Vestibular Dysfunction and Co-morbidities

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Fact Sheet

Vestibular rehabilitation has been shown to be effective in the treatment of patients with dizziness and/or imbalance due to vestibulopathy.[1-3] These patients frequently present with co-morbidities that complicate resolution of their problem(s). A physical therapist knowledgeable and experienced in treating patients with vestibular dysfunction can also assess and treat impairments and activity limitations due to musculoskeletal and neurological injuries or disease. Following a comprehensive evaluation, a customized program is designed for each patient, which may include physical modalities, manual techniques, and exercise strategies that use strengthening, stretching, habituation, adaptation, substitution, and/or motor control techniques.

Some distinctive pathologies that may occur with vestibulopathy are:

- Migraine-related vestibulopathy. Dizziness and imbalance are not the only impairments of migraine-related vestibulopathy. Studies have shown that physical therapy treatment can prevent or reduce the effects of migraine pain when it is related to cervical spine impairments.[4] Treatment may include use of exercise, manual therapy, and physical modalities to promote muscular strength, reduce muscular tension, improve postural misalignment, reduce spinal segment dysfunction, and promote physical conditioning.

- Cervicogenic dizziness. Cervicogenic dizziness, a diagnosis dependent on the presence of pain in the cervical spinal region that correlates with symptoms of dizziness and imbalance, is another condition that has been shown to respond to a combination of orthopedic treatment of cervical impairments and vestibular rehabilitation.[5-8]

- Traumatic brain injury (TBI). Following TBI, dizziness and headache are among the chief complaints of the multitude of possible sequelae that can occur. Vestibular rehabilitation has been shown to reduce dizziness symptoms, including resolution of dizziness due to BPPV known to accompany TBI, thus improving the rate of recovery in these patients[9,10] When headaches occur due to TBI, instruction in an exercise program that progressively grades exertion can help increase tolerance to activity. Also, if headaches are related to cervical impairments occurs, for example due to whiplash,[11,12] physical therapy treatment is recommended as well.

- Stroke and multiple sclerosis. In neurological conditions due to stroke and multiple sclerosis, rehabilitation of impairments and activity limitations has been shown to be critical for optimal recovery. Complaints of dizziness and imbalance can be present if the distribution of the lesions occurs along any aspect of the vestibular pathway. Such impairments due to these conditions have been shown to improve with vestibular rehabilitation.[13,14]

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- Musculoskeletal disorders. Disorders of the spine, hip, knees, ankles, and/or feet that co-exist with vestibular dysfunction should be addressed. Treatment of pain is imperative, as many of the exercise strategies used in vestibular rehabilitation could be limited by pain. The presence of musculoskeletal pain could, therefore, reduce the chances for overall success with vestibular rehabilitation.

- Disequilibrium of Aging. When multiple physiological systems are affected, such as in disequilibrium of aging (also called presbystasis), patients can complain of dizziness and imbalance, resulting in falls. In community-dwelling individuals with a history of falls, a multi-faceted exercise program can improve balance and mobility, as well as reduce the risk of falls.[15] Promoting successful outcomes for patients with dizziness and/or imbalance When patients seek medical assistance for dizziness and imbalance due to pathology of the vestibular system, more often than realized, multiple physiological systems can contribute to their dysfunction. These systems need to be addressed to improve the chance of a successful outcome. Physical therapy rehabilitation can be a part of a multi-faceted approach, which may include use of pharmacologic, psychological, and surgical intervention, to help enhance the possibility for improvement.

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