

Medical Policy



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Professional

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Populations	Interventions	Comparators	Outcomes
Individuals: • With urinary incontinence who have failed conservative treatment	Interventions of interest are: • Sacral nerve neuromodulation	Comparators of interest are: • Pharmacologic treatment	Relevant outcomes include: • Symptoms • Morbid events • Treatment-related morbidity
Individuals: • With fecal incontinence who have failed conservative treatment	Interventions of interest are: • Sacral nerve neuromodulation	Comparators of interest are: • Continued conservative therapy (eg, dietary modification, bulking, pharmacologic treatment)	Relevant outcomes include: • Symptoms • Morbid events • Treatment-related morbidity
Individuals: • With constipation who have failed conservative treatment	Interventions of interest are: • Sacral nerve neuromodulation	Comparators of interest are: • Continued conservative therapy (eg, dietary modification, pharmacologic treatment)	Relevant outcomes include: • Symptoms • Morbid events • Treatment-related morbidity

Populations	Interventions	Comparators	Outcomes
Individuals: <ul style="list-style-type: none"> • With chronic pelvic pain 	Interventions of interest are: <ul style="list-style-type: none"> • Sacral nerve neuromodulation 	Comparators of interest are: <ul style="list-style-type: none"> • Continued conservative therapy (eg, cognitive-behavioral therapy, pharmacologic treatment) 	Relevant outcomes include: <ul style="list-style-type: none"> • Symptoms • Morbid events • Treatment-related morbidity

DESCRIPTION

Sacral nerve neuromodulation (SNM), also known as sacral nerve stimulation, involves the implantation of a permanent device that modulates the neural pathways controlling bladder or rectal function. This policy addresses use of SNM in the treatment of urinary or fecal incontinence, fecal nonobstructive retention, and chronic pelvic pain in patients with intact neural innervation of the bladder and/or rectum.

OBJECTIVE

The objective of this review is to determine whether the use of sacral nerve stimulation improves the net health outcome for patients treated with for urinary or fecal incontinence, constipation, and chronic pelvic pain.

BACKGROUND

Urinary and Fecal Incontinence

Urge incontinence is defined as leakage of urine when there is a strong urge to void. Urgency-frequency is an uncontrollable urge to urinate, resulting in very frequent, small volumes and is a prominent symptom of interstitial cystitis (also called bladder pain syndrome). Urinary retention is the inability to empty the bladder of urine completely. Fecal incontinence can arise from a variety of mechanisms, including rectal wall compliance, efferent and afferent neural pathways, central and peripheral nervous systems, and voluntary and involuntary muscles. Fecal incontinence is more common in women, due mainly to muscular and neural damage that may occur during vaginal delivery.

Treatment

Treatment using sacral nerve neuromodulation (SNM), also known as indirect sacral nerve stimulation (SNS), is one of several alternative modalities for patients with fecal or urinary incontinence (urge incontinence, significant symptoms of urgency-frequency, or nonobstructive urinary retention) who have failed behavioral (eg, prompted voiding) and/or pharmacologic therapies.

The SNM device consists of an implantable pulse generator that delivers controlled electrical impulses. This pulse generator is attached to wire leads that connect to the sacral nerves, most commonly the S3 nerve root. Two external components of the system help control the electrical stimulation. A control magnet is kept by the patient and can be used to turn the device on or off. A console programmer is kept by the physician and used to adjust the settings of the pulse generator.

Prior to implantation of the permanent device, patients undergo an initial testing phase to estimate potential response to treatment. The first type of testing developed was percutaneous nerve evaluation (PNE). This procedure is done with the patient under local anesthesia, using a test needle to identify the appropriate sacral nerve(s). Once identified, a temporary wire lead is inserted through the test needle and left in place for 4-7 days. This lead is connected to an external stimulator, which is carried by patients in their pocket or on their belt. The results of this test phase are used to determine whether patients are appropriate candidates for the permanent device. If patients show a 50% or greater reduction in symptom frequency, they are deemed eligible for the permanent device.

The second type of testing is a 2-stage surgical procedure. In the first stage, a quadripolar-tined lead is implanted (stage 1). The testing phase can last as long as several weeks, and if patients show a 50% or greater reduction in symptom frequency, they can proceed to stage 2 of the surgery, which is permanent implantation of the neuromodulation device. The 2-stage surgical procedure has been used in various ways. These include its use instead of PNE, for patients who failed PNE, for patients with an inconclusive PNE, or for patients who had a successful PNE to further refine patient selection.

The permanent device is implanted with the patient under general anesthesia. An incision is made over the lower back, and the electrical leads are placed in contact with the sacral nerve root(s). The wire leads are extended through a second incision underneath the skin, across the flank to the lower abdomen. Finally, a third incision is made in the lower abdomen where the pulse generator is inserted and connected to the wire leads. Following implantation, the physician programs the pulse generator to the optimal settings for that patient. The patient can switch the pulse generator between on and off by placing the control magnet over the area of the pulse generator for 1–2 seconds.

Note: This policy does not address pelvic floor stimulation, which refers to electrical stimulation of the pudendal nerve. In addition, this policy does not address devices that provide direct sacral nerve stimulation in patients with spinal cord injuries.

REGULATORY STATUS

In 1997, the Medtronic InterStim® Sacral Nerve Stimulation system received U.S. Food and Drug Administration (FDA) approval for marketing for the indication of urinary urge incontinence in patients who have failed or could not tolerate more conservative treatments. In 1999, the device received FDA approval for the additional indications of urgency-frequency and urinary retention in patients without mechanical obstruction. In 2006, the Medtronic InterStim II System received FDA approval for treatment of intractable cases of overactive bladder and urinary retention. The new device is smaller and lighter than the original system and is reported to be suited for those with lower energy requirements or small stature. The device also includes updated software and programming options.

In 2011, the Medtronic InterStim System received FDA approval for the indication of chronic fecal incontinence in patients who have failed or could not tolerate more conservative treatments.

The InterStim device has not been specifically approved by FDA for treatment of chronic pelvic pain.

FDA product code: EZW.

