

Evidence-Based Diagnosis and Physiotherapy Management of Musculoskeletal Disorders of Cervical Spine

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ABSTRACT

The main aim of this review article is to identify the evidence-based diagnosis and physiotherapy management of musculoskeletal disorder of cervical spine. Neck pain from cervical spine disorders is the most common cause of musculoskeletal disorders. Neck pain can exist alone or with the presence of upper-extremity symptoms.

Key Words: Neck Pain, Cervical Spine, Joint mobilization, Massage

INTRODUCTION

A current direction in research into cervical disorders is towards investigating the value of a “mechanisms” approach to diagnosis. This discourse audits a portion of the examination exploring the pathophysiological elements of neck pain, as far as changes in the articular, muscle, sensorimotor and sensory systems¹. Changes have been found in examples of cervical muscle actuation in intellectual, utilitarian and programmed errands in neck pain patients. In addition, some patients have been found to have disturbances in features of the postural control system in association with their neck disorders². Changed reactions to tactile have still up in the air, especially in certain patients with whiplash-incited neck pain. The worth of this components way to deal with conclusion is in its capacity to guide explicit treatment methodologies to address the exact hindrances introducing in the singular neck torment patient. It upholds the proof that shows that a multi modular way to deal with the executives is probably going to be generally adequate³.

Neck pain including upper thoracic pain, continues to be extremely common, with a high prevalence and wide socioeconomic consequences all over the industrialized world. Due to lack of diagnosis of several disorders of neck, it was very difficult to differentiate the main cause, origin, and identification of affected structure. By the help of provocative tests, imagines it become easier⁴.

Review on neck pain, its causes, diagnosis, and special test to differentiate the different conditions of neck pain. Neck pain includes several types of abnormalities like Biomechanical, Neurological, and Psychosocial. Clinical provocative tests of the neck, which position the neck and arm in order to aggravate or relieve arm symptoms, are commonly used in clinical practice? Their diagnostic accuracy, however, has been examined in few systematic reviews.

On basis of studies the overall disorders of neck, around 40% of populations are suffering from cervical disc herniation and cervical disc degeneration of all type of neck pain^{5,6}. Its main etiology is

unknown, but some other factors like occupation, sedentary life style, age and abnormal posture are going to contribute the cause of neck pain. It affects both genders of population equally. Neck pain has also seen in elderly age as well as in younger population. Basically neck pain in young generation is caused by prolonged occupation related abnormal posture like using low height computer table⁵ etc.

A Cervical disorder mention to those subjects with signs and symptoms related to dysfunction of the spinal nerve root(s) of the neck. The diagnostic criteria are, however, unclear^{7,8}. Some propose that cervical abnormality is a diagnosis based upon clinical impression, which should be confirmed by advanced testing, such as diagnostic imaging. However, clinical and radiological diagnoses all have integral restrictions⁹. Asymptomatic radiological abnormalities are commonly seen with advanced imaging studies. It is well accepted that the diagnostic accuracy of specialized imaging is limited; especially with regards to foraminal nerve root impingement imaging cannot differentiate compressive from non-compressive etiologies, such as inflammation¹⁰. Various clinical provocative tests have been proposed which significant to be diagnosis of cervical disorders. Examples of these tests include, but are not limited to the upper limb tension test [ULTT] (test of Elvey)¹¹, the shoulder abduction test (also known as the shoulder abduction relief sign), and Spurling's test (also known as the foraminal compression test, neck compression test, or quadrant test). These tests are not meant to displace the neurological examination, or to ignore those subjects with clear Neurological deficits Clinically, these tests are most important when the neurological test is hesitant, yet the subject has side effects predictable with a radiculopathy. Hence, these tests may not just assistance to affirm the analysis when the introducing clinical picture and assessment is indistinct, yet may likewise assist with building up a guess, and aid emergency when the clinician

is uncertain which treatment might be endorsed, or regardless of whether the patient ought to be alluded for additional diagnostic testing¹².

Musculoskeletal Disorders of Cervical Spine

Fracture And Dislocation Of Cervical Spine

Motor vehicle accidents are responsible for the vast majority cervical spine fracture and dislocations which is not surprising given their potential force and frequency. Some studies have reported that as many of 80% of all fractures are direct result of these accidents¹³. The sudden movement of cervical spine is often accentuated by the combined effects of cervical mobility and cranial weight.

The weight of cranial area is amplified by the centrifugal force generated during the accident the resultant hyperextension or hyperflexion may cause either ligamentous or osseous damage depending on the force of injuries.

