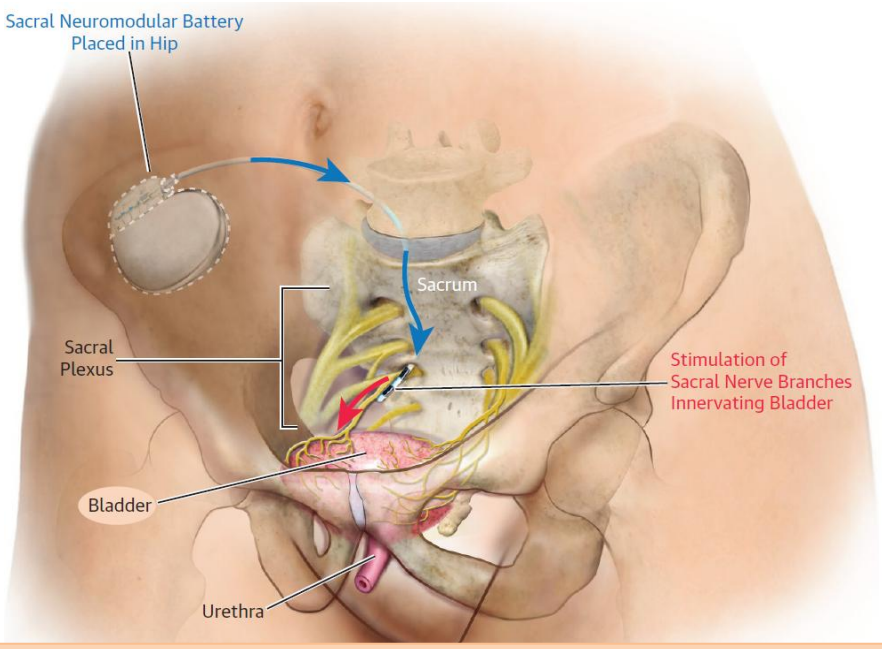
Urogynaecological Society of Australasia

INFORMATION SHEET

Sacral Neuromodulation

Aim: To improve the symptoms of overactive bladder (OAB), which is the frequent and urgent need to pass urine that can be associated with leakage of urine. Sacral neuromodulation (SNM) is a procedure that is used to treat women when their symptoms do not improve with bladder training and oral medications. Research shows that over 80% of women get significant improvement or cure with SNM and 70% of women remain satisfied at five years. Sacral neuromodulation is thought to work by restoring normal signalling between the brain and the bladder via a device that generates continuous electrical pulses. The other commonly used treatment for women with medication-resistant OAB is injections of botulinum toxin (botox) into the bladder. The main advantages of SNM are that the procedure involves a trial before commitment to the permanent device and that there is no risk of needing to self-catheterise. The main disadvantage of SNM compared to botulinum is that around a third of patients require a second operation within 5 years due to device problems or infection. Additionally, you may not be able to have MRI imaging performed with a SNM device implanted.

Surgical technique: The procedure involves two stages. Firstly, a temporary device is used to determine if the procedure will improve your symptoms. After a trial period of at least 2 weeks, the permanent device will be implanted if the trial has been successful as in the diagram below. Both stages are performed in an operating theatre using local anaesthesia and either sedation or a general anaesthesia (fully asleep). The first procedure involves placing a permanent electrode near to the sacral nerve through a tiny incision in your back. This electrode is then tunnelled under your skin and brought out through another small incision and connected to the temporary device. You will be taught how to adjust the pulses being sent from the device and you will be able to assess whether your symptoms are improving. A bladder diary can be useful for this purpose. Stage 1 or trial SNS is a “trial before you buy” test to evaluate if the bladder symptoms resolve.



If, following the trial stimulation, there is a greater than 50% reduction in your urgency, frequency and urge incontinence treatment proceeds to Stage 2, which is implantation of the battery (IPG). The second procedure involves disconnecting the temporary device and then connecting a permanent pulse generator that is implanted under your skin on one side of your back or bottom. The batteries in this device usually last 5–7 years before needing to be replaced. To be effective the device needs to be turned on continuously: if you turn your device off, your symptoms will return. If the trial is unsuccessful, you will require a small procedure to remove the electrode.

Surgery will be covered with antibiotics to decrease the risk of infection and blood-thinning agents may be used to decrease the risk of clots forming in the postoperative phase.

Serious complications are rare with this type of surgery. However, no surgery is without risk and the main potential complications are listed below.

- Failure rate of 10–20%
- Infection at site of lead or device implantation of 5–10% which will require removal of the device
- Pain at site of lead or device implantation (usually temporary) of 10–15%
- Lead migration leading to the device becoming ineffective of 5%
- Reoperation for device problems or infection of 20% within 5 years
- MRI will not be able to performed with the SNS in position
- Clotting in the legs or lungs in 1%.

IN HOSPITAL: In most instances this is performed as an overnight stay or sometimes as a day procedure. However, because the procedure is performed either under sedation or general anaesthesia, you will not be able to drive yourself home. Skin sutures (stitches) are absorbable and do not need to be removed.

RECOVERY: This procedure is relatively minor; however, you may experience discomfort or pain at the operation site (your lower back) during the first week post-operatively. During your trial period you will be taught how to turn your device on and off and how to adjust the intensity of the pulses for maximum effect. It will be helpful for you to keep a bladder diary during this time so that you can decide with your doctor whether to proceed with implantation of the permanent device.