



Scan me!

Epidural Labour Analgesia in a patient with Sacral Nerve Stimulator

Dr Rashida Lokhandwala¹, Dr Vivienne Madden²
ST5 Anaesthetics¹, Consultant Anaesthetist², University Hospitals Coventry and Warwickshire

Introduction

- Sacral nerve modulation is used for the management of bladder and bowel dysfunction.
- It is particularly advantageous in patients who have failed conservative management.
- Sacral nerve stimulator (SNS) is a device consisting of an external stimulator with leads placed adjacent to the sacral nerves. It modulates sacral nerves and provides symptomatic relief by restoring bladder or bowel function.
- When inserted for the management of non-obstructive urinary retention, it reduces the incidence of recurrent urinary tract infections and chronic kidney disease.
- Theoretical concerns: reduction in fertility, teratogenicity, and device damage during vaginal delivery¹.

Case Report

- 29-Year-old, primigravida, requested for a labour epidural at 4 cms dilatation.
- Past medical history: interstitial cystitis, recurrent urinary tract infections (UTIs), asthma, ovarian cyst.
- Urethral dilatation in 2016.
- SNS in situ, for myogenic bladder, since 2017.
- Significant reduction in UTIs after sacral neuromodulation.
- SNS turned off by the primary team at 10/40, leading her to self-catheterise two to three times per day.
- Imaging of her spine and a letter from the primary team confirmed the location of the device and its leads in the sacral area.
- On admission to labour ward, thorough assessment of history, letters from the primary team & imaging.
- Epidural inserted in the L2-L3 interspace, to ensure safe distance from the device and its leads.
- Satisfactory analgesia throughout labour.
- Normal vaginal delivery.
- Nil complications during or after epidural insertion.
- SNS reactivated 6 weeks postpartum.

