



Vagus Nerve Stimulation (VNS)

The **Vagus Nerve Stimulator** treats epilepsy that is not controlled with medicine. The VNS prevents or lessens the frequency of seizures by sending mild electrical impulses through the vagus nerve to the brain.

The stimulator device is placed under the skin in the chest area and a small wire is wrapped around the vagus nerve in the neck. The device is programmed to stimulate the nerve regularly. It can give an extra stimulation at the onset and during a seizure with the use of a small magnet. Most people who wear one are not aware that the device is operating.

VNS is not a cure for epilepsy. Benefits may include fewer seizures, shorter seizures, faster recovery, less intense seizures, improved alertness, and improved quality of life. You may not see seizure improvement right away. Seizure activity may improve slowly over the first 2 years of treatment.

Reason for the VNS

Seizures are difficult to control with medicine alone or if other surgeries are not an option.

When VNS may be an option

If your child's doctor decides VNS is an option, he or she will be referred to Neurosurgery after testing is complete and results have been reviewed by the surgical team. Referral will be sent if the group decides that VNS is the best option and you and your child agree.

Before surgery

An appointment will be scheduled for you and your child to meet the doctor (neurosurgeon) and discuss the procedure. Then we schedule the surgery.

After surgery

Most patients will be discharged the same day.

Keep the wound clean and dry. Sutures (stitches) are self-absorbing and do not need to be removed. It is ok to wash the incision with soap and water after 3 days. Watch for redness, swelling or drainage from incision sites. More detailed instructions will be given before discharge from the hospital.

There will be a wound check appointment for your child with Neurosurgery in 2 weeks.

Neurology follow up: Patients may be scheduled for up to five appointments for follow-up in the Neurology clinic. These appointments are about 2 weeks apart. The appointments are scheduled in order to gradually increase VNS settings to a therapeutic range. How often the appointments occur will be decided by the Neurologist.

Side effects

Common side effects of VNS therapy are:

- hoarseness or changes in voice tone
- sore throat
- prickling feeling in the skin
- coughing
- shortness of breath

These side effects may occur during stimulation and improve over time. If the side effects are bothersome, we can adjust the stimulation to lessen the side effects.

Using the magnet

Your healthcare provider will give you a magnet to use with the VNS device. Swiping the magnet over the device will give an extra stimulation. We recommend swiping the magnet slowly over the device at the onset of a seizure, then every minute for a total of three times.

Keep the magnet away from magnetic strips on credit and debit cards. The magnet may deactivate the card.

The auto-stimulation feature

Many people will be implanted with a VNS with an auto-stimulation feature. With auto stimulation the device will give an extra stimulation when the heart rate reaches a certain level quickly. This quick increase in the heart rate may mean the

person is starting to have a seizure, and this extra stimulation may stop or shorten the seizure.

After the VNS is implanted

- Check with your doctor before having an MRI performed. In many cases, an MRI can be performed safely, but in other cases MRI is not safe to be done. It is recommended that VNS current be turned off prior to MRI and turned back on after the test. **The VNS magnet is unsafe near any MRI machine and should never be taken into the room where MRI is being done.**
- Airport security and other metal detectors should not affect the VNS. For airport security, the VNS wearer can carry a card stating he or she has a VNS. Cards are found in the box with the magnets.
- Check with your doctor before having any surgical procedures and ask if cautery will be used. It may be recommended that the device be turned off before procedures involving cautery.

Questions

Contact your Neurologist if you have further questions concerning the VNS.