

Tibial Nerve Stimulation

Medicare Advantage Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

Applies to all products administered or underwritten by the Health Plan, unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

Blue Advantage does not cover investigational or experimental services, including any drug, device, procedure, or service provided under the investigational arm of a clinical trial or study unless mandated by the Centers for Medicare and Medicaid Services. Coverage is limited to routine services for Category A IDE studies and to devices and related services for Category B IDE studies when not supplied by the trial sponsor. Approved IDE studies are posted on www.cms.gov/medicare/coverage/evidence.

Note: Injectable Bulking Agents for the Treatment of Urinary and Fecal Incontinence is addressed separately in medical policy MA-122.

Note: Percutaneous Electrical Nerve Stimulation (PENS) and Percutaneous Neuromodulation Therapy (PNT) is addressed separately in medical policy MA-139.

When Services May Be Eligible for Coverage

Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Based on review of available data, the Health Plan may consider initial percutaneous tibial nerve stimulation (PTNS) to be **eligible for coverage**** when **ALL** of the criteria are met:

- Request is for initial 12-week course; **AND**
- For individuals with non-neurogenic urinary dysfunction including overactive bladder (OAB); **AND**
- Symptoms have been present for at least 3 months; **AND**
- Failed behavioral therapy following an appropriate duration of 8 to 12 weeks without meeting treatment goals; **AND**
- Failed pharmacologic therapy, e.g., oral anti-muscarinics and/or transdermal oxybutynin, following 4 to 8 weeks of treatment without meeting treatment goals.

Based on review of available data, the Health Plan may consider maintenance percutaneous tibial nerve stimulation (PTNS) to be **eligible for coverage**** when **BOTH** criteria are met:

- Request is for maintenance monthly PTNS; **AND**
- Initial 12-week course of PTNS resulted in improved urinary dysfunction meeting treatment goals.

When Services Are Considered Investigational

Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.

Based on review of available data, the Health Plan considers percutaneous tibial nerve stimulation (PTNS) for all other indications, to be **investigational***, including but not limited to the following:

- Neurogenic bladder dysfunction;
- Fecal incontinence.

Based on review of available data, the Health Plan considers implantable tibial nerve stimulation delivered by an implantable peripheral neurostimulator system (e.g., eCoin[®], Altaviva[™])[‡] for all indications, including individuals with non-neurogenic urinary dysfunction and overactive bladder to be **investigational.***

Based on review of available data, the Health Plan considers transcutaneous tibial nerve stimulation (e.g., Vivaly System) for individuals with bladder conditions of urge urinary incontinence and urinary urgency to be **investigational.***

The use of percutaneous tibial nerve stimulation (PTNS) when criteria are not met is considered to be **investigational.***

Policy Guidelines

Individuals may be considered to have failed behavioral therapies following an appropriate duration of 8 to 12 weeks without meeting treatment goals.

Individuals may be considered to have failed pharmacologic therapies following 4 to 8 weeks of treatment without meeting treatment goals.

Annual evaluation by a physician may be performed to ensure efficacy is continuing for maintenance percutaneous tibial nerve stimulation treatments.

Background/Overview

Voiding Dysfunction

Common causes of non-neurogenic voiding dysfunction are pelvic floor neuromuscular changes (eg, from pregnancy, childbirth, surgery), inflammation, medication (eg, diuretics, anticholinergics), obesity, and psychogenic factors. Overactive bladder is a non-neurogenic voiding dysfunction characterized by urinary frequency, urgency, urge incontinence, and nonobstructive retention.

Neurogenic bladder dysfunction is caused by neurologic damage in patients with multiple sclerosis, spinal cord injury, detrusor hyperreflexia, or diabetes with peripheral nerve involvement. The symptoms include overflow incontinence, frequency, urgency, urge incontinence, and retention.

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

Treatment

Approaches to the treatment of incontinence differentiate between urge incontinence and stress incontinence. Conservative behavioral management such as lifestyle modification (eg, dietary changes, weight reduction, fluid management, smoking cessation) along with pelvic floor exercises and bladder training are part of the initial treatment of overactive bladder symptoms and both types of incontinence. Pharmacotherapy is another option, and different medications target different symptoms. Some individuals experience mixed incontinence.

If behavioral therapies and pharmacotherapy are unsuccessful, percutaneous tibial nerve stimulation (PTNS), sacral nerve stimulation, or botulinum toxin may be recommended.

Percutaneous Tibial Nerve Stimulation

The current indication cleared by the U.S. Food and Drug Administration (FDA) for PTNS is overactive bladder and associated symptoms of urinary frequency, urinary urgency, and urge incontinence.

Altering the function of the posterior tibial nerve with PTNS is believed to improve voiding function and control. The mechanism of action is believed to be retrograde stimulation of the lumbosacral nerves (L4-S3) via the posterior tibial nerve located near the ankle. The lumbosacral nerves control the bladder detrusor and perineal floor.

