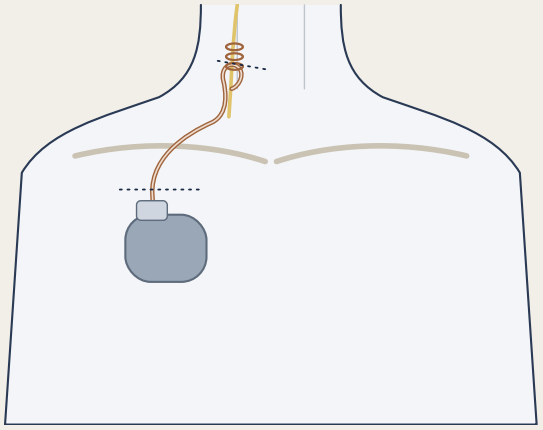
Professor Jason John Labuschagne

PAEDIATRIC AND ADULT NEUROSURGEON

FUNCTIONAL NEUROSURGERY

Vagus Nerve Stimulator (VNS) Insertion

Patient information and consent



This booklet explains the insertion of a vagus nerve stimulator for epilepsy. It is written for adults and for parents of children. Where the patient is a child, 'you' refers to your child, and the consent is signed by a parent or guardian. Please read it with your family, write down your questions and bring it to your consultation. You will be asked to sign the consent section only once you understand the proposed treatment and are satisfied that your questions have been answered.

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PATIENT DETAILS OR HOSPITAL LABEL

Patient name

Date of birth

ID / file no.

Procedure date

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Netcare Unitas Hospital
Room 403, Centurion

Nelson Mandela Children's Hospital
Private Suites, First Floor, 6 Jubilee Road, Parktown North

012 664 6026
HPCSA MP 0530077

01 General information

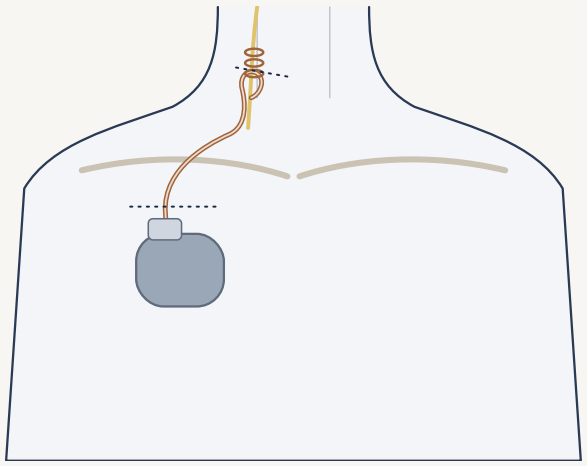
What is vagus nerve stimulation?

The vagus nerve runs from the brainstem through the neck to the chest and abdomen, and carries signals to and from the brain. A vagus nerve stimulator is a small device, similar to a pacemaker, placed under the skin of the upper chest. A fine wire runs from it to the left vagus nerve in the neck. It sends regular, mild electrical pulses to the brain through the nerve, which can reduce the frequency and severity of seizures.

VNS is used for drug-resistant epilepsy when resective surgery is not possible or has not been successful. Benefit builds up gradually over one to two years. Many patients have a meaningful reduction in seizures, and some also notice improved alertness and mood, but few become completely seizure-free, and medication usually needs to be continued.

How is the device inserted?

Under a general anaesthetic, a small horizontal incision is made in a skin crease on the left side of the neck and another below the left collarbone or in the armpit. The vagus nerve is gently exposed alongside the carotid artery and jugular vein, and the coils of the lead are wrapped around it. The lead is tunnelled under the skin to the generator, which is placed in a pocket beneath the skin. The system is tested before the wounds are closed. Intra-operative neuromonitoring may be used where indicated. The operation usually takes about one to two hours.



The generator lies under the skin below the left collarbone; the lead coils around the left vagus nerve in the neck.