POLICY

I. Urinary Incontinence and Nonobstructive Retention

- A. A trial period of sacral nerve neuromodulation with either percutaneous nerve stimulation or a temporarily implanted lead may be considered **medically necessary** in patients who meet all of the following criteria:
1. There is a diagnosis of at least 1 of the following:
 - a. Urge incontinence
 - b. Urgency-frequency syndrome
 - c. Nonobstructive urinary retention
 - d. Overactive bladder
 2. There is documented failure or intolerance to at least 2 conventional conservative therapies (eg, behavioral training such as bladder training, prompted voiding, or pelvic muscle exercise training, pharmacologic treatment for at least a sufficient duration to fully assess its efficacy, and/or surgical corrective therapy); **AND**
 3. The patient is an appropriate surgical candidate; **AND**
 4. Incontinence is not related to a neurologic condition.
- B. Permanent implantation of a sacral nerve neuromodulation device may be considered **medically necessary** in patients who meet **ALL** of the following criteria:
1. All of the criteria in Item I A 1-4 above are met, **AND**
 2. A trial stimulation period demonstrates at least 50% improvement in symptoms.
- C. Other urinary/voiding applications of sacral nerve neuromodulation are considered **experimental / investigational**, including, but not limited to,

treatment of stress incontinence or urge incontinence due to a neurologic condition, eg, detrusor hyperreflexia, multiple sclerosis, spinal cord injury, or other types of chronic voiding dysfunction.

II. Fecal Incontinence

- A. A trial period of sacral nerve neuromodulation with either percutaneous nerve stimulation or a temporarily implanted lead may be considered **medically necessary** in patients who meet **ALL** of the following criteria:
1. There is a diagnosis of chronic fecal incontinence of greater than 2 incontinent episodes on average per week with duration greater than 6 months or for more than 12 months after vaginal childbirth; **AND**
 2. There is documented failure or intolerance to conventional conservative therapy (eg, dietary modification, the addition of bulking and pharmacologic treatment) for at least a sufficient duration to fully assess its efficacy; **AND**
 3. The patient is an appropriate surgical candidate; **AND**
 4. The condition is not related to an anorectal malformation (eg, congenital anorectal malformation, defects of the external anal sphincter over 60 degrees, visible sequelae of pelvic radiation, active anal abscesses and fistulae) or chronic inflammatory bowel disease; **AND**
 5. Incontinence is not related to a neurologic condition; **AND**
 6. The patient has not had rectal surgery in the previous 12 months or, in the case of cancer, the patient has not had rectal surgery in the past 24 months.
- B. Permanent implantation of a sacral nerve neuromodulation device may be considered **medically necessary** in patients who meet **ALL** of the following criteria:
1. All of the criteria in Item II A 1-6 above are met, **AND**
 2. A trial stimulation period demonstrates at least 50% improvement in symptoms over a period of at least 48 hours.
- C. Sacral nerve neuromodulation is **experimental / investigational** in the treatment of chronic constipation or chronic pelvic pain.

Policy Guidelines

The International Continence Society states that overactive bladder syndrome “is defined as urinary urgency, usually with urinary frequency and nocturia, with or without urgency urinary incontinence” (available at <http://wiki.ics.org/Overactive+Bladder>).

RATIONALE

The original review was based on TEC Assessments from 1998 and 2000, which focused on sacral nerve neuromodulation (SNM) for urge incontinence and urinary urgency/frequency, respectively.^{1,2} The most recent literature review was performed through February 5, 2018.

Evidence reviews assess the clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function—including benefits and harms. Every clinical condition has specific outcomes that are important to patients and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms.

To assess whether the evidence is sufficient to draw conclusions about the net health outcome of a technology, 2 domains are examined: the relevance and the quality and credibility. To be relevant, studies must represent one or more intended clinical use of the technology in the intended population and compare an effective and appropriate alternative at a comparable intensity. For some conditions, the alternative will be supportive care or surveillance. The quality and credibility of the evidence depend on study design and conduct, minimizing bias and confounding that can generate incorrect findings. The randomized controlled trial (RCT) is preferred to assess efficacy; however, in some circumstances, nonrandomized studies may be adequate. RCTs are rarely large enough or long enough to capture less common adverse events and long-term effects. Other types of studies can be used for these purposes and to assess generalizability to broader clinical populations and settings of clinical practice.

Urinary Incontinence

Randomized Controlled Trials

Several RCTs on SNM for urinary incontinence have been conducted. One was sponsored by Medtronic and submitted to the U.S. Food and Drug Administration as part of the device approval process.³ Findings have not otherwise been published. Based on this RCT, a TEC Assessment (1998) concluded that SNM reduced urge incontinence compared with control patients.¹ The trial was well-designed, using standardized clinical and functional status outcomes measurements, and enrolled patients with severe urge incontinence who had failed extensive prior treatments. The magnitude of effect (approximately one-half of patients became dry, three-quarters experienced at least 50% reduction in incontinence) was fairly large, probably at least as great as with surgical procedures, and larger than expected from a placebo effect or conservative measures such as behavioral therapy or drugs. The therapy evaluation test, in which the device was turned off (ie, sham treatment was provided) and patients thus served as their controls, provided further evidence that the effect on incontinence was due to electrical stimulation and demonstrated that the effect of SNM is reversible. The cohort analysis of the clinical trial provided some evidence that the effect of SNM could be maintained for up to 2 years. There was a high rate of adverse events reported in this trial. Most were minor and reversible; however,

approximately one-third of patients required surgical revision for pain at the operative sites or migration of the leads.

In this RCT, 177 of 581 patients had urinary retention. Patients with urinary retention reported significant improvements regarding volume per catheterization, a decrease in the number of catheterizations per day, and increased total voided volume per day. At 12 months postimplant, 61% of patients had ceased use of catheterization. At baseline, 220 (38%) of 581 had significant urgency-frequency symptoms. After 6 months, 83% of patients with urgency-frequency symptoms reported increased voiding volumes with the same or reduced degree of frequency. At 12 months, 81% of patients had reached normal voiding frequency. Compared with a control group, patients with implants reported significant improvements in quality of life (QOL), as evaluated by the Short-Form 36-Item Health Survey.

An additional prospective RCT of 44 patients with urge incontinence was published by Weil et al (2000).⁴ At 6 months, the implant group showed significantly greater improvements in standardized clinical outcomes, compared with those receiving conservative therapy. The magnitude of effect was substantial.

Siegel et al (2015) published results of an industry-sponsored, Food and Drug Administration–mandated, postapproval study known as the Insite trial. This RCT compared SNM using a 2-stage surgical procedure with standard medical therapy.⁵ Study inclusion criteria were a diagnosis of overactive bladder (at least 8 voids per day and/or at least 2 involuntary leaking episodes in 72 hours) and a failed trial of at least 1 anticholinergic or antimuscarinic medication. Also, there needed to be at least 1 such medication that had not yet been prescribed. Patients with neurologic diseases and with primary stress incontinence were excluded. Seventy patients were allocated to SNM and 77 to standard medical therapy. Of the 70 patients in the SNM group, 11 elected not to receive test stimulation with the tined lead and 8 received the lead but did not receive a full system implant due to lack of response to a 14-day test stimulation period (response was defined as $\geq 50\%$ reduction in average leaks and/or voids). Patients in the medical treatment group tried the next recommended medication or restarted a discontinued medication. Therapeutic success was defined as at least a 50% improvement in average leaks per day or at least a 50% improvement in the number of voids per day or a return to fewer than 8 voids per day. In intention-to-treat (ITT) analysis, the therapeutic success rate at 6 months was 61% in the SNM group and 42% in the standard treatment group; the difference between groups was statistically significant ($p=0.02$). QOL at 6 months was a secondary outcome. Several validated QOL scales were used, and all favored the SNM group compared with the standard treatment group ($p<0.002$ for all comparisons).

Twelve-month follow-up of the Insite trial was published by Noblett et al (2016).⁶ They analyzed patients from in the sacral nerve stimulation (SNS) group of initial RCT plus additional patients enrolled and implanted in the interim. A total of 340 patients underwent test stimulation, 272 underwent implantation, and 255 completed 12 months of follow-up. In a modified completers' analysis, the therapeutic success rate was 82%. This modified completers' analysis included patients who were implanted and had either a baseline or 12-month evaluation or withdrew from the trial due to a device-related adverse event or lack of efficacy. In an analysis limited to study completers, the therapeutic response rate was 85%. The Noblett analysis did not include data from the control group of patients receiving only standard medical therapy.

Amundsen et al (2016) reported on an RCT comparing intradetrusor injection of onabotulinumtoxinA (n=192) with SNM (n=189) in women with refractory urgency urinary incontinence, defined as at least 1 supervised behavioral or physical therapy intervention and the use of a minimum of 2 anticholinergics (or inability to tolerate or contraindications to the medication).⁷ In ITT analysis, patients in the onabotulinumtoxinA-treated group had greater reductions in urge incontinence per day (3.9 per day) than in the SNM-treated group (3.3 per day; mean difference, 0.63; 95% confidence interval [CI], 0.13 to 1.14; p=0.01). OnabotulinumtoxinA-treated patients had greater reductions in some overactive bladder-related QOL questionnaire-related measures, although the clinical meaningfulness of the changes was uncertain. Patients in the onabotulinumtoxinA-treated group were more likely to have urinary tract infections (35% vs 11%; risk difference, -23%; 95% CI, -33% to -13%; p<0.001).

Case Series

Case series have provided longer follow-up data than the RCTs. For example, a series by Groen et al (2011) in The Netherlands reported the longest follow-up.⁸ Sixty patients had at least 5 years of follow-up after SNM for refractory idiopathic urge urinary incontinence. Success was defined as at least a 50% decrease in the number of incontinent episodes or pads used per day. The success rate was 52 (87%) of 60 at 1 month and gradually decreased to 37 (62%) at 5 years. The number of women who were completely continent was 15 (25%) at 1 month and 9 (15%) at 5 years. At the 5-year follow-up, SNM was still used by 48 (80%) of 60 women. Fifty-seven adverse events were reported in 32 (53%) of 60 patients. The most frequent were hardware-related or pain or discomfort. There were 23 reoperations in 15 patients. In most cases, the pain was managed conservatively.

Findings from a large prospective series were reported by White et al (2009).⁹ The series focused on complications associated with SNM in 202 patients with urge incontinence, urinary urgency, or urinary retention. At a mean follow-up of 37 months (range, 7-84 months), 67 (30%) patients had experienced adverse events that required either lead or implantable pulse generator revisions. Complications included pain (3%), device malfunction secondary to trauma (9%), infection (4%), postoperative hematoma (2%), and lead migration (6%). Also, 5% of patients underwent elective removal, 4% had device removal due to lack of efficacy, and 2% required removal due to battery expiration. At the last follow-up, 172 (85%) patients had functional implanted units.

Section Summary: Urinary Incontinence

Data from RCTs and case series with long-term follow-up have suggested that SNM reduces symptoms of urge incontinence, urgency-frequency syndrome, nonobstructive urinary retention, and overactive bladder in selected patients.

Fecal Incontinence

Systematic Reviews

Thaha et al (2015) conducted a Cochrane review assessing SNS for fecal incontinence and constipation in adults, which included randomized, quasi-randomized, and crossover trials.¹⁰ For fecal incontinence, reviewers included 6 trials of SNM (n=219 patients), 2 of which used parallel-group designs (Thin et al [2015], Tjandra et al [2008]; the latter described below); the others used crossover designs. The primary methodologic quality issue noted was a lack of clarity involving randomization techniques and allocation concealment. Reviewers concluded: "The

limited evidence from the included trials suggests that SNS can improve continence in a proportion of patients with faecal incontinence.”

Thin et al (2013) published a systematic review of randomized trials and observational studies evaluating SNM for treating fecal incontinence.¹¹ Sixty-one studies met the following eligibility criteria: assessed at least 10 patients, had a clear follow-up interval and reported the success rate of therapy based on a 50% or greater reduction in fecal incontinence episodes. Only 2 studies were RCTs (Tjandra et al [2008], Leroi et al [2005]; described next) and 50 were prospective case series. Data from 2 studies with long-term follow-up were pooled to calculate median success rates using ITT analysis. These median success rates were 63% in the short term (≤ 12 months of follow-up), 58% in the medium term (12-36 months), and 54% in the long-term (> 36 months). The per-protocol short-, medium-, and long-term success rates were 79%, 80%, and 84%, respectively.

Previously, Tan et al (2011) published a meta-analysis of studies SNM for treating fecal incontinence.¹² They identified 34 studies that reported on at least 1 of their outcomes of interest and documented how many patients underwent temporary and permanent SNM. Only 1 study was an RCT (Tjandra et al [2008]). In the 34 studies, 944 patients underwent temporary SNS, and 665 subsequently underwent permanent SNS implantation. There were 279 patients who did not receive permanent implantation, and 154 of them were lost to follow-up. Follow-up in the studies ranged from 2 to 35 weeks. In a pooled analysis of findings of 28 studies, there was a statistically significant decrease in the number of incontinence episodes per week with SNM compared with maximal conservative therapy (weighted mean difference, -6.83; 95% CI, -8.05 to -5.60; $p < 0.001$). Fourteen studies reported incontinence scores, and when these results were pooled, there was also a significantly greater improvement in scores with SNS than with conservative therapy (weighted mean difference, -10.57; 95% CI, -11.89 to -9.24; $p < 0.001$).