Administration of PTNS consists of inserting a needle above the medial malleolus into the posterior tibial nerve followed by the application of low-voltage (10 mA, 1-10 Hz frequency) electrical stimulation that produces sensory and motor responses as evidenced by a tickling sensation and plantarflexion or fanning of all toes. Noninvasive PTNS has also been delivered with transcutaneous or surface electrodes. The recommended course of treatment is an initial series of 12 weekly office-based treatments followed by an individualized maintenance treatment schedule.

Percutaneous tibial nerve stimulation is less invasive than traditional sacral nerve neuromodulation (see medical policy 00108 Sacral Nerve Neuromodulation/Stimulation), which has been successfully used to treat urinary dysfunction but requires implantation of a permanent device. In sacral root neuromodulation, an implantable pulse generator that delivers controlled electrical impulses is attached to wire leads that connect to the sacral nerves, most commonly the S3 nerve root that modulates the neural pathways controlling bladder function.

Percutaneous tibial nerve stimulation has also been proposed as a treatment for non-neurogenic and neurogenic bladder syndromes and fecal incontinence.

Implantable Tibial Nerve Stimulation

Implantable tibial nerve stimulation (iTNS) encompasses a class of fully implantable peripheral neurostimulators designed to deliver automated electrical stimulation to the posterior tibial nerve for the treatment of urgency urinary incontinence associated with overactive bladder. Unlike

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

percutaneous tibial nerve stimulation, which requires repeated in-office needle electrode sessions, iTNS devices are surgically placed in the lower leg and deliver programmed stimulation without ongoing office-based treatments. The implant procedure is typically performed under local anesthesia. iTNS offers a less invasive alternative to sacral nerve neuromodulation, which requires implantation of a pulse generator and lead in the sacral region. Two FDA-approved iTNS devices are currently available. The eCoin Peripheral Neurostimulator System (Valencia Technologies) is a coin-sized leadless battery-powered subcutaneous implant that delivers stimulation on a fixed schedule programmed by the clinician. The Altaviva Implantable Tibial Neuromodulation System (Medtronic) is a rechargeable leadless device implanted over the fascia of the tibial nerve that delivers stimulation via an external cuff worn during treatment sessions. A third device, the INTIBIA system (Coloplast), is under investigation in a pivotal randomized trial (NCT05250908).

Transcutaneous Tibial Nerve Stimulation

The current indication approved by the FDA for transcutaneous tibial nerve stimulation (TTNS) (Vivally System; see Regulatory section) is for the treatment of individuals with the bladder conditions of urge urinary incontinence and urinary urgency. The device consists of a stimulator that is worn on the ankle and delivers electrical signals to the tibial nerve. This is typically an at-home treatment.

FDA or Other Governmental Regulatory Approval

U.S. Food and Drug Administration (FDA)

In 2005, the Urgent^{®‡} PC Neuromodulation System was the initial PTNS device cleared for marketing by the FDA through the 510(k) process to treat patients suffering from urinary urgency, urinary frequency, and urge incontinence. Additional PTNS devices have been cleared for marketing through the 510(k) process. They are listed in Table 1.

The devices are not FDA cleared for other indications, such as the treatment of fecal incontinence.

Wireless technology is evolving for the treatment of overactive bladder. In March 2022, the eCoin^{®‡} Peripheral Neurostimulator System (Valencia Technologies Corporation) became the first subcutaneous tibial nerve stimulation implant approved by the FDA through the premarket authorization (PMA) process for individuals with urgency urinary incontinence (P200036; FDA Product Code: QPT). In September 2025, the Altaviva Implantable Tibial Neuromodulation System (Medtronic) received FDA premarket authorization (PMA P240011) for the treatment of urgency urinary incontinence in individuals who have failed or are intolerant to more conservative treatments. The Altaviva system is a rechargeable, leadless device implanted over the tibial nerve that delivers automated electrical stimulation. A third implantable tibial nerve stimulation device, the INTIBIA system (Coloplast), is currently under investigation in a pivotal randomized trial (NCT05250908).

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

Table 1. FDA-Cleared Percutaneous Tibial Nerve Stimulators (FDA Product Code: NAM, QPT)

Device Name	Manufacturer	Cleared	510(k)	Indications
Urgent [®] PC Neuromodulation System	Uroplasty, now Cogentix Medical	Oct 2005	K052025	Treatment of urinary urgency, urinary frequency, and urge incontinence
Urgent [®] PC Neuromodulation System	Uroplasty, now Cogentix Medical	Jul 2006	K061333	FDA determined the 70% isopropyl alcohol prep pad contained in the kit is subject to regulation as a drug
Urgent [®] PC Neuromodulation System	Uroplasty, now Cogentix Medical	Aug 2007	K071822	Labeling update, intended use is unchanged
Urgent [®] PC Neuromodulation System	Uroplasty, now Cogentix Medical	Oct 2010	K101847	Intended use statement adds the diagnosis of overactive bladder
NURO [™] PC Neuromodulation System	Advanced Uro-Solutions, now Medtronic	Nov 2013	K132561	Treatment of patients with overactive bladder and associated symptoms of urinary urgency, urinary frequency, and urge incontinence
ZIDA Wearable Neuromodulation System	Exodus Innovations	Mar 2021	K192731	Treatment of patients with an overactive bladder and associated symptoms of urinary urgency, urinary frequency, and urge incontinence
Vivally System Wearable, Non-Invasive Neuromodulation System and Mobile Application	Avation Medical, Inc.	Apr 2023	K220454	Treatment of patients with bladder conditions of urinary incontinence and urinary urgency.
eCoin Peripheral Neurostimulator System	Valencia Technologies	Mar 2022	P200036	Urgency urinary incontinence in individuals who are intolerant or who have had an inadequate response to more conservative treatments or who have undergone a successful trial of percutaneous tibial nerve stimulation.

