

Medical Policy



Title: Posterior Tibial Nerve Stimulation

Professional

Original Effective Date: August 22, 2007

Revision Date(s): October 6, 2014

Current Effective Date: October 6, 2014

Institutional

Original Effective Date: August 22, 2007

Revision Date(s): October 6, 2014

Current Effective Date: October 6, 2014

State and Federal mandates and health plan member contract language, including specific provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage. To verify a member's benefits, contact [Blue Cross and Blue Shield of Kansas Customer Service](#).

The BCBSKS Medical Policies contained herein are for informational purposes and apply only to members who have health insurance through BCBSKS or who are covered by a self-insured group plan administered by BCBSKS. Medical Policy for FEP members is subject to FEP medical policy which may differ from BCBSKS Medical Policy.

The medical policies do not constitute medical advice or medical care. Treating health care providers are independent contractors and are neither employees nor agents of Blue Cross and Blue Shield of Kansas and are solely responsible for diagnosis, treatment and medical advice.

If your patient is covered under a different Blue Cross and Blue Shield plan, please refer to the Medical Policies of that plan.

DESCRIPTION

Posterior tibial nerve stimulation (PTNS) is a technique of electrical neuromodulation used for treating voiding dysfunction. The tibial nerve is stimulated using a fine-needle electrode inserted slightly above the ankle, and low-voltage electrical current is delivered. The recommended course of treatment is 12 weekly 30-minute sessions followed by an individualized maintenance schedule.

Background

Altering the function of the posterior tibial nerve with posterior tibial nerve stimulation (PTNS) is believed to improve voiding function and control. While the posterior tibial nerve is located near the ankle, it is derived from the lumbar-sacral nerves (L4-S3), which control the bladder detrusor and perineal floor. Voiding dysfunction includes urinary frequency, urgency, incontinence, and nonobstructive retention. Common causes of voiding dysfunction are pelvic floor dysfunction (e.g., from pregnancy, childbirth,

surgery), inflammation, medication (e.g., diuretics and anticholinergics), obesity, psychogenic factors, and disease (e.g., multiple sclerosis, spinal cord injury, detrusor hyperreflexia, diabetes with peripheral nerve involvement).

The procedure for PTNS consists of the insertion of 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 (i.e., a tickling sensation and plantar flexion or fanning of all toes). Noninvasive PTNS has also been delivered with surface electrodes. The recommended course of treatment is an initial series of 12 weekly office-based treatments followed by an individualized maintenance treatment schedule.

PTNS is less invasive than traditional sacral nerve neuromodulation, which has been successfully used in the treatment of 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.

Regulatory Status

In July 2005, the Urgent[®] PC Neuromodulation System (Uroplasty, Inc.) received 510(k) marketing clearance from the U.S. Food and Drug Administration (FDA) for percutaneous tibial nerve stimulation to treat patients suffering from urinary urgency, urinary frequency, and urge incontinence. The device was cleared as a class II “nonimplanted, peripheral nerve stimulator for pelvic floor dysfunction” because it was considered to be substantially equivalent to the previously cleared percutaneous Stoller afferent nerve system (PerQ SANS System) in 2001 (K992069, UroSurge, Inc.).

POLICY

- A. Posterior tibial nerve stimulation may be considered **medically necessary** in patients with nonneurogenic overactive bladder syndrome who meet the following criteria:
1. Had symptoms of overactive bladder syndrome for at least 3 months, AND
 2. Failed behavioral therapies (see Policy Guidelines), AND
 3. Unless contraindicated, failed medication therapy, e.g., oral anti-muscarinics and/or transdermal oxybutynin unless contraindicated.
- B. Posterior tibial nerve stimulation is considered **experimental / investigational** in all other situations.