OCCIPUT INJURIES

An occipital dislocation is a rare clinical condition, in that it usually causes death by respiratory paralysis. Those patients who do survive the initial trauma often suffer from quadriplegia or similar damage. One theory concerning the cause of occipital dislocation is extreme hyperextension with a distractive force causing rupture of the alar ligaments and tectorial membrane¹⁴. Radiographically this condition usually will appear as a dislocation of the occiput and a large retropharyngeal hematoma.

Fracture of the occiput is rare. The stress applied to the area typically will cause the atlas to fracture first, there by sparing the occipital condyles. Accurate assessment of a occipital condyles fractures depend on the use of computed tomography scan (CT SCAN)¹⁵.

ATLAS INJURIES

Fractures:

Fractures of the atlas usually occur in the neural ring or lateral masses. The broken areas are typically located in both the anterior and the posterior arches and are usually confirmed by inspection of the antero-posterior open mouth view¹⁶.

The mechanism of the injury is an axial loading on the vertex of the patient's skull. The vertical load literally compresses the lateral masses of the atlas between the articular surfaces of the occiput and axis. Leading to Jefferson fracture is considered highly unstable and does not cause a great deal of neurological encroachment or deficit¹⁷.

The other fractures associated with the atlas are horizontal fractures through the anterior arch, bilateral and unilateral posterior arch factors, lateral masses fractures, and transverse process fractures¹⁸.

DISLOCATION

The shape and location of the atlanto-axial joint make it susceptible to a variety of fractures and dislocations. There are four major varieties of dislocation that occur in this area.

Dislocation Associated With Odontoid Fracture

The odontoid process serve as a vertical stabilization post around which the atlas resolves and as an anchor that restricts the anterior and posterior movement of the atlas. Instability of this process places this area in great neurological jeopardy.

Atlas dislocation almost always accompanied by type II or type III fracture of the dens¹⁹. This fracture dislocation complex usually does not cause severe neurological damage. Anterior dislocation of the Atlas on the axis may cause compression of spinal cord between posterior arch of C1 and the posterior surface of the body of the axis.

Posterior atlas dislocation also may arise in type II and type III fractures. The spinal cord is compressed between the

posterior aspect of the odontoid process and spino-laminal junction of the axis.

Anterior Dislocation Caused By Rupture of Transverse Ligament

The transverse ligament is responsible for limiting forward movement of the atlas. A traumatic rupture or congenital absence of this restraining structure will allow anterior movement of the atlas on the axis. This positional change of the atlas will reduce the available space for the spinal cord and typically cause a greater degree of neurological damage than occurs with the atlantal dislocation or fracture. During the dislocation, anterior movement of the atlas forces the spinal cord into the stationary odontoid process, resulting in high level spinal cord damage. The resulting upper motor neuron lesion produces symptoms such as pathological reflexes and extremity muscle spasticity²⁰.

Posterior Dislocation

Posterior dislocation is a seldom-seen injury resulting from cervical hyperextension combined with a blow under the chin. The mechanical combination causes the anterior arch of the atlas to move up and over the odontoid process. This injury results in tearing or stretching of both anterior and posterior longitudinal ligaments. Bleeding into the retropharyngeal space will be seen in addition to the osseous dislocation. The vertical traction occurring during the accident may damage the ligamentous structures and cause instability and no dislocation²¹.

Rotational Dislocation

It has been demonstrated that the primary function of the atlas is to provide rotation of cranium of cervical spine, and it has been estimated that 500 of all rotation occurs at this level²². Injuries that result in over-rotation may cause a tearing of articular capsule that surround the atlanto-axial joint. The transverse ligaments may or may not be ruptured depending on the force and direction of injury. On clinical

presentation, the patient's head usually rotated, and he or she is unable to return to neutral or opposite position.

AXIS INJURIES

Because of atypical shape and high location within the cervical spine, the axis is susceptible to a variety of fractures. These fractures are typically located within either the pedicle or odontoid process. The vertebral body and spinous process, because of their location, seldom sustain fracture. Fractures of the spinous process or vertebral body usually occur at C5-C7 level.

Hangman's Fracture

The hangman fracture also known as "traumatic spondylolisthesis," is a bilateral pedicle fracture of C2. This injury was initially recognized as the cause of the death in a judicial hanging. The individual's abrupt passing in such a case was brought about by a blend of respiratory loss of motion and strangulation rather than neurological trade off.