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

Device Name	Manufacturer	Cleared	510(k)	Indications
Altaviva Implantable Tibial Neuromodulation System	Medtronic	Sep 2025	P240011	Urgency urinary incontinence in individuals who have failed or could not tolerate more conservative treatments.

FDA: U.S. Food and Drug Administration.

Rationale/Source

This medical policy was developed through consideration of peer-reviewed medical literature generally recognized by the relevant medical community, U.S. Food and Drug Administration approval status, nationally accepted standards of medical practice and accepted standards of medical practice in this community, technology evaluation centers, reference to federal regulations, other plan medical policies, and accredited national guidelines.

Description

Percutaneous tibial nerve stimulation (PTNS; also known as posterior tibial nerve stimulation) is an electrical neuromodulation technique used primarily for treating voiding dysfunction. Subcutaneous tibial nerve stimulation via an implantable peripheral neurostimulator is an alternate technique for treating urgency urinary incontinence associated with overactive bladder syndrome.

Summary of Evidence

For individuals who have non-neurogenic urinary dysfunction including overactive bladder and have failed behavioral and pharmacologic therapy who receive an initial course of percutaneous tibial nerve stimulation (PTNS), the evidence includes randomized sham-controlled trials, randomized controlled trials (RCTs) with an active comparator, and systematic reviews. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related morbidity. The Sham Effectiveness in Treatment of Overactive Bladder Symptoms (SUMiT) and the Overactive Bladder Innovative Therapy (OrBIT) trials are 2 key industry-sponsored RCTs. Systematic reviews that included these and other published trials have found short-term reductions in voiding dysfunction with PTNS. The largest, highest quality study was the double-blind, sham-controlled SUMiT trial, which reported a statistically significant benefit of PTNS versus sham at 12 weeks. In an additional, small sham-controlled trial, a 50% reduction in urge incontinent episodes was attained in 71% of the PTNS group compared with 0% in the sham group. The nonblinded OrBIT trial found that PTNS was noninferior to medication therapy at 12 weeks. Adverse events were limited to local irritation effects. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have overactive bladder syndrome that have failed behavioral and pharmacologic therapy who respond to an initial course of PTNS and who receive maintenance PTNS, the evidence includes observational studies and systematic reviews. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

morbidity. The SUMiT and OrBIT trials each included extension studies that followed individuals who responded to the initial course of PTNS and continued to receive periodic maintenance therapy. There is variability in the interval between and frequency of maintenance treatments, and an optimal maintenance regimen remains unclear. There are up to 36 months of observational data available, reporting that there is a durable effect for some of these patients. While comparative data are not available after the initial 12-week treatment period, the observational data support a clinically meaningful benefit for use in individuals who have already failed behavioral and pharmacologic therapy and who respond to the initial course of PTNS. Percutaneous tibial nerve stimulation may allow such individuals to avoid more invasive interventions. Adverse events appear to be limited to local irritation for both short- and long-term PTNS use. Typical regimens schedule maintenance treatments every 4-6 weeks. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have non-neurogenic urinary dysfunction including overactive bladder and who have failed behavioral and pharmacologic therapy or who have responded to an initial course of PTNS and then receive implantable tibial nerve stimulation (iTNS), the evidence includes single-arm studies and a systematic review. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related morbidity. The pivotal open-label, single-arm studies for the two FDA-approved implantable tibial nerve stimulation devices (eCoin and Altaviva) demonstrated response rates ($\geq 50\%$ reduction in UII episodes) of 68% at 48 weeks and 59% at 6 months (61% at 12 months), respectively, each surpassing a prespecified performance goal of 40%. Two-year eCoin extension data reported a 78% response rate among completers, though with substantial attrition. An indirect comparison meta-analysis found similar UII responder rates for implantable tibial neuromodulation and sacral neuromodulation. However, the certainty of the evidence across the device class is limited by the absence of sham-controlled or active-comparator randomized trials, substantial attrition in extension data, and performance goals that have not been widely validated. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have neurogenic bladder dysfunction who receive PTNS, the evidence includes several RCTs and a systematic review of RCTs and observational data. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related morbidity. Only a few RCTs evaluating tibial nerve stimulation for treating neurogenic bladder have been published to date, and all but 1 performed transcutaneous stimulation rather than PTNS. Studies varied widely in factors such as study populations and comparator interventions. Study findings have not reported that tibial nerve stimulation significantly reduced incontinence symptoms and improved other outcomes. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have fecal incontinence who receive PTNS, the evidence includes several RCTs and systematic reviews. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related morbidity. The available RCTs have not found a