Programming and the magnet

The device is switched on and adjusted in the clinic using a wireless programmer, starting at low settings and increasing gradually over weeks. You will receive a magnet: swiping it over the device gives an extra burst of stimulation that can shorten or stop a seizure, and holding it over the device temporarily switches stimulation off.

02 Alternatives to surgery

- **Continued medication changes.**
- **Resective epilepsy surgery**, where a single seizure focus can be identified and removed safely.
- **The ketogenic or modified Atkins diet.**
- **Other neuromodulation**, such as responsive or deep brain stimulation, which is less widely available.

03 What to expect during and following surgery

Before admission

- Tell us about any bleeding or clotting problems, recent illness, allergies and all medicines, including herbal remedies.
- Blood-thinning medicines (for example warfarin, aspirin, clopidogrel or the newer anticoagulants) and anti-inflammatories usually need to be stopped before surgery. Please follow the specific instructions you are given and do not stop any medication without advice.
- You will usually be admitted on the day of surgery or the day before, and must not eat from midnight before surgery, or as instructed by the anaesthetist.

In hospital

You wake up in the recovery room and are then transferred to the ward. Nurses will regularly check your pulse, blood pressure, limb strength, pupils and level of alertness to detect any change early, and you will be woken for these checks during the first night.

- You will have regular pain relief and anti-nausea medicine.
- A drip and sometimes a urinary catheter are usually removed within a day or so.
- You will be encouraged to sit out of bed and walk on the day after surgery.
- A **chest X-ray** may be performed to check the device and lead.
- **Going home.** Most patients go home the same day or the next day.

04 Risks and complications

All surgery carries risk. Most patients do not experience serious complications, but it is important that you understand what can happen. The list is not exhaustive; Professor Labuschagne will discuss the risks that apply particularly to you. The risks of the anaesthetic will be explained separately by the anaesthetist.

Common

●●●

- Pain and bruising at the wounds for a few days.
- **Hoarseness or a change in voice** during stimulation, which usually lessens over time.
- Cough, throat tingling or a sensation of breathlessness during stimulation.

Less common

●●○

- **Infection** of the wound or device, which may need removal of the system.
- Difficulty swallowing during stimulation.
- Temporary or lasting hoarseness from irritation of the nerve to the voice box.
- Sleep apnoea or worsening of snoring.
- Lead breakage or device malfunction needing further surgery.

Rare but serious

●○○

- Paralysis of the left vocal cord.
- Slowing of the heart rate when the device is first tested.
- Injury to the carotid artery or jugular vein with bleeding.
- Facial weakness or difficulty breathing.
- Death from anaesthesia or surgery. This is very rare.

05 After the operation: what is normal

- Two small scars, in the neck and chest.
- A palpable device under the skin.
- Voice change only while the device is stimulating.

06 Recovery

- **Wounds.** Keep them dry for about five days; stitches are usually dissolvable.
- **Activity.** Avoid heavy lifting and raising the left arm above the shoulder for about two weeks.
- **Programming.** The device is usually switched on at about two weeks, with regular adjustments thereafter.
- **MRI and hospitals.** Always tell doctors you have a VNS. MRI is possible only under specific conditions, and certain treatments such as diathermy must be avoided. Carry your device card.
- **Battery.** The battery lasts several years, and the generator is replaced in a short day-case operation.

07 When to contact the rooms

Please contact the rooms the same day if you notice:

- Redness, swelling, discharge or pain at the wounds
- Fever
- Persistent difficulty swallowing or breathing
- Hoarseness that does not settle, or constant voice change
- Fainting, dizziness or a slow heartbeat
- A change in seizure pattern, or a seizure that does not stop

IN AN EMERGENCY

If you have a seizure that does not stop, a sudden severe headache, collapse, chest pain or difficulty breathing, call an ambulance or go to the nearest emergency department immediately. Tell the staff about your recent operation and ask them to contact Professor Labuschagne.

