

Sacral nerve stimulation

Information for patients



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SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST



The aims of this booklet are:

- To inform and involve you in your care
- To explain what happens if you decide to have the treatment
- To answer questions you may have about the tests

What is sacral nerve stimulation (SNS)?

The nervous system passes messages to and from the brain. Some of these nerves are important for sending messages to the bowel and the muscles that control bowel movements. When this communication is not working properly it can lead to bowel problems such as faecal incontinence.

Sacral nerve stimulation works by sending mild electrical pulses to the sacral nerves, which are located just above the tailbone in the lower back. This can, in some cases, help to improve symptoms of faecal incontinence.

The therapy is performed in two stages:

Stage 1

- Discussion regarding suitability
- Temporary trial period of stimulation

This is to assess whether this treatment is effective for you and to give an indication of the long term outcome of this type of treatment. If the trial is successful your surgeon may be able to consider you for stage 2.

Stage 2

- Discussion regarding suitability
- Permanent implant

There are currently two versions of SNS systems which provide the same treatment but have some different qualities and will be covered in later

sections of this leaflet. We will also discuss this with you at your counselling appointment to help you decide which system is right for you. You may come across various terms from the literature and online such as IPG, implant, stimulator, battery, however, these are all simply terms referring to the SNS device.

Stage 1: Temporary trial

What should I expect during the trial procedure?

An electrode (thin wire) is inserted into your lower back, near to the nerves that control the bowel. This electrode is covered and held in place by a large dressing for protection. The electrode is connected to a small external stimulator. You will be given a belt which will hold the stimulator during the trial period. The stimulator will deliver mild electrical pulses to the nerves. The procedure should take no longer than an hour and can usually be performed under spinal anaesthetic. You may need a pre-operative assessment prior to your procedure.

After the procedure the device will be switched on. When the stimulator is on, you may feel slight pulsing, tingling, tapping, dragging or pulling sensation in or around the area of your bottom.

Before you leave hospital, you will be given advice on how to use the stimulator from a member of the GI Physiology team.

Are there any risks?

Most patients do not suffer any problems with this procedure. However, potential risks do include:

- infection at the site of the electrode insertion
- bruising
- pain over the wound site
- change to bowel / urinary function
- undesirable sensations
- movement of the electrode (dislodged or broken)
- device malfunction
- battery failure

How do I use the stimulator?

The strength of stimulation can be turned up and down. You will be provided with a handset to control the level of stimulation (and also to turn the stimulator on and off). You will be shown how to use the handset which may be a touch screen device or a small key fob-like device depending on which system you choose. The stimulation will be slowly increased until you feel a sensation. Once you have this feeling, you know your stimulator is working. It will not work any better if you turn it up higher than this and you may overstimulate the nerves.

What if I experience pain during the trial period?

Although we encourage you to keep your stimulator on as much as possible, in some patients sacral nerve stimulation can cause pain in a number of areas, including the lower back, buttock, anus, leg, foot and toes.

Pain and discomfort are normally caused by the stimulator being turned up too high. If you experience pain, turn the stimulation level down or switch the stimulator off for a few hours and turn it back on to a setting you can only just feel. Once the stimulator is turned off, the discomfort will begin to ease. Note: this can take a few hours, or even overnight.

If you are having any problems or are in doubt, turn the stimulator off and call the GI Physiology Department on the number given at the end of this leaflet.

What should I do during the trial period?

You will be given a diary and EPAQ voucher for an online questionnaire to monitor your symptoms before and during your trial period. It is very important to fill this in as it will give an indication of how the test stimulation has worked and whether your surgeon should think about going ahead with the permanent implant.

Remember to bring along both diaries when you come to have the temporary electrode removed. The diaries help to make a comparison of your symptoms before and during the trial.

To ensure the stimulator will work correctly during the trial you will need to follow the following instructions:

- You will leave the hospital with a special dressing covering your lower back and buttocks. **It is vital that the dressing is not removed even if it becomes loose** (if this happens a new dressing should be applied over the top of the one already in place). If attempts are made to remove the dressing the stimulator wires may become dislodged and result in an inaccurate response or infection. Please do not let your GP or practice nurse remove the dressing, this should **only** be done by your surgeon or the GI Physiology staff.
- **It is vital that you do NOT get your dressing (back/buttocks) wet.** You should not bath or shower for the duration of the temporary trial (approximately 2 weeks). Restrict yourself to a front strip wash for the duration of this test phase and be sure to keep the back area dry.
- Please do not do any physical activity or high impact sports which may cause the wires to be dislodged during the trial period. This includes horse riding, swimming, trampolining etc.
- You should refrain from sexual intercourse during the test phase (for the above reason).
- You should not undergo an MRI scan during the test phase.
- All normal activities can be resumed once the temporary implant has been removed.

