

Background

Epilepsy is a chronic disorder characterized by episodes of abnormal and uncontrollable sensory, motor, or psychological behavior caused by sudden synchronous and excessive electrical discharges that interfere with the normal function of the brain. Vagal nerve stimulation (VNS) is an implantable device used as an adjunctive treatment for patients with multifocal epilepsy, drop attacks (tonic/tonic seizures), tuberous sclerosis complex (TSC)-related multifocal epilepsy, Lennox-Gastaut syndrome, and unsuccessful resective surgery.

Specific aims

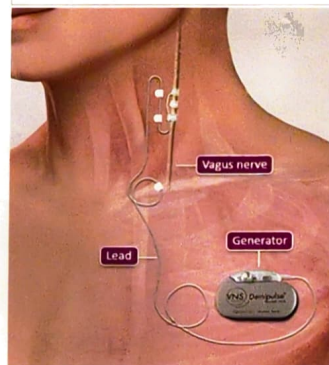
The primary aim is to promote awareness regarding the VNS device. Given its non-invasive nature and simplicity, there is an increase interest in the use of transcutaneous vagus nerve stimulation across basic, translational, and clinical research. Members of the dental team need to understand the principles of epilepsy control, how the VNS system operates and its implications in the dental practice.

Findings

Understanding VNS settings helps minimize the risk of unwanted effects during treatment, it enables effective communication with the patient's neurologist or healthcare provider. Discussing the patient's VNS settings and potential triggers ensures a collaborative approach to their overall care. Knowing the timing of VNS cycles is essential for scheduling dental procedures, avoiding sensitive periods during VNS activation to prevent interference with seizure control. Awareness of the patient's use of a handheld magnet for VNS is crucial. The magnet can be applied over the implant to stop or shorten seizures, and dental professionals should be trained to use it effectively in case of a seizure event. Unlike pacemakers, VNS implants generally do not interact with the ultrasonic devices commonly used in dental procedures, expanding the range of treatments without posing risks to VNS functionality. Training dental staff on the correct use of the magnet for emergency seizure management ensures a quick and appropriate response during a seizure event, contributing to the patient's safety and well-being.

Methods and Materials

A literature review was carried out using the descriptors: Epilepsy surgery, Vagus nerve stimulation, Transcutaneous auricular vagus nerve stimulation and Seizures, on the PubMed and Cochrane search platforms, where 6 articles were selected after the search, which included studies that showed the general benefits of VNS devices and its relationship to dentistry, from 2002 to 2020.



Fonte: <https://seizuretracker.com/seizuresuccess/vns/index.php>



Fonte: [livestrong.com](https://www.livestrong.com)

Fonte: aboutkidshealth.ca

Discussion

Up to 50 million people worldwide live with this chronic condition, including at least 2.3 million people in the United States. It is important that the dental team is up to date with the recent advances in seizure management. Although Vagus nerve stimulation (VNS) treatment has been available in the U. S. since 1994 most healthcare providers in the dental field aren't familiarized with the device and its advantages. VNS is an electronic device usually implanted under the skin in the left chest area used to control severe treatment resistant epilepsy (TRE) that aids in the prevention or reduction of episodic seizures by sending regular, mild pulses of electrical energy to the brain via the vagus nerve. There is a VNS magnet that allows activation of the implanted device by waving it over the generator for 1 second, following the onset of a seizure. Placement of the magnet over the device for more than 65 seconds also allows a temporarily inhibition of the VNS while the magnet remains in place. The VNS will return to its normal programmed mode once the magnet is removed. The magnet is designed to conveniently allow the patient to carry it along with them and to be used when needed.

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