

# **Efficacy of Transmastoidal Galvanic Stimulation on Recovery Outcomes in Patients with Unilateral Peripheral Vestibular Disorders: A Randomized Controlled Trial.**

## **Abstract:**

**Background:** Peripheral Vestibular disorders are common disorders among population with increased prevalence with age advancement, manifested by balance disorders and postural instability that negatively affect daily activities and social participation.

**Objectives:** To investigate the effect of transmastoidal galvanic stimulation added to a designed vestibular rehabilitation program on recovery outcomes in Egyptian patients with unilateral peripheral vestibular disorders.

**Subjects and Methods:** Forty patients (from both sexes) diagnosed with unilateral peripheral vestibular weakness were evenly and randomly designated into two groups; study and control groups. The study group received transmastoidal galvanic stimulation, in addition to a vestibular rehabilitation program, whereas control group undergone vestibular rehabilitation program only. Treatment sessions were conducted three times weekly for four successive weeks. Assessment of vestibular canal weakness was carried out using videonystagmography, postural stability using computerized posturography, while, participation in daily activities was carried out using Vestibular Disorders Activities of Daily Living Scale (VADL). All assessment measures were carried out pre and post treatment.

**Results:** Study group showed improvement of post treatment scores of canal weakness, postural stability parameters and VADL scale in reverse to control group that showed improvement of

scores of Preference and VADL only. A statistically significant difference was found between both groups in post treatment scores of canal weakness, total equilibrium composite and Vestibular component with more improvement in the study group.

**Conclusion:** Adding transmastoidal galvanic stimulation to vestibular rehabilitation exercises for unilateral peripheral vestibular disorders improves the recovery outcomes of vestibular canal weakness, equilibrium and vestibular components of postural stability.

**Keywords:** Unilateral peripheral vestibular disorders, transmastoidal galvanic stimulation, vestibular rehabilitation, recovery outcomes.