

Transcutaneous Vagus Nerve Stimulation (TVNS) – from concept to reality

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Vagus Nerve Stimulation (VNS) has proven beneficial effects for the treatment of intractable Epilepsy and other CNS disorders. Nevertheless, due to the potential risks associated with the surgical implant of the device and cost of the equipment it's utilization and clinical indications have been limited.

TVNS is an innovative and noninvasive method of Neuromodulation that has evolved in the last two decades from a theoretical Concept to an effective treatment modality for a variety of CNS (Epilepsy, Parkinson, Anxiety, Depression, OCD, Tinnitus, Chronic pain, etc.) and other disorders (Atrial fibrillation, Obesity, etc.) involving systems influenced by the Vagus Nerve. Additionally due to its noninvasive nature the

TVNS device is a useful, reusable and low cost research tool.

It has been demonstrated that TVNS is as effective as the implantable VNS stimulator, thus an available alternative to decrease the risks and the cost associated with the device and its surgical implant. Additionally, the costs and toxic effects of medications such as AEDs and ADDs are either decreased or eliminated.

In conclusion, being noninvasive TVNS has contributed to expand the indications and benefits of VNS, decreasing the risks and the costs of the surgical implant. Consequently, many more patients around the world could benefit from this form of treatment.

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