

VNS

Vagal Nerve Stimulator



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What is a VNS?

VNS is the abbreviation for Vagal Nerve Stimulator. It is a pacemaker-like device called a Pulse Generator or stimulator. It works by sending small electrical impulses to the Vagus Nerve, in the neck. The electrical impulse travels to the brain where it helps to reduce and possibly stop seizures.

Who is treated with a VNS?

VNS is used in treat difficult to control seizure patients. It can reduce the frequency and duration of seizures in patients who have not been adequately controlled or whose medication has caused intolerable side effects.

How is it implanted?

Generally, a neurosurgeon places the device. It takes one to two hours for the procedure. There are two parts. One part is the battery pack. The second part is a platinum wire which attaches to the vagus nerve. The incisions are small. The Pulse Generator (battery pack) is implanted in the left upper chest. There may be a slight bulge where the generator was placed.

The battery lasts for to six years. The battery can be replaced in less than an hour as an outpatient.

How well does it work?

About one-third of the patients have a significant reduction in their seizures, one-third have some reduction in their seizures, and one-third experience no change in their seizures.

What are the side effects?

The VNS is programmed to send an electrical impulse once every five minutes. When the stimulation occurs, some patients experience temporary hoarseness of voice. This is not painful. Other side effects include coughing during the stimulation. In most people, this only happens when the device is first turned on.

How do I know if the VNS is working?

If the patient does not feel the electrical stimulation, he may only be aware that the device is working when his physician checks it. Each time you visit your doctor, he will adjust the VNS using a computer. It is a completely painless process that allows the physician to both check the VNS and change settings, if needed.

How is it adjusted?

The VNS is first turned on at the lowest setting and gradually increased at each office visit. Your doctor adjusts the settings placing a Programming Wand over the Pulse Generator. It is a painless procedure, taking a few minutes in the doctor's office. It may take several visits to reach the therapeutic range. Once in the therapeutic range is obtained, it may take up to six months before significant improvement to be noted.

The patient is given two Cyber Magnets. One is a watch-style magnet that attaches to the wrist and the other is a pager-style magnet that can be attached to the belt. You can manually stop and start the VNS using these magnets. Your doctor will show you how this is done. If the doctor activates the Magnetic Mode, you can start the VNS using the magnet when the patient has an aura, begins to seize or is having a seizure.

Can the patient stop taking medication?

No. All patients stay on at least one medication in addition to the VNS. However, the dose of medications may be reduced once the seizures are better controlled.

What else?

- ◇ Check the battery every day.
- ◇ Turn off the stimulator if it becomes painful or irregular.
- ◇ Do not store the magnets near credit cards.
- ◇ Carry the magnet with the patient at all times.

Call your doctor immediately if:

- ◇ The patient's voice is constantly hoarse.
- ◇ The stimulation is painful or irregular.
- ◇ The VNS causes choking, difficulty breathing, difficulty swallowing or a change in the heart rate.
- ◇ The patient notices anything new or unusual with the VNS.
- ◇ The patient's seizures increase in frequency, intensity or duration.

Other Resources
Epilepsy Foundation of America.
(800) EFA-3700 epilepsyfoundation.org

Cyberonics, Inc.
vnstherapy.com/forpatientsfs.html