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

clear benefit of PTNS. None of the sham-controlled trials found that active stimulation was superior to sham for achieving a reduction in mean weekly fecal incontinence episodes. The larger sham-controlled randomized trial did find a significantly greater decrease in the absolute number of weekly incontinence episodes in the active treatment group, but the overall trial findings did not suggest the superiority of PTNS over sham treatment. An additional sham-controlled randomized trial did not identify a benefit of PTNS over sham stimulation. A meta-analysis of a single RCT and several observational studies reported that patients receiving sacral nerve stimulation experienced significant benefits compared with patients receiving PTNS. A post hoc analysis of the larger trial suggested a subset of patients with fecal incontinence (those without concomitant obstructive defecation) may benefit from PTNS. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have urge urinary incontinence and urinary urgency who receive transcutaneous tibial nerve stimulation, the evidence includes a sham-controlled RCT and a nonrandomized study. A previously cited multicenter sham-controlled trial of the Vivaly System (Goudelocke et al [2025]) was retracted in March 2026 and is no longer included in this medical policy. Relevant outcomes are symptoms, change in disease status, functional outcomes, quality of life, and treatment-related morbidity. The results of the available studies did not show a clear benefit of transcutaneous tibial nerve stimulation. The sham-controlled RCT did not find a significant benefit of transcutaneous tibial nerve stimulation over sham on the primary outcome or secondary measures, and a large sham response was observed. The nonrandomized open-label, single-arm study showed statistically significant improvements in daily voids, incontinence episodes, and urgency episodes. However, minimal clinically important differences were not reported for these outcomes. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Supplemental Information

Clinical Input From Physician Specialty Societies and Academic Medical Centers

While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

2018 Input

Clinical input was sought to help determine whether the use of maintenance percutaneous tibial nerve stimulation (PTNS) for individuals with non-neurogenic urinary dysfunction including overactive bladder who have failed behavioral and pharmacologic therapy and respond to an initial course of PTNS would provide a clinically meaningful improvement in the net health outcome and whether the use is consistent with generally accepted medical practice. In response to requests, clinical input was received from 3 physician respondents identified by specialty societies.

For individuals with non-neurogenic urinary dysfunction including overactive bladder who have failed behavioral and pharmacologic therapy and respond to an initial course of PTNS, clinical input

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

supports this use provides a clinically meaningful improvement in net health outcome and indicates this use is consistent with generally accepted medical practice.

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Urological Association et al

In 2024, the AUA/SUFU published a guideline on the diagnosis and treatment of idiopathic overactive bladder. This guideline replaces the prior stepwise treatment paradigm with a shared decision-making framework organized by treatment invasiveness. PTNS is classified as a minimally invasive therapy. The guideline states that clinicians should offer sacral neuromodulation, percutaneous tibial nerve stimulation, and/or intradetrusor botulinum toxin injection to patients with OAB who have an inadequate response to, or have experienced intolerable side effects from, pharmacotherapy or behavioral therapy (Moderate Recommendation; Evidence Level: Grade A). Additionally, clinicians may offer minimally invasive therapies without requiring prior trials of behavioral, non-invasive, or pharmacologic management in the context of shared decision-making (Expert Opinion). Transcutaneous tibial nerve stimulation is classified as a non-invasive therapy, and implantable tibial nerve stimulation is included among minimally invasive therapies in the treatment framework.

American College of Obstetricians and Gynecologists

In 2015, the American College of Obstetricians and Gynecologists practice bulletin on the treatment of urinary incontinence in women did not address PTNS or other types of nerve stimulation.

American Gastroenterological Association

In 2017, the American Gastroenterological Association issued an expert review and clinical practice update on surgical interventions and device-aided therapy for the treatment of fecal incontinence. The update stated that "until further evidence is available, percutaneous tibial nerve stimulation should not be used for managing FI [fecal incontinence] in clinical practice."

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

Ongoing and Unpublished Clinical Trials

Some currently unpublished trials that might influence this review are listed in Table 2.

Table 2. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT05250908	A Prospective, Randomized Clinical Trial Evaluating INTIBIA, an Investigational Implantable Tibial Nerve Stimulator, Through 24-Months (INTIBIA Pivotal Study IU024)	208	Jun 2026
NCT05226286	Evaluation of Implantable Tibial Neuromodulation Pivotal Study	188	May 2025
NCT05977634	The Efficacy of Transcutaneous Tibial Nerve Stimulation on Symptoms of Overactive Bladder and Quality of Life in Women With Idiopathic Overactive Bladder	26	Aug 2026
NCT05685433a	A Real World Study of eCoin for Urgency Urinary Incontinence: Post Approval Evaluation (RECIPE)	200	Dec 2031
Unpublished			
NCT02190851	Evaluation of Treatment by Transcutaneous Electrical Nerve Stimulation (TENS) of the Posterior Tibial Nerve for Lower Urinary Tract Disorders in Parkinson's Syndrome (UROPARKTENS)	110 (actual)	Oct 2020 (completed)
NCT05882318a	Evaluating Effectiveness of Sensory and Subsensory Stimulation Amplitudes With eCoin [®] Tibial Nerve Stimulation in Urgency Urinary InContinence Episodes and Quality of Life (ESSENCE)	38 (actual)	May 2024
Terminated			
NCT05381116a	A Prospective, Sham-Controlled, Safety and Efficacy Study of a Smart, Self-Adjusting, Surgery-Free, Wearable Bladder Modulation and Digital Health System With Objective Confirmation of Nerve Activation for Use in Home by Subjects With Overactive Bladder Syndrome	125 (actual)	Jul 2023 (terminated)

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

NCT05422625	PTNS for Female Patients Suffering From Multiple Sclerosis (PTNS-MS)	2 (actual)	Aug 2023 (terminated)
-------------	--	------------	-----------------------

NCT: national clinical trial.