THE ROOMS · OFFICE HOURS

012 664 6026

Elective appointments and queries, office hours, for both Netcare Unitas Hospital and Nelson Mandela Children's Hospital

AFTER HOURS

After hours, call the hospital switchboard and ask for Professor Labuschagne: Netcare Unitas Hospital 012 677 8000 · Nelson Mandela Children's Hospital 010 133 0600

Emergency services: Netcare 911 · 082 911 | National ambulance · 10177

NETCARE UNITAS HOSPITAL

Room 403, Netcare Unitas Hospital
866 Clifton Avenue, Lyttelton, Centurion

NELSON MANDELA CHILDREN'S HOSPITAL

Private Suites, First Floor
6 Jubilee Road, Parktown North, Johannesburg

08 Consent

Informed consent is a conversation, not simply a signature. The National Health Act 61 of 2003 and the ethical guidelines of the Health Professions Council of South Africa (HPCSA) give every patient the right to be told, in a language they understand, about their condition, the treatment options available, the benefits, risks, costs and consequences of each, and the right to refuse treatment. You may withdraw your consent at any time before the operation.

If you are unable to give consent yourself, the National Health Act (section 7) allows consent to be given by a person you have authorised in writing or, failing that, by your spouse or partner, parent, grandparent, adult child or sibling, in that order.

THE PROCEDURE

Procedure: Insertion of left vagus nerve stimulator (± intra-operative neuromonitoring as indicated) Side / site: _____

Condition, in my own words: _____

SPECIFIC PERMISSIONS

Blood transfusion, if needed during or after surgery	☐ I agree	☐ I do not agree
Tissue or fluid removed may be sent for laboratory examination	☐ I agree	☐ I do not agree
Anonymised images or results may be used for teaching and research (optional)	☐ Yes	☐ No

Questions I have discussed

Please write down any questions you asked and any particular concerns that were discussed.

My acknowledgement

Please tick each statement.

- ☐ I have read this document, or it has been read to me, and I understand it.
- ☐ Professor Labuschagne has explained my condition, the proposed procedure, its expected benefits, and the alternatives, including the option of no treatment.
- ☐ The risks and possible complications, including those particular to me, have been explained in language I understand.
- ☐ I have had the opportunity to ask questions and raise concerns, and these have been answered to my satisfaction.
- ☐ I understand that no guarantee has been given about the outcome, and that the procedure may not improve, and could worsen, the condition.
- ☐ I understand that if an unexpected finding or a life-threatening event occurs during the procedure, the surgeon may carry out further treatment that is necessary to protect life or prevent serious harm.
- ☐ I understand that the anaesthetic will be explained by the anaesthetist, who will obtain consent for it separately.

- [ ] I understand that my medical scheme may not cover the full cost of treatment, that I am responsible for any shortfall, that separate accounts will be rendered by the hospital and the anaesthetist, and that a quotation is available on request.
- [ ] On the basis of the above, I request that I undergo the procedure described.

PATIENT

Full name _____ ID number _____

Signature _____ Date and time _____

If the patient is unable to consent: person consenting on the patient's behalf (National Health Act, section 7)

Full name _____ Relationship _____

Signature _____ Date and time _____

SURGEON'S STATEMENT

I have explained the patient's condition, the need for treatment, the proposed procedure and its expected benefits, the material risks including those specific to this patient, the reasonable alternatives including no treatment, and the likely consequences if those risks occur. I have offered the opportunity to ask questions and have answered them as fully as possible.

Surgeon Professor Jason John Labuschagne HPCSA no. MP 0530077

Signature _____ Date and time _____

INTERPRETER (IF USED)

I have accurately interpreted the contents of this document and the discussion between the doctor and the patient.

Full name _____ Language _____

Signature _____ Date _____

WITNESS

Full name _____ Capacity _____

Signature _____ Date _____

A copy of this signed document will be kept in the medical record and a copy offered to the patient. Personal information is processed in accordance with the Protection of Personal Information Act 4 of 2013. · Professor Jason John Labuschagne · HPCSA MP 0530077 · Version 1.0 · October 2026