Policy Guidelines

1. “Failed behavioral therapies” is defined as continued symptoms that impact function or quality of life following at least 12 weeks of behavioral treatment. Behavioral

therapy may be individualized to the specific patient, but generally consists of the following two components:

- a) Bladder training, including timed voiding and inhibition of urge impulses;
 - b) Pelvic floor muscle training, including instruction and monitoring by a health professional and regular practice by the patient.
2. Fluid management, such as restriction of fluid and/or caffeine intake, may also be a part of behavioral treatment.
 3. Weight loss has established efficacy in reducing symptoms of overactive bladder (OAB), but is not generally considered part of behavioral treatment.
 4. Blue Cross and Blue Shield of Kansas expects healthcare professionals who perform posterior tibial nerve stimulation will be appropriately trained and/or credentialed to provide the proper testing and assessment of the patient's condition. It would be highly unlikely that this training is possessed by providers other than those with training and expertise in urology or urogynecology.

RATIONALE

OVERACTIVE BLADDER

Systematic reviews

An updated TEC Assessment on PTNS for treatment of voiding dysfunction was published in December 2013 and concluded that PTNS as treatment for voiding dysfunction meets the TEC criteria for treatment of voiding dysfunction.(1) The Assessment included the 6 RCTs discussed below and had the following conclusion:

Evidence from randomized placebo-controlled trials supports the clinical efficacy of PTNS applied in the standard 12-week regimen. No concurrently controlled evidence exists from a trial over longer periods of time in maintenance therapy. Although the lack of controlled evidence on maintenance PTNS raises concern whether short-term efficacy is maintained over the long term, the available 12- to 36-month evidence appears consistent with maintained efficacy in relieving symptoms of OAB and urinary voiding dysfunction. Adverse event rates, assuming accurate ascertainment, appear limited.

In 2012 and 2013, several other systematic reviews of the literature on PTNS for treating overactive bladder were published.(2-5) Only 1 of these systematic reviews, however, conducted pooled analyses of study results.(2) This review, by Burton and colleagues, conducted a pooled analysis of data from 4 trials (2 of which were abstracts) comparing PTNS to sham treatment. They found a significantly higher risk of successful treatment with PTNS (risk ratio [RR]: 7.02, 95% confidence interval [CI]: 1.69 to 29.17) compared to a control intervention. The confidence interval was wide, indicating a lack of precision in the pooled estimate. The SUMiT trial, discussed below, contributed 220 of 289 patients (76%) in the pooled analysis.

Also in 2012, the Agency for Healthcare Research and Quality (AHRQ) Effective Health Care Program published a comparative effectiveness review on the broader topic of nonsurgical treatments for urinary incontinence in adult women.(6) The review identified 4 reports of RCTs comparing PTNS and no active treatment in patients with OAB. Two of the 4 articles reported 12-week results of the sham-controlled SUMiT trial; one of these included a subgroup of SUMiT participants and was only published as an abstract. The AHRQ report included a pooled analysis

of data from 3 studies that found statistically significantly greater improvement in urinary incontinence in the PTNS compared to control group (RR: 1.9, 95% CI: 1.1 to 3.2). This pooled analysis included a total of 405 patients; 220 in the SUmIT trial, 150 in the SUmIT trial sub-analysis and 35 in a trial by Finazzo-Agro and colleagues.(7) A limit of the analysis in the AHRQ review was that the 150 patients in the SUmIT sub-analysis were included twice. The AHRQ report did not discuss evidence on the efficacy of PTNS beyond 12 weeks.

Randomized Controlled Trials

Two key randomized controlled trials (RCTs) that evaluated percutaneous tibial nerve stimulation for treating patients diagnosed with overactive bladder syndrome have been published. In 2009, Peters and colleagues published an industry-sponsored non-blinded comparison of PTNS and extended-release tolterodine (Detrol LA) in women with overactive bladder syndrome (the OrBIT trial).(8) The study included 100 patients (50 per group); more than 90% were women. Study participants were identified at 11 centers between June 2006 and September 2008. Subjects had to have symptoms of overactive bladder (OAB), with at least 8 voids per 24 hours; the mean daily voids for those entering the study were 12.3. A total of 87 of the 100 (87%) patients completed the study and voiding diary data were available for 84 patients, 41 of 50 (82%) in the PTNS group and 43 of 50 (86%) in the tolterodine group.

