Patient information for Sacral Neuromodulation

What is Sacral Neuromodulation?

Sacral Neuromodulation is a procedure used to treat men and women with chronic urinary retention, as well as symptoms of overactive bladder (a frequent and urgent need to pass urine, with associated leakage of urine), which have not responded to medication or physiotherapy. Sacral neuromodulation alters the function of the sacral nerves, located near the tailbone. The sacral nerves control the bladder and muscles related to urinary function. Sacral neuromodulation targets the abnormal communication between the brain and the bladder by stimulating the nerves which control bladder function with mild electrical pulses. It helps the brain and the nerves to communicate so the bladder can function properly. In general, up to 80% of patients may show improvement with this therapy

The treatment involves a two-stage surgical procedure performed under local anesthesia with sedation or general anesthesia as outpatient procedure. The initial test phase, the 1st Stage, requires a 1-2 weeks assessment. This allows your doctors and you to assess your initial response with an external neuromodulator device to assess whether a permanent device will be a good option for you.

1st stage sacral neuromodulation procedure – the test phase

The 1st stage procedure involves making three tiny incisions at the lower back. Through one of the incisions the permanent electrode is placed near the sacral nerve. A temporary lead is connected to the electrode, tunneled under the skin across your back where it is brought out to the opposite side. It will be connected to an external control device. You will be connected to this external device after the procedure. Once switched on, you may feel a pulsing, tingling, tapping, dragging or pulling sensation anywhere from your urethra (the tube leading from the bladder) to your anus (back passage. The duration of the test stage can be 1-2 weeks and sometimes longer to allow you time to learn how to use the stimulator and to see how successful it will be in controlling your symptoms. During this phase your doctor may ask you to keep a bladder diary to see how well the device is working. You will need to adapt your lifestyle and day-to-day work with the implant and the medical team will assess the viability of a permanent sacral neuromodulator implant. Prior to this procedure, you will be asked to bring a three-day bladder day diary to document your baseline urinary symptoms. Two to three days after the procedure, you will be asked to keep another 3-day bladder diary to document your bladder function after the procedure. This will tell us if the stimulation is working or not. The goal of this therapy is at least a 50% improvement in symptoms. It is NOT realistic to expect a 100% cure. About 30% of patients fail the test phase and are not candidates for permanent generator placement.

Side effects of 1st stage sacral neuromodulation procedure

The possible side effects of this procedure may include pain, skin irritation, infection, device problems, uncomfortable stimulation and lead movement. The pain may radiate down the bottom of your back, buttock and thigh to your toes. Occasionally, temporary weakness of the leg has been reported. The lead and the battery must be handled carefully. If pulled this may result in movement of the permanent electrode leading to loss of sensation or pain as described above. If this happens you may have to have the 1st Stage repeated if your doctor is in agreement.

2nd stage sacral neuromodulation procedure- implantation of the permanent sacral neuromodulator (battery)

This procedure is again done under sedation or under general anesthesia as an outpatient procedure. Through a small incision on your back just above the buttocks a permanent neuromodulator battery is implanted in a pouch under the skin in a very similar way to a heart pacemaker battery. Your modulator will be switched on using a digital handset. No external wires will be visible. You will be shown how to use your own personal programmer which will enable you to switch the implant on and off and change the settings. At times the settings may need fine tuning which means you will need to return to your doctor for re- programming. This is usually because of loss of sensation. The device works best if it operates all the time day and night. You may switch it off at any time. The usual battery life of a modulator is from 5 – 10 years. It may vary depending upon how your modulator is functioning.

Possible side effects/ Risks/contraindications

The system may be affected by or adversely affect a variety of electronic medical devices or security devices (such as airport security screening). MRIs are generally contraindicated but MRI scans of the brain are safe with some models of stimulator and scan settings. You will need to consult with your doctor for more information on this. If you ever must undergo surgery, show your surgical team the sacral neuromodulation identification card so they know to avoid complications with the devise. Other problems include pain at the implant sites, new pain, lead migration, infection, technical or device problems, adverse change in bowel or voiding function, and undesirable stimulation or sensations, including jolting or shock sensations. Sometimes these problems require the device to be removed. Approximately a third of patients might need further surgery because of problems with the device.

After successful completion of this procedure, you will be followed by your provider regularly at 6 weeks, 12 weeks, 6 month and one year intervals.