Maeda et al (2011) published a systematic review of studies on complications following permanent implantation of an SNS device for fecal incontinence and constipation.¹³ Reviewers identified 94 articles. Most addressed fecal incontinence. A combined analysis of data from 31 studies on SNS for fecal incontinence reported a 12% suboptimal response to therapy (149/1232 patients). A review of complications reported in the studies found that the most commonly reported complication was pain around the site of implantation, with a pooled rate of 13% (81/621 patients). The most common response to this complication was repositioning the stimulator, followed by device explantation and reprogramming. The second most common adverse event was an infection, with a pooled rate of 4% (40/1025 patients). Twenty-five (63%) of the 40 infections led to device explantation.

Randomized Controlled Trials

Tjandra et al (2008) published an RCT assessing 120 patients with severe fecal incontinence.¹⁴ Patients were randomized to SNS or best supportive therapy, consisting of pelvic floor exercises with biofeedback, bulking agents, and dietary management with a team of dieticians. Exclusion criteria included neurologic disorders and external anal sphincter defects of more than 120° of the circumference, although a “high proportion” of the patients had pudendal neuropathy. The trial was not blinded. Of the 60 patients randomized to SNS, 54 (90%) had successful test stimulation and 53 proceeded with the implant of the pulse generator. At baseline, the SNS group had an average of 9.5 incontinent episodes per week, and the controls had 9.2. Both groups had an average of 3.3 days per week with incontinence. At 12-month follow-up, episodes had

decreased to 1 day per week, with 3.1 episodes in the SNS group, but no change in the control group (mean, 3.1 d/wk), with 9.4 episodes. Complete continence was achieved in 22 (42%) of the 53 SNS patients and 13 (24%) patients improved by 75% to 99%. None of the patients had worsening of fecal continence. Adverse events included pain at implant site (6%), seroma (2%), and excessive tingling in the vaginal region (9%).

Leroi et al (2005) in France published an industry-supported, double-blind, randomized crossover study.¹⁵ Thirty-four patients had successful temporary percutaneous stimulation and underwent permanent implantation of an SNM device. Following a 1- to 3-month postimplantation period in which the device was turned on, patients had their device turned on for 1 month and off for 1 month, in random order. Twenty-four (71%) randomized patients completed the trial. There was a statistically significant greater decrease in fecal incontinence episodes with the device turned on ($p=0.03$). However, there was also a large decrease in incontinent episodes for the placebo group. The median frequency of fecal incontinence episodes decreased by 90% when the device was in the on position; it decreased by 76% when the device was in the off position.

Prospective Noncomparative Studies

A key multicenter prospective trial is the 16-site multicenter Food and Drug Administration investigational device exemption study of SNS in 120 patients with fecal incontinence. Findings were initially reported by Wexner et al (2010).¹⁶ To be included, patients had to have chronic fecal incontinence for more than 6 months or more than 12 months after vaginal childbirth, defined as more than 2 incontinent episodes on average per week. All patients had failed or were not candidates for more conservative treatments. Exclusion criteria included congenital anorectal malformation; previous rectal surgery, if performed within the last 12 months (or 24 months in case of cancer); defects of the external anal sphincter over 60°; chronic inflammatory bowel disease; visible sequelae of pelvic radiotherapy; active anal abscesses and fistulae; neurologic diseases such as clinically significant peripheral neuropathy or complete spinal cord injury; and anatomic limitations preventing the successful placement of an electrode. A total of 285 patients were screened; 133 were enrolled and underwent acute test stimulation, and 120 showed at least 50% improvement during the test phase and received a permanent stimulator. Thirty-four of the 120 patients exited the study for various reasons both related (ie, lack of efficacy in 6, implant site infection or skin irritation in 5) and unrelated to the implant (ie, the death of a local principal investigator). Analysis based on the initial 133 patients showed a 66% success rate ($\geq 50\%$ improvement), while analysis based on 106 patients considered completed cases at 12 months showed an 83% success rate. The success rate based on the 120 patients who received a permanently implanted stimulator would fall between these 2 rates. Of 106 cases included in the 12-month results, perfect continence (100% improvement) was reported in approximately 40%, while an additional 30% of patients achieved 75% or greater reduction in incontinent episodes. Success was lower in patients with an internal anal sphincter defect (65% [$n=20$]) than in patients without a defect (87% [$n=86$]).

Three- and 5-year findings were subsequently published. Mellgren et al (2011) reported on the 120 patients who received a permanently implanted stimulator.¹⁷ Mean length of follow-up was 3.1 years, and 83 (69%) completed at least part of the 3-year follow-up assessment. In ITT analysis using the last observation carried forward, 79% of patients experienced at least a 50% reduction in the number of incontinent episodes per week compared with baseline, and 74% experienced at least a 50% reduction in the number of incontinent days per week. In a per-protocol analysis at 3 years, 86% of patients experienced at least a 50% reduction in the number

of incontinent episodes per week, and 78% experienced at least a 50% reduction in the number of incontinent days per week. By the 3-year follow-up, 334 adverse events considered potentially device-related had been reported in 99 patients; 67% of these occurred within the first year. The most frequently reported adverse events among the 120 patients were implant site pain (28%), paresthesia (15%), implant site infection (10%), diarrhea (6%), and extremity pain (6%). Six infections required surgical intervention (5 device removals, 1 device replacement). Hull et al (2013) reported on outcomes in 72 patients (60% of the 120 implanted patients) who had completed a 5-year follow-up visit.¹⁸ Sixty-four (89%) of the patients who contributed bowel diary data at 5 years had at least a 50% improvement from baseline in weekly incontinent episodes, and 26 (36%) of the 72 patients had achieved total continence. It is uncertain whether outcomes differed in the 40% of patients missing from the 5-year analysis.

A study by Altomare et al (2015) also reported on long-term outcome (minimum, 60-month follow-up; median, 84-month follow-up) in patients implanted with a sacral nerve stimulator for fecal incontinence.¹⁹ Patients were identified from a European registry and surveyed. Long-term success was defined as maintaining the temporary stimulation success criteria, ie, at least 50% reduction in the number of fecal incontinence episodes (or fecal incontinence symptom score) at last follow-up, compared with baseline. A total of 272 patients underwent permanent implantation of an SNS device, and 228 were available for follow-up. A total of 194 (71.3%) of the 272 patients with implants, maintained improvement in the long-term.

Section Summary: Fecal Incontinence

The evidence base consists of 2 RCTs, observational studies including several with long-term follow-up, and systematic reviews of RCTs and uncontrolled studies. Collectively, findings from these studies have suggested that SNM and SNS improve outcomes when used to treat chronic fecal incontinence in well-selected patients who have failed conservative therapy.

Constipation

Systematic Reviews

The Cochrane review by Thaha et al (2015) assessed SNS for constipation and fecal incontinence in adults.¹⁰ Two trials on SNM for constipation were included (Dinning et al [2015], and a crossover trial). In 1 trial, the time with abdominal pain and bloating decreased during the "on" period from 79% to 33%. However, in the larger Dinning trial (discussed below), there was no improvement with SNM during the "on" period. Reviewers concluded: "SNS did not improve symptoms in patients with constipation."