The primary outcome was the non-inferiority of PTNS in the mean reduction in the number of voids per 24 hours after 12 weeks of treatment. Non-inferiority was defined as no more than a 20% difference in the mean void reduction. Study findings showed non-inferiority of PTNS based on results for 84 patients. The decrease in number and standard deviation (SD) of voids per day was 2.4 (4.0) in the PTNS group and 2.5 (3.9) in the tolterodine group.

The study also reported a number of secondary outcomes, and findings on these were mixed. There were no statistically significant differences in the PTNS and tolterodine groups for other symptoms recorded in the voiding diary; this includes mean change in episodes of nocturia (-0.7 and -0.6, respectively), episodes of moderate to severe urgency per day (-2.2 and -2.9, respectively), and episodes of urge incontinence per day (-1.0 and -1.7, respectively). In other secondary outcomes, 35 of 44 patients (79.5%) in the PTNS group and 23 of 42 (54.8%) in the tolterodine group reported symptom improvement or cure. This difference was statistically significant ($p=0.01$), favoring the PTNS group. However, the proportion of patients reporting symptom improvement (excluding the 3 patients reporting that they were cured) did not differ significantly between groups, 34 of 44 (77.3%) of those receiving PTNS and 21 of 42 (50%) receiving tolterodine. For the adverse event data, responses were obtained in person for the PTNS group in conjunction with their weekly treatment sessions and over the phone for the medication group, using standard checklists. It is not clear how response to treatment or quality of life data were collected. Limitations of the OrBIT trial included the lack of blinding of patients and providers and the lack of comparative data beyond the end of the initial 12-week treatment period. Moreover, there was no sham or placebo group to mitigate the potential bias due to subjective outcomes. In addition, the authors did not clearly define criteria for "improvement" or "cure", a key secondary outcome, and did not report the extent of compliance with medical therapy and used different methods of data collection in the 2 groups for adverse event outcomes and possibly also for other self-report outcomes.

In 2010, MacDiarmid and colleagues reported 1-year follow-up data for patients from the OrBIT trial who had been assigned to the PTNS group and had responded to the initial course of

treatment, defined as reporting symptom improvement at 12 weeks.(9) Thirty-three of the 35 responders were included. They received a mean of 12.1 (SD=4.9) additional treatments between the 12-week and 12-month visits, and there was a median of 17 days between treatments. Data were available for 32 of the 33 (97%) participants at 6 months and 25 of the 33 (76%) participants at 12 months. The mean reduction in number of voids per day from baseline (the original primary outcome of the study) was 3.2 (SD=3.7) at 6 months and 2.8 (SD=3.7) at 12 months. Other voiding diary outcomes at 12 months, based on 25 responses, were mean changes in nocturia episodes of -0.8, in episodes of moderate to severe urgency per day of -3.7, and in episodes of urge incontinence per day of -1.6. As noted above, this analysis was limited in that no data from the tolterodine group were available to compare long-term outcomes. Another limitation was not all patients in the PTNS group were included in the follow-up analysis, only PTNS responders were eligible. A potential bias is that the initial subjective outcome measure may be subject to the placebo effect. Moreover, patients in the PTNS group who responded to initial treatment may be particularly susceptible to a placebo response and/or may represent those with the best treatment response. Thus, these individuals may also be susceptible to a placebo response during maintenance treatments, especially treatments offered on an as-needed basis.

The second key RCT on overactive bladder syndrome, also industry-sponsored, was published by Peters and colleagues in 2010.(10) This study, known as the SUMiT trial, had a sham-comparison group. Prior to conducting the trial, the researchers performed a pilot study in healthy volunteers to determine the adequacy of a sham PTNS intervention.(11) Findings were that 10 of 30 volunteers (33%) correctly identified the sham procedure. This percentage is below the 50% that could be expected by chance; the investigators concluded that the procedure was a feasible sham. The SUMiT trial included patients with overactive bladder syndrome. Eligibility criteria included a score of at least 4 on the overactive bladder questionnaire (OAB-q) short form for urgency, self-report bladder symptoms lasting at least 3 months, and having failed conservative care. Data were collected from 23 centers in the U.S. A total of 220 patients were randomly assigned, 110 to the PTNS group and 110 to the sham group. Both groups received 12 weekly 30-minute intervention sessions. In the sham group, a blunt (placebo) instrument was used to simulate the location and sensation of needle electrode insertion in active treatment. An inactive PTNS surface electrode was used and also 2 active transcutaneous electrical nerve stimulation (TENS) surface electrodes. The TENS unit was used to deliver low-level sensation to simulate the PTNS intervention. The 12-week course of treatment was completed by 103 of 110 (94%) in the PTNS group and 105 of 110 (95%) in the sham group.

