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 degeneration.

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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**PATIENT TESTIMONIAL**

“I have always been treated with utmost kindness and friendliness by everyone. It has always been a pleasure to work with all of you. I thank you all so much. Jason went over and above the call of duty.”

Marie D.

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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
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-up.

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.

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 years. 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 intervention.

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.

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.