

ALL IN ONE DAY SEMINAR, CLINICAL EVIDENCE BASED PRACTICE OF CHIROPRACTIC: ETHICS & LAW, BASIC SCIENCE (NUTRITION), & ADVANCED CHIROPRACTIC ADJUSTIVE TECHNIQUE.

Presented by
Mark Cymerint D.C.

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CA-D-26-06-05038 Advanced Adjustive Technique
CA-D-26-06-05037 Basic Science (Nutrition)
CA-D-26-06-05039 Ethics & Law

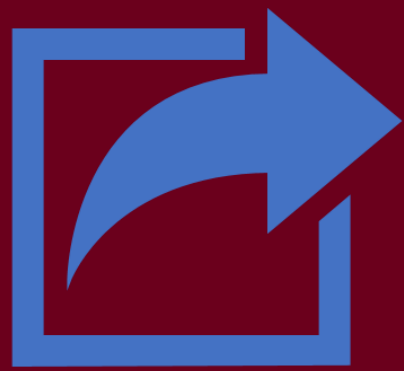


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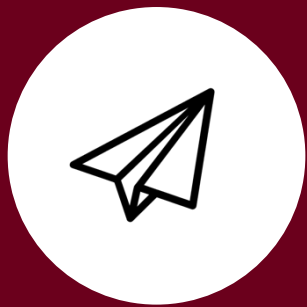
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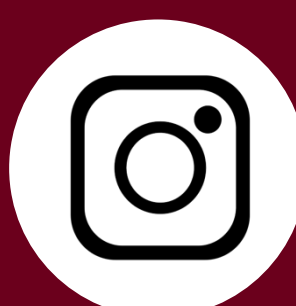
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III. ADVANCED CHIROPRACTIC ADJUSTIVE TECHNIQUE

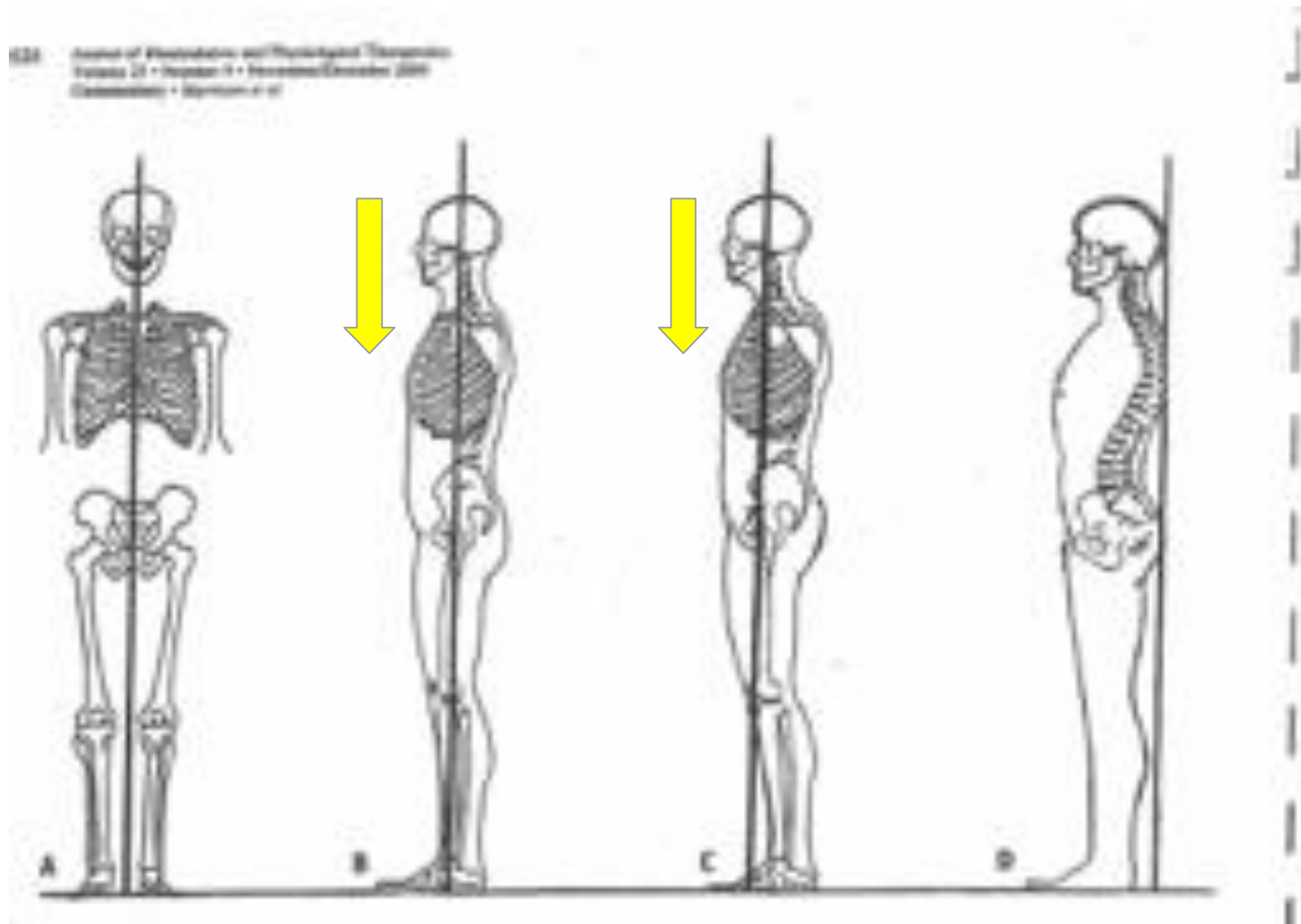
A. OVERVIEW OF CLINICAL POSTURE NEUROLOGY

