SACRAL NEUROMODULATION (SNM)

Introduction

Sacral neuromodulation involves bladder nerve stimulation using electrical pulses sent through a small MRI-compatible pulse generator or pacemaker implanted in the sacrum (lower back). These pulses regulate nerve signals and rhythm so the bladder is able to function normally. The pacemaker battery needs to be changed every 5-7 years unless you opt for a rechargeable one.

The pulses are adjusted by a handheld controller that communicates with the implant through a magnet, to find the most effective settings. If your bladder does not empty fully (high residual) or you have co-existing bowel symptoms and faecal leakage, SNM will treat those problems as well.

What are the alternatives?

Percutaneous tibial nerve stimulation (PTNS)
Bladder botulinum toxin (Botox®) injections

Medtronic® SNM (5:13 mins) https://www.youtube.com/watch?v=Evega3-rZdE

What does procedure involve?

Sacral neuromodulation (SNM) is a two phase procedure that is performed in hospital under sedation or general anaesthetic. In the first operation, a test electrode is placed and an external device is used to deliver the electrical pulses. This allows the surgeon to run a trial to assess how well it works.

The second operation is then performed 2-4 weeks later to insert a permanent electrode attached to the pulse generator and battery. Patients may choose to skip the test phase and proceed directly to the implant in a single operation for the following reasons:
- There is an 80-90% SNM will work in carefully selected patients
- Alternative treatment options are limited and have not worked
- The test phase 2-4 weeks is too short to try all the different programs
- Only one hospitalisation and theatre session is required
- Lower out-of-pocket costs and risk of complications with one procedure

What are the risks of surgery?

Uncommon (1-10%)
Infection
Bleeding
Device malfunction or lack of effect, requiring surgical removal

Rare (<1%)
Anaesthetic or cardiorespiratory problems – intensive care
Chest infection, clots in the legs and lung, stroke, heart attack, death

What should I do before surgery?

- Do not eat, drink, or chew gum for 6 hours before surgery
- If you are on blood thinning medication, discuss this with Dr Ooi
- If you are obese, losing weight makes surgery easier and improves outcomes
- If you smoke, quitting makes anaesthesia safer and reduces complication rates

Discharge information

The usual hospital stay is one night. The device will be activated by the MedTronic representative and the nurses will check that you are well and emptying your bladder comfortably before discharge. Blood-thinning drugs can be restarted the same or next day if there is minimal bleeding, and the urine colour is light rose or clear.

The MedTronic representative will contact you by telephone in the first two weeks to check how things are going. During this period, please do not change the settings yourself as it takes up to 4 weeks to notice any effects and some patients have accidentally switched the device off by mistake.

Please contact Dr Ooi's rooms, the hospital, ward or nurse manager if you have any concerns, such as excessive pain, bleeding, wound problems, difficulty emptying your bladder, fever or feel unwell. General advice is also available on our website in the Procedures section.

Appointments

Dr Ooi will see you 2-4 weeks after surgery to check on your progress.

Perth – please come with a full bladder so you can do a flow test
Albany – please do not come with a full bladder as there is no flow machine

Please bring the following items with you:
- Updated bladder diary for at least 3 days the week before your appointment
- Handheld controller and charging cables

Dr Ooi will show you how to use the handheld controller to adjust the settings. You can adjust the <u>voltage</u> as often as you like, but please allow four weeks to fully test each <u>program</u> before swapping to another one.