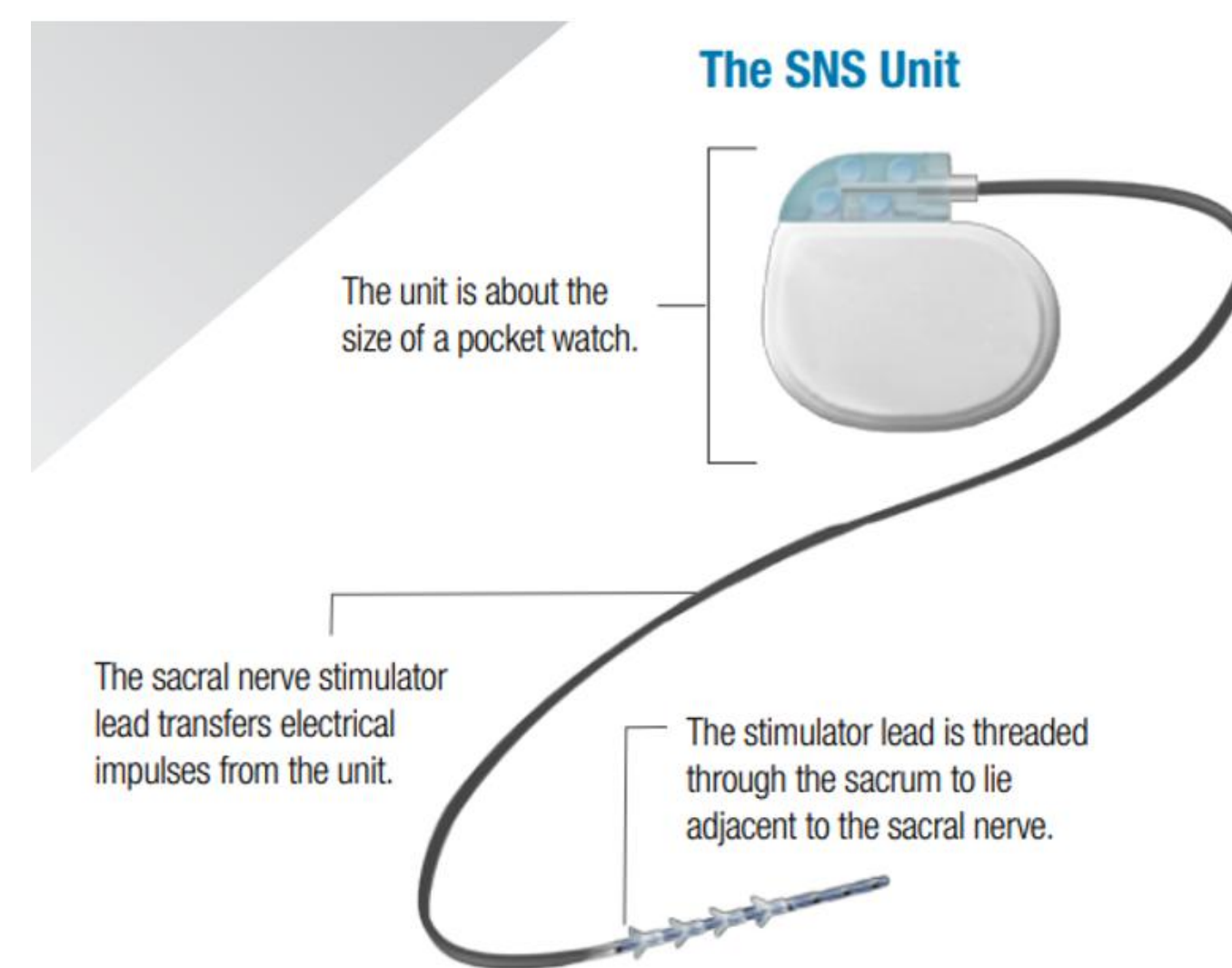
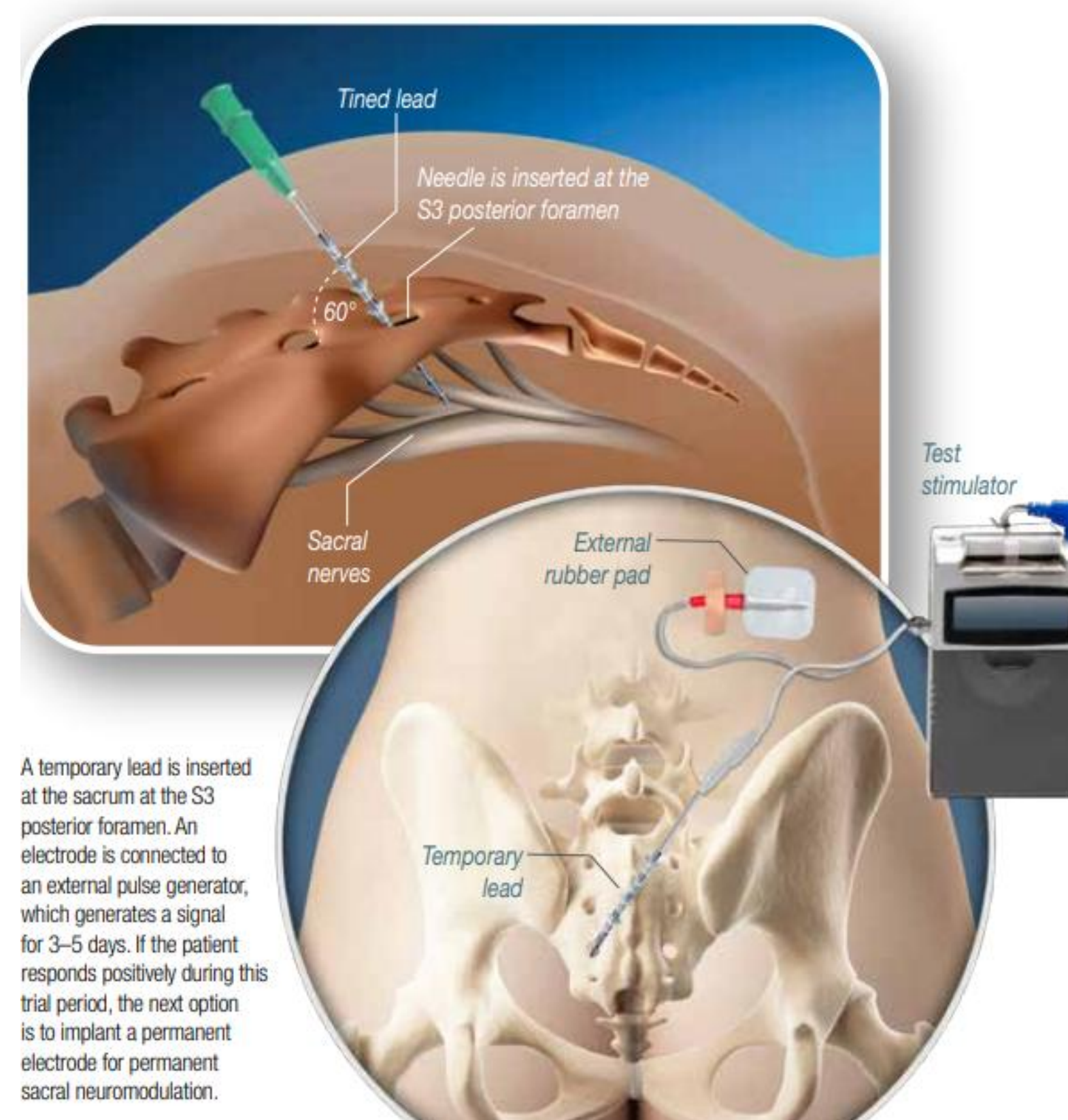


Figure 1: Sacral Nerve Stimulator (SNS) Unit. Seth A. Albert, PaediatricsNationwide, 2015

The Trial Stimulator

First, the physician/surgeon performs a trial to ensure SNS will work for the patient before placing a permanent stimulator. This procedure is done in an outpatient surgery setting under general anesthesia along with local anesthesia for additional pain control.



