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UPCOMING FYZICAL[®] COURSES



Introduction to Neurodynamics

June 27, 2015



Return to Sport:

Criteria or chronologically driven & Traumatic fractures of the knee

July 11, 2015



Introduction to Vestibular & Balance Rehabilitation

July 25-26, 2015

August 1-2, 2015



Differential Diagnosis of Low Back Pain

August 29, 2015



PHYSICAL THERAPY

BALANCE PROGRAMS

SPORTS REHABILITATION

FITNESS & WELLNESS

HAND THERAPY

WORKERS COMPENSATION

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.

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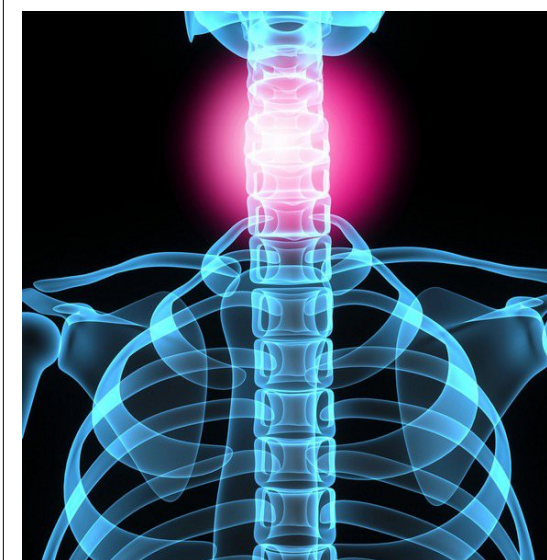
FYZICAL[®] is proud to be the leader in outpatient rehabilitative care, physical health and wellness. From Sports Medicine and Orthopedics to Balance, Dizziness and Wellness services, FYZICAL[®] provides a path to optimal physical health.

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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

CERVICAL MYELOPATHY



Compression of the spinal cord can occur for a variety of reasons. In the elderly, cervical myelopathy, or compression of the spinal cord at the neck, is one of the most common causes of non-traumatic spinal cord injury with estimates as high as 605 occurrences out of every million individuals in North America. While data remains inconclusive, arthritic changes are believed to progress at a greater rate in men than women, making men appear at higher risk for developing cervical myelopathy.

A number of factors have been reported to cause cervical myelopathy including: degenerative

spondylitic changes, ligamentous ossification, degenerative disc disease and spondylolisthesis. Evidence suggests that the aforementioned pathobiological processes lead to spinal cord compression causing chronic ischemia (or inadequate blood supply) that eventually results in neuronal degeneration⁴.

While a number of treatment options exist, there remains debate on the best course of action for this patient population. Regardless of the selected management option, most of these patients will require physical therapy to address impairments related to this potentially disabling condition. This newsletter will discuss the classic signs and symptoms, the relevant examination findings and common methods of managing patients with cervical myelopathy.

Signs and Symptoms:

A diagnosis of cervical myelopathy can be a difficult concept for a patient to accept. While it would not be unusual for a patient with this condition to experience neck pain, the primary symptoms are similar to that of a spinal cord injury. Initial symptoms are likely to occur below the level of the lesion and predominantly in the lower limbs. Neck pain alone would not indicate a diagnosis of myelopathy. As the spinal cord becomes compressed in the neck, the messages sent via the nervous system to control the lower extremities and vice versa become diminished or in severe cases blocked.

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Altered balance and gait changes are likely to be the first signs of cervical myelopathy. Patients may describe a stiff or heavy feeling in the lower extremities, tripping over their own feet while walking and difficulty ascending and descending stairs. Additional complaints may include general lower extremity weakness, cramping and fatigue. As symptoms progress, upper extremity weakness, atrophy, and altered fine motor control may be noted. If left untreated, severe cases can lead to difficulty swallowing, bowel and bladder dysfunction, numbness of one or both sides of the body and respiratory complications^{3, 5}.

Differential diagnosis can be challenging since a number of disorders may cause the aforementioned symptoms. During the physical examination a comprehensive neurological screen is recommended with emphasis on upper motor neuron examination. Patients with cervical myelopathy are likely to have examination findings such as: spasticity of the lower extremities, gross deficits in lower extremity strength and lower extremity hyperreflexia³. However, these findings alone do not indicate a diagnosis of cervical myelopathy.

Recent evidence suggests a cluster of special tests may be more reliable than any one individual test in the detecting cervical myelopathy. Tejus et al (2015) evaluated the presence of an abnormal finger flexion reflex, Hoffman's sign and Babinski sign in asymptomatic and symptomatic individuals with neck pain. Their results suggest that less than one percent of the normal (asymptomatic without presence of myelopathy) population will test positive on any of these tests. In contrast, when all three tests are positive, there is a high likelihood (sensitivity 91.7% and a specificity of 87.5%) of cervical myelopathy.

Similar results were noted by Cook et al (2010). They examined data from 249 patients and looked at thirteen different clinical findings thought to be diagnostic for cervical myelopathy. Results showed that a combination of tests was better than any single test for the diagnosis of cervical myelopathy. The five measures identified were: gait deviation (wide base or ataxic pattern), positive Hoffman's sign, positive inverted supinator sign (flexion of the fingers during brachioradialis reflex testing), positive Babinski sign and age greater than 45 years-old. A finding of 3 or more positive tests was found to be highly specific for the presence of cervical myelopathy.



Hoffman's Sign: The examiner flicks the distal phalanx of the index or middle finger. A positive response is flexion of the thumb or finger that was not flicked.