The primary study outcome was response to treatment based on a single-item global response assessment (GRA) variable at 13 weeks. Possible responses were that symptoms were markedly worse, moderately worse, mildly worse, the same, slightly improved, moderately improved, or markedly improved. The proportion of patients who responded to treatment based on the GRA (i.e., answered that symptoms were moderately or markedly improved) was 60 of 110 (54.5%) in the PTNS group and 23 of 110 (20.9%) in the sham group; this difference was statistically significant, p less than 0.001. Intention-to-treat (ITT) analysis was used for the primary endpoint only. Several secondary outcomes also favored the PTNS group. The mean reduction in a symptom severity score (a lower score indicates less severity) was 36.7 (SD=21.5) in the PTNS group and 29.2 (SD=20.0) in the sham group, $p=0.01$. Similarly, the mean reduction in a quality of life scale, the SF-36 (a higher score indicates higher quality of life), was 34.2 (SD=21.3) in the PTNS group and 20.6 (SD=20.6) in the sham group, $p=0.006$.

For the 4 voiding diary variables used, there was a statistically significant difference between groups favoring PTNS. The mean change from baseline in the number of voids per day was -2.4 (SD=2.5) in the PTNS group and -1.5 (SD=2.4) in the sham group (difference between groups 0.9 voids per day, $p=0.01$). The mean change in nocturia episodes was -0.7 (SD=1.2) in the PTNS group and -0.3 (SD=1.4) in the sham group (difference between groups 0.4 nighttime voids, $p=0.04$). The mean change in moderate to severe urgency per day was -3.7 in the PTNS group and -2.0 in the sham group (difference between groups 1.7 episodes, $p<0.001$). Finally, the mean change in urge incontinence episodes was -1.3 in the PTNS group and -0.3 in the sham group (difference between groups 1 episode per day, $p<0.002$). (Standard deviations were not reported for the latter 2 outcomes).

Advantages of the SUMiT trial were that it included a sham comparison and the primary endpoint analysis was ITT. A limitation was that the primary outcome, the GRA, was a single-item subjective measure. For the more objective measures, the voiding diary variables, there was statistically significantly greater benefit with PTNS compared to sham treatment; however, the clinical significance of the difference between the PTNS and sham groups was unclear, e.g., on average, there was 1 fewer episode of urge incontinence a day in the PTNS group. In addition, as in the OrBIT trial, the SUMiT trial only reported comparative data immediately following the initial course of treatment; the study did not evaluate the long-term effectiveness of PTNS. Unlike medication which can be taken on an ongoing basis, PTNS involves an initial 12-week course of treatment followed by maintenance therapy, which to date has not been well defined. Therefore, the assumption cannot be made that short-term treatment effects will be maintained.

