NHS
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Department of Pain Management

General Advice
Spinal Cord Stimulators

This leaflet is to highlight information regarding the process of insertion of a spinal cord stimulator

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Leading with excellence, caring with compassion

What is a Spinal Cord Stimulator?

A spinal cord stimulator is an implanted medical device. The device is in 2 parts one part is placed alongside your spinal cord and this is connected to a battery about the size of 2 boxes of matches that is placed under your skin usually in your buttock area.

What dos the Spinal Cord Stimulator do?

The device transmits an electric signal that effects the transmission of signals passing in nerves of your spinal cord. This can reduce the pain signals for some patients.

Who can benefit from the device?

Patient's who suffer with nerve related pain in their legs or arms and those with continuing pain following surgery on their spine where the surgeons do not feel that further surgery is required.

Who can't have a spinal cord stimulator?

If your pregnant or trying to get pregnant.
If you suffer with skin infections over your back or long term other infections.

If you have problems that put you at risk of infections.
If you suffer with a condition that requires repeated MRI scans.

Those with metal work in their back above Level L1 may not be able to have this device.
If you suffer with conditions or take medication that mean your blood doesn't clot normally.
If you suffer with certain mental health conditions.

How long does the device stay in for?

This potentially would be a permanent device as long as it remained beneficial. But further surgery is often required to keep it running.

What is the process from initial referral to implant?

If your Pain Specialist thinks you may benefit from a spinal cord stimulator he will refer you to one of the Consultants who specialise in Neuromodulation within the team.

They will assess you and discuss the previous management you've had.

If they think you are medically suitable they will organise some tests, which may include further blood tests, MRI scans or x rays.

You will then need to see our psychologist Leila Gray and a member of our nursing team. At these appointments you will learn more about the systems and have further assessments and the opportunity to ask further questions.

The purpose of this thorough assessment is to ensure as best as we can that you are likely to benefit from the system.

After you have completed the assessments the team will meet to discuss your case and if they feel you are suitable you will be offered a trial.

A trial will take place on a Tuesday or Friday. A lead will be inserted into your spine in an operating theatre in Derriford as a day case procedure.

The lead will stay in from 3 to 14 days and you will be asked to fill in a detailed diary. During this time you will need to see a member of the team roughly every other day.

The lead will be taken out in clinic at the end of the trial.

Following this the team meets to review how you got on with the trial.

If you and the team agree that the trial was positive and you would like to go on to have a full implant this will be organised for you.

The full implant will also be performed in theatre in Derriford. It is a more substantial operation but even so we would expect you to return home the same day.

For a month or so following implant you will need to be very careful with movement to ensure the device doesn't move.

We would then be keen for you to start to work towards goals which could include:

- Improving your level activity
- Reducing your medication
- Potentially returning to work

The team will help you in these goals as best they can.

You should see the device as an aid to achieving a positive outcome for you.

The batteries usually last between 2 and 7 years.

If the system remains effective for you then we will re-implant a battery, this will involve a further operation

What complications should I be aware of regarding the Spinal Cord Stimulator device?

Reported complication rate is that 1 in 3 patients will have a complication related to their spinal cord stimulator.

The majority are minor and commonly related to the electronics but significant complications to you can occur.

Infection occurs between 1 in 10 and 1 in 100 patients. In the first instance this may be managed with antibiotics. However, we have had to remove systems completely due to infection and serious spinal infections are reported. We take every opportunity to prevent infection.

The trial performed may be unsuccessful and you must be prepared mentally that the system may not be beneficial for you.

It is possible to cause bruising following the insertion of the Spinal Cord Stimulator, usually this is minor and will resolve by itself but very rarely this may require further surgery.

Some (roughly 1 in 10) patients develop pain around the battery site. Frequently this improves with time. This is often not relieved by changing the site of the battery and

some patients have requested complete removal due to this new pain.

It is possible that we will be unable to perform the procedure, occasionally the lead will not thread in the appropriate direction due to variations of anatomy within the epidural space. Usually we can get around this with using different techniques for introducing the lead but you need to bear in mind that there is a possibility of this not working.

Dural Tap: This is a term used when the insertion needle breaches the membrane containing the spinal fluid. This can occur at insertion. If it did occur we may have to stop the procedure and return again on another occasion when the leak has sealed. You may get a severe headache from this and occasionally further procedures are required to resolve this.

Displacement of the lead: This can occur and the need to reposition leads can be as high as 25-30%. If the lead is going to displace it usually does so immediately after the implant or in the weeks following so great care should be taken to avoid bending, twisting, heavy lifting and sudden movements during the trial period and for the first 6 – 12 weeks post full implant. We advise patients to avoid driving as much as possible during this time.

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This leaflet is available in large print and other formats and languages.
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