A temporary lead is inserted at the sacrum at the S3 posterior foramen. An electrode is connected to an external pulse generator, which generates a signal for 3-5 days. If the patient responds positively during this trial period, the next option is to implant a permanent electrode for permanent sacral neuromodulation.

Figure 2: Trial Stimulator. Seth A. Albert, PaediatricsNationwide, 2015

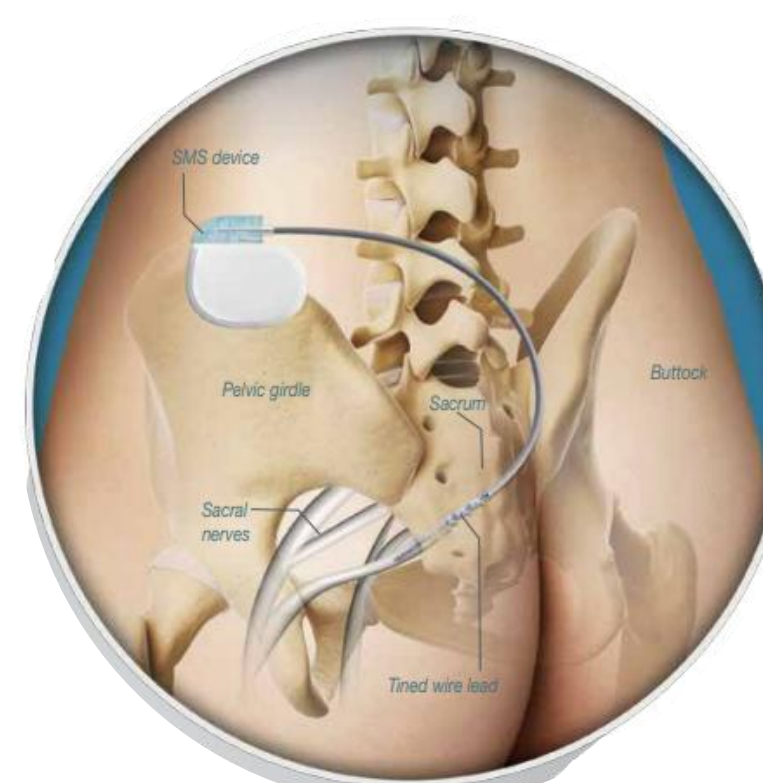


Figure 3: Permanent implanted SNS unit. Seth A. Albert, PaediatricsNationwide, 2015

Discussion

- Sacral neuromodulation is being increasingly used for the management of bladder and bowel dysfunction.
- Safety and efficacy in pregnancy and its effect on the unborn foetus? Not yet determined¹. Thus, most patients are advised to switch off the neuromodulator during pregnancy.
- Vaginal delivery is considered safe.
- Caesarean section should be performed only for obstetric indications.
- Epidural success rate and complications are like other pregnant patients.
- Neuraxial block has been performed successfully in many patients with a sacral nerve stimulator.
- There have been **no** reports of device or lead damage in patients who have had neuraxial blocks. We, therefore, suggest that these women should be offered epidural labour analgesia as an option, should they wish, and caesarean section can be performed safely under spinal anaesthesia.
- SNS should be turned off prior to surgery and monopolar cautery should be used intraoperatively, as per a recent article by U Ambi et al².

Take home messages

- Review imaging.
- Liaise with primary team, if possible.
- Plan level of insertion accordingly.
- Scan the back to assess level of insertion, if needed.

NEURAXIAL BLOCK IS CONSIDERED SAFE!

References

- Szymański JK, Słaboszewska-Jóźwiak A, Jakiel G. Sacral Neuromodulation in Pregnant Women-A Case Report and Literature Review. Int J Environ Res Public Health. 2022 Jul 8;19(14):8340.
- Ambi U, Lopez MD, Kasatkar T. Anaesthetic management of a patient with a sacral nerve stimulator or sacral neuromodulation. Indian J Anaesth. 2020 Feb;64(2):155-157.



Figure 4: Area of detail. Seth A. Albert, PaediatricsNationwide, 2015