The hangman fracture associated with vehicular trauma, unlike judicial counterpart, usually does not result in sudden death unless there is severe spinal cord or brain stem damage. The size of the patient's spinal canal at the level of the axis, combined with the instant decompression afforded by the hangman's fractures, usually allows the patient to escape with few neurological complications. In fact, neurological complications considered rare²³.

Odontoid Fractures

Fractures of the odontoid vary in their clinical significance and treatment, depending upon the location and degree of displacement of the fragments. Anderson and D'Alonzo have classified fracture in three types (I-III) according to their location²⁴.

Type I

A type I fracture is rare avulsion of the superior aspect of the odontoid process,

with the break running obliquely through the upper third of the process. This unusual location is attributed to excessive tension on the alar ligaments during trauma.

Type II

Type II fracture are more common and more clinically significant than type I fractures. These fractures are located at the base of odontoid and should be classified as to their degree of displacement as well as to their location. The displacement of the odontoid must be measured in term of both angulation and translation²⁵. The angulation is characterized by the deviation of the longitudinal axis of the dens in relation to the posterior cortex of the body. The translation is measured by the horizontal displacement of the base of odontoid in relation to the posterior aspect of the axis. Translation and angulation may be anterior, posterior, or both.

Type III

The type III fracture involves the body of the axis and is clinically different from type II lesion. A type III or low odontoid fracture is distinguishable from the type II fracture in that it disrupts the neural ring of the axis. This condition is serious, unstable, and weakens the neural canal. The incidence of the type II and type III fractures are approximately the same. Unlike the type II fracture. However, type III fracture almost always unit²⁶.

LOWER CERVICAL SPINE INJURIES

Vehicular accidents are common source of trauma of lower cervical spine and may cause a wide variety of fractures and dislocation. Allen et al.²⁷ have described mechanism of lower cervical spine fractures that are termed injury vectors. Forces that produce the initial tissue or osseous strain are called major vectors. Forces that produce strain on the cervical spine from a second direction are termed minor vector. The major vectors, consist of either extension or flexion, are typically produced by the sudden acceleration or deceleration

of the vehicle. The major vector of injury produces two direction of force within the cervical spine at the same time. For example hyperflexion produces traction along the ligamentum nuchae and, simultaneously, compression along the anterior edge of vertebral bodies. In hyperextension the convers is true.

Compression Fractures

Compression fracture at the anterior edge of the vertebral bodies may be caused by a hyperflexion motion alone or in combination with vertical compression. The stability of these fractures are dependent on the degree of vertebral compression and presence of posterior ligamentous damage. These fractures have been classified, based on degree of damage and potential instability evidenced radiographically, into five groups²⁷.

Compressive flexion stage 1

Compressive flexion stage 1 injuries are often seen in the ambulatory patient and are commonly encountered in the clinical setting. Natural radiographs will demonstrate a slight compression or blunting of anterior-superior vertebral border.

Compressive flexion stage 2

Compressive flexion stage 2 lesions demonstrate, in addition to stage 1 changes, compression of the anterior-inferior corner of the vertebral body. The two areas of compression usually will cause a difference in height of at least 3 mm between the anterior and posterior borders of the vertebral body. It is at this point that the vertebral disc comes into play in the production of further damage. The nucleus pulposus serves as a fulcrum over which the vertebral body is forced. This fulcrum acts as a wedge and will cause a vertical fracturing through the vertebral body.

Compressive flexion stage 3

Compressive flexion stage 3 lesion demonstrates a continuation of the damage

initiated by the nucleus pulposus see in stage 2. The hallmark finding is an oblique fracture extending from the inferior end plate, through the centrum, the superior endplate.

Compressive flexion stage 4

Compressive flexion stage 4 and stage 3 injuries have similar radiographic appearances. The chief difference between the two stage of posterior displacement of the vertebral body fragments into the neural canal, which is only seen in stage 4. The degree of posterior displacement is usually small, not more than 3 mm.

Compressive flexion stage 5

There is no distinction in the bony appearance between compressive flexion stage 3 and stage 5 fractures. The changes in neurological damage are caused by an increase in degree of posterior displacement.

Distractive Flexion Injuries

Allen et al. have classified distractive flexion injuries based on radiographic changes into four distinct groups²⁷.

Distractive flexion stage 1

Distractive flexion stage 1, the neutral lateral radiograph may show a widening of subluxation of the facets, and vertebral movements are usually sufficient to allow the compression of the anterior-superior border of the vertebral segment immediately below the facets subluxation.