1. Posture Analysis / Evaluation of A to P and Lateral Postures
 - a. Functional Movement Techniques using kinesiology tape for posture correction.
2. Posture Correction/ Instrument Proprioceptive Posture Balancing
3. Posture & Systemic Health- A review of the medical literature
4. Forward head posture research in children
5. A current review of neurology literature including: posture, proprioception & posture, and conditions commonly treated by chiropractic methods.



Picture B: Representative of Normal Spinal Model & Good/Perfect plumb line with equal weight distribution along the entire spinal column & joints of the spine.

Picture C: Shows an anterior forward head posture (slightly) and how the plumb line falls anterior to the spinal column & all other joints.



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FUNCTIONAL MOVEMENT TECHNIQUES USING KINESIOLOGY TAPE FOR POSTURE CORRECTION



PHYSIOLOGICAL EFFECTS OF TAPING ON THE HUMAN BODY

Purpose of Taping:

1. Pain Mitigation
2. Decompression
3. Neurosensory Input

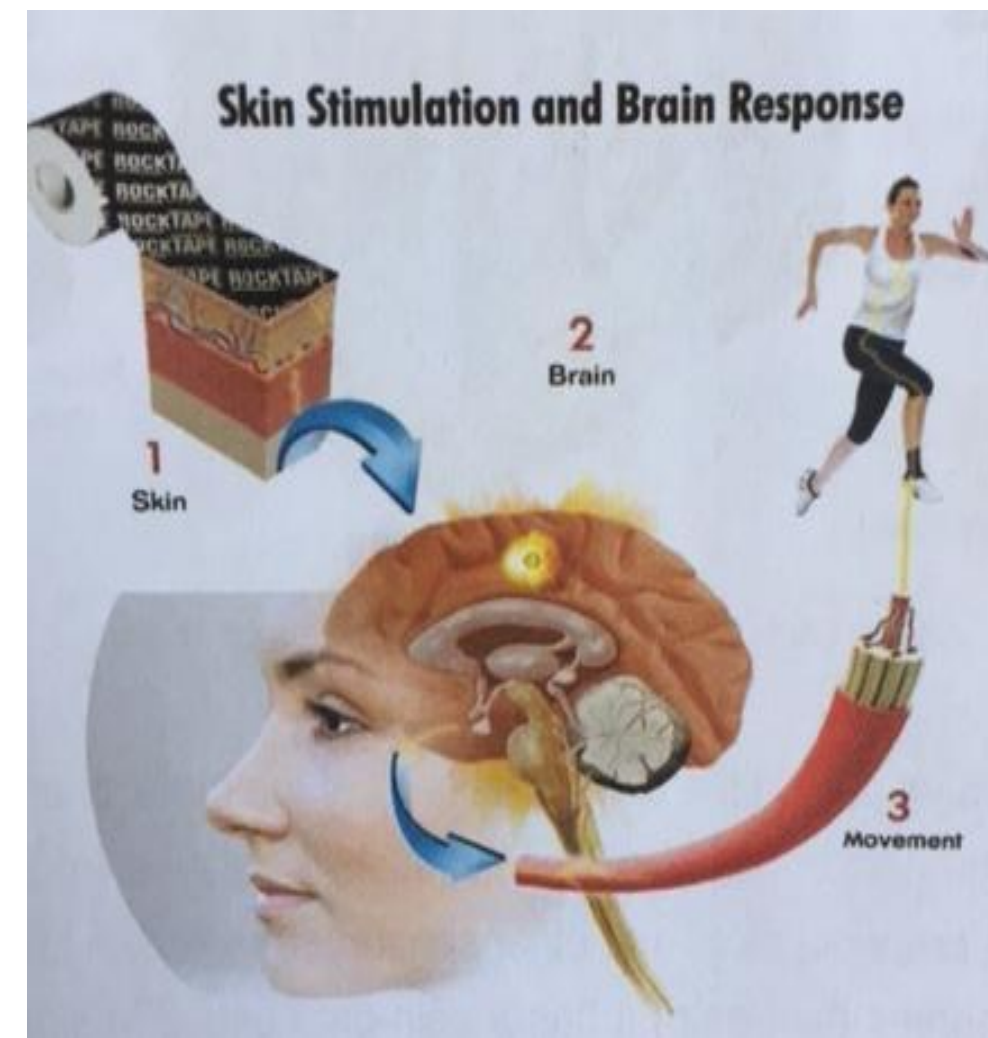
Two effects of taping:

1. Tape mechanically decompresses the skin and underlying tissues
2. Stimulates sensory nerves in the skin.



FUNCTIONAL MOVEMENT TECHNIQUES: KINESIOLOGY TAPING

- As tape is placed on the skin, it causes an alteration of the afferent signals going from the taped area to the brain.
- The brain's response to the incoming information is to alter the efferent signals returning to the taped area.
- Taping alters proprioception, muscle contraction timing and forced output, as well as range of motion.



KINESIOLOGY TAPING CAUTIONS & CONTRAINDICATIONS

Cautions:

- Cautions:
 - Infants
 - Elderly
 - Pregnant patients (*especially in last trimester*)
- Remember:
 - Don't crank tape.
 - Tape can cause skin irritations, contact dermatitis, or blisters.

Contraindications:

- Open wounds, skin infection, active cancer, deep vein thrombosis, kidney disease, and congestive heart failure.



KINESIOLOGY TAPING CARE

Use soap and water, or mix rubbing alcohol with water to cleanse the area to be taped.

Patient's skin must be clean and dry.

Do NOT tape over hairy patients.

Round all edges of tape with scissors to prevent peeling. Rub tape to activate adhesive.

Tape is water resistant and can last up to 5 days (NO LONGER).

If tape gets wet, DO NOT use hair dryers. Simply pat dry with a towel.

To take off **DO NOT** rip off.

Tape can be removed gently with:

- Baby oil
- Lathered soap
- Hot water in shower



FUNCTIONAL MOVEMENT TECHNIQUES USING KINESIOLOGY TAPE FOR POSTURE CORRECTION

Pain taping requires 1-3 pieces of tape:

2 Stabilizing Pieces - Run along the length of the area being taped.

Applied with NO stretch

Apply with anchors on both top and bottom

1 Decompression Piece - Applied perpendicular (90°) to the stabilization strip.

Applied with 0-50% of stretch in the middle.

Applied over area of greatest pain.

No anchors should be torn in the middle of the tape.

Make sure *all tape endings are on skin, NOT tape.*



FUNCTIONAL MOVEMENT TECHNIQUES USING KINESIOLOGY TAPE FOR POSTURE CORRECTION

Basic postural faults that are noticed in this region are forward head posture, slumped and rounded shoulders, internal rotation, and/or un-leveling of the shoulders.

1. Position patient in the opposite (neutral), but NOT exaggerated, of their unwanted posture.

2. Simply position the patient where you want them and apply the tape.



PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION KINESIO TAPING IMPROVES RANGE OF MOTION OF ANKLE DORSIFLEXION AND BALANCE ABILITY IN CHRONIC STROKE PATIENTS

Date & Journal: Healthcare (Basel) . 2021 Oct 22.

Abstract

This study aimed to determine the effect of a proprioceptive neuromuscular facilitation (PNF) pattern Kinesio taping (KT) application on the ankle dorsiflexion range of motion (DF-ROM) and balance ability in patients with chronic stroke. This crossover study included 18 patients with stroke. The subjects were randomly assigned to three interventions: barefoot, ankle KT (A-KT), and PNF-KT. The A-KT was applied to the gastrocnemius and tibialis anterior (TA) muscles, and subtalar eversion. The PNF-KT was applied on the extensor hallucis, extensor digitorum, and TA muscles. DR-ROM was measured using the iSen™, a wearable sensor. Balance ability was assessed based on static balance, measured by the Biodex Balance System (BBS), and dynamic balance, measured by the timed up and go (TUG) test and dynamic gait index (DGI). Compared with the barefoot and A-KT interventions, PNF-KT showed significant improvements in the ankle DF-ROM and BBS scores, TUG, and DGI. PNF-KT, for functional muscle synergy, improved the ankle DF-ROM and balance ability in patients with chronic stroke. Therefore, the application of PNF-KT may be a feasible therapeutic method for improving ankle movement and balance in patients with chronic stroke. Additional research is recommended to identify the long-term effects of the PNF-KT.