Thomas et al (2013) published a systematic review of controlled and uncontrolled studies evaluating SNS for treatment of chronic constipation.²⁰ Reviewers identified 11 case series and 2 blinded crossover studies. Sample sizes for the case series ranged from 4 to 68 patients implanted with a permanent SNS device; in 7 of the 11 studies, fewer than 25 patients underwent SNS implantation. Among the 2 crossover studies, one included 2 patients implanted with an SNS device. The other, a study by Knowles et al (2012),²¹ evaluated temporary stimulation in only 14 patients (see below). Patients were included if they were diagnosed with evacuatory dysfunction and rectal hyposensitivity and had failed maximal conservative treatment. They were randomized to 2 weeks of stimulation with the SNS device turned on and 2 weeks with the SNS device turned off, in random order. There was no wash-out period between treatments. The primary efficacy outcome was change in rectal sensitivity, which was assessed using 3 measures of rectal sensory thresholds. The trial found a statistically significantly greater

increase in rectal sensitivity with the device turned on for 2 of the 3 measures. Among the secondary outcome measures, there was a significantly greater benefit of active treatment on the percentage of successful bowel movements per week and the percentage of episodes with a sense of complete evacuation. In addition to its small sample size, the trial lacked a washout period between treatments (ie, there could have been a carryover effect when the device was used first in the on position). Moreover, the patients were highly selected; only 14 of the approximately 1800 patients approached met the eligibility criteria and agreed to participate in the study.

Randomized Controlled Trials

Zerbib et al (2017) reported on a double-blind crossover RCT of SNS in 36 women with refractory constipation.²² Subjects were eligible if they had chronic constipation (>1 year), with 2 or fewer bowel movements per week, straining to evacuate with more than 25% of attempts, or sensation of incomplete evacuation with more than 25% of attempts, with lack of response to standard therapies. Thirty-six subjects meeting inclusion criteria underwent an initial peripheral nerve evaluation (PNE); those who had adequate symptom improvement to a predefined level were offered permanent SNS implant. After a 2-week washout, subjects were randomized to "on" or "off" for 8 weeks, followed by a 2-week washout, when the groups crossed over. Of the 36 patients enrolled, 20 responded and underwent randomization. Four were excluded (2 due to wound infection, 1 each due to the withdrawal of consent and lack of compliance). At 1-year follow-up, a positive response was observed in 12 of 20 and 11 of 20 patients after active and sham stimulation periods, respectively ($p=0.746$).

A larger randomized crossover trial was published by Dinning et al (2015).²³ The trial included patients (age range, 18-75 years) with slow transit constipation. Potentially eligible patients completed a 3-week stool diary and, in order to continue participating, they had to indicate in the diary that they had complete bowel movements less than 3 days per week for at least 2 of the 3 weeks. Patients with metabolic, neurogenic, or endocrine disorders known to cause constipation were excluded. Fifty-seven met eligibility criteria and had temporary PNE, and 55 underwent permanent implantation. In random order, patients received active stimulation (subsensory in phase 1, suprasensory in phase 2) or sham stimulation (device was on, but pulse width and frequency were set to 0). The primary outcome measure, determined by stool diaries, was a bowel movement with feelings of complete evacuation more than 2 days per week for at least 2 of 3 weeks; it was only assessed in phase 2. Compared with sham stimulation, 16 (29.6%) of 54 patients met the primary outcome during suprasensory stimulation, and 11 (20.8%) of 53 patients met it during sham stimulation; the difference was not statistically significant ($p=0.23$). Other outcomes did not differ significantly with suprastimulation vs sham stimulation and outcomes did not differ in the phase 1 comparison of subsensory vs sham stimulation.

Case Series

One of the larger case series was published by Kamm et al (2010).²⁴ This prospective study was conducted at multiple sites in Europe. It included 62 patients who had idiopathic chronic constipation lasting at least 1 year and who had failed medical and behavioral treatments. Constipation was defined as at least one of the following: fewer than 2 bowel movements per week, straining to evacuate in at least 25% of attempts, or a sensation of incomplete evacuation on at least 25% of occasions. Forty-five (73%) of the 62 met criteria for permanent implantation during the 3-week trial period. Criteria included an increase in evacuation frequency to at least 3 per week or a 50% reduction in either frequency of straining during evacuation or in episodes

with the sensation of incomplete evacuation. After a median follow-up of 28 months (range, 1-55 months) after permanent implantation, 39 (87%) of 45 patients were classified as treatment successes (ie, met the same improvement criteria as used to evaluate temporary stimulation). There was a significant increase in the frequency of bowel movements from a median of 2.3 per week at baseline to 6.6 per week at latest follow-up ($p < 0.001$). The frequency of spontaneous bowel movements (ie, without laxatives or other stimulation) increased from a median of 1.7 per week at baseline to 4.3 per week at last follow-up ($p = 0.001$). A total of 101 adverse events were reported; 40 (40%) of these were attributed to underlying constipation or an unrelated diagnosis. Eleven serious adverse events related to treatment were reported (the authors did not specify whether any patients experienced >1 serious event). The serious adverse events included a deep postoperative infection ($n=2$), superficial erosion of lead through the skin ($n=1$), persistent postoperative pain at the site of implantation ($n=2$), conditions leading to lead revision ($n=4$), and device failure ($n=2$). The study was criticized for including a large number of patients who had more than 2 bowel movements per week at study entry.

Another study, published by Maeda et al (2010), focused on adverse events.²⁵ This chart review included 38 patients with constipation who received permanent SNS after a successful trial period. When charts were reviewed, a mean of 25.7 months had elapsed since implantation. A total of 58 reportable events were identified in 22 (58%) of the 38 patients. A median of 2 (range, 1-9) events per patient was reported; 26 (45%) of 58 events were reported in the first 6 months after device implantation. The most common reportable events were lack or loss of efficacy (26/58 [45%] events) and pain (16 [28%] events). Twenty-eight (48%) of the events were resolved by reprogramming. Surgical interventions were required for 19 (33%) of the events, most commonly permanent electrode replacement (14 events). Three (8%) of 38 patients discontinued device use due to reportable events.

Section Summary: Constipation

Four randomized crossover studies are available; two had very small sample sizes, and the others did not find significant differences in outcomes when active SNS was compared with sham stimulation. There are also several, mainly small, case series. Collectively, they represent insufficient evidence to permit scientific conclusions about the effect of SNM or SNS on health outcomes in patients with constipation.

