

Basic Evaluation: InterStim Therapy Test Stimulation

PROCEDURE

InterStim Therapy is unique in that test stimulation can be performed to assess the effectiveness of the therapy prior to placing the more permanent neurostimulator implant. This test is designed to determine whether your urinary symptoms can be improved through stimulation of the sacral nerves which help to control the bladder.

You will be asked to complete a 4-day bladder diary and bring it to the test appointment. **It is important that this diary be as accurate as possible since it will provide the baseline for your bladder symptoms and help to determine the success of the testing.**

The test will be done in the doctor's office and will take approximately 60 minutes including prep time and post-procedure instructions. You will be awake and required to lie on your stomach for 20-30 minutes. The doctor will numb the sacral area (above your tailbone) with a local anesthetic injection. Two temporary test wires (leads) will be placed under the skin, one on the left and one on the right, through a needle which is removed once they have been placed. During the testing you will be asked to identify the location of the stimulation you are feeling. Generally, the stimulation feels like a pulsing, tingling or vibrating sensation felt in the "bicycle seat" area near the vagina or anus.

Following the procedure for placing the test wires, you will receive a stimulator box that will be connected to a white cable; the white cable is connected to the implanted wire in your back. There will be 2 white cables, one for each test wire. You will test the 1st white cable for 3 days while keeping a bladder diary, then you will then test the 2nd white cable for the remainder of the week continuing to keep the bladder diary. It is important that these diaries be as accurate as possible. You will bring your completed diaries to your test wire removal appointment which will be scheduled for 1 week following your procedure.

The amount of stimulation is under your control and should be prominent enough to feel it comfortably. It should never be uncomfortable. You may turn the stimulation up and down, on and off using the "A" dial on the stimulator box. Stimulation should always be turned on, day and night, unless driving and should always be felt during this test phase. The intensity of the stimulation may change with standing up, sitting down, lying down, etc. You should adjust the intensity to always feel the stimulation comfortably.

If you are unable to feel the stimulation:

1. Try increasing the intensity, if you get to 10, turn the stimulator off, wait 10 seconds and turn it on again.
2. Change the battery in the stimulator box. You should have an extra 9-volt battery available at home.
3. Check to see that the white cable is connected to the stimulator box and that it is not frayed or broken.
4. If unable to restart stimulation, call the physician's office.

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Avoid showers, tub baths, hot tubs, and swimming pools during the entire test. You may “sponge bath” but do not get the test wires, dressings or the test stimulator box wet.

Do not change the dressings. Instead, reinforce or retape them if they become loose. Always turn off the stimulator while operating motorized vehicles. Occasionally a position change while driving may cause the stimulation to increase and startle you which could cause an accident.

Please wear comfortable, loose fitting pants and slip on shoes on your test date (i.e. sweatpants or other elastic waist pants and sandals or loosely tied sneakers).

You may drive yourself home following the procedure.

DO's

- Take it easy for the test week. Limiting your physical activities will help to prevent the test wires from moving or pulling out.
- Sense the stimulation at all times at a level that is identifiable but not uncomfortable. If the stimulation has moved significantly or you do not sense stimulation, please contact your physician's office.
- Watch for the blinking GREEN light on your stimulator. If the GREEN light is not blinking, simply turn off the unit and reset the stimulator by turning it back on to a comfortable level. If the stimulator does not reset, change the battery and try again. If you cannot get the unit turned back on, call your physician's office.
- Complete your voiding diary as accurately as possible. Try not to alter your fluid intake, caffeine intake or medications during the test period.
- Contact your physician's office if you have any questions or concerns.

DO NOT's for your Test Stimulation Procedure:

- Do NOT take a bath or shower. Do not enter a hot tub or swimming pool.
- Do NOT wear your stimulator while washing up.
- Do NOT “scoot” when you get in and out of a chair or an automobile.
- Do NOT bend over. Try to squat or kneel instead, keeping your back straight.
- Do NOT twist your body or lift heavy items

What is InterStim Therapy?

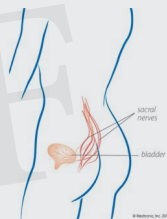
InterStim therapy is a treatment that may relieve urinary and bowel control symptoms. InterStim therapy involves surgically implanting a small neurostimulator device and a lead, which delivers gentle stimulation to the sacral nerve, much like a pacemaker does for your heart. The stimulation may reduce your symptoms to a tolerable level, enabling you to resume many of your daily functions.

Bladder control problems are often caused by interruptions in the communication between the brain and the bladder. The InterStim system can “jump start” the signals traveling along the nerves to your bladder, and help restore more normal bladder function.

Is InterStim right for me? Many women experience symptoms of over active bladder (OAB), urinary frequency and urgency, urge incontinence or urinary retention. Your doctor may recommend InterStim therapy if medication, biofeedback therapy, pelvic floor physical therapy or behavior modification have not provided enough benefit for you.