Will I be able to work during the trial period?

Yes, unless your work requires strenuous physical activity.

What happens at the end of the trial period?

You will be given an appointment to come back to the GI Physiology Department to have the test electrode removed. This will be after approximately two weeks. Removal of the electrode is simple and will not require an anaesthetic. Your skin under the dressing may feel sore afterwards. Having a bath or using moisturiser may help, but please avoid strong scented bath products at first.

If your trial period has been successful, you may be eligible for a permanent implant. This will also depend on factors such as funding and a meeting will be held by the surgeons to discuss this.

Stage 2: Permanent implant

What should I expect if I choose to have a permanent implant?

If your trial period has been successful and your surgeon has agreed (and funding granted), a permanent electrode (thin wire, Figure 1) will be inserted close to the nerves in your lower back. This will be connected to a small stimulator (Figures 2 and 3), which will be inserted into a pocket of tissue under the skin in your upper buttock. This is the position where it will be most comfortable and least visible.

There will be no external wires visible. The procedure is generally performed under spinal anaesthetic but your surgeon will discuss this with you and you will normally be able to go home the same day. We do not usually switch the implant on the same day but will give you an appointment to come to have it switched on at a later date in order to give you chance to heal from the surgery and to allow any discomfort to subside. As with the trial you may need a pre-operative assessment prior to the procedure.



Figure 1



Figure 2

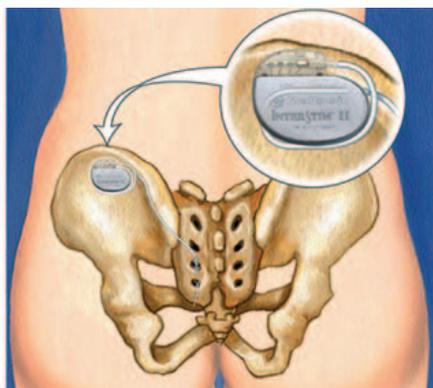


Figure 3

Medtronic

Will I be able to go to work after the operation?

We advise you to take at least one week off work to rest and allow time for healing and recovery. The decision to take time off work is yours to make. If you require a sick note please contact your GP.

How do I look after my wound?

You will have a small wound at the base of your back and a second wound on the upper part of your buttocks. These will be covered by dressings. You can remove the dressings after one week and replace with clean dry dressings. You can visit the nurse at your GP practice who can change your dressings for you.

After two weeks it should not be necessary to keep the wounds dressed as they should be healing well. At the site of each wound there will be a small length of stitch. The ends of the stitch can be carefully trimmed with clean scissors if necessary after a week. However, please note that your stitches are dissolvable.

Is there anything I should look out for?

If your wound becomes inflamed, painful, tender or you have a discharge coming from the wound, contact your GP in the first instance.

Will I be in any pain afterwards?

Following the surgery you will most probably feel some discomfort around the site of the incision and the implant. This is normal for any kind of implant surgery and normally only lasts for a few weeks. You may be prescribed medication for the pain caused by the surgery and antibiotics to prevent infection.

When will I have a follow-up appointment?

Usually we send you a hospital appointment for around two weeks' time with the GI Physiology team. At this appointment we will check your wound, switch your implant on and run through the settings. You will be given advice on how to use the stimulator and charging equipment if applicable.

When you leave theatre you may be given a pack which contains all the equipment you need to operate your implant. **Please bring all this equipment with you to your appointment** so that we can set up your implant and show you how to use your SNS system. If you were not provided with this at the time of the procedure you do not need to worry, we will provide it to you at this appointment. You will only need to bring your personal programmer / handset to future appointments.

You will then receive a follow up appointment for three months' time to ensure everything is going well. We will be able to make adjustments to the settings of the device if required. We will make follow-up appointments at regular intervals after this but please ring on the number given at the end of this leaflet if you have any concerns in the meantime.

What should I do if the stimulator is causing pain?

If your stimulator is causing pain, turn it down or off until we can see you.

Will I feel the implant?

You may feel a small bulge under your skin, but this should not show through any clothing.

Can I wash normally with the permanent implant?

