

# Vagus Nerve Stimulation (VNS)

Vagus nerve stimulation (VNS) is a treatment for uncontrolled epilepsy – especially those people who are not suitable for surgery. VNS therapy may reduce the frequency, length and severity of seizures. Some people implanted with a VNS may experience a reduction in the length or intensity of seizures, but it does not necessarily work for everyone. VNS therapy is unlikely to stop seizures altogether and it does not cure epilepsy. It is used in conjunction with AEDs and sometimes medications can be reduced if the person experiences fewer seizures with VNS therapy. It can take at least two years before the full benefit of a VNS is realised. People often report feeling more alert after VNS therapy has commenced.

## WHAT IS VNS THERAPY?

You have one vagus nerve on each side of your body, running from the brainstem through your neck to your chest and abdomen. VNS therapy involves implanting a stimulator device, around the size of a pacemaker, which stimulates the vagus nerve with electrical impulses. The device is surgically implanted under the skin on your upper chest, under the left collarbone, and a wire is threaded under your skin connecting the device to your left vagus nerve.

## HOW DOES VNS THERAPY WORK?

The stimulator device sends regular, mild electrical stimulations through the vagus nerve to help in calming down the irregular electrical brain activity that leads to seizures. The amount of stimulation varies from person to person, but usually starts at a low level and is slowly increased to a level suitable for you. The battery inside the stimulator device can last for up to ten years, but when the battery is low it need to be surgically replaced.

The device is usually set to 30 seconds of stimulation every five minutes throughout the day and night. People that receive a warning prior to a seizure can pass a special magnet, which can be worn on the wrist or a belt, over the VNS to activate stimulation during a seizure. This can assist in stopping the seizure or reduce the length of time it takes to recover from the seizure.

## ARE THERE ANY VNS THERAPY SIDE-EFFECTS?

The most common side effects associated with VNS therapy, many of which happen when the programming first commences and lessen over time, include:

- Cough

- Hoarseness or change in speech pattern
- Sensations, such as tightness or mild pain, in the throat or neck area
- Difficulty swallowing
- Headache
- Difficulty breathing.

If side effects get in the way of certain activities (such as public speaking, singing or exercising) then the stimulator can be temporarily turned off.

People with a VNS device can have an MRI but certain precautions need to be taken, such as use of a special MRI machine. If any surgeries are required some other special precautions may also need to be followed, such as turning the VNS device off. If you have a VNS it is important to follow safety precautions, something which will be discussed as part of the decision making prior to and after implantation. Just speak to your doctor if you have any concerns.

To learn more visit [VNS Therapy](#) by LivaNova, the developer and manufacturer of the VNS.