

Sacral Neuromodulation (SNM) for Overactive Bladder, Retention and Neurogenic Detrusor Overactivity

A Guide for Patients

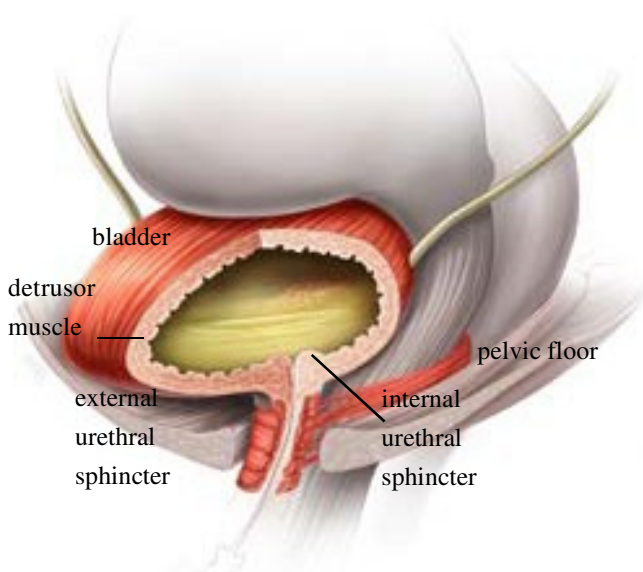
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SNM is a treatment for urge urinary incontinence caused by neurological conditions such as multiple sclerosis and spinal cord damage, and in patients with overactive bladder, urge incontinence, urgency frequency and retention where no cause for the symptoms has been found.

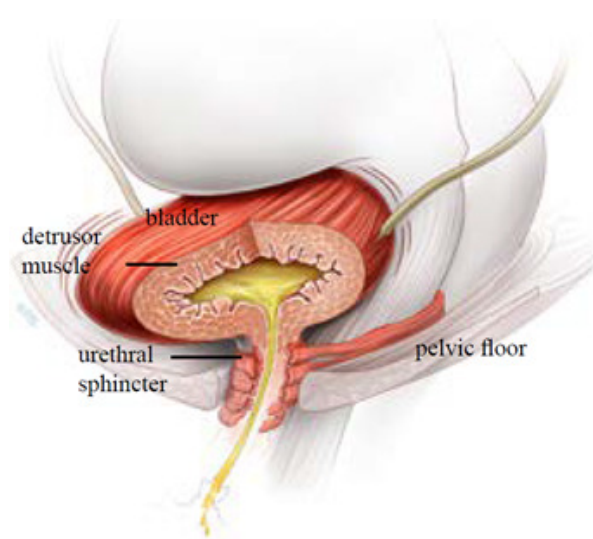
1. How does a normal bladder work?

The bladder is similar to a balloon. As urine is produced and fills the bladder up, the walls stretch to accommodate the extra fluid. Urine is kept inside the bladder by a valve-like mechanism (urethral sphincter) that stays shut until you feel-

Normal bladder half full and relaxed



Overactive bladder half full and contracting and leaking



-the need to empty and have reached a toilet. The valve mechanism is assisted by the pelvic floor muscles below the bladder, which tense up when you cough or sneeze and keep the urine in. As the bladder fills up, you start to be aware of the feeling that you need to pass urine but are able to hold on. Once you have decided to empty your bladder (i.e. in a toilet, at a convenient time), your brain signals the muscle of the bladder to squeeze and empty out the urine. At the same time, the bladder valve and pelvic floor muscles relax to allow the urine to flow out. The bladder usually needs to be emptied about 4-7 times per day, and once at night.

2. What is an overactive bladder (OAB)?

OAB symptoms are caused by the bladder muscle squeezing to empty out urine inappropriately, even when the bladder isn't full. This often happens without warning and when you do not want it to, for example, when hearing the sound of running water, or putting the key into the latch.

3. Neurogenic Detrusor Overactivity (NDO)

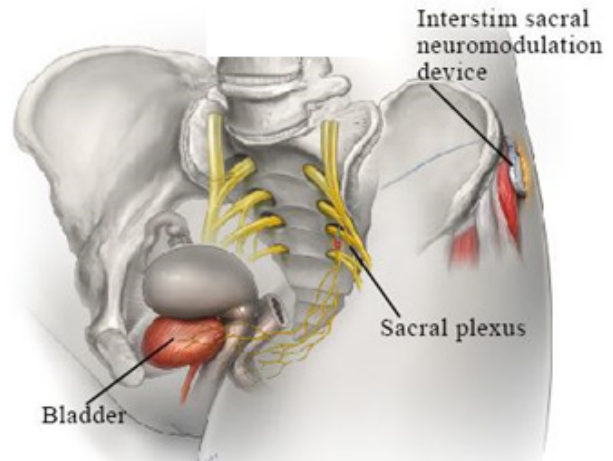
When the spinal cord is damaged, e.g. following spinal injury or as a result of multiple sclerosis, the signals between the brain and bladder no longer work as they should. The nerves may tell the bladder to contract too frequently, resulting in urinary urgency and frequency. Both OAB and NDO cause the following symptoms:

- A sudden feeling you need to pass urine urgently.
- The bladder leaking at times when you have an urgent desire to pass urine.
- The need to go to the toilet often even if the bladder isn't full.
- The need to get up to the toilet at night.