References

1. Wang M, Jian Z, Ma Y, et al. Percutaneous tibial nerve stimulation for overactive bladder syndrome: a systematic review and meta-analysis. *Int Urogynecol J*. Dec 2020; 31(12): 2457-2471. PMID 32681345
2. Xiong SC, Peng L, Hu X, et al. Effectiveness and safety of tibial nerve stimulation versus anticholinergic drugs for the treatment of overactive bladder syndrome: a meta-analysis. *Ann Palliat Med*. Jun 2021; 10(6): 6287-6296. PMID 34118839
3. Coolen RL, Groen J, Scheepe JR, et al. Transcutaneous Electrical Nerve Stimulation and Percutaneous Tibial Nerve Stimulation to Treat Idiopathic Nonobstructive Urinary Retention: A Systematic Review. *Eur Urol Focus*. Sep 2021; 7(5): 1184-1194. PMID 33268327
4. Ho FCS, He C, Yao HH, et al. Efficacy of sacral neuromodulation and percutaneous tibial nerve stimulation in the treatment of chronic nonobstructive urinary retention: A systematic review. *Neurourol Urodyn*. Jun 2021; 40(5): 1078-1088. PMID 33973670
5. Tutolo M, Ammirati E, Heesakkers J, et al. Efficacy and Safety of Sacral and Percutaneous Tibial Neuromodulation in Non-neurogenic Lower Urinary Tract Dysfunction and Chronic Pelvic Pain: A Systematic Review of the Literature. *Eur Urol*. Mar 2018; 73(3): 406-418. PMID 29336927
6. Tutolo M, Ammirati E, Van der Aa F. What Is New in Neuromodulation for Overactive Bladder?. *Eur Urol Focus*. Jan 2018; 4(1): 49-53. PMID 29773501
7. Stewart F, Gameiro LF, El Dib R, et al. Electrical stimulation with non-implanted electrodes for overactive bladder in adults. *Cochrane Database Syst Rev*. Dec 09 2016; 12(12): CD010098. PMID 27935011
8. Burton C, Sajja A, Latthe PM. Effectiveness of percutaneous posterior tibial nerve stimulation for overactive bladder: a systematic review and meta-analysis. *Neurourol Urodyn*. Nov 2012; 31(8): 1206-16. PMID 22581511
9. Levin PJ, Wu JM, Kawasaki A, et al. The efficacy of posterior tibial nerve stimulation for the treatment of overactive bladder in women: a systematic review. *Int Urogynecol J*. Nov 2012; 23(11): 1591-7. PMID 22411208
10. Moosdorff-Steinhauser HF, Berghmans B. Effects of percutaneous tibial nerve stimulation on adult patients with overactive bladder syndrome: a systematic review. *Neurourol Urodyn*. Mar 2013; 32(3): 206-14. PMID 22907807
11. 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*. Nov 25 2013; 13: 61. PMID 24274173
12. Shamliyan T, Wyman J, Kane RL. Nonsurgical Treatments for Urinary Incontinence in Adult Women: Diagnosis and Comparative Effectiveness (Comparative Effectiveness Review No. 36). Rockville, MD: Agency for Healthcare Research and Quality; 2012.