INTERSTIM TRIAL

Step 1: Basic Evaluation: A basic evaluation is a minimally invasive procedure, performed in the office, under local anesthesia. Two temporary leads (special wires) are placed through a pinpoint opening in your sacrum. After the leads are positioned and secured, stimulation is delivered to your sacral nerve as you go about your normal activities. You will return to the office one week later for removal of the leads. If your urinary symptoms improve significantly with stimulation, you may proceed to InterStim implant (Step 3).



Step 2: If the results of the basic evaluation are inconclusive your doctor may recommend another test called an Advanced Evaluation, involving one or two outpatient surgeries performed under light sedation about two weeks apart. A chronic lead will be implanted near your tailbone during the procedure. During the trial period, an InterStim nurse or technician will instruct you to test different settings on the lead using a control box. If the test is successful, you will proceed to step 3. If there was not marked improvement in symptoms during the trial the lead will be removed.

Step 3: If your trial phase was the basic evaluation, you will have the permanent lead implanted in the sacrum, which will be connected to a small pulse generator implanted in your buttock. If you underwent the advanced evaluation and had improvement in your urinary symptoms, you will have the pulse generator connected to the existing lead.

After InterStim implant you will have follow up appointments with your doctor to make sure the device is programmed in the best way to control your symptoms. You will receive a remote control device to control stimulation, and you may see the InterStim nurse or technician as needed to adjust settings for optimal benefit. This may take a few visits after the initial implant. Once the most appropriate settings are determined, you will need to be followed annually or as needed. Patients can expect up to 5 years of benefit before the device may need to be replaced due to battery depletion.

PROCEDURE OVERVIEW

Urodynamics is like a “stress test” for the bladder which helps your doctor understand how well your bladder works. It is a simple diagnostic test which is painless, requires no sedation, and takes about an hour to complete. The urodynamic evaluation is tailored to answer specific questions about the function of the bladder, urethra, and muscles of the pelvic floor, as it examines the storage and emptying capabilities of the bladder. This important test provides necessary information needed to further diagnosis difficult bladder and incontinence problems. Making the correct diagnosis is the first step towards devising an appropriate treatment plan.

A correct diagnosis can often be made by performing a physical examination, obtaining a medical history, and by thoroughly reviewing the patient’s voiding diary. If the etiology of the problem is still unclear, a formal urodynamic test may be needed.

What Can I Expect During the Exam?

The urodynamic evaluation is most often done in the medical clinic by a specialized technician. It is comprised of four main sections:

Uroflowmetry – The patient is asked to urinate normally, while the strength of the urine flow is measured. The patient is instructed to void to completion (i.e., empty their bladder), and then the amount of urine left in the bladder after a normal void is measured (post-void residual urine).

Electromyography – This portion of the test monitors the activity of the pelvic floor muscles during filling and urination (contraction, relaxation). Small electrodes in the form of patches are placed on either side of the anal opening, and remain there during the entire testing procedure.

Cystometry – As the bladder is slowly filled with sterile water through a small catheter, this test measures bladder sensation, looks for abnormal bladder contractions, documents urinary leakage, and determines the filling capacity of the bladder (i.e., how much it can hold). It also examines how well the bladder transmits appropriate signals to the brain, to coordinate activity between the bladder and urethra/pelvic floor muscles during filling and emptying.

Pressure/Flow Study – As the patient urinates, the bladder pressure required to initiate and maintain the flow of urine is measured. Tiny, pressure-sensitive catheters placed in both the bladder and rectum are used to measure this pressure.

Once complete, the physician will review the test and discuss with you an appropriate treatment plan.

Bladder Irritants

There is no specific diet that can cure your bladder problems. However there are certain dietary habits that may affect your bladder.

Many people who have bladder problems reduce the amount of liquid that they consume hoping to urinate less often. Actually, reducing your liquid intake causes concentrated urine. Concentrated urine can be more irritating to the bladder lining increasing symptoms. Decreased fluids may also encourage the growth of bacteria leading to urinary tract infections.

Your urine may have an unusual odor if you have a bladder infection or after eating certain foods (asparagus). Certain medications such as pyridium may discolor your urine. If you have questions regarding these symptoms consult your physician or pharmacist.

Certain foods and beverages are thought to contribute to bladder problems and are classified as possible bladder irritants. The reasons are not always understood. You may wish to eliminate some of the following to see if your symptoms improve. Eliminate one at a time for at least a week to see how it affects your symptoms.

- Coffee, Tea – Even Decaffeinated (Herbal Teas are okay)
- Caffeine – Soda, Medications Containing Caffeine, Coffee, Tea
- Alcoholic Beverages
- Carbonated Beverages
- Citrus Fruits and Juices – Oranges, Grapefruit, Cranberries
- Tomatoes – Tomato Based Products
- Highly Spiced Foods
- Sugar – Honey – Corn Syrup
- Chocolate – (Contains Caffeine)
- Artificial Sweeteners, Especially Aspartame

Water is the best beverage to drink. Ice in your water or a thin slice of lemon may make water more enjoyable to drink. Other non-irritating choices include apple juice, grape juice, pear nectar and peach nectar; blueberry is another great choice for antioxidants.