EFFECTS OF RIGID AND KINESIO TAPING ON SHOULDER ROTATION MOTIONS, POSTERIOR SHOULDER TIGHTNESS, AND POSTURE IN OVERHEAD ATHLETES: A RANDOMIZED CONTROLLED TRIAL

DATE & JOURNAL: J SPORT REHABIL . 2019 MAR 1.

Abstract

Context: Alterations in posture and motion patterns are thought to play a role in developing shoulder injuries in overhead athletes. Taping is widely used in the sporting population, but there are limited empirical data regarding its effectiveness.

Objectives: To determine and compare the effects of rigid and kinesio taping on shoulder rotation motions, posterior shoulder tightness (PST), and posture in overhead athletes.

Conclusions: Kinesio taping may improve and rigid taping may worsen glenohumeral internal rotation and PST in overhead athletes. For increasing total rotation range of motion, kinesio taping is superior to rigid taping. Taping did not affect posture. Short-term kinesio taping in overhead athletes may be useful to improve glenohumeral internal rotation, total rotation range of motion, and PST.



Gulpinar D, Tekeli Ozer S, Yesilyaprak SS. Effects of Rigid and Kinesio Taping on Shoulder Rotation Motions, Posterior Shoulder Tightness, and Posture in Overhead Athletes: A Randomized Controlled Trial. J Sport Rehabil. 2019 Mar 1;28(3):256-265. doi: 10.1123/jsr.2017-0047. Epub 2018 Jul 14. PMID: 28714759.

EFFECTS OF KINESIO TAPING AND EXERCISE ON FORWARD HEAD POSTURE.

Date & Journal: J Sport Rehabil . 2019 Mar 1.

BACKGROUND: Little is known about the effects of Kinesio taping and therapeutic exercise on correcting forward head posture.

OBJECTIVE: To compare Kinesio taping versus therapeutic exercise for forward head posture on static posture, dynamic mobility and functional outcomes.

RESULTS: Both taping and exercise groups showed significant improvements in HFD compared with the control group at post-treatment and follow-up. Compared with the control group, the exercise group exhibited significant improvements in the LCA and the side bending AROM at post-treatment.

CONCLUSIONS: Both Kinesio taping and therapeutic exercise improve forward head posture after intervention and a 2-week follow-up. The effectiveness of therapeutic exercise is better than taping.



POSTURAL ANALYSIS EVALUATION OF A-P AND LATERAL POSTURES

Patient standing in front of a mirror with eyes closed.

- *Head in extension then flexion, then back to where they think its center. Hold for 5 seconds.*
- *Head/ Neck Lateral Translation or Deviation*
Main listing usually has symptoms associated with this listing.
- *Head Tilt Right/Left (most common listing you will see)*
- *Head Rotation: Right/left (may have symptoms)*
- *High Shoulder right/left (lowest on priority list)*



POSTURAL ANALYSIS EVALUATION OF A-P AND LATERAL POSTURES (CONTINUED)

Analyze Lower Torso Posture

- Lateral Hip Translation

(The deviation is toward the high hip side.
Pants pocket may appear higher)

- Forward Hip Rotation

(Pocket is rotating forward)

Lateral Posture

- Forward Head Posture of the shoulders and body

- Rounded forward shoulders

- Dowager hump- T1/ T2 area

- Hyperlordosis = increased lumbar curve



POSTURE CORRECTION / INSTRUMENT PROPRIOCEPTIVE POSTURAL BALANCING

1. Mirror image setup, (opposite posture that the patient presented.)
2. Super stress posture into the opposite pattern (stress posture into passive range of motion.)
3. Stimulate areas of large proprioceptive beds with a high speed, low force instrument or hand. (Lower forces are preferred.)

Ex.) In the upper torso regions, stimulate lightly on skin,
anywhere in upper cervical area.

Ex.) For lower torso regions, stimulate iliac crest or SI Joints



POSTURE CORRECTION / INSTRUMENT PROPRIOCEPTIVE POSTURAL BALANCING (CONTINUED)

4. Stimulate other proprioceptive areas to reinforce cerebellar learning.

Ex) Shoulder paraspinals, rhomboids, Achilles tendon.