You should not bath or shower for approximately 1 week following the permanent SNS procedure. During this time, you should restrict yourself to a front strip wash and be sure to keep the back area dry.

After this time, if you have no healing concerns, you will be able to bath and shower as normal and also swim if desired.

Will I be able to exercise after I have had the permanent implant?

Whilst you are healing we would advise you not to undertake any strenuous exercise or exercise requiring twisting / stretching for at least four weeks. Once the body has formed scar tissue around the lead / implant you will be able to resume normal activity. However, you should refrain from excessive exercise including heavy weightlifting. If you have any doubts, please contact the GI Physiology team or your surgeon.

Will I be able to have sex with the permanent implant?

Sexual activity should be restricted in the first few weeks whilst everything is healing.

Does the implant affect any future medical tests and treatment?

Before undergoing any medical tests or treatments always tell your healthcare professional you have an SNS implant. You will be given a neurostimulation identification (ID) card; it is recommended that you carry this around with you at all times and give it to healthcare staff before you undergo any tests.

Most medical procedures will not affect your implant. However **it is recommended that you switch your implant off prior to undergoing medical and dental procedures.** The following

procedures could have an adverse effect on the device and yourself (please speak to your surgeon if you have any concerns):

- Heart defibrillators
- Lithotripsy (e.g. for kidney stones)
- Radiation therapy over the neurostimulator
- Radiofrequency/microwave ablation
- Ultrasound, scanning equipment
- Surgical procedures involving diathermy

The implant should be turned off if you are pregnant (and it is advisable to switch it off if you are trying for a baby). If you are planning on starting a family and have not undergone SNS, it may be best to delay SNS for the time being. If you have a cardiac pacemaker it may be necessary to avoid certain settings which will be discussed with you if necessary.

Please note: you can have an MRI scan even though you have an implanted device but you must turn the stimulator off.

Airport screening and theft detectors

Airport screening devices and theft detectors in shops can turn the stimulator on or off. It does not change the stimulation settings and you can use your programmer to turn your stimulator back to what it was before.

At airports it might be a good idea to show security staff your neurostimulation ID card, as they may allow you to pass through without having to go through the screening device. If you do have to go through the screening device then turn your stimulator off before going through.

Due to security measures set by some airlines, particularly in the USA, you might be asked to show a member of staff that you can turn your

programmer (handset) on and off. Make sure you have some new batteries with you just in case, or they may confiscate your programmer.

Commercial equipment

Commercial electrical equipment such as induction furnaces and high voltage power lines could interfere with the implant. If you work in such an environment please tell your surgeon.

Summary of the different SNS systems available

Medtronic

Medtronic offer two different types of SNS system which are summarised below.

Rechargeable	Non-rechargeable
<ul style="list-style-type: none">• Small rechargeable implant• MRI safe• Battery charges within 30 minutes and will need to be charged once per week involving a belt around your waist• Battery is guaranteed at least 15 years life	<ul style="list-style-type: none">• Slightly larger non-rechargeable implant• MRI safe with new style lead• No need to recharge• 5-7 year battery life (depending on strength of stimulation required but may be less)

Both versions use a smartphone / app based programmer and controller which is used to control the device. You would also have a recharger and docking device (should you choose the rechargeable option) and you would be shown how to use this. You would be provided with a belt to hold the charger over the implant and would be able to carry on with normal daily activities whilst the implant is charging.

Axonics

Axonics offer a rechargeable option only which is based on the same principles. However, instead of a smartphone style controller, it uses a smaller key-fob like device to alter the level of stimulation and to switch the stimulator on or off. As with the Medtronic system, you would be able to go about daily activities whilst wearing the charging belt and charger.

Which system should I chose?

Everyone is different and the choice of which one to have is yours. However, you do not have to decide straight away. We will usually offer you an initial 'counselling' appointment to discuss this in person. At your appointment we will show you in more depth what each system involves and you will be able to see and feel examples of the equipment to help you to decide which is right for you.

Who should I contact if I have any questions or concerns?

Should you have any problems or questions please do not hesitate to contact the Department of GI Physiology on **0114 271 4293**. We are open Monday to Friday, from 8.00am to 4.00pm.

Where can I find further information?

- <https://www.medtronic.com/us-en/patients/treatments-therapies/bowel-control/resources/resources-faq.html>
- <https://www.axonics.com/patients>
- www.bladderandbowelfoundation.org
- www.nice.org.uk/guidance/ipg99/informationforpublic



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