Vagal Nerve Stimulation
DEPARTMENT OF NEUROSURGERY

Vagal nerve stimulation, also called VNS, is often an effective and safe long-term treatment to control intractable seizures. Intractable seizures are ones that anti-seizure medicines do not help. Also, this kind of seizure is not located in only one area in the brain. Studies have shown that, with the passage of time, seizure control improves.

The stimulator
A vagal nerve stimulator consists of an electrical pulse generator about the size of a Reese’s peanut butter cup attached to a wire that travels under the skin to deliver tiny bursts of electricity to the left vagus nerve in the neck. It is believed that the electrical activity makes changes in brain chemistry that protect against seizures.

To insert an electric pulse generator, the surgeon makes a small incision and places it under the skin. The incision is made on the left upper chest, at the base of the neck and to the left side. The generator can also be placed under the skin in the armpit area, to prevent a surgical scar on the neck. You must tell your surgeon on the morning of surgery if you wish to have the generator placed under your arm. If you do not, it will be placed in the left upper chest area.

About the generator
The battery-powered generator is programmed to deliver electric pulses for each patient individually. The pulses do not hurt. The generator can work either automatically or by hand. If it is programmed to work automatically, it is turned on "low" in the operating room, and your neurologist will turn it up gradually over the next several months until the best level for you is reached. An example would be 30 seconds on and 5 minutes off, 24 hours a day. People often use the special hand-held magnet that allows them to trigger the electric pulse themselves if they have a familiar, sensory aura to warn them of seizures. You will need to see your neurologist in 1 to 2 months to have the programming changed.

The battery generally lasts 6-7 years. If the battery gets low and needs to be replaced, patients will have more seizures. Many times the neurologist who programs the generator can tell if the battery is getting low.

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**Medicines**
You will need to continue taking your anti-seizure medications during the weeks or months that the neurologist is re-programming the generator. As the correct level is reached, your neurologist will help you to slowly reduce the amount of medicine you take.

**After surgery**
After surgery you will receive a magnet on a wristband and another one with a belt clip. Just after surgery, before you are discharged from the Recovery Room, you will be taught how to use the magnet to trigger an electric impulse. To use it, you will pass the magnet over the pulse generator for at least one second and then move it away. Keep the magnet away from credit cards and computer discs.

You may go back to your normal activities when you feel up to it.

You will be given prescriptions for an antibiotic and pain medication. Take as prescribed. When you have finished these medicines, you should be able to take over-the-counter pain medication to control your pain. Keep all pain medications away from small children.

You will have a dressing over each incision. Leave it on for two days. Keep your wounds clean and dry for 4-5 days. You can shower after that. Because a type of superglue called Derma-bond was used to hold the outer skin edges together, there will be no stitches to remove. Do not peel off the Dermabond. Do not apply Neosporin® or other ointments.

If you are hoarse or if you cough, it should improve in three or four days.

Call the number below to make an appointment with Dr. Konrad in 4 to 6 weeks so your wound can be checked.

**Call your doctor at (615) 322-7417 if …**
- your skin looks red, and the red area spreads out like a sunburn around your incision
- your incision feels warm to the touch, or it swells or drains
- you have a fever more than 101.5° F.
- you have any other questions or concerns

**Note**
Unless your call is an emergency, your phone call will be returned in the afternoon after 2 p.m.