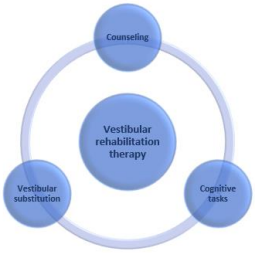
Experience in vestibular rehabilitation therapy: vestibular substitution, cognition and counseling

AUD. LIZETH PAEZ

Abstract (300 word limit)

In my experience as an Audiologist, I have used a vestibular rehabilitation therapy protocol, focused on bilateral vestibular loss, using the vestibular substitution strategy in combination with cognitive tasks and counseling. Vestibular rehabilitation therapy is divided into two main approaches, the first one corresponds to canalith repositioning maneuvers, which are established in clinical practice and have extensive scientific evidence. The second approach corresponds to the training of balance skills to achieve vestibular compensation, through adaptation strategies and vestibular substitution. The substitution strategy is based on the distributive property of the central nervous system to control vestibular functions, various neural networks in the brain are capable of reorganizing functionality through learning and mimicking the dynamics of lost vestibular function. However, beyond the vestibular function itself, some research has revealed that users report cognitive limitations after suffering vestibular disorders. The vestibular system interacts with high-level cognitive processes including spatial perception, spatial navigation and body representation. The impact of vestibular injury on concentration, attention and memory skills has been studied. Conventional vestibular rehabilitation therapy focuses on improving the use of non-vestibular sensory cues, while cognitive training operates at a high level of processing. Cognitive training methods aim to reduce symptoms and improve compensation of sensory cues in patients with bilateral vestibular loss. Finally, the success of vestibular rehabilitation therapy depends on intrinsic aspects such as motivation and empathy with the therapist, which are developed through counseling, from the first moment of contact with the user, when the operation of the vestibular system is explained to them, the results of its vestibular assessment and the objectives of the intervention. Subsequently, counseling is a fundamental element to maintain the user's motivation, informing them of the session's objectives and the achievements in each of the therapy session.

Image



Recent Publications (minimum 5)

1. Alberts, B. B. G. T., Selen, L. P. J., Verhagen, W. I. M., & Medendorp, W. P. (2015). Sensory substitution in bilateral vestibular a-reflexic patients. Physiological Reports, 3(5), e12385.
2. Balaban, C. D., Hoffer, M. E., & Gottshall, K. R. (2012). Top-down approach to vestibular compensation: Translational lessons from vestibular rehabilitation. Brain Research, 1482, 101-111.
3. Bernard-Demanze, L., Dumitrescu, M., Jimeno, P., Borel, L., & Lacour, M. (2009). Age-Related Changes in Posture Control are Differentially Affected by Postural and Cognitive Task Complexity. Current Aging Sciencee, 2(2), 135-149.
4. Ellis, A. W., Schöne, C. G., Vibert, D., Caversaccio, M. D., & Mast, F. W. (2018). Cognitive Rehabilitation in Bilateral Vestibular Patients: A Computational Perspective. Frontiers in Neurology, 9.
5. Lacour, M., Helmchen, C., & Vidal, P.-P. (2016). Vestibular compensation: the neuro-otologist's best friend. Journal of Neurology, 263(S1), 54-64.
6. Lacour, M., & Bernard-Demanze, L. (2015). Interaction between Vestibular Compensation Mechanisms and Vestibular Rehabilitation Therapy: 10 Recommendations for Optimal Functional Recovery. Frontiers in Neurology, 5.

Photograph



Biography (150 word limit)

I have over eight years of experience working in vestibular assessment and dizziness rehabilitation in different Colombian clinics. In the academic field, I have experience as a university professor, supporting the clinical practices of the Universidad Nacional de Colombia and currently in the Specialization in Audiology at the Escuela Colombiana de Rehabilitación, where I teach the lecture of vestibular diagnosis and intervention.

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Notes/Comments: