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“PATIENT TESTIMONIAL”

This is just a note to send thanks & appreciation to Mr. Ed Campbell for the recent therapy I received for my knee. He worked with me several weeks. The surgeon's report & X-rays resulted with no more crutches, no surgery - just continue exercising.

Ed is good at what he does & seems he never stops working & treats patients with a personable flair. He's the BEST!

A neighbor will be getting treatment at FYZICAL & I recommended Ed as his therapist.

Your establishment runs on time & has a very friendly atmosphere.

Thanks for your service - *Tracie*

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THRUST MANIPULATION

May 21, 2016

More details coming soon.



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June 4, 2016

More details coming soon.



PHYSICAL THERAPY

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ABOUT FYZICAL[®]

INNOVATION

FYZICAL[®] is changing the way outpatient physical therapy, rehabilitation, and balance care are practiced. Cutting-edge innovation and an exceptional patient experience allow our team of expert practitioners to serve our clients in a manner that was previously unimaginable.

OPTIMAL PHYSICAL HEALTH

FYZICAL[®] is proud to be the leader in outpatient rehabilitative care, physical health, and wellness. From Sports Medicine and Orthopedics to Balance, Dizziness and Wellness services, FYZICAL[®] provides a path to optimal physical health.

CLINICAL EXCELLENCE

Unparalleled results are achieved by an unwavering commitment to practitioner education. FYZ ED, our proprietary online clinical education, training and testing platform fosters an environment of ongoing clinical growth. Additionally, our practitioners participate in a journal club referencing the major orthopedic peer reviewed journals and several annual FYZICAL[®] sponsored in-house continuing education programs.

CLINICAL NEWS

CERVICOGENIC DIZZINESS

Dizziness is a common complaint in today's society and when left untreated can lead to significant lifestyle alterations.



Dizziness has been reported to diminish community mobility, decrease functional independence, and increase the risk of fall-related injury. Potential causes are numerous making differential diagnosis a challenge. Additionally, dizziness may be a symptom of a sinister pathological process that requires immediate medical attention. Common diagnostic imaging measures, such as MRI and

angiography, may be of value in detecting certain disorders such as stroke, brain tumor, and cerebrovascular compromise, however some causes of dizziness lack a diagnostic gold standard. In fact they are considered diagnoses of exclusion. These conditions often respond well to conservative measures, such as rehabilitation. One such condition is cervicogenic dizziness.

A Debated Diagnosis

Cervicogenic dizziness remains a somewhat debated diagnosis within the medical community primarily due to the lack of a clear diagnostic process. Cervicogenic dizziness is described as sensation of disequilibrium and/or imbalance that occurs in relation to movement of cervical spine.^[1-3] Additionally, patients typically complain of concurrent pain and/or stiffness in the neck. The onset of dizziness may correlate with a specific injury, such as a motor vehicle accident, or occur gradually for no apparent reason, such as with the natural degenerative process that contributes to non-specific neck pain.^[4] While the physiological origin of cervicogenic dizziness remains somewhat theoretical, contemporary theory points to the intimate neurophysiological connections between the cervical spine, vestibular, and visual systems.

This newsletter will explore the theoretical mechanisms, diagnosis, and potential treatment options for patients presenting with cervicogenic dizziness.

The Cervical Spine and Postural Control Mechanisms

The body needs adequate information from various facets, especially its environment, to safely and efficiently move through space. Movement occurs via complex interactions between the neuromusculoskeletal system and three additional guiding systems including the somatosensory system, the vestibular system, and the visual system.^[5] The somatosensory system is responsible for transmitting mechanical information to the brain regarding pain, temperature, proprioception (sense of position of one's body in space), and touch. The vestibular system is responsible for maintaining balance during upright tasks and the visual system is important in guiding movement. While an in-depth review of these systems is beyond the focus of this newsletter, of significant importance is the relationship each of these systems has to the cervical spine.

Biomechanical Rationale:



The cervical spine contains a number of structures that relay information to the central nervous system (CNS) to provide information on body position. Of specific interest appears to be the dense network of mechanoreceptors and the high number of muscle spindles typically found in cervical spine structures. Mechanoreceptors are structures that respond to mechanical stimulation and relay information to the CNS. These mechanoreceptors provide a constant flow of information to the brain regarding head position and body orientation. Research has identified afferent connections from cervical spine structures that directly connect to the vestibular and visual control systems in the CNS. While the CNS receives additional proprioceptive information from various regions of the body, such as the foot, the cervical spine is the only region that has been identified as having direct connections with these two systems.^[5]

Muscle spindles are structures that relay information to the CNS regarding muscle length, in-turn providing important information regarding head and neck position. There is an abundance of muscle spindles in the cervical region, especially the upper portion. Under normal conditions, muscle spindles provide information that allows for normal motion. Research suggests that certain conditions may alter the flow of information from these spindles leading to a sense of disequilibrium. Two such conditions are whiplash associated disorder (WAD) and the normal degenerative process that results in cervical spondylosis and osteoarthritis.^[5]

Differential Diagnosis

While detailed differential diagnosis is beyond the scope of the newsletter, complaints of dizziness should not be taken lightly. Patients should receive a neurological and cardiovascular consult prior to engaging in a rehabilitation program for symptoms of dizziness. Once sinister pathology has been ruled out, the rehabilitation professional can perform a thorough examination to detect the presences of cervicogenic dizziness. As mentioned previously, cervicogenic dizziness is a diagnosis by exclusion, thus conditions such as benign paroxysmal positional vertigo, perilymph fistula, and labyrinthine concussion should be considered. At a minimum, evaluation for cervicogenic dizziness should include: Postural assessment, neurological assessment, gait analysis, cervical range of motion, passive accessory motion assessment, upper cervical stability tests, balance assessment, vestibular and visual assessment, and muscle performance assessment. Additionally, the neck torsion rotation test may be useful. During this test the head is held still while the body is rotated underneath. This test is believed to stress cervical spine structures while diminishing the effect on the vestibular system.^[3]

Interventions

Evidence suggests that a multimodal approach including manual therapy and exercise is required to restore normal function. Manual therapy, specifically joint mobilization, has been shown to be an effective intervention for cervicogenic dizziness. Manual therapy consists of skilled passive techniques that aid in increasing range of motion and decreasing pain via a number of mechanical and neurophysiological mechanisms. Since cervicogenic dizziness appears to be at least partially a mechanical disorder, it stands to reason that techniques that improve the mechanical function of the cervical spine would have a positive effect on cervicogenic dizziness related symptoms. Moreover, it has been suggested that manual therapy to the upper cervical spine may help normalize afferent activity originating from cervical structures resulting in decreased dizziness.^[2]

Manual therapy appears to have significant short-term benefit, while recent evidence suggests additional long-term value in this patient population. Reid et al (2008) demonstrated that SNAG's (Sustained Natural Apophyseal Glides) to the upper cervical spine resulted in significant short-term (12 weeks) improvement in patients with cervicogenic dizziness compared to controls.^[6] In 2014, the same group compared two different manual therapy techniques (SNAG's and Maitland passive joint mobilization to C2) to a control group of individuals with cervicogenic dizziness. Results demonstrated that both manual techniques were effective in reducing symptoms related to cervicogenic dizziness, and significant improvement was noted at 12 weeks when compared to the control group.^[2] Additional evidence suggests that both manual therapy interventions have long-term benefits with follow-up studies indicating subjects maintaining significant improvements at 12 months.^[7]



Experimental evidence has demonstrated nystagmus, disequilibrium, and ataxia when normal cervical afferent mechanisms are disturbed. This is a primary concern in the cervicogenic dizziness population and may be more pronounced in those suffering from whiplash-associated disorder. This is likely due to the abundance of muscle spindles and mechanoreceptors in the cervical spine, which undergoes a rapid acceleration-deceleration leading to injury. Additionally, three reflexes that influence head and neck control (the cervicocollic, cervico-ocular, and tonic neck reflex) may be affected leading to the above disturbances in function.^[8] A comprehensive approach has been proposed that includes: Oculomotor exercises, eye-neck coordination exercises, balance retraining, manual therapy, local and global cervical stabilization exercises, cervical proprioception exercises, range of motion exercises, and fear-avoidance education.

Conclusion

The cervical spine should be considered as a source of dizziness and unsteadiness in situations where sinister pathological processes have been ruled out. Patients with persistent dizziness should receive a comprehensive cervical spine examination in addition to balance, vestibular and visual testing. Patients with reproduction of dizziness or unsteadiness provoked by neck motion, in the absence of vascular compromise, should be referred to a rehabilitation specialist for examination. The expert clinicians at FYZICAL Therapy and Balance Centers are specifically trained in dealing with complex dizziness-related disorders and will design an individualized, patient-specific, treatment plan to address all necessary aspects of physical function.

References

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