

# **Urologic Surgical Associates of Delaware**

## *Specializing in Robotic Surgery*

### **Interstim Therapy**

InterStim therapy is a pacemaker for the bladder used to reestablish appropriate neuromodulation of the bladder. The device works by using a stimulator device in the buttocks to stimulate the S3 nerve root in the pelvis. This is the primary nerve root for bladder function. Stimulating the sacral nerve number 3 (S3) nerve root with the InterStim device can result in dramatic decrease in frequency, urgency and urge incontinence. InterStim therapy can also improve bladder emptying and result in decreasing post void residuals and therefore decreasing urinary tract infections and the other complications of incomplete bladder emptying. InterStim therapy can also be used to treat interstitial cystitis and pelvic pain. Outcomes for interstitial cystitis and pelvic pain are not as predictable as outcomes for frequency, urgency and urge incontinence.

Anticholinergic medications can be used to inhibit bladder smooth muscle to treat frequency, urgency, and urge incontinence. Anticholinergic medications will also inhibit smooth muscle in the ciliary muscle of the eye, the salivary gland, and the intestines. Therefore, these medications can cause problems for the patients with acute angle glaucoma and these medications can cause dry mouth and constipation. InterStim therapy does not cause changes to smooth muscle cells outside the bladder and so it does not cause problems for glaucoma patients and it does not cause dry mouth or constipation. InterStim therapy can improve the elastic properties of connective tissue in the bladder and therefore it can help many patients who do not respond to anticholinergic medications. Furthermore, anticholinergic medications will have no effect on the connective tissue of the bladder wall. If a patient has significant frequency, urgency, and urge incontinence there may be changes in the bladder wall connective tissue. For these patients there may be minimal or no change with anticholinergic medications. Interstim therapy can be very effective in such cases.

For patients with significant symptoms of frequency, urgency, and urge incontinence who have tried anticholinergic medications but are not getting satisfactory results or cannot tolerate these medications InterStim therapy is an excellent choice. The patient considering InterStim therapy should have significant voiding symptoms. The three-step process of implanting an InterStim device requires a significant amount of time and energy on the part of the patient. The two-steps include a simple test stimulation in the office or surgery center to gauge whether the patient is appropriate for InterStim therapy followed by subsequent implantation of the InterStim leads and the InterStim generator in the operating room.

The first step for InterStim therapy is a simple test stimulation in the office or surgery center. Tiny wires are implanted into the small of the back near the S3 nerve and these tiny wires are connected to a generator box worn on the hip. The patient wears this box and these tiny wires over the ensuing week and tests for improvements in voiding symptoms. The wires are easily removed in the office and the results can be reviewed to determine if the patient should proceed to the next step.

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The second step in InterStim therapy is placing the InterStim leads and generator. The InterStim leads are placed in the same location as the test wires. That is, the InterStim leads are placed near the S3 nerve root in the lower part of the back with the patient lying on their abdomen. For this second step, as with the first step the patient is under IV sedation. With IV sedation the patient is sleepy but able to answer some simple questions at certain times during the procedure. Both in the first step and with the second step local anesthetic is also used to make the patient very comfortable. The InterStim lead is then connected to the generator implant. For the final generator implant the generator, which is oval shaped, 1 x 2 inches, and about a half-inch thick, is placed into the buttocks and connected to the InterStim leads. This generator can be programmed with an external magnet to set the intensity and frequency of the stimulation to a level that produces the desired results.

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