As with the OrBIT trial, there was a SUMiT extension study including only those patients who had been assigned to the PTNS group and initially responded to treatment. That is, the extension study did not collect additional follow-up data from patients in the PTNS group who failed to meet the 12-week primary effectiveness endpoint or from patients assigned to the sham-control group. Among the 110 patients assigned to the PTNS group, 60 were initial responders and 50 of these entered the extension study. (12, 13) Data were available on 34 patients at 24 months and 29 patients at 36 months. After enrolling in the extension study, patients underwent a 14-week transitional protocol consisting of 2 treatments with a 14-day interval, 2 treatments with a 21-day interval and then 1 treatment after another 28 days. Following this 14-week period, a personal treatment plan was developed for each patient. PTNS treatments were delivered based on the patient's reporting of symptoms; patients knew that PTNS sessions were available to them as needed when their symptoms increased. Between 6 and 36 months, patients received a median of 1.1 PTNS treatments per month. In a per protocol analysis, compared to baseline, 28 of 29 patients (97%) who completed the 36-month follow-up met the primary efficacy endpoint of moderate or marked improvement in overall bladder symptoms on the GRA. In addition, compared to baseline, all voiding diary measures were significantly improved in this group of patients at every 6-month follow-up. As mentioned previously in the discussion of the ORBIT extension study, the SUMiT extension study was limited by a lack of follow-up data on the control group and a lack of follow-up data on all participants in the treatment group.

Several other RCTs have been published; none reported on the efficacy of PTNS beyond 12 weeks. Three trials used a parallel group design. In 2010, Finazzi-Agro and colleagues from Italy was a doubleblind RCT that included 35 female patients who had urge incontinence and detrusor overactivity on urodynamic testing. (7) Patients were randomly assigned to 30-minute PTNS

sessions 3 times per week for 4 weeks (n=18) or sham treatment (n=17). One patient dropped out of the PTNS group and 2 dropped out of the sham group; analysis was not ITT. The primary outcome, percent responders at 4 weeks (defined as at least 50% reduction in incontinent episodes) was attained by 12/17 (71%) in the PTNS group and 0/15 (0%) in the sham group. Also in 2010, Schreiner and colleagues in Brazil randomized 51 women older than 60 years who complained of urge urinary incontinence to 12 weeks of conservative treatment (Kegel exercises and bladder training) alone (n=26) or conservative treatment plus 12 weekly sessions of PTNS (n=25).⁽¹⁴⁾ The response rate at 12 weeks, defined as a reduction of at least 50% in the number of incontinence episodes reported by the patient in a bladder diary, was 76% in the PTNS group and 27% in the conservative treatment only group; p=0.001. Blinding was not discussed.

In 2012, Gungor Ugurlucan and colleagues in Turkey published findings of an RCT comparing transvaginal electrical stimulation (ES) (n=38) and PTNS (n=21) in women with OAB.⁽¹⁵⁾ The ES protocol consisted of 20-minute treatments 3 times a week for 6 to 8 weeks. PTNS was performed with an Urgent PC device used for twelve 30-minute weekly sessions. A total of 52 of 59 (88%) patients completed the study. The authors assessed numerous outcome variables and did not specify primary outcomes or adjust p values for multiple comparisons. Four bladder diary variables were reported. From baseline to the end of the treatment period, the groups did not differ significantly at the p<0.05 level in mean change in urgency episodes, nocturia or incontinence episodes. For example, the mean number of urgency episodes was 2.9 (standard deviation [SD]: 4.1) at baseline and 1.6 (SD: 0.5) after treatment in the ES group and 2.0 (SD: 3.1) at baseline and 1.3 (SD: 0.5) after treatment in the PTNS group, p=0.54. There was a statistically significant difference in daytime frequency. The mean daytime frequency was 7.8 (SD: 2.7) at baseline and 5.8 (SD: 1.9) after treatment in the ES group and 7.6 (SD: 2.6) at baseline and 7.4 (SD: 2.9) in the PTNS group (p=0.03). The authors reported that a significantly higher proportion of patients in the ES group described themselves as cured, but they did not provide proportions or p values.