Treatment Options

There remains debate on the best course of intervention in patients presenting with clinical signs of cervical myelopathy. A number of studies have demonstrated improved outcomes with surgical intervention, however few studies have compared surgical to non-surgical treatment. Additionally, research suggests that a number of patients presenting with mild forms of myelopathy remain stable for years².

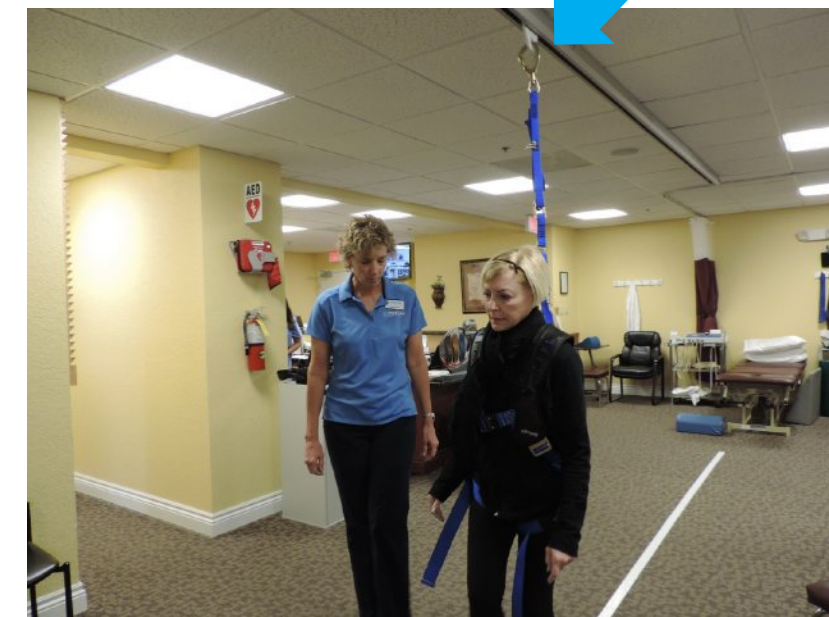
Evidence suggests those patients with radiographic signs of myelopathy, but no clinical findings, and those individuals with mild signs of the disorder can be managed conservatively. Patients who demonstrate progressive symptoms, loss of bowel and bladder function or overt weakness should be considered for immediate surgical intervention. Additionally, signs of vertebral misalignment and segmental instability on radiographic examination are also poor prognostic indicators of success with conservative management and may benefit from early surgical intervention².

Few controlled studies have examined the conservative management of patients with clinical signs of cervical myelopathy. Evidence from case studies suggests that physical therapy may play a valuable role in the management of patients with cervical myelopathy.

Almeida et al (2013) described the treatment of a 58 year-old individual with clinical signs of cervical myelopathy. They used a combined approach of non-thrust manual therapy to the cervical spine, cervical stabilization exercises, upper and lower extremity strengthening, balance exercises, and aerobic conditioning. While complete resolution of symptoms was not achieved, overall functional improvements and diminished pain levels were noted and maintained at 6-month follow-up¹.

Another case study by Browder et al (2004) described the management of a series of patients with mild compressive cervical myelopathy. Seven women were treated with a combination of interventions including manual therapy and traction techniques. All patients received thrust manipulation to the thoracic spine with noted improvements in cervical spine range of motion. One patient was treated with the addition of intermittent cervical traction to address lingering cervical range of motion deficits and three patients were treated with a distraction thrust manipulation to the cervical spine aimed at the level above the suspected lesion. Results demonstrated improvements in pain and Functional Rating Index scores for all patients in the series.

Despite a void in the current literature, physical therapy should be considered a vital part of the management process for patients with cervical myelopathy. Regardless of a surgical or non-surgical course of management, these patients will have significant movement impairments that will require treatment. Many will require gait and balance training, gross lower and upper extremity strengthening and range of motion exercises to maintain and maximize their functional outcomes.



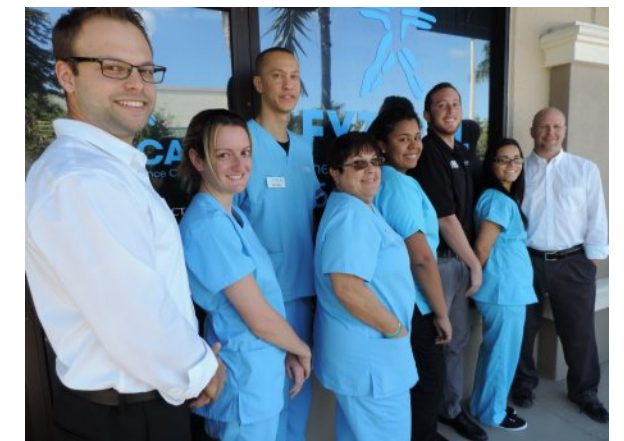
Patient using SOS Balance System

Conclusion

FYZICAL® Therapy and Balance Centers specializes in the treatment of patients with these impairments. FYZICAL's highly trained practitioners will perform a comprehensive examination using the most current and advanced assessment techniques and will design a comprehensive individualized treatment plan specific to each patient.

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Love Your Life

FYZICAL® THERAPY AND BALANCE CENTERS

This newsletter presents a clinical topic of focus for the quarter as well as other important information pertaining to FYZICAL®, including current events, interesting clinical pearls, client testimonials and updates regarding future events at FYZICAL®.

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