Distractive flexion stage 2

Distractive flexion stage 2 lesions demonstrate a typical unilateral facet dislocation. This type of injury often contains a rotation component, causing a majority of damage to occur unilaterally. The unilateral dislocation requires a disruption of the interspinous and capsule ligament on the affected side²⁸.

Distractive flexion stage 3

Flexion stage 3 injuries demonstrate a bilateral dislocation of posterior facet. The vertebral body is typically displaced 50%. The facets bilaterally dislocate, which is only possible when there is a tearing of interspinous ligament, facet joint capsules, the posterior longitudinal ligament, and the annulus of the intervertebral disc²⁹. The only structure remaining intact is the anterior longitudinal ligament. Such severe ligamentous disruption also may give rise to small chip fractures.

Distractive flexion stage 4

Distractive flexion stage 4 injuries are distinguished by a wide and total dislocation of the vertebral segments. The failure of posterior ligamentous structures occurs at approximately the same moment that the posterior facet dislocates. There is no osseous resistance after dislocation, and the disc is usually sheared, tearing the anterior longitudinal ligament in the process³⁰.

EXTENSION INJURIES

Hyper extension, a primary destructive force in a typical accident, result in the cervical acceleration/deceleration syndrome. The major vector of extension injuries produces traction along the anterior longitudinal ligament and compression between the spinous process.

Compressive Extension Injuries

In extension injuries, the posterior facets act as fulcrums. The minor vectors serve to accentuate the pressure on the anterior or posterior side of the fulcrum. Compression minor vectors cause damage to posterior elements. Allen et al. have classified compressive extension injuries into five groups²⁷.

Compressive extension stage 1

Compressive extension stage 1 injuries demonstrate a unilateral fracture through either the lamina or the articular

facet. Displacement is not seen, and the visualization of this injury may be difficult.

Compressive extension stage 2

Compressive extension stage 2 lesions demonstrate stage 1 characteristic at multiple, contiguous levels. There is a usually a rotational component to the position of the head at the time of the injury.

Compressive extension stage 3 and stage 4

Compressive extension stage 3 and 4 demonstrate logical progression of the anterior movement that began with the stage 2 fracture. The anterior vertebral movement may vary and is totally dependent on the degree of ligamentous injury.

Compressive extension stage 5

Compressive extension stage 5 lesions are identical to stage 4 lesions, except for displacement. The stage 5 lesion demonstrate a complete dislocation of vertebral segments secondary to complete disruption of anterior and posterior longitudinal ligaments.

Distractive Extension Injuries

The major vector of the extension may be coupled with a minor destructive vector usually caused by a blow of the face or chin. The majority of the extension injuries involve the soft tissue rather than the osseous structure. The two stages of the distractive extension have classified.

Distractive extension stage 1

Distractive extension stage 1 injuries demonstrate injury to anterior longitudinal ligament. There is often damage of disc at the point of ligamentous injury. Some cases may demonstrate only a lucent cleft at the anterior border of the affected level. More severe stage1 injuries may widen the entire anterior border of the affected area.

Distractive extension stage 2

Distractive extension stage 2 injuries demonstrate the same changes as stage 1

injuries. The only one difference is the posterior displacement of the vertebral body. On the neutral lateral view, the posterior movement rarely is more than 3mm.

Degenerative Disc Disease Cervical Spondylosis

Cervical spondylosis is the degeneration of the joints in the neck. As the disks dehydrate and shrink, bone spurs and other signs of osteoarthritis develop, may lead to cervical radiculopathy. A cervical radiculopathy is the most well-known manifestation of cervical degenerative illness. Contributing variables might incorporate a mix of circle herniation, osteoarthritis of uncovertebral and aspect joints, diminished intervertebral stature and spondylolisthesis of cervical vertebrae – aggregately known as cervical spondylosis.³¹

Ossification Of The Posterior Longitudinal Ligament

Ossification of the posterior longitudinal ligament (OPLL), characterized by the heterotopic bone formation in the posterior ligament, is a common spinal disorder in Japan and other Asian countries³².

It occurs mainly in the cervical spine and may be associated with bone-forming conditions such as diffuse idiopathic skeletal hyperostosis (DISH) and fluorosis³³.

Prolapse Intervertebral Disc

Disc prolapse is not as common in the neck as in the lower back; both segments of the spine are mobile but the mechanical environment in the cervical region is more favorable than that in the lumbosacral region.