Patients with neurological conditions may have urge incontinence but may also experience difficulty emptying the bladder due to failure of the urethral sphincter muscle to relax and release urine from the bladder.

4. What is SNM and how does it work?

If the brain and sacral nerves don't communicate correctly, the bladder can't function properly, which can cause bladder control problems. The bladder may be overactive causing urgency, or underactive causing urinary retention. Sacral neuromodulation targets this communication problem by stimulating the nerves which control bladder function with mild electrical pulses. It helps the brain and the nerves to communicate so the bladder function can be restored.



5. Am I a candidate for SNM?

You may be a candidate for SNM if you have an overactive bladder or retention and have tried past treatment such as physical therapy and medications without success, satisfactory results, or if you have Neurogenic Detrusor Overactivity. Prior to offering SNM, your doctor may perform investigations such as urodynamics to confirm your diagnosis, and a urine test to check that you do not have a urinary tract infection.

SNM is **NOT** effective for the treatment of another common type of urine leakage called stress incontinence (leakage with cough, sneeze, and exercise).

6. Who should not have SNM?

Implantation of a sacral neuromodulator is contraindicated for:

- Patients for whom 1st stage evaluation test stimulation is unsuccessful
- Patients who are unable to properly operate the system

7. What does SNM involve?

The treatment is very simple and is performed as a **day procedure** at a hospital. The treatment involves a two-stage minor procedure, consisting of a test phase and implant phase, performed under local anesthesia with sedation.

The Test phase, or stage 1, requires a 7-14-day assessment. This allows your doctor and you to assess your initial response with an external neuromodulator device in order to assess whether a permanent device will be a good option for you. The aim is to achieve a minimum of 50% improvement in symptoms. This is assessed during the test phase by completing a bladder diary. You will have support for any device related questions and will have extensive education on the day of the procedure until you feel confident and comfortable. Whatever the outcome, stage 1 is fully reversible. (This minor procedure takes 45 minutes.)

The Implant, or stage 2, involves in the insertion of the sacral nerve stimulator through a small incision, on your back just above the buttocks but below your belt/bikini line. (This minor procedure takes 10-15 minutes.)

8. What should I expect after treatment with SNM?

Once switched on, you may feel a comfortable pulsing, tingling, tapping, dragging or pulling sensation in your pelvic floor area (vagina, scrotum, or anus). Most patients have to really concentrate to be conscious of the sensation. However, simulation can be adjusted at any time or even switched off. SNM does not work immediately, but over several days you should begin to experience relief of sudden urges to urinate and a reduction in urine leakage or stoppage of leaking altogether. Your bladder should be able to hold more urine thus reducing the number of times you go to the bathroom.

If you are taking medications by mouth to relax the bladder, you should be able to wean yourself off these once the SNM begins to take effect. Your doctor will advise you about this. Your doctor will arrange a quick follow up appointment, roughly 10 mins, with you every 12 months to monitor the battery on your new stimulator. The real advantage of SNM is that you will be able to "set and forget" and not have your incontinence or retention impact your life.

9. How long does the treatment effect last?

Unlike other treatments options, SNM provides ongoing symptom relief for 4-5 years before the battery needs replacing. With regular follow-ups, every 12months, your doctor will be able to predict when this is required and prevent your symptoms from returning.

10. What are the risks of SNM?

At first, you may experience some discomfort where the device was implanted. But that will fade as the incision heals. With any procedure there is a risk of infection, about 2%, but your doctor will provide further information on how you can reduce your risk of infection.

Unlike any other treatment, SNM allows patients the opportunity to trial its efficacy on symptoms before proceeding to implant. Along with the peace of mind that at any time, during stage 1 or after implant, SNM is fully reversible. SNM is quick and simple and doesn't involve the spine in anyway.

11. How much does SNM cost?

In Australia, most private health insurers, basic hospital cover, will cover the full cost of SNM. Your doctor will be able to provide you with more information .

12. How successful is SNM?

The clinical evidence for SNM is vast. Over 300,00 patients have successfully been treated with SNM worldwide. There is long term, over 5 years, data for **OAB** showing that over **82%** of patients will achieve a minimum of >50% improvement in symptoms. The evidence for **Urinary Retention** is equally impressive, **78%** of patients had >50% reduction in volume/catheterisations. Speak to your doctor, as they may have patients that have undergone SNM, that are willing to answer questions from patients that are considering SNM.