What is vagal nerve stimulation (VNS)?
This is a form of treatment for people who have seizures. A medical device is used to stimulate the vagus nerve in the left side of your neck to help reduce seizures.

How does a VNS device work?
The generator sends regular, mild pulses of electrical energy through wires to stimulate your vagus nerve to your brain. The stimulation helps to reduce seizures. The goal is to decrease or get rid of your seizures, or decrease the amount of time the seizures last.

How do I prepare for this procedure?
• You will be contacted before surgery and given instructions and any restrictions.
• Before your procedure, please tell your doctor if you have any allergies or take any blood-thinning medicines.
• Please arrange for someone to drive you home.

What can I expect during the procedure?
• This surgical procedure can be done in an outpatient area. It takes about one hour.
• A neurosurgeon will implant a small generator in your chest. It is about the size of a silver dollar. Two tiny wires from the generator wrap around the vagus nerve on the left side of your neck.
• Afterwards, you will remain in the department for several hours in order to recover from the anesthesia.

What do I need to know for care at home after the procedure?
• You should not lift over 10 lbs. for about 6 weeks.
• Do not use your left arm for any vigorous or strenuous activities for about 6 weeks.
• You may remove the bandage after 48 hours and then leave it uncovered.
• You may shower, but avoid getting the bandage wet.
• If you stopped taking blood-thinning medicines, please check with your doctor to see when you should restart taking them.

How is the device programmed?
In about 2 weeks, the device will be programmed in the office by your neurologist. This programming sets the output current, which is the amount of stimulation sent by the generator.

The output current can be adjusted as needed. Your VNS may need several programming adjustments in order to best help you control your seizures.

All program adjustments will be done in your neurologist’s office. The amount of adjustment each time is based on how well you tolerate increases in the output current and how well your seizures are controlled.

Are there side effects from the device?
The most common side effects you will feel with stimulation are:
• A tingling feeling in your throat
• A change in your voice
• A cough

If your stimulation is increased, these effects may become more noticeable. Over time, most patients with a VNS become used to the stimulation at a certain level and may not feel any side effects.
What if I still have seizures after the VNS device is implanted?
You may continue to have some seizures. When you have a seizure, you will need to use your VNS magnet to help reduce or stop the seizure. The magnet activates a switch in the VNS generator, causing the stimulation to be stronger and longer. It is intended to end a seizure or decrease the after-effects (such as headache, drowsiness, confusion). The magnet can be used before, during, or right after a seizure.

How do I use the magnet?
To activate your VNS device
• Place the magnet over your VNS generator
• Count for 2 full seconds (one one-thousand, two one-thousand)
• Then remove the magnet right away.

When you use the magnet, the stimulation of the vagus nerve will be at a slightly higher setting to reduce or stop your seizure. The magnet stimulation will last for 60 seconds. If you feel the need to use it again, you may do so after the 60-second cycle is done.

Always carry your magnet with you so it is available if you should need it for a seizure.

How often will I need to use the magnet?
During the first month after your device is implanted, you will be expected to use your magnet once a day, even if you are not having seizures. This will help you to adjust to the stimulator and practice using the magnet. After the first month, you will not need to use the magnet unless you are having a seizure or feel as though you are about to have one.

Where should I keep my magnet?
Keep your magnet with you at all times. Keep it at least 12 inches away from your credit cards and computer hard drive. Make sure your family members, friends, or caregivers know how to use the magnet.

Will my VNS work even if I don’t use the magnet?
Yes. You do not need to use the magnet setting for the device to work. Most of the benefit of a VNS comes from the output current, not from using the magnet. Not everyone has a warning before a seizure where they can use the magnet.

Does my magnet have to be programmed?
The magnet itself does not have to be programmed. The magnet current settings are adjusted with the output current. The generator switch is programmed to start stimulation when the magnet activates it.

Can I have an MRI test with a VNS implanted?
If you need an MRI or any diathermy treatments, please check with your neurologist.

Will I ever want to have the VNS device turned off?
You may wish to have the VNS device turned off if you temporarily do not want your voice to change (if you are singing or doing public speaking, etc.). You may want to turn it off if the electrical stimulation is uncomfortable. If you do have discomfort with the electrical stimulation, tell your doctor.

If you ever feel the need to have the device turned off, you can do so by placing the magnet over the generator and taping it in place. This will keep the VNS device turned off until the magnet is removed.

When the magnet is removed, the VNS will stimulate the vagus nerve at the magnet settings and then return to your usual settings.