Chronic Pelvic Pain

A systematic review by Tirlapur et al (2013), evaluating studies on nerve stimulation for chronic pelvic pain, did not identify any RCTs on SNS for treatment of chronic pelvic pain or bladder pain.²⁶ The published evidence was limited to case series. For example, Martellucci et al (2012) reported on 27 patients with chronic pelvic pain (at least 6 months) who underwent testing for SNM implantation.²⁷ After a 4-week temporary stimulation phase, 16 (59%) of 27 patients underwent implantation of an InterStim device. In the 16 implanted patients, mean pain on a visual analog scale was 8.1 before implantation and 2.1 at the 6- and 12-month follow-ups. An earlier study by Siegel et al (2001) reported on 10 patients and reported that 9 of them experienced a decrease in pain with SNS stimulation.²⁸

Section Summary: Chronic Pelvic Pain

Data from several small case series with heterogenous patient samples represent insufficient evidence on the effect of SNM and SNS on health outcomes in patients with chronic pelvic pain. RCTs are needed, especially with sham controls, reporting pain as the primary outcome.

Trial Stimulation Techniques

As described in the Background section, there are 2 types of trial stimulation before permanent implantation of a neuromodulation device. They are PNE and stage 1 (lead implantation) of a 2-stage surgical procedure. PNE was the initial method of trial stimulation and has been the standard of care before permanent implantation of the device. In review articles like that by Baxter and Kim (2010), lead migration was described as a potential problem with the PNE technique, but no studies were identified that quantified the rate of lead migration in large numbers of patients.²⁹ The 2-stage surgical procedure is an alternative trial stimulation modality.

Comparative rates of lead migration and rates of progressing to permanent implantation are useful outcomes in that there may be reduced sensitivity of the PNE test due to lead dislodgement. However, due to the potential placebo effect of testing, it is also important to compare the long-term efficacy of SNM after these 2 trial stimulation techniques. Also, it would be useful to have data on the optimal approach to using the 2-stage surgical procedure. As noted in the Background section, the 2-stage surgical procedure has been used in various ways, including for patients who failed PNE, for patients with an inconclusive PNE, and for patients who had a successful PNE to further refine patient selection.

No RCTs were identified that evaluated long-term health outcomes (eg, reduction in incontinence symptoms) after trial stimulation with PNE vs stage-1 lead implantation. There are limited data on the rates of failure after SNM in patients selected using the 2-stage test. Leong et al (2011), in a single-center prospective study, evaluated 100 urge incontinence patients with both PNE and the first stage of the 2-stage technique (ie, patients served as their controls).³⁰ Patients were first screened with the PNE and, afterward, with lead implantation. Response to testing was based on diary data for 3 consecutive days after receiving each type of lead. In the test phase, 47 (47%) patients had a positive response to PNE, and 69 (69%) had a positive response to the first-stage lead placement test. All patients who responded to PNE also responded to stage-1 testing. The 69 patients who responded to stage-1 testing underwent implantation. They were then followed for a mean of 26 months, and 2 patients (3% of those with a positive test) failed therapy. Although this study showed a low failure rate, only 22 subjects had a successful test with the stage 1 technique but not with PNE. This is a small number of patients on which to base conclusions about the comparative efficacy of the 2 techniques. Also, the order of testing could have biased findings. All patients had PNE testing before the first-stage lead implantation and could have been biased by their first test. Stronger study designs would be to randomize the order of testing or to randomize patients to receive 1 type of testing or the other.

Scheepens et al (2002) analyzed 15 patients with urinary incontinence or retention who had a good initial response to PNE but then failed PNE in the longer term (ie, days 4-7 of testing).³¹ These 15 patients underwent stage 1 of the 2-stage technique. One patient failed the first stage and was explanted. Of the remaining 14 patients, 2 were explanted later due to lack of efficacy of SNM. The other 12 patients were followed for a mean of 4.9 years and voiding diary data showed improvement in nearly all incontinence symptoms. There was a low failure rate after stage 1 testing, but this is a small sample size, and stage-1 testing was not compared with another trial stimulation method (eg, PNE).

Marcelissen et al (2010) published findings in 92 patients with urinary symptoms who underwent trial evaluation for SNM treatment.³² Patients initially underwent PNE (n=76) or stage-1 surgery (n=16). Patients who had a negative PNE (n=41) then underwent stage-1 evaluation. Eleven

(63%) of 16 patients had a positive initial stage-1 test and were implanted with a SNM device. Thirty-five (46%) of 76 patients had a positive initial PNE test and underwent permanent implantation. Forty-one (54% of those undergoing PNE) patients had a negative test and then had stage 1 surgical evaluation. Eighteen (44%) of 41 had a positive stage-1 test and underwent implantation. Altogether 64 patients underwent implantation of an SNM device. Mean follow-up was 51 months. Thirty-eight (59%) of 64 patients implanted experienced clinical success at last follow-up, defined as more than 50% improvement in symptoms reported in a voiding diary. The clinical success rate was not reported separately by trial stimulation method.

Several studies (eg, Borawski et al [2007]³³ and Bannowsky et al [2008]³⁴) compared response rates during the test phase in patients with urinary incontinence symptoms; both found higher response rates with the stage-1 test than with PNE. In these studies, more people who received the stage-1 test went on to undergo implantation. The Borawski study was an RCT with 30 patients (13 received PNE, 17 received the stage 1-test). The Bannowsky study was not randomized; 42 patients received a PNE, and 11 patients received a stage 1 test. Neither followed patients once devices were implanted, so neither provided data on the relative success rates of SNM after these 2 test procedures. Without follow-up after implantation, it is not possible to determine whether the 2-stage procedure reduced false negatives (ie, selected more people who might benefit) or increased false negatives (ie, selected more people who might go on to fail).

No published studies were identified that compared different trial stimulation techniques in patients with nonurinary conditions (eg, fecal incontinence).

SUMMARY OF EVIDENCE

For individuals with urinary incontinence who have failed conservative treatment who receive sacral nerve neuromodulation (SNM), the evidence includes randomized controlled trials (RCTs), systematic reviews, and case series. Relevant outcomes are symptoms, morbid events, and treatment-related morbidity. Results from the RCTs and case series with long-term follow-up have suggested that SNM reduces symptoms of urge incontinence, urgency-frequency syndrome, nonobstructive urinary retention, and overactive bladder in selected patients. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with fecal incontinence who have failed conservative treatment who receive SNM, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms, morbid events, and treatment-related morbidity. Although relatively small, the available trials had a low risk of bias and demonstrated improvements in incontinence relative to alternatives. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with constipation who have failed conservative treatment who receive SNM, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms, morbid events, and treatment-related morbidity. The available trials have not consistently reported improvements in outcomes with SNM. Additional studies are needed to demonstrate the health benefits of this technology. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals with chronic pelvic pain who receive SNM, the evidence is limited to case series. Relevant outcomes are symptoms, morbid events, and treatment-related morbidity. The evidence is insufficient to determine the effects of the technology on health outcomes.