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

13. Finazzi-Agrò E, Petta F, Sciobica F, et al. Percutaneous tibial nerve stimulation effects on detrusor overactivity incontinence are not due to a placebo effect: a randomized, double-blind, placebo controlled trial. *J Urol.* Nov 2010; 184(5): 2001-6. PMID 20850833
14. Peters KM, Carrico DJ, Perez-Marrero RA, et al. Randomized trial of percutaneous tibial nerve stimulation versus Sham efficacy in the treatment of overactive bladder syndrome: results from the SUmiT trial. *J Urol.* Apr 2010; 183(4): 1438-43. PMID 20171677
15. Peters K, Carrico D, Burks F. Validation of a sham for percutaneous tibial nerve stimulation (PTNS). *Neurourol Urodyn.* 2009; 28(1): 58-61. PMID 18671297
16. Peters KM, Carrico DJ, Wooldridge LS, et al. Percutaneous tibial nerve stimulation for the long-term treatment of overactive bladder: 3-year results of the STEP study. *J Urol.* Jun 2013; 189(6): 2194-201. PMID 23219541
17. Vecchioli-Scaldazza C, Morosetti C. Effectiveness and durability of solifenacin versus percutaneous tibial nerve stimulation versus their combination for the treatment of women with overactive bladder syndrome: a randomized controlled study with a follow-up of ten months. *Int Braz J Urol.* 2018; 44(1): 102-108. PMID 29064651
18. Boudaoud N, Binet A, Line A, et al. Management of refractory overactive bladder in children by transcutaneous posterior tibial nerve stimulation: A controlled study. *J Pediatr Urol.* Jun 2015; 11(3): 138.e1-10. PMID 25979217
19. Gungor Ugurlucan F, Onal M, Aslan E, et al. Comparison of the effects of electrical stimulation and posterior tibial nerve stimulation in the treatment of overactive bladder syndrome. *Gynecol Obstet Invest.* 2013; 75(1): 46-52. PMID 23171636
20. Preyer O, Umek W, Laml T, et al. Percutaneous tibial nerve stimulation versus tolterodine for overactive bladder in women: a randomised controlled trial. *Eur J Obstet Gynecol Reprod Biol.* Aug 2015; 191: 51-6. PMID 26073262
21. Vecchioli-Scaldazza C, Morosetti C, Berouz A, et al. 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): 230-4. PMID 23548260
22. Schreiner L, dos Santos TG, Knorst MR, et al. Randomized trial of transcutaneous tibial nerve stimulation to treat urge urinary incontinence in older women. *Int Urogynecol J.* Sep 2010; 21(9): 1065-70. PMID 20458465
23. 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.* Sep 2009; 182(3): 1055-61. PMID 19616802
24. MacDiarmid SA, Peters KM, Shobeiri SA, et al. Long-term durability of percutaneous tibial nerve stimulation for the treatment of overactive bladder. *J Urol.* Jan 2010; 183(1): 234-40. PMID 19913821
25. Amundsen CL, Sutherland SE, Kielb SJ, et al. Sacral and Implantable Tibial Neuromodulation for the Management of Overactive Bladder: A Systematic Review and Meta-analysis. *Adv Ther.* Jan 2025; 42(1): 10-35. PMID 39476308
26. Rogers A, Bragg S, Ferrante K, et al. Pivotal Study of Leadless Tibial Nerve Stimulation with eCoin® for Urgency Urinary Incontinence: An Open-Label, Single Arm Trial. *J Urol.* Aug 2021; 206(2): 399-408. PMID 33797291

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

27. U.S. Food and Drug Administration. Summary of Safety and Effectiveness Data (SSED): eCoin Peripheral Neurostimulator System (P200036). March 1, 2022; https://www.accessdata.fda.gov/cdrh_docs/pdf20/P200036B.pdf.
28. Lucente V, Giusto L, MacDiarmid S. Two-year Pivotal Study Analysis of the Safety and Efficacy of Implantable Tibial Nerve Stimulation With eCoin® for Urgency Urinary Incontinence. *Urology*. Dec 2024; 194: 17-23. PMID 39089497
29. MacDiarmid S, Staskin DR, Lucente V, et al. Feasibility of a Fully Implanted, Nickel Sized and Shaped Tibial Nerve Stimulator for the Treatment of Overactive Bladder Syndrome with Urgency Urinary Incontinence. *J Urol*. May 2019; 201(5): 967-972. PMID 31009968
30. Gilling P, Meffan P, Kaaki B, et al. Twelve-month Durability of a Fully-implanted, Nickel-sized and Shaped Tibial Nerve Stimulator for the Treatment of Overactive Bladder Syndrome with Urgency Urinary Incontinence: A Single-Arm, Prospective Study. *Urology*. Nov 2021; 157: 71-78. PMID 34048826
31. Kaaki B, English S, Gilling P, et al. Six-Month Outcomes of Reimplantation of a Coin-Sized Tibial Nerve Stimulator for the Treatment of Overactive Bladder Syndrome With Urgency Urinary Incontinence. *Female Pelvic Med Reconstr Surg*. May 01 2022; 28(5): 287-292. PMID 35536667
32. Lee U, Xavier K, Carey J, et al. Implantable Tibial Neuromodulation Therapy Improves Symptoms of Urge Urinary Incontinence from the TITAN 2 Pivotal Study. *J Urol*. Jan 26 2026; 101097JU00000000000004958. PMID 41587348
33. Schneider MP, Gross T, Bachmann LM, et al. Tibial Nerve Stimulation for Treating Neurogenic Lower Urinary Tract Dysfunction: A Systematic Review. *Eur Urol*. Nov 2015; 68(5): 859-67. PMID 26194043
34. Monteiro ÉS, de Carvalho LB, Fukujima MM, et al. Electrical stimulation of the posterior tibialis nerve improves symptoms of poststroke neurogenic overactive bladder in men: a randomized controlled trial. *Urology*. Sep 2014; 84(3): 509-14. PMID 25168524
35. Perissinotto MC, D'Ancona CA, Lucio A, et al. Transcutaneous tibial nerve stimulation in the treatment of lower urinary tract symptoms and its impact on health-related quality of life in patients with Parkinson disease: a randomized controlled trial. *J Wound Ostomy Continence Nurs*. 2015; 42(1): 94-9. PMID 25549314
36. Gaspard L, Tombal B, Opsomer RJ, et al. [Physiotherapy and neurogenic lower urinary tract dysfunction in multiple sclerosis patients: a randomized controlled trial]. *Prog Urol*. Sep 2014; 24(11): 697-707. PMID 25214451
37. Eftekhari T, Teimoori N, Miri E, et al. Posterior tibial nerve stimulation for treating neurologic bladder in women: a randomized clinical trial. *Acta Med Iran*. 2014; 52(11): 816-21. PMID 25415813
38. Zonić-Imamović M, Imamović S, Čičkušić A, et al. Effects of Treating an Overactive Urinary Bladder in Patients with Multiple Sclerosis. *Acta Med Acad*. Dec 2019; 48(3): 271-277. PMID 32124625
39. Welk B, McKibbin M. A randomized, controlled trial of transcutaneous tibial nerve stimulation to treat overactive bladder and neurogenic bladder patients. *Can Urol Assoc J*. Jul 2020; 14(7): E297-E303. PMID 32017693