One randomized trial, published in 2013, used a crossover design. This study, by Vecchioli-Scaldazza and colleagues in Italy, included 40 women with OAB.⁽¹⁶⁾ The treatments were PTNS (twice weekly for 6 weeks) and medication (oral solifenacin succinate 5 mg/day for 40 days), given in random order, with a 6-week wash-out period between treatments. Group A received medication first and Group B received PTNS first. The primary efficacy outcome was reduction in the number of voids in a 24-hour period. Thirty of the 40 patients (75%) completed the study. The number of daily voids significantly decreased after each treatment compared to before treatment. In Group A, the mean number of daily voids premedication was 11.6 (SD: 1.6) and post-medication was 10.0 (SD: 2.1), p=0.004. The mean number of voids pre-PTNS was 11.5 (SD: 1.1) and post-PTNS was 8.5 (SD: 2.3), p<0.001. In Group B, the mean number of voids pre-medication was 11.4 (SD: 1.4) and post-medication was 10.4 (SD: 1.8), p=0.008. The mean number of voids pre-PTNS was 11.4 (SD: 1.4) and post-PTNS was 9.4 (SD: 1.9), p<0.001. In addition, secondary outcomes including nocturia urge incontinence and voided volume significantly improved after each treatment compared to pre-treatment values. The authors did not directly compare the efficacy of medication and PTNS.

NEUROGENIC BLADDER

In 2011, 2 case series evaluating PTNS in patients with multiple sclerosis (MS) were published. One study, by Gobbi and colleagues in the United Kingdom (U.K.) included twelve 30-minute

treatment sessions with the Urgent PC device.(17) The study included 21 patients with MS who had lower urinary tract symptoms unresponsive to anticholinergics. Overall, urinary symptoms significantly improved at the end of treatment. For example, median daytime frequency decreased from 9 to 6 episodes per day, $p=0.04$ and median nocturia decreased from 3 to 1 episode per night, $p=0.002$. The other case series was conducted in France by de Seze and colleagues and used a different protocol.(18) Participants underwent 1 in-clinic treatment session and were then given a TENS device for in-home tibial nerve stimulation; they were told to use the device 20 minutes a day for 3 months. A total of 70 individuals with MS and OAB refractory to medication participated in the study. Compared to baseline, there was a statistically significant reduction in OAB symptoms. For example, the proportion of continent patients increased from 26% to 45% ($p=0.005$). Both studies were limited by lack of control groups and lack of long-term follow-up; the French study used a different device and different protocol than in the other PTNS studies.

Clinical Input Received through 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. In response to requests, input was received through 3 Physician Specialty Societies and 1 Academic Medical Center while this policy was under review in 2012. Clinical input was mixed. There was no consensus or near-consensus that the policy should be changed. The range of opinions included that PTNS should be considered investigational, that it should be considered for use in medically refractory patients as second-line treatment and that the evidence is sufficient to consider this treatment to be medically necessary.

SUMMARY

Posterior tibial nerve stimulation (PTNS) is a technique of electrical neuromodulation used for treating voiding dysfunction. The RCTs reported short-term (up to 12 weeks) improvements on measures of urinary incontinence. Up to 36 months of data are available for some patients enrolled in RCTs who responded to an initial course of treatment. A TEC Assessment published in 2013 found sufficient evidence of short-term efficacy. The Assessment noted the lack of long-term controlled efficacy data, but concluded that the available 12- to 36-month follow-up data on PTNS responders in the SUmiT and OrBIT trials appeared consistent with maintaining efficacy over the long term. Other systematic reviews of the evidence have found short-term improvements with PTNS and have not evaluated long-term effectiveness. Thus, given the findings of the 2013 TEC Assessment and support from the American Urological Association guideline, PTNS may be considered medically necessary for women with overactive bladder who meet criteria, and investigational in other situations.

Practice Guidelines and Position Statements

In 2012, the American Urological Association (AUA) and the Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction published a guideline on diagnosis and treatment of nonneurogenic overactive bladder in adults.(19) The guideline included a statement that clinicians may offer PTNS as a third-line treatment option in carefully selected patients. The statement was rated as Grade C, indicating that the balance of benefits and risks/burdens are uncertain. The 2005 (reaffirmed 2009) American College of Obstetricians and Gynecologists

practice bulletin on treatment of urinary incontinence in women does not address PTNS or other types of nerve stimulation.(20)