Pelvis Floor Muscle Strengthening: Kegel Exercises

Kegel exercises are frequently discussed in childbirth classes or written about in magazine articles. Unfortunately, because pelvic muscles are hidden from view, it is difficult to know if you are doing them correctly. Some tips that can help you find the right muscles include:

- Try to stop your urinary stream. If you succeed then you have identified the right muscles to exercise. This is a learning tool. Do not stop your urine frequently as there is concern that this may create problems with bladder emptying.
- Imagine you are going to pass gas, then, squeeze the muscles that would prevent that gas from escaping from your rectum. Exercising the muscles around the rectum will also strengthen those around the vagina and under the bladder.
- Use a hand mirror to look at your vaginal opening and the perineum (the muscle wall between the vagina and rectum). You should see the perineum lift up when you contract your pelvic muscles.
- While lying or sitting, place one finger inside your vagina. Squeeze as if you were trying to stop urine from coming out. You should feel your finger lifted and squeezed if you are correctly contracting your pelvic muscles.
- Do not hold your breath while exercising.
- Remember not to tighten your stomach and back muscles or squeeze your legs together. These should be relaxed as you isolate and contract just your pelvic muscles.

RECOMMENDED ROUTINE

- Start by pulling in and holding a pelvic muscle squeeze for 3 seconds then relax for an equal amount of time (3seconds).
- Do this for 10 repetitions three times a day.
- Increase your contraction hold by 1 second each week until you are contracting for a 10 second squeeze.
- Remember to rest and breathe between contractions.
- When you start, do the exercises while lying down. As you get stronger; do an exercise set sitting and standing.

Botox® Bladder Injection

PROCEDURE OVERVIEW

Botox® was approved by the FDA in the 1980s to treat certain disorders of the eye muscles and is now widely used in cosmetic surgery to treat wrinkles. It has been used in urology since the late 1990's to treat certain disorders of the bladder and urethra. It acts by binding to the nerve endings of muscles, blocking the release of the transmitter that causes the muscles to contract. The effect is to temporarily paralyze or weaken the muscles at the site of injection.

How is it done?

During a cystoscopy the Botox® is injected through the scope at several sites into the muscle of the bladder. This generally takes approximately 30 minutes and can be done under local anesthesia in the office or general anesthesia in the hospital as an outpatient procedure.

What are the benefits?

Botox® can be used to treat incontinence or urgency/frequency caused by involuntary contractions of the bladder muscle. The benefits usually last for 6-9 months, and the procedure can be repeated, if successful. Studies have shown that roughly 2/3 of patients will benefit from this approach.

What are the risks?

Risks of cystoscopy include bleeding and infection, which are generally mild and treatable. Temporary urinary retention can be successfully treated with intermittent catheterization.

Percutaneous Tibial Nerve Stimulation

PROCEDURE OVERVIEW

Percutaneous Tibial Nerve Stimulation (PTNS) is a minimally invasive treatment for overactive bladder (OAB) symptoms. While many options are available for the treatment of OAB, including behavioral modification, Pelvic Floor Muscle Rehabilitation (PFMR) and medication, not all patients have success with these. PTNS works by gentle electrical stimulation of the nerves of the sacral nerve plexus to modify the bladder's activity, sometimes referred to as neuromodulation. The tibial nerve, located in the lower leg, can be accessed with a sensor placed through the skin, the impulses then travel along the tibial nerve and to the sacral nerve plexus.

After your physician determines that you may benefit from PTNS, you return for an initial evaluation with our nurse practitioner who specializes in urinary incontinence. A small needle electrode is inserted adjacent to the tibial nerve in your lower leg and connected to the battery-powered stimulator. These gentle impulses travel up the tibial nerve to the sacral nerve plexus to modify the bladder's activity. Each treatment last about thirty minutes, and an initial series of twelve treatments are scheduled, each about a week apart. The entire procedure is carried out in the comfort of our office, and following the initial series of treatments you are evaluated by your doctor to assess your response to treatment.

Cystoscopy for Women

PROCEDURE OVERVIEW

Cystoscopy is a diagnostic procedure that allows the doctor to directly examine the urinary tract, particularly the bladder, the urethra, and the openings to the ureters. Cystoscopy can assist in identifying problems with the urinary tract, such as early signs of cancer, infection, strictures (narrowing), obstruction, and bleeding.

A long lighted tube, called a cystoscope, is inserted into the urethra (the tube that allows urine to pass outside the body) and advanced into the bladder allowing visualization of the internal urethra and bladder. Internally, a healthy urinary tract appears pink and smooth, with a moist mucosal lining. Some medical conditions may change the appearance of the lower urinary tract or cause bleeding. Other conditions may cause narrowing of the urethra, making it difficult for urine to empty from the bladder. Additionally, some diseases of the bladder may cause changes in its size, shape, position, and stability. Cystoscopy allows the doctor to examine these structures in great detail.