

## Case History: Successful Collaboration on a 79 Year Old Male with Bilateral Hand Tremor and Unilateral Hearing Loss

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**Abstract:** A 79 year old male with bilateral hand tremors and unilateral hearing loss presented for an 11 day intensive (approximately 4 hours daily) treatment schedule of a combination of basic Applied Kinesiology, Lebowitz protocol and Cranial nerve non-invasive neuromodulation . Results are discussed as well as potential for future collaboration of the two discipline.

### Introduction:

Cranial nerve non-invasive neuromodulation of the tongue by a device known as PoNs has shown positive outcomes when treating various neurological conditions such as MS, cerebral palsy, Parkinson's, cognitive impairment, depression, tinnitus etc. It is hypothesized that spatio-temporal trains of spikes induced in the trigeminal and facial nerves by electrical stimulate on of the tongue by the PoNs device (experimental device not available for purchase at this time) produces changes of activity in corresponding nuclei of the brainstem namely, at least in the sensory and spinal nuclei of the trigeminal nuclei complex, and in the nucleus tractus solitarius where both stimulated nerves have direct projections. It is postulated that intensive activation of these structures initiates a sequential cascade of changes in neighboring and/or connected nuclei by direct collaterals, interneuron circuitry, and/or passive transmission of biochemical compounds in the intercellular space. Accordingly, electrotactile stimulation of cranial nerve endings, particularly in the lingual tract of the trigeminal and the facial nerve, initiate activity in the corresponding nuclei similar to long-term potentiation/inhibition, which, in the turn, increases the receptivity of multiple neural circuitries and/or affect internal mechanisms of homeostatic regulation. This, in turn, causes radiating therapeutic neurochemical and neurophysiological changes affecting both neural and glial networks affecting information processing of afferent and efferent neural signals involved in the motion control, including the cerebellum and nuclei of spinal motor pathways. PET scans studies on blind subjects before and after training with the sensory substitution system via tongue stimulation (electrotactile feedback system) demonstrates massive activation in cortical and subcortical levels of the brain It may also increase the receptivity of multiple neural circuitries and/or affect internal mechanisms of homeostatic regulation according to the contemporary concept of synaptic plasticity. This may also induce simultaneous activation of serotonergic and noradrenalinergic regulation systems components located in the brainstem. In the course of testing and training numerous persons having a primary indication of balance and gait disorder using the

balance recovery therapeutic method Dr Danilov et al developed, observed therapeutic benefits well beyond balance (memory, multitasking, vision, fine motor control, sleep, tremor, tinnitus, etc.) regardless of their etiology (peripheral vestibular, central or idiopathic vestibular loss, cerebellar stroke, Meniere's, Parkinson's, MS).

Lebowitz protocol in combination with basic applied kinesiology has also had positive outcomes in the same type neurological conditions using a combination of extensive case histories especially focused on environmental stressors, vial testing, supplementation of appropriate herbs, vitamins, minerals, etc., stimulation of various reflexes and acupuncture points via low level laser, finger stimulation etc.

Beginning with Dr Danilov's exposure to ICAK-USA in 2020 and our exposure to his work it appeared to us that a mutual collaboration could be both beneficial to a non-responsive patient as well as an experience where both disciplines could share and learn from each other. Our 79 year old had been to the top medical clinics in the USA, prescribed medications that did not alleviate his condition as well as cause severe side effects.

Using Lebowitz protocol and basic AK brought partial recovery though unfortunately of relatively short-term duration.

This 79-year-old male who heavily relies on the use of his hands and hearing for his occupation was extremely motivated to try this collaboration. He exhibited a left sided hand tremor of 3+ years duration and a right sided hand tremor of 1 year duration. Both were progressive in nature and appears at rest and active. They were both exacerbated by internal rotation of the arm and wrist. The hearing loss was according to the patient on the left side only and was between 50-100% depending on the day.

#### Methods

Patient was treated 11 days over a 12-day period. Daily treatment included assessment and treatment using the Lebowitz protocol, traditional AK evaluation and treatment concentrating on cervical musculature, cranials, TMJ and other systems as needed. Supplementation was provided as needed. The patient also used the PoNs device for approximately 6 20-minute sessions. Various balance exercises, auditory exercises, meditation etc , were utilized during the Cranial nerve non-invasive neuromodulation as it has been clinically observed that these can greatly enhance the results

#### Discussion

Each day the patients tremor as well as hearing acuity were measured multiple times on a number of devices/apps. One finding Dr Danilov and Dr Lebowitz observed for the first time was when playing a 126 Hz tuning fork next to the patient's ear with the hearing loss, we measured a 1400%-fold increase of the amplitude (amplitude of the oscillation in mm) of the tremor before onset of treatment. The power of the tremor increased 7-fold and the synchronization (muscle involvement) increased approximately 9000%. This showed in this patient the connection between the two conditions: hearing loss and

tremor. To confound it, two of the prescriptions the patient were taking Lipitor and Cymbalta both had listed side effects including tremors and ototoxicity which could hamper results.

The other factors that increased tremor measurements were cervical compaction and cervical rotation to the right. Applied kinesiology treatment brought some objective improvement of the measurements as did the PoNs device though the combination of the two brought the best results. The duration of electrical tongue stimulation at one point caused the patient to experience some mild memory loss and physical exhaustion that was quickly alleviated by phosphatidyl choline plus avoidance of a food that tested detrimental.

#### Results

At the beginning of treatment hearing loss in the effected ear was 50% at the 125 Hz level, 25% at the 500Hz level, 33% at the 2000Hz level and 33% at the 4000Hz level. At the end of treatment, it was 25% at the 125Hz level, 18% at the 500Hz level, 25% at the 2000Hz level and 24% at the 4000 Hz level. Considering this was over a 12 day period and the patient remained on the ototoxic pharmaceuticals, all were pleased. Patient commented that he could now watch TV at a much lower volume as well as preform his occupation much better than before. He also noted an improvement in his voice quality and making breakthroughs in some creative endeavors he had plateaued on many months ago.

Interestingly, hearing in his "non effected ear" which started at approximately 80% of optimal was now at about 90%.

Most satisfying was after 7 days his bilateral tremor was now completely in the normal range and not visibly present. The only time it manifested was a slight tremor in right biceps contraction in combination with extreme arm internal rotation. Head rotation, exposure to tones etc. did not exacerbate the findings.

The patient on his own continues a less aggressive treatment schedule at home and under his MDs supervision has ceased lipitor and is weaning himself off Cymbalta.

#### Conclusion

The combination of applied kinesiology, Lebowitz protocol and cranial electrical stimulation can bring profound changes in a short period of time for various chronic neurological conditions

#### Resources

- 1) Non-Invasive Multi-Channel Neuro-Stimulators In Treatment Of TheNervous System Disorders

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2) Daily hours of consultation and strategizing between Drs Lebowitz and  
Danilov

3) Apps including a)StudyMyTremor, b)Hearing Test-Audiometry,Tone, c)  
Hear Who

4) PoNs device developed by Yuri Danilov PhD

5) Lebowitz protocol available as vimeo through ICAK-USA