Prolapse might be accelerated by nearby strain or injury, particularly abrupt unguarded flexion and turn, and generally happens quickly above or beneath the 6th cervical vertebra. As a rule, there is an inclining irregularity of the circle with

expanded atomic pressure. Prolapsed material might push on the back longitudinal tendon or dura mater, causing neck pain and solidness just as pain alluded to the upper appendage. Manifestations of disc herniation are divided into subcategories by type³⁴

1. Protrusion
2. Extrusion
3. Sequestration

Disc bulge, is not a true herniation. It is portrayed as summed up even or lopsided circumferential expansion of the plate edge past the edges of the contiguous vertebral endplates.

Disc protrusion:- It describes herniation of nuclear material through a defect in the annulus, if the greatest distance, in any plane, between the edges of the disc space is not exactly the distance between the edges of the base, in a similar plane.

Disc Extrusion:- It applies to herniation of nuclear material when, in at least one plane, any one distance between the edges of the disc material beyond the disc space is more prominent than the distance between the edges of the base, or when no coherence exists between the disc material past the disc space and that inside the disc space.

Disc Sequestration: - If the displaced disc material has lost completely any continuity with the parent disc.

Cervical Spondylotic Myelopathy

Age-related changes in the spinal section bring about a degenerative course known as spondylosis. These spondylotic changes might bring about direct compressive and ischemic brokenness of the spinal rope known as cervical spondylotic myelopathy (CSM)³⁵

Patient examination

When evaluating patients with neck pain, first determine if the causes are more mechanical or neuropathic. Neck pain should also be classified based on its

duration, with acute pain lasting less than 6 weeks, sub-acute between 6 weeks and 3 months, and chronic more than 3 months, as this can help predict outcomes.³⁷ The best approach in making this determination is an accurate history and physical examination. The patient history ought to be graphic, including any component of injury; area of pain and in the event that it emanates to the shoulder or scapulae; presence or non-appearance of arm pain(one-sided or respective); equilibrium and stride unsettling influences; pain with parallel, flexion, as well as expansion scope of movements; sensorimotor deficiencies; and irritating or mitigating factors. Document prior beneficial or failed treatments, especially responses to specific medication regimens. The actual assessment ought to be careful, including review and palpation of the spine for arrangement, delicacy, and any erythema or edema, evaluation of the step design, motor strength testing for shortcoming, tactile testing for dermatomal deficits, and reflex testing. A Hoffman sign, which is elicited by the downward flicking of the middle fingernail and considered positive with flexion of the thumb, index, or ring finger, is typically indicative of an upper motor neuron lesion but can be a false-positive finding in some patients.³⁸ Rectal assessment is needed for patients complaining of bladder or bowel incontinence. Uncommon provocative tests, used to distinguish radiculopathy or record pressure, incorporate the Spurling, shoulder abduction, and upper extremity strain tests just as the Lhermitte sign. The Spurling test involves turning the patient's head contralateral and ipsilateral to the pain, each time applying gentle downward axial compression.^{39, 38} A positive results reproduces radicular pain related to constriction of the neural foramen. Shoulder abduction, as recently portrayed above, is characteristic of radicular side effects. The upper limb pressure test can be utilized to preclude radiculopathy yet isn't as regularly performed because of high affectability yet low specificity.³⁷ Lhermitte sign is an

electrical sensation transmitting down the spine and into the arms as well as legs when the patient flexes or broadens their head.^{37, 38} Lhermitte sign is characteristic of cord pressure however has under 20% affectability.

Diagnostic Evaluation

Routine imaging, including plain radiographs, is not warranted based on clinical guidelines due to the exposure to radiation and pathology identification, which does not always require treatment.⁴⁰ In case there is worry for warnings, history of injury, or the patient has bombed moderate medicines following a month and a half, then, at that point plain foremost/back and sidelong radiographs can be requested with the expansion of flexion/extension sees in case there is worry for spinal insecurity.³⁹ In patients with persistent or progressive neurologic involvement, use an MRI for all cervical spinal conditions.^{39,37,41} This is followed by a computed tomography (CT) scan or CT myelogram for patients unable to undergo MRIs, with CT myelography having preference over CT scan if there is concern for neurologic impingement.⁴¹ Differentiation with MRI or CT is possibly required if patients have had earlier a medical procedure. An important T2-weighted MRI finding for patients with cervical myelopathy is the presence of a hyper intense area near the spondylotic spine.⁴²

Physiotherapy Management43

Most of neck pain rules on determination and treatment of patients with neck pain suggest a mix of manual therapy, exercise and education as the evidence based physiotherapy management.