CLINICAL INPUT FROM PHYSICIAN MEDICAL 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 4 physician specialty societies and 2 academic medical centers while this policy was under review in 2012. Reviewers from 2 specialty societies and 2 academic medical centers provided opinions regarding the possible medical necessity of implantable leads for test stimulation, as part of a 2-stage process for device implantation. All 4 respondents supported the use of implantable leads for test stimulation as an alternative to percutaneous test stimulation, for patients who failed percutaneous test stimulation and/or for patients with inconclusive percutaneous test stimulation. Reasons for support included a longer period of interrupted treatment with stage-1 stimulation due to less lead migration and a higher rate of positive tests compared with percutaneous test stimulation.

PRACTICE GUIDELINES AND POSITION STATEMENTS

Urinary Disorders

American Urological Association

In 2014, the American Urological Association issued an updated guideline on diagnosis and treatment of overactive bladder.³⁵ The guidelines stated that sacral neuromodulation may be offered as a third-line treatment in carefully selected patients with severe refractory symptoms or in those who are not candidates for second-line therapy (eg, oral anti-muscarinics, oral β 3-adrenoceptor agonists, transdermal oxybutynin) and are willing to undergo surgery.

American College of Obstetricians and Gynecologists

A 2005 practice bulletin on urinary incontinence from the American College of Obstetricians and Gynecologists (ACOG) considered SNS to be beneficial for treating chronic voiding dysfunction.³⁶ An updated 2015 practice bulletin on urinary incontinence from ACOG did not address SNS.³⁷

Fecal Disorders

National Institute for Health and Care Excellence

The National Institute for Health and Care Excellence issued a guidance on management of fecal incontinence in 2007. The guidance was reviewed in 2014, and no changes were made. It recommended:

“a trial of temporary sacral nerve stimulation should be considered for people with faecal incontinence in whom sphincter surgery is deemed inappropriate.... All individuals should be informed of the potential benefits and limitations of this procedure and should undergo a trial stimulation period of at least 2 weeks to determine if they are likely to benefit. People with faecal incontinence should be offered sacral nerve stimulation on the basis of their response to percutaneous nerve evaluation during specialist assessment, which is predictive of therapy success.”³⁸

American College of Gastroenterology

In its 2004 practice guideline on the diagnosis and management of fecal incontinence, the American College of Gastroenterology (ACG) found limited evidence in favor of SNS.³⁹ ACG concluded that the precise indication for SNS, its comorbidity, its long-term outcome, and efficacy remain to be defined.

Pelvic Floor Society

The Pelvic Floor Society conducted a systematic review as the basis for practice recommendations on the use of SNS for the treatment of constipation.⁴⁰ The systematic review assessed 7 observational studies, all generally of poor quality due to inadequate description of methods. Due to inconsistent reporting on harms and treatment success, and heterogeneity in the patient populations, the Society could not recommend SNS.

U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATIONS

Not applicable.

ONGOING AND UNPUBLISHED CLINICAL TRIALS

Some currently unpublished trials that might influence this review are listed in Table 1.

Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT02434874 ^a	Sacral Nerve Stimulation to Treat Urgency Urinary Incontinence with Wireless Neuromodulation	60	Dec 2017 (ongoing)
NCT03261622	Sacral Nerve Stimulation for Fecal Incontinence – Placebo or Clinical Effective (SNS)	75	Nov 2020
NCT03139734	Sacral Neuromodulation for Pelvic Pain Associated with Endometriosis	50	May 2022

^a denotes an industry-sponsored trial
NCT: national clinical trial.

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

64561	Percutaneous implantation of neurostimulator electrode array; sacral nerve (transforaminal placement) including image guidance, if performed
64581	Incision for implantation of neurostimulator electrode array; sacral nerve (transforaminal placement)
64585	Revision or removal of peripheral neurostimulator electrode array
64590	Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
64595	Revision or removal of peripheral or gastric neurostimulator pulse generator or receiver

- 95970 Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with brain, cranial nerve, spinal cord, peripheral nerve, or sacral nerve, neurostimulator pulse generator/transmitter, without reprogramming
- 95971 Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with simple spinal cord or peripheral nerve (eg, sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional
- 95972 Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with complex spinal cord or peripheral nerve (eg, sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional
- A4290 Sacral nerve stimulation test lead, each
- E0745 Neuromuscular stimulator, electronic shock unit
- E1399 Durable medical equipment, miscellaneous
(would include bulk leads, needles, and cables)
- L8680 Implantable neurostimulator electrode, each
- L8685 Implantable neurostimulator pulse generator, single array, rechargeable, includes extension
- L8686 Implantable neurostimulator pulse generator, single array, nonrechargeable, includes extension
- L8687 Implantable neurostimulator pulse generator, dual array, rechargeable, includes extension
- L8688 Implantable neurostimulator pulse generator, dual array, nonrechargeable, includes extension

ICD-10 Diagnoses

- N39.41 Urge incontinence
- R15.1 Fecal smearing
- R15.2 Fecal urgency
- R15.9 Full incontinence of feces
- R35.0 Frequency of micturition
- R39.14 Feeling of incomplete bladder emptying

