

VAGUS NERVE STIMULATOR (VNS) IMPLANT

DESCRIPTION

The vagus nerve stimulator implant (VNS; SNV in French) emits light electrical impulses along the vagus nerve to influence brain areas associated with epilepsy. The goal is to prevent epileptic seizures or to stop them once they have begun. A subcutaneous device (generator and electrode) implanted in the left subclavian region and the left side of the neck administers the therapy.

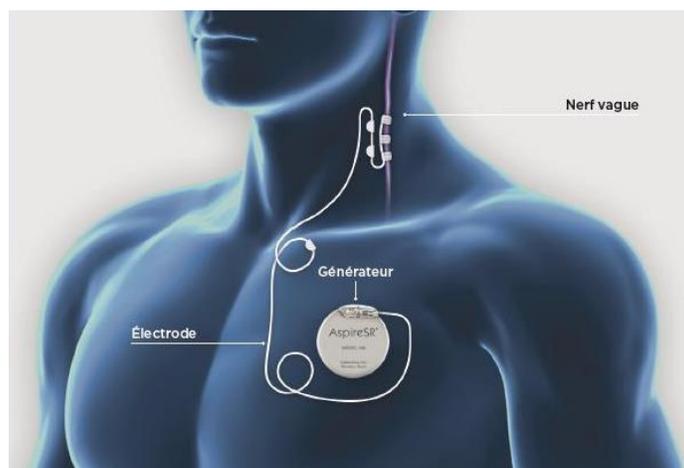


Image courtesy of: CHU de Québec

IMPLANT

The VNS is implanted under general anesthesia. The surgery lasts approximately 60 to 90 minutes. The patient goes home on the same day unless the attending team specifies otherwise.

Two incisions measuring 5 to 6 cm are made: one on the left lateral side of the neck and another in the left subclavian region.

- A tiny, watch-sized generator is implanted at the left subclavian level.
- The electrode connected to the generator is implanted beneath the skin to be connected to the left vagus nerve in the neck.

The neurologist or the manufacturer's vagal nerve stimulation expert (under the neurologist's supervision) will program the VNS to gradually and cyclically initiate the therapy.

POTENTIAL SIDE EFFECTS

- Coughing
- Irritated throat
- Hoarseness
- Shortness of breath

These side-effects are usually felt or perceived during stimulation and will gradually lessen over time. The neurologist can also alleviate them by adjusting the device settings. Speak to your neurologist if you have any of the above symptoms.

POST-SURGERY

The VNS is operational as soon as it is installed. Responsiveness to treatment varies from person to person. It may take a few months or longer to feel the benefits of VNS.

EXPECTED RESULTS

The objective of VNS therapy is to reduce the number of epileptic seizures and their duration, and to improve post-seizure recovery. The VNS implant does not replace medication and will not cure epilepsy. It helps some patients to reduce their medication intake. Response to VNS therapy varies from person to person, and your neurologist will determine what the best combination is.

WOUNDS/SCARRING

Keep the bandages in place for 5 days. Have them changed if they get dirty or peel off. Scarring varies from person to person. The procedure will probably leave scars measuring 5 to 6 cm. Speak to your neurosurgeon on best practices to improve post-surgical healing.

Consult a physician if you have the following symptoms:

- Chills or fever (>38,5°C or 101.3°F).
- Discharge, puss, redness or swelling near or of the wounds.
- Increase in pain around your wounds.
- Opening of the wound despite sutures.

LIFETIME OF THE VNS

Depending on the device and its settings, the battery life may vary - usually between 5 and 10 years. You will have a short procedure to replace your VNS device when it needs to be changed.

TRAVEL/AIRPORTS

Show your *ID VNS* card to the security officers or customs agents at the airport. This card explains that you have had a medical device implanted in your body. You must request a manual search (pat-down).

ACTIVITIES, MEDICAL EXAMS, OR TREATMENTS

Magnetic resonance imaging (MRI) exams are accepted under certain conditions. Speak to your neurologist before having an MRI.

Speak to your neurologist before initiating any activity or medical treatment, or having a medical exam. During your consultations, notify your doctor, dentist or any other medical expert that you have a VNS implant. Show them the implant card given to you at the time of your surgery.

During the first month after your surgery, avoid:

- Moving your neck suddenly and repeatedly;
- Lifting objects weighing more than 2.5 kilograms (5 pounds);
- Engaging in extremely demanding activities or sports.

MAGNET

Read the documents that were given to you after the procedure to learn and fully understand how the magnet operates. When needed, the magnet helps to initiate stimulation to:

- Interrupt a seizure;
- Reduce the length of a seizure;
- Lessen the intensity of a seizure as well as to shorten the recovery period.

The magnet also helps to stop the stimulation in order to temporarily control side-effects during certain activities (e.g., singing, while doing certain exercises, etc.).

Acute seizure treatment with the magnet can be done in combination with emergency medications to stop prolonged seizures (e.g., DIASTAT® rectal gel for children).

USING THE MAGNET

1. When you feel a seizure is imminent or has already begun, you or your companion (friend, family, health care provider) can place the magnet on the area on your chest where the implant is inserted (generally at the subclavian level).
2. Pass the magnet over the generator for no more than 3 seconds.

CLINICAL MONITORING BY THE NEUROSURGERY TEAM AND/OR NEUROLOGY TEAM

Having a VNS requires various types of medical monitoring.

- You need to be firmly committed as regular follow-ups with the neurology and/or neurosurgery team is necessary to ensure the efficacy of your VNS.
- Appointments will be more frequent during the first year and will subsequently occur every 6 to 12 months thereafter - until the condition is stabilized.
- The neurologist will regularly meet with you to adjust your medication or VNS settings to optimize your response to the treatment.
- The neurosurgeon will regularly ensure that your VNS device is functioning properly, that the treatment is effective; and that your wounds are healing properly.

For any **emergency**, go to the emergency department at Hôpital Fleurimont. If your health status does not permit you to go there, go to your nearest hospital emergency department.

DO YOU HAVE ANY QUESTIONS?

Consult the video entitled *Présentation générale du stimulateur du nerf vague* (<https://www.youtube.com/watch?v=UY8GBIzFBY8&t=1s>) (French only).

Read the manufacturer's [presentation on the stimulator](#).

NEUROSURGERY DEPARTMENT 819 346-1110 poste 75034, option 0	CLSC OR INFO-SANTÉ 811 Your local CLSC during business hours Info-Santé 8-1-1: evenings, nights and week-ends
NEUROLOGY DEPARTMENT 819-346-1110, Ext. 14586	
NEUROPEDIATRICS DEPARTMENT 819-346-1110, Ext. 73147	APPOINTMENTS Appointment centre: 1-819-564-5210

Author

Mélanie Gilbert, nurse clinician

Approval

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