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## PATIENT TESTIMONIALS

*My father has severe hemiplegia and multiple other contributing factors. His mental as well as physical enhancement due to the wonderful guidance and care he is receiving has made a serious difference in the effort he puts forth in his everyday life.*

*Brian is a gem and you should cherish him. Amber in your billing department has been a delight to deal with as well.*

Wendy

*Just finished a series of sessions at the Okeechobee location and wanted to thank and congratulate the whole team for doing great work in improving peoples' lives".*

G.Z.



# CLINICAL NEWS

Winter 2015



## Unparalleled Quality

Welcome to the Gold Coast Physical Therapy/Fyzical Clinical Newsletter. This newsletter is meant to familiarize readers with the culture and values behind our organization, specifically with regard to our focus on clinical excellence. As the leading provider of outpatient physical therapy services in Palm Beach County, Gold Coast Physical Therapy/Fyzical continues to deliver results that are unparalleled in our community.

At the heart of our philosophy is a commitment to provider education. From the journal club that all of our clinicians participate in, to frequent company sponsored continuing education events, we strive to be the best clinical team that we can be. This newsletter presents some recently reviewed journal articles.

In this newsletter, you will also find important information pertaining to Gold Coast Physical Therapy/Fyzical, future event updates, interesting clinical pearls, and other recent activities. Thank you to our entire Team for all of your hard work and commitment and thank you to our community of referring physicians without whom we would not have the opportunity to serve our patients.

## Cervical Radiculopathy



Cervical radiculopathy, commonly known as a "pinched nerve" in the neck, is a condition regularly treated by physical therapists. Typically caused by a cervical disc herniation or space-occupying lesion resulting in nerve root impingement, cervical radiculopathy can be extremely painful and functionally limiting. Pain distribution varies depending on the nerve root involved and classically follows a dermatomal pattern. Sustained or severe nerve compression can lead to myotomal weakness and in some cases permanent loss of motor function. Epidemiological reports suggest that each year approximately 2 out of

every 1000 individuals will be diagnosed with cervical radiculopathy. Risk increases with age, specifically over the age of 40, and is greater in females than males<sup>7</sup>. The purpose of this newsletter is to review relevant anatomy surrounding the cervical nerve root, discuss current evidence regarding the diagnostic utility of clinical tests specific for cervical radiculopathy, and to review the current evidence regarding physical therapy intervention for patients with cervical radiculopathy.

### Anatomy

The anatomy of the cervical spine shares some similarities with the thoracic and lumbar regions, however the cervical spine also possesses its own unique characteristics. There are 5 discs in the cervical region, each sharing the name of the vertebrae above (ex. C5 disc sits in-between the C5 and C6 vertebraes). Similar to the lumbar and thoracic areas of the spine, the discs of the cervical spine consist of a fibrous outer annulus and a gelatinous central nucleus. The cervical disc is thinner posteriorly than the lumbar disc and gets stability from the dense posterior longitudinal ligament and the uncovertebral joints. The uncovertebral joint is a structure unique to the cervical spine. These articulations guide flexion and extension of the neck and help prevent posterior translation of neighboring vertebrae. They play a key role in adding stability to the posterolateral portion of the cervical disc<sup>2</sup>.

[More >](#)

## ABOUT GOLD COAST/ FYZICAL THERAPY AND BALANCE CENTERS

Our values and culture are the driving force behind the Gold Coast Physical Therapy/Fyzical organization. From clinical excellence and hospitality oriented care to teamwork and personal / professional growth, we strive as a team each and every day to perform at an elite level. From phone etiquette, a courteous and respectful manner, a willingness to help our patients in any way we can, and providing patients with access to only the best physical therapy professionals, we focus on results as well as patient experience. Our purpose statement says it all, "To provide an elite level of value added care, assure a joyful patient experience, and create "raving fans" out of each of our patients."

Since 1998, Gold Coast Physical Therapy/Fyzical has represented the "Gold Standard" in outpatient physical therapy care.

### >Continued

As in other regions of the spine, the intervertebral foramen serves as the exit site for the peripheral nerve. The disc and portions of the vertebral body form the foramen anteriorly, while the facet joints shape the posterior aspect. There are 8 cervical nerves divided into pairs that supply sensation and provide motor control to the upper quarter. Each spinal nerve is formed from a ventral (or anterior) and a dorsal (or posterior) nerve root. These nerve roots join together at the intervertebral foramen to form the spinal nerve. At this entrance to the intervertebral foramen there exists potential for nerve root entrapment, typically by disc herniation and/or osteophytosis<sup>2, 8</sup>.