REVISIONS

10-19-2009	Policy added to the bcbsks.com web site.
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01-01-2012	In Coding section: Revised CPT nomenclature for the following codes: 64561, 64581, 95970, 95971
03-28-2012	Updated the Medical Policy Title from "Sacral Nerve Modulation / Stimulation for Urinary Dysfunction." Updated Description section. In the Policy section: <ul style="list-style-type: none"> In Item A, revised the following language: "Sacral nerve neuromodulation may be considered medically necessary in patients with one or more of the following: <ol style="list-style-type: none"> urge incontinence urgency-frequency non-obstructive urinary retention" In Item A, inserted the following criteria: <ol style="list-style-type: none"> documented failure or intolerance to conventional therapy (e.g., behavioral training such as bladder training, prompted voiding, or pelvic muscle exercise training, pharmacologic treatment for at least a sufficient duration to fully assess its efficacy, and/or surgical corrective therapy); AND the patient is an appropriate surgical candidate; AND a successful Percutaneous test stimulation, defined as at least 50% improvement in symptoms over a period of at least 2 weeks, was performed; AND conditions is not related to a neurologic condition." In Item B, inserted "urge incontinence due to a neurologic conditions, e.g., detrusor hyperreflexia, multiple sclerosis, spinal cord injury," In Item C, revised the following language "Sacral nerve neuromodulation is also experimental / investigational in the treatment of fecal incontinence, chronic constipation, or chronic pelvic pain." Liberalization was made with regard to fecal incontinence. The treatment of chronic constipation or chronic pelvic pain continues to be considered experimental /investigational. Updated the Rationale section. In the Coding section: <ul style="list-style-type: none"> Updated nomenclature. Added Diagnosis codes: 787.60, 787.62, 787.63 Updated the Reference section.
01-15-2013	In the Coding section: <ul style="list-style-type: none"> Updated nomenclature for CPT code 64561 (effective 01-01-2013)
10-16-2013	Updated Description section. In Policy section: <ul style="list-style-type: none"> In Item A, added "syndrome" to read "...medically necessary for the treatment of urge incontinence, urgency-frequency syndrome,..." In Item A, #3, replaced "2 weeks" with "1 week" In Item A, #4, replaced "condition" with "incontinence". In Item C, #4, replaced "2 weeks" with "1 week". In Item C, #6, removed "such as peripheral neuropathy or complete spinal cord injury" to read "incontinence is not related to another neurologic condition." Updated Rationale section. In Coding section: <ul style="list-style-type: none"> Added ICD-10 Diagnosis codes (Effective October 1, 2014) Updated Reference section.
09-17-2014	Description, Rationale, and Reference sections reviewed with no updates.

	<p>In Coding section:</p> <ul style="list-style-type: none"> ▪ Added CPT codes 64585 and 64595. ▪ Added ICD-9 Diagnosis codes: 787.61, 788.32, 788.33, 788.34, 788.35, 788.36, 788.37, 788.38, 788.39
10-13-2015	<p>Updated Description section.</p> <p>In Policy section:</p> <ul style="list-style-type: none"> ▪ Items related to both urinary and fecal incontinence were separated into trial and permanent placement with criteria. ▪ In Item I A, removed "for the treatment of urge incontinence, urgency-frequency syndrome, and non-obstructive urinary retention," "when," and "are met," and added "A trial period of," "with either percutaneous nerve stimulation or a temporarily implanted lead," and "who meet," to read "A trial period of sacral nerve neuromodulation with either percutaneous nerve stimulation or a temporarily implanted lead may be considered medically necessary in patients who meet all of the following criteria:" ▪ Added a new Item I A 1, to read "There is a diagnosis of at least 1 of the following: a. Urge incontinence, b. urgency-frequency syndrome, c. Nonobstructive urinary retention, d. Overactive bladder." ▪ In Item I A 2 (previously Item I A 1), added "There is," "at least 2," and "and/or surgical corrective therapy," to read "There is documented failure or intolerance to at least 2 conventional conservative therapy (e.g., behavioral training such as bladder training, prompted voiding, or pelvic muscle exercise training, pharmacologic treatment for at least a sufficient duration to fully assess its efficacy, and/or surgical corrective therapy; AND" ▪ Removed previous Item I A 3. ▪ Added new Item I B 1 & 2, to read "Permanent implantation of a sacral nerve neuromodulation device may be considered medically necessary in patients who meet all of the following criteria: 1. All of the criteria in items A 1-4 above are met, AND 2. A trial stimulation period demonstrates at least 50% improvement in symptoms." ▪ Previous Item I B is now Item I C. ▪ In Item II A, removed "for the treatment of fecal incontinence when," and "are met," and added "A trial period of," "with either percutaneous nerve stimulation or a temporarily implanted lead," and "in patients who meet," to read "A trial period of sacral nerve neuromodulation with either percutaneous nerve stimulation or a temporarily implanted lead may be considered medically necessary in patients who meet all of the following criteria:" ▪ In Item II A 1, added "There is a diagnosis of," to read "There is a diagnosis of chronic fecal incontinence of greater than 2 incontinent episodes on average per week with duration greater than 6 months or fo more than 12 months after vaginal childbirth; AND" ▪ In Item II A 2, removed ", performed more than 12 months [or 24 months in case of cancer] previously)," and added "There is," to read "There is documented failiure or intolerance to conventional therapy (e.g., dietary modification, the addition of bulking and pharmacologic treatment) for at least a sufficient duration to fully assess its efficacy; AND" ▪ Removed previous Item II A 4. ▪ In Item II A 4 (previous Item II A 5), added "The," to read "The condition is not related to an anorectal malformation (e.g., congenital anorectal malformation; defects of the external anal sphincter over 60 degrees; visible sequelae of pelvic radiation; active anal abscesses and fistulae) or chronic inflammatory bowel disease; AND" ▪ Added new Item II A 6, "The patient has not had rectal surgery in the previous 12 months, or in the case of cancer, the patient has not had rectal surgery in the past 24 months."

	<ul style="list-style-type: none"> ▪ Added new Item II B 1 & 2, to read "Permanent implantation of a sacral nerve neuromodulation device may be considered medically necessary in patients who meet all of the following criteria: 1. All of the criteria in Item II A 1-6 above are met, AND 2. A trial stimulation period demonstrates at least 50% improvement in symptoms over a period of at least 1 week." ▪ Added Policy Guidelines.
	Updated Rationale section.
	In Coding section: <ul style="list-style-type: none"> ▪ Added CPT codes 95972 and 95973.
	Updated References section.
01-01-2016	In Coding section: <ul style="list-style-type: none"> ▪ Revised nomenclature to CPT code 95972. ▪ Removed CPT code 95973.
02-15-2017	Updated Description section.
	In Policy section: <ul style="list-style-type: none"> ▪ In Item II A 2, added "conservative" to read, "There is documented failure or intolerance to conventional conservative therapy (eg, dietary modification, the addition of bulking and pharmacologic treatment) for at least a sufficient duration to fully assess its efficacy; AND" ▪ In Item II A 4, removed "another" and added "a" to read, "Incontinence is not related to a neurologic condition; AND" ▪ In Item II B 2, removed "1 week" and added "48 hours" to read, "A trial stimulation period demonstrates at least 50% improvement in symptoms over a period of at least 48 hours."
	Updated Rationale section.
	In Coding section: <ul style="list-style-type: none"> ▪ Revised nomenclature to CPT codes 64651 and 95970.
	Updated References section.
05-23-2018	Updated Description section.
	Updated Rationale section.
	In Coding section: <ul style="list-style-type: none"> ▪ Removed ICD-9 codes.
	Updated References section.
01-01-2019	In Coding section: <ul style="list-style-type: none"> ▪ Revised nomenclature to CPT codes: 95970, 95972. ▪ CPT code 95971 was added back to the Coding section. This code was erroneously removed from the policy in 2014.

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