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CPT/HCPCS

64566 Posterior tibial neurostimulation, percutaneous needle electrode, single treatment, includes programming

ICD-9 Diagnoses

596.51 Hypertonicity of bladder (includes overactive bladder)
 788.20 Retention of urine, unspecified
 788.21 Incomplete bladder emptying
 788.29 Other specified retention of urine
 788.30 Urinary incontinence, unspecified
 788.31 Urge incontinence
 788.32 Stress incontinence, male
 788.33 Mixed incontinence, (male) (female)
 788.34 Incontinence without sensory awareness
 788.35 Post-void dribbling
 788.36 Nocturnal enuresis
 788.37 Continuous leakage
 788.38 Overflow incontinence
 788.39 Other urinary incontinence
 788.41 Urinary frequency
 788.63 Urgency of urination

ICD-10 Diagnoses (Effective October 1, 2015)

N32.81 Overactive bladder
 N39.41 Urge incontinence
 N39.42 Incontinence without sensory awareness
 N39.43 Post-void dribbling
 N39.44 Nocturnal enuresis
 N39.45 Continuous leakage
 N39.46 Mixed incontinence
 N39.490 Overflow incontinence
 R33.0 Drug induced retention of urine
 R33.8 Other retention of urine
 R33.9 Retention of urine, unspecified
 R35.0 Frequency of micturition
 R39.15 Urgency of urination

REVISIONS

10-06-2014	Policy added to the bcbsks.com web site.
------------	--

REFERENCES

1. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Percutaneous tibial nerve stimulation for the treatment of voiding dysfunction. TEC Assessments 2013; Volume 28.
2. Burton C, Sajja A, Latthe PM. Effectiveness of percutaneous posterior tibial nerve stimulation for overactive bladder: a systematic review and meta-analysis. *Neurourol Urodyn* 2012; 31(8):1206-16.
3. 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* 2012; 23(11):1591-7.
4. Moosdorff-Steinhauser HF, Berghmans B. Effects of percutaneous tibial nerve stimulation on adult patients with overactive bladder syndrome: A systematic review. *Neurourol Urodyn* 2013; 32(3):206-14.
5. 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.
6. Shamliyan T, Wyman J, Kane RL. Nonsurgical Treatments for Urinary Incontinence in Adult Women: Diagnosis and Comparative Effectiveness. Agency for Healthcare Research and Quality; Rockville (MD), 2012. Available online at: <http://effectivehealthcare.ahrq.gov/ehc/products/169/834/urinary-incontinence-treatment-report-130909.pdf>.
7. Finazzi-Agro 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* 2010; 184(5):2001-6.
8. Peters K, 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-Jan):1055-61.
9. 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):234-40.
10. Peters KM, Carrico DJ, Perez-Marrero P 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* 2010; 183(4):1438-43.
11. Peters K, Carrico D, Burks F. Validation of a sham for percutaneous tibial nerve stimulation (PTNS). *Neurourol Urodyn* 2009; 28(1):58-61.
12. 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):24-9.
13. 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* 2013; 189(6):2194-201.
14. 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* 2010; 21(9):1065-70.

15. 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.
16. 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.
17. Gobbi C, Digesu GA, Khullar V et al. Percutaneous posterior tibial nerve stimulation as an effective treatment of refractory lower urinary tract symptoms in patients with multiple sclerosis: preliminary data from a multicentre, prospective, open label trial. *Mult Scler* 2011; 17(12):1514-9.
18. De Seze M., Raibaut P, Gallien P et al. Transcutaneous posterior tibial nerve stimulation for treatment of the overactive bladder syndrome in multiple sclerosis: results of a multicenter prospective study. *Neurourol Urodyn* 2011; 30(3):306-11.
19. American Urological Association (AUA) and Society of Urodynamics FPMURS. Diagnosis and treatment of overactive bladder (non-neurogenic) in adults/AUA/SUFU guideline. Available online at: www.guideline.gov. Last accessed December, 2013.
20. American College of Obstetricians and Gynecologists (ACOG). Urinary incontinence in women. ACOG Practice Bulletin, no. 63. Available online at: www.guideline.gov. Last accessed December, 2013.

Other References

1. Blue Cross and Blue Shield of Kansas Urology Liaison Committee; August 2007, August 2008, August 2009, August 2010, August 2014.