Education

Education is defined as a process of enabling individuals to make informed decisions about their personal health-related behaviour.⁴⁴ According to a Cochrane review, patient education (or the provision

of information) is regarded as an essential part of communication between the physiotherapist and the patient.⁴⁵ Unfortunately, that review failed to show evidence that education is beneficial in the treatment of neck pain patients. A more recent systematic review concluded that structured patient education alone is equally beneficial compared with other conservative interventions for patients with neck pain with or without traumatic origin.⁴⁴ The patient educational intervention that are assessed and suggested by the rules are: consoling patients that the aggravation is definitely not a genuine condition; giving data on pain and forecast, including data that imaging isn't suggested; encouraging to remain dynamic; and teaching about self-care, activities and (stress) adapting abilities.^{44,45,46}

Exercise

Physical exercises vary widely from general land-based or aquatic exercise to neck-specific endurance, strength, and stretching or McKenzie exercises. The latest Cochrane survey on practices for mechanical neck problems tracked down that a wide assortment of activities had been assessed, differing from breathing activities to strength and perseverance exercise.^{47,48} In this review, the quality of the evidence was categorised as very low, low, moderate or good, according to the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) system.⁴⁹ The review concluded that when exercise was compared with no treatment or placebo, or evaluated as an additional treatment: strength, endurance and stabilising exercises were beneficial in chronic neck pain (moderate-quality evidence); only strength and endurance exercises were beneficial in chronic cervicogenic headaches (moderate-quality evidence); and there was a small benefit of stretching, strengthening and stabilisation exercises in acute cervical radiculopathy (low-quality evidence). The standardized effect sizes varied from 0.3 to 0.7 (95% CI

0.1 to 1.3), which can be regarded as small to moderate effects. There were no studies that evaluated exercises in patients with acute neck pain. A recent network meta-analysis showed that no specific exercise was found to be superior in people with chronic non-specific neck pain.⁵⁰ Several researchers have assumed that changes in motor control in the deep cervical muscles contribute to the origin or persistence of neck pain.⁵¹ A recent systematic review aimed to investigate this hypothesis and evaluated whether motor control exercises (ie, craniocervical flexion exercises) are more effective than no intervention for people with chronic neck pain. The creators discovered clinically significant advantages (normalized impact sizes somewhere in the range of 0.33 and 0.58) on pain and disability.⁵¹

Mobilization and Manipulation

Physiotherapists often offer 'manual therapy', aiming to improve spinal joint motion and restore range of motion. Manual therapy consists of various techniques, including mobilizations and manipulations. Mobilizations are characterized as utilizing poor quality/speed, little abundance or enormous plenty fullness detached development procedures inside the patient's scope of movement and inside the patient's control. Manipulation is defined as a localized high-velocity and low amplitude force directed at specific cervical or thoracic spinal segments near the end of the patient's range of motion and without their control.

A Cochrane review and another systematic review both found that cervical mobilizations and manipulations were equally beneficial (moderate-quality evidence) in patients with non-specific neck pain.^{52,53} According to the Cochrane review, cervical manipulation show a little valuable impact (bad quality proof), however thoracic manipulation show a bigger gainful impact when contrasted with an inert treatment (moderate-quality proof), demonstrating that thoracic manipulation were more helpful than cervical

manipulation.⁵² A more recent systematic review evaluating the effectiveness of thoracic manipulations could not confirm this finding based on two studies that directly compared cervical with thoracic manipulations.⁵⁴

Massage

Massage therapy is one of the most seasoned treatment methodologies for musculoskeletal pain. It involves mobilization and manipulation of the soft tissues of the body through touch.⁵⁵ There is a wide spectrum of techniques that fall under the umbrella term of massage therapy. The different techniques vary in the manner in which touch is applied, as well as the amount of pressure that is applied.⁵⁵ Massage technique regularly utilized by physiotherapist are known as traditional massage and were observed to be valuable (in one little review) in the treatment of patients with neck pain contrasted and no treatment and placebo.⁵³

CONCLUSION

Physiotherapists regularly see patients with neck pain in clinical practice; it is one of the common musculoskeletal problems that have a significant weight on society. Manual therapy, exercise and education – generally in blend – appear to be the evidence based physiotherapy treatment for most patients with neck pain. By and by, most intercessions and the management procedures are not founded on firm evidence and impact sizes are little. Physiotherapist should know about this and stay up to date with new discoveries in the numerous roads of examination into the management of neck pain.

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