality of life and voiding variables in patients treated with percutaneous tibial nerve stimulation. *BJU Int*. 2006;97(1):113-116. doi:10.1111/j.1464-410X.2006.05860.x

Posterior Tibial Nerve Stimulation for Voiding Dysfunction

8. Peters KM, Macdiarmid SA, Wooldridge LS, et al. Randomized trial of percutaneous tibial nerve stimulation versus extended-release tolterodine: results from the overactive bladder innovative therapy trial. *J Urol.* 2009;182(3):1055-1061. doi:10.1016/j.juro.2009.05.045
9. Ammi M, Chautard D, Brassart E, Culty T, Azzouzi AR, Bigot P. Transcutaneous posterior tibial nerve stimulation: evaluation of a therapeutic option in the management of anticholinergic refractory overactive bladder. *Int Urogynecol J.* 2014;25(8):1065-1069. doi:10.1007/s00192-014-2359-012cchioli-Scaldazza C, Morosetti C, Berouz A, Giannubilo W, Ferrara V. Solifenacin succinate versus percutaneous tibial nerve stimulation in women with overactive bladder syndrome: results of a randomized controlled crossover study. *Gynecol Obstet Invest.* 2013;75(4):230-234. doi:10.1159/000350216
10. Yoong W, Shah P, Dadswell R, Green L. Sustained effectiveness of percutaneous tibial nerve stimulation for overactive bladder syndrome: 2-year follow-up of positive responders. *Int Urogynecol J.* 2013;24(5):795-799. doi:10.1007/s00192-012-1936-3
11. National Institute for Health and Care Excellence (NICE). Urinary incontinence and pelvic organ prolapse in women: management. NICE guideline [NG123] Accessed: <https://www.nice.org.uk/guidance/ng123> Published April 2, 2021. Accessed August 4, 2021.
12. Johnson TM. Nocturia: Clinical presentation, evaluation, and management in adults. UpToDate. www.uptodate.com. Published January 12, 2021. Accessed August 4, 2021.
13. Lukacz ES. Urgency urinary incontinence/overactive bladder (OAB) in females: Treatment. UpToDate. www.uptodate.com. Published May 18, 2021. Accessed August 4, 2021.
14. van Breda HMK, Martens FMJ, Tromp J, Heesakkers JPFA. A New Implanted Posterior Tibial Nerve Stimulator for the Treatment of Overactive Bladder Syndrome: 3-Month Results of a Novel Therapy at a Single Center. *J Urol.* 2017;198(1):205-210. doi:10.1016/j.juro.2017.01.078
15. Del Río-Gonzalez S, Aragon IM, Castillo E, et al. Percutaneous Tibial Nerve Stimulation Therapy for Overactive Bladder Syndrome: Clinical Effectiveness, Urodynamic, and Durability Evaluation. *Urology.* 2017;108:52-58. doi:10.1016/j.urology.2017.04.059
16. Health Technology Assessment: Percutaneous Tibial nerve stimulation for the treatment of symptomatic neurogenic lower urinary tract dysfunction. Hayes. www.hayesinc.com. Published April 15, 2019. (annual review July 31, 2020) Accessed August 4, 2021.
17. Comparative effectiveness review of percutaneous tibial nerve stimulation for the treatment of symptomatic non-neurogenic overactive bladder. Hayes. www.hayesinc.com. Published October 31, 2018. (annual review March 11, 2021) Accessed August 4, 2021.
18. Yamashiro J, de Riese W, de Riese, C. New Implantable Tibial Nerve Stimulation Devices: Review of Published Clinical Results in Comparison to Established Neuromodulation