

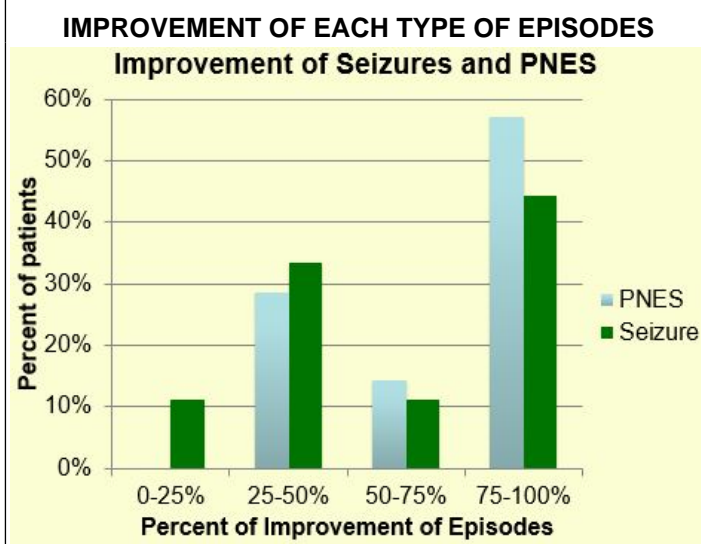
## Introduction

Psychogenic non-epileptic seizures (PNES) are responsible for an estimated 20% of all patients presenting to a neurology clinic with seizures. 5 to 10% of patients with intractable epilepsy also suffer from co-morbid PNES. In general, treatment for PNES is limited and difficult to achieve. The efficacy of vagus nerve stimulators (VNS) for epilepsy is well established, however the mechanism for seizure reduction is not well understood. The goal of this study is to determine whether VNS leads to an improvement in psychogenic episodes in patients with both disease states.

## Methods

A retrospective chart review of all 518 patients who underwent a VNS implantation at Tampa General Hospital, from 1998 to 2015, was conducted. 16 patients were identified that had concomitant epileptic seizures and PNES diagnosed by video EEG monitoring. These patients were contacted and surveyed regarding pre- and post-operative seizure burden. The survey included the patient's ability to identify different seizure types, including PNES, as well as to evaluate seizure improvement. In addition they were administered the QOLIE-31 to evaluate post-operative quality of life (QOL) in 7 arenas: seizure worry, quality of life, emotional well-being, energy/fatigue, cognitive function, medication effects, and social function. An overall QOL score was also calculated.

Of the 16 patients identified, 11 patients were able to be contacted. 2 of them had changed their contact information and 3 of them did not respond to our calls. Of the remaining 11, all agreed to participate in this study. 7 of the 11 patients were able to identify or recognize they suffered from PNES and these patients were evaluated for PNES improvement.

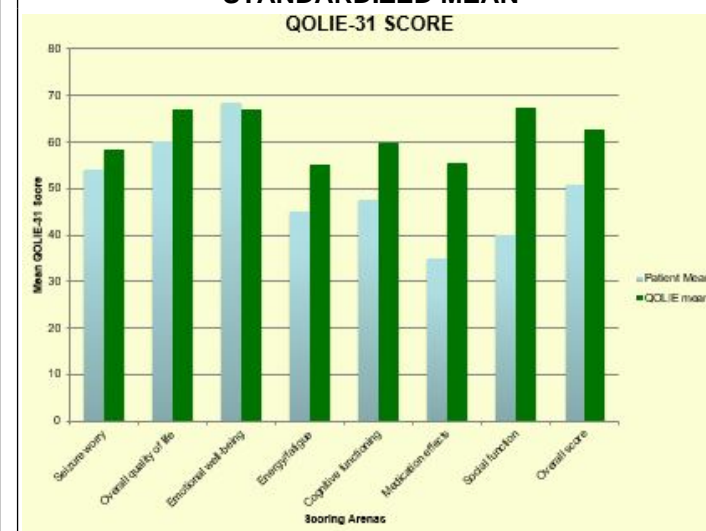


## Results

Of the 11 patients that were contacted, 10 were female and 1 was male. The mean age was 48 years old (range 29 to 69 years). The mean years with epilepsy was 28 years (range 15 to 42 years) and the mean age of onset was 21 years. Of the 11 patients interviewed 2 noticed no change in their seizure episodes and 9 noticed improvement. Seven of the 11 recognized their PNES, and of those, all 7 noted improvement in those episodes. Two patients noted 25-50% improvement, 1 noted 50-75% improvement, and the remaining 4 had 75-100% improvement.

On the QOLIE survey 7 arenas were scored and averaged. For seizure worry the mean score was 54.2, overall quality of life was 60.2, emotional well-being was 68.4, energy/fatigue was 45, cognitive function was 47.7, medication effects was 34.9, social function was 40. The total score mean was 50.7 in the 11 patients interviewed.

## QOLIE-31 SCORE FOR PATIENTS COMPARED TO STANDARDIZED MEAN



## Conclusion

Patients with epilepsy and co-morbid PNES benefit from VNS placement. The extent to which this benefit is due to improvement of the strictly epileptic seizure burden is unclear. VNS is known to affect depression, and may have related effects on PNES. In this limited study, PNES improvement tracks well with epileptic seizure improvement. Further studies are necessary to fully elucidate the role of VNS in the treatment of psychiatric disease.