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

40. Luo C, Wei D, Pang K, et al. Is percutaneous tibial nerve stimulation (PTNS) effective for fecal incontinence (FI) in adults compared with sham electrical stimulation? A meta-analysis. *Tech Coloproctol*. Feb 24 2024; 28(1): 37. PMID 38401006
41. Sarveazad A, Babahajian A, Amini N, et al. Posterior Tibial Nerve Stimulation in Fecal Incontinence: A Systematic Review and Meta-Analysis. *Basic Clin Neurosci*. 2019; 10(5): 419-431. PMID 32284831
42. Tan K, Wells CI, Dinning P, et al. Placebo Response Rates in Electrical Nerve Stimulation Trials for Fecal Incontinence and Constipation: A Systematic Review and Meta-Analysis. *Neuromodulation*. Dec 2020; 23(8): 1108-1116. PMID 31889364
43. Simillis C, Lal N, Qiu S, et al. Sacral nerve stimulation versus percutaneous tibial nerve stimulation for faecal incontinence: a systematic review and meta-analysis. *Int J Colorectal Dis*. May 2018; 33(5): 645-648. PMID 29470730
44. Edenfield AL, Amundsen CL, Wu JM, et al. Posterior tibial nerve stimulation for the treatment of fecal incontinence: a systematic evidence review. *Obstet Gynecol Surv*. May 2015; 70(5): 329-41. PMID 25974730
45. Horrocks EJ, Thin N, Thaha MA, et al. Systematic review of tibial nerve stimulation to treat faecal incontinence. *Br J Surg*. Apr 2014; 101(5): 457-68. PMID 24446127
46. George AT, Kalmar K, Sala S, et al. Randomized controlled trial of percutaneous versus transcutaneous posterior tibial nerve stimulation in faecal incontinence. *Br J Surg*. Feb 2013; 100(3): 330-8. PMID 23300071
47. Knowles CH, Horrocks EJ, Bremner SA, et al. Percutaneous tibial nerve stimulation versus sham electrical stimulation for the treatment of faecal incontinence in adults (CONFIDeNT): a double-blind, multicentre, pragmatic, parallel-group, randomised controlled trial. *Lancet*. Oct 24 2015; 386(10004): 1640-8. PMID 26293315
48. Horrocks EJ, Chadi SA, Stevens NJ, et al. Factors Associated With Efficacy of Percutaneous Tibial Nerve Stimulation for Fecal Incontinence, Based on Post-Hoc Analysis of Data From a Randomized Trial. *Clin Gastroenterol Hepatol*. Dec 2017; 15(12): 1915-1921.e2. PMID 28647458
49. Thin NN, Taylor SJ, Bremner SA, et al. Randomized clinical trial of sacral versus percutaneous tibial nerve stimulation in patients with faecal incontinence. *Br J Surg*. Mar 2015; 102(4): 349-58. PMID 25644291
50. Leo CA, Thomas GP, Hodgkinson JD, et al. Randomized Pilot Study: Anal Inserts Versus Percutaneous Tibial Nerve Stimulation in Patients With Fecal Incontinence. *Dis Colon Rectum*. Apr 01 2021; 64(4): 466-474. PMID 33399411
51. Zyczynski HM, Richter HE, Sung VW, et al. Percutaneous Tibial Nerve Stimulation vs Sham Stimulation for Fecal Incontinence in Women: NeurOmodulaTion for Accidental Bowel Leakage Randomized Clinical Trial. *Am J Gastroenterol*. Apr 01 2022; 117(4): 654-667. PMID 35354778
52. Sanagapalli S, Neilan L, Lo JYT, et al. Efficacy of Percutaneous Posterior Tibial Nerve Stimulation for the Management of Fecal Incontinence in Multiple Sclerosis: A Pilot Study. *Neuromodulation*. Oct 2018; 21(7): 682-687. PMID 29575432