### Signs and Symptoms of Cervical Radiculopathy:



Cervical radiculopathy occurs when the nerve root is compressed or encroached upon as it passes into and through the intervertebral foramen. Classic symptoms include paresthesia and pain that radiates along a dermatomal (or sensory) distribution and weakness of the muscles innervated by the affected nerve<sup>7</sup>. The symptoms of cervical radiculopathy vary depending on the involved nerve, but research indicates almost all individuals will experience arm pain, while a majority experience sensation deficits in the arm and hand, neck pain, and motor weakness. Additional symptoms include scapular pain, anterior chest pain, and headache<sup>5</sup>.

Symptoms are generally aggravated by functional activities involving extension of the neck as well as side-bending and rotation towards the involved side. In the acute phase, pain can be constant with varying intensity. Classically, relief of upper extremity symptoms may occur by resting the arm on top of the head. This is also called the "shoulder abduction test", which has a reported diagnostic sensitivity as high as 78%<sup>6</sup>.

### Physical Therapy Examination:

A comprehensive evaluation including range of motion, neurological screening (both upper and lower motor neuron testing), palpation of the cervical spine, joint play assessment and special tests, should be performed to determine the best treatment option for patients presenting with cervical radiculopathy. In addition, this information will serve as a guide throughout the treatment process to monitor patient progress.

Current research efforts have focused on identifying the sensitivity and specificity of various tests for cervical radiculopathy. Sensitivity refers to the number of patients who have a disorder who test positive during a specific test. Sensitive tests are valuable in "ruling out" whether a patient has a disorder. Specificity refers to the portion of a population that does not have the disorder that will test negative. Specific tests are good for ruling in a particular disorder<sup>2</sup>. Research has shown that a few tests in particular appear to be useful in the clinical diagnosis of acute cervical radiculopathy.

Test <sup>2,3,9</sup>	Sensitivity	Specificity
Spurling's	30-46%	85-93%
Shoulder abduction	17-55%	85-92%
Upper limb tension (ULTT)	60-97%	22-40%
Distraction	44%	90%



Additional evidence from Wainner et al suggests that diagnostic accuracy improves when clusters of clinical findings are considered. Their research suggests that a four-item test cluster including ULTT, Distraction test, Spurling's test and limited range of motion of less than 60° had a specificity of 99% for the diagnosis of cervical radiculopathy<sup>9</sup>.

### Physical Therapy Treatment:

Physical therapy intervention is a crucial part of the rehabilitation of patients with cervical radiculopathy. Evidence suggests that 70%-90% of patients with this condition will experience a favorable outcome without a surgical procedure<sup>1</sup>. A number of treatment options are available and a comprehensive approach should integrate a variety of interventions.

Current evidence suggests the use of intermittent cervical traction be an integral part of the physical therapy plan of care for patients with cervical radiculopathy. Raney et al developed a clinical prediction rule to help identify those individuals likely to respond to cervical traction. Their results suggest a 79% success rate when 3 of the below variables are present. The chance of success increase to 90% when 4 out of 5 are present:

Peripheralization with cervical joint play assessment
+ Shoulder abduction test
Age > 55 y/o
+ ULTT
+ Cervical

Additional interventions should be part of a comprehensive treatment plan. A number of authors have demonstrated the beneficial effects of upper quarter nerve mobilization. Manual therapy, such as joint mobilization and manipulation, has been shown to benefit this population, specifically manipulation of the thoracic spine<sup>4</sup>. Postural and ergonomic faults should be identified and addressed, especially in those individuals performing computer-based tasks. The benefits of exercises to improve centralization of peripheral symptoms, such as McKenzie repetitive cervical retraction, remain questionable but warrant consideration<sup>1</sup>. They can easily be performed as part of a home exercise program and pose minimal risk to the patient when combined with proper patient education.

### Conclusion

Cervical radiculopathy is a painful condition that can drastically affect a patient's life. Physical therapy should be considered an integral part of patient management. Fyzical Therapy & Balance Centers boasts a highly trained staff of Physical Therapists that will identify the best treatment option for each individual patient.

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