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

53. Goudelocke C, Dhir R, Shapiro E, et al. Retraction notice to "A Multicenter Prospective Sham-controlled Trial Evaluating a Physiologic Closed-loop Wearable Tibial Neuromodulation System for Overactive Bladder" [Urology 195(2025)16-22]. Urology. Mar 2026; 209: 170. PMID 41832048
54. Shah NM, Lukacz ES, Ferrante KL, et al. Transcutaneous Tibial Nerve Stimulation for Urge Incontinence: A Randomized Clinical Trial. Urogynecology (Phila). Mar 01 2025; 31(3): 225-233. PMID 39621424
55. Goudelocke C, Sobol J, Poulos D, et al. A Multicenter Study Evaluating the FREquency of Use and Efficacy of a Novel Closed-Loop Wearable Tibial Neuromodulation System for Overactive Bladder and Urgency Urinary Incontinence (FREEOAB). Urology. Jan 2024; 183: 63-69. PMID 37944596
56. Cameron AP, Chung DE, Dielubanza EJ, et al. The AUA/SUFU guideline on the diagnosis and treatment of idiopathic overactive bladder. J Urol. Published online April 23, 2024. doi:10.1097/JU.0000000000003985. <https://www.auajournals.org/doi/10.1097/JU.0000000000003985>
57. ACOG Practice Bulletin No. 155: Urinary Incontinence in Women. Obstet Gynecol. Nov 2015; 126(5): e66-e81. PMID 26488524
58. Bharucha AE, Rao SSC, Shin AS. Surgical Interventions and the Use of Device-Aided Therapy for the Treatment of Fecal Incontinence and Defecatory Disorders. Clin Gastroenterol Hepatol. Dec 2017; 15(12): 1844-1854. PMID 28838787

Policy History

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

08/18/2026 Utilization Management Committee review/approval. New policy.

Next Scheduled Review Date: 08/2027

Coding

The five character codes included in the Health Plan Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)‡, copyright 2025 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

The responsibility for the content of the Health Plan Medical Policy Coverage Guidelines is with the Health Plan and no endorsement by the AMA is intended or should be implied. The AMA disclaims responsibility for any consequences or liability attributable or related to any use, nonuse or interpretation of information contained in the Health Plan Medical Policy Coverage Guidelines. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

for data contained or not contained herein. Any use of CPT outside of the Health Plan Medical Policy Coverage Guidelines should refer to the most current Current Procedural Terminology which contains the complete and most current listing of CPT codes and descriptive terms. Applicable FARS/DFARS apply.

CPT is a registered trademark of the American Medical Association.

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	0587T, 0588T, 0589T, 0590T, 0816T, 0817T, 0818T, 0819T, 0988T, 0989T, 64566, 64999
HCPCS	A4545, E0736, E0737
ICD-10 Diagnosis	All related Diagnoses

*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

- A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
- B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
 1. Consultation with technology evaluation center(s);
 2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
 3. Reference to federal regulations.

**Medically Necessary (or “Medical Necessity”) - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

- A. In accordance with nationally accepted standards of medical practice;
- B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient's illness, injury or disease; and

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

- C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient's illness, injury or disease.

For these purposes, “nationally accepted standards of medical practice” means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

‡ Indicated trademarks are the registered trademarks of their respective owners.

NOTICE: If the Patient’s health insurance contract contains language that differs from the Health Plan’s Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

NOTICE: Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Health Plan recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

NOTICE: Federal and State law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage.

NOTICE: All codes listed on the Medical Policy require prior authorization. This ensures appropriate utilization and alignment with current clinical guidelines.

NOTICE: If an authorization for an ongoing course of treatment has been provided to a member and the member changes from one health plan to another health plan (e.g., a member moves from carrier A to Blue Advantage), Blue Advantage may honor the previous health plan’s authorization for the same service under the same type of in-network benefit for a 90-day transition period. Documentation of the authorization for the ongoing course of treatment from the previous health plan must be provided to us by the member or their provider and the services provided for the course of treatment must otherwise be a covered service under the Blue Advantage health plan.

Medicare Advantage Members

Established coverage criteria for Medicare Advantage members can be found in Medicare coverage guidelines in statutes, regulations, National Coverage Determinations (NCD)s, and Local Coverage Determinations (LCD)s. To determine if a National or Local Coverage Determination addresses coverage for a specific service, refer to the Medicare Coverage Database at the following link: <https://www.cms.gov/medicare-coverage-database/search.aspx>. You may wish to review the Guide

Tibial Nerve Stimulation

Medical Policy #MA-234

Original Effective Date: 11/01/2026

Current Effective Date: 11/01/2026

to the MCD Search here: <https://www.cms.gov/medicare-coverage-database/help/mcd-benehelp.aspx>.

When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, internal coverage criteria may be developed. This policy is to serve as the summary of evidence, a list of resources and an explanation of the rationale that supports the adoption of this internal coverage criteria.

InterQual®

InterQual® is utilized as a source of medical evidence to support medical necessity and level of care decisions. InterQual® criteria are intended to be used in connection with the independent professional medical judgment of a qualified health care provider. InterQual® criteria are clinically based on best practice, clinical data, and medical literature. The criteria are updated continually and released annually. InterQual® criteria are a first-level screening tool to assist in determining if the proposed services are clinically indicated and provided in the appropriate level or whether further evaluation is required. The utilization review staff does the first-level screening. If the criteria are met, the case is approved; if the criteria are not met, the case is referred to the medical director.