5. Adjust posture in standing position if possible or lying down or sitting.

6. Deviations/Translations Cervical/Lumbar

- Lying down with posture blocks (preferred set up).

7. Always balance posture last.



POSTURE ANALYSIS EVALUATION OF A-P POSTURE

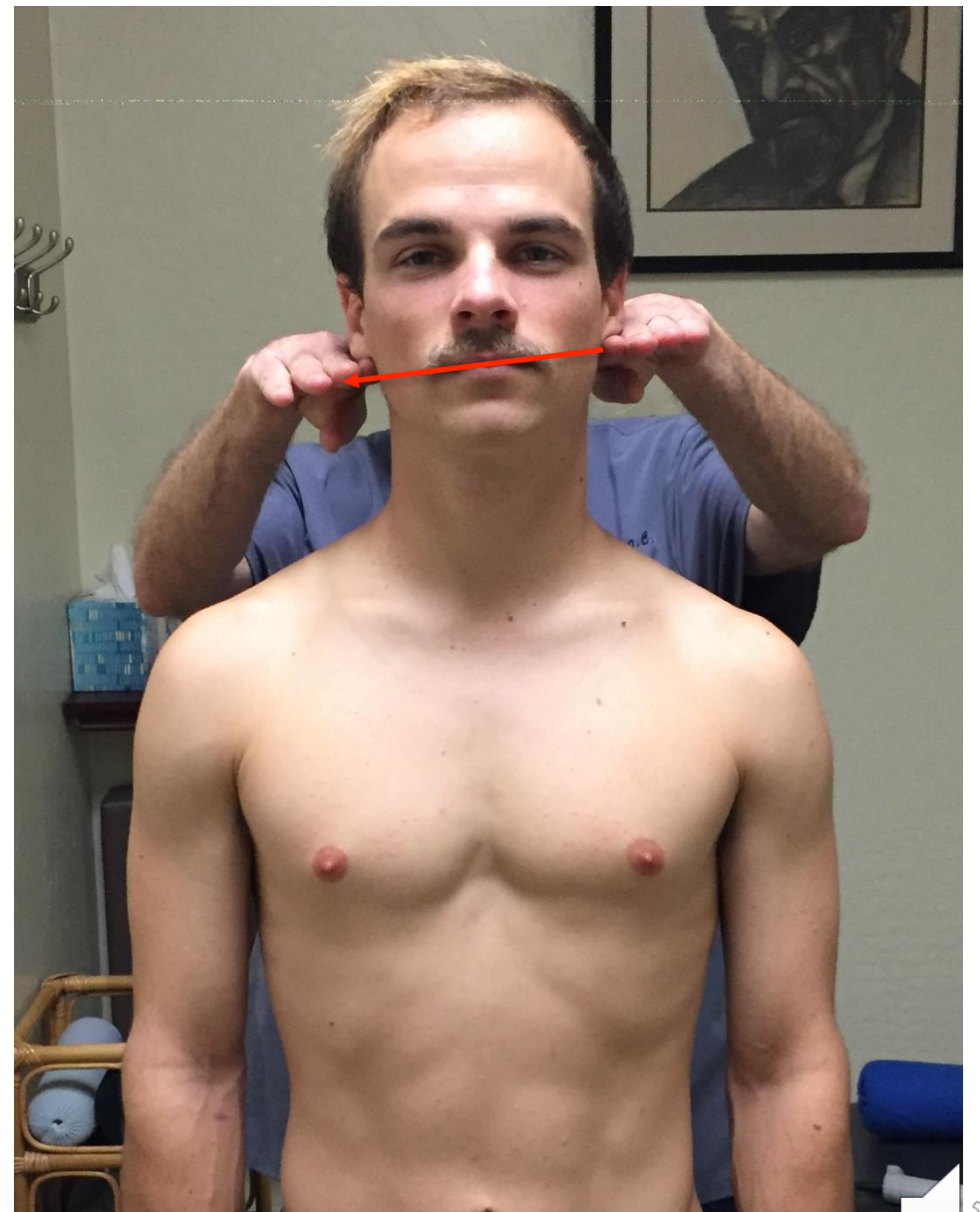
Is when you put the patient into the opposite postural pattern than what the patient originally presented with when they came in.

This process is called **Mirror Imaging**. It is also the set up for your posture correction.



Before
Right high
Shoulder

Before
Right head
tilt



Place patient in the opposite postural pattern with which they presented.

Right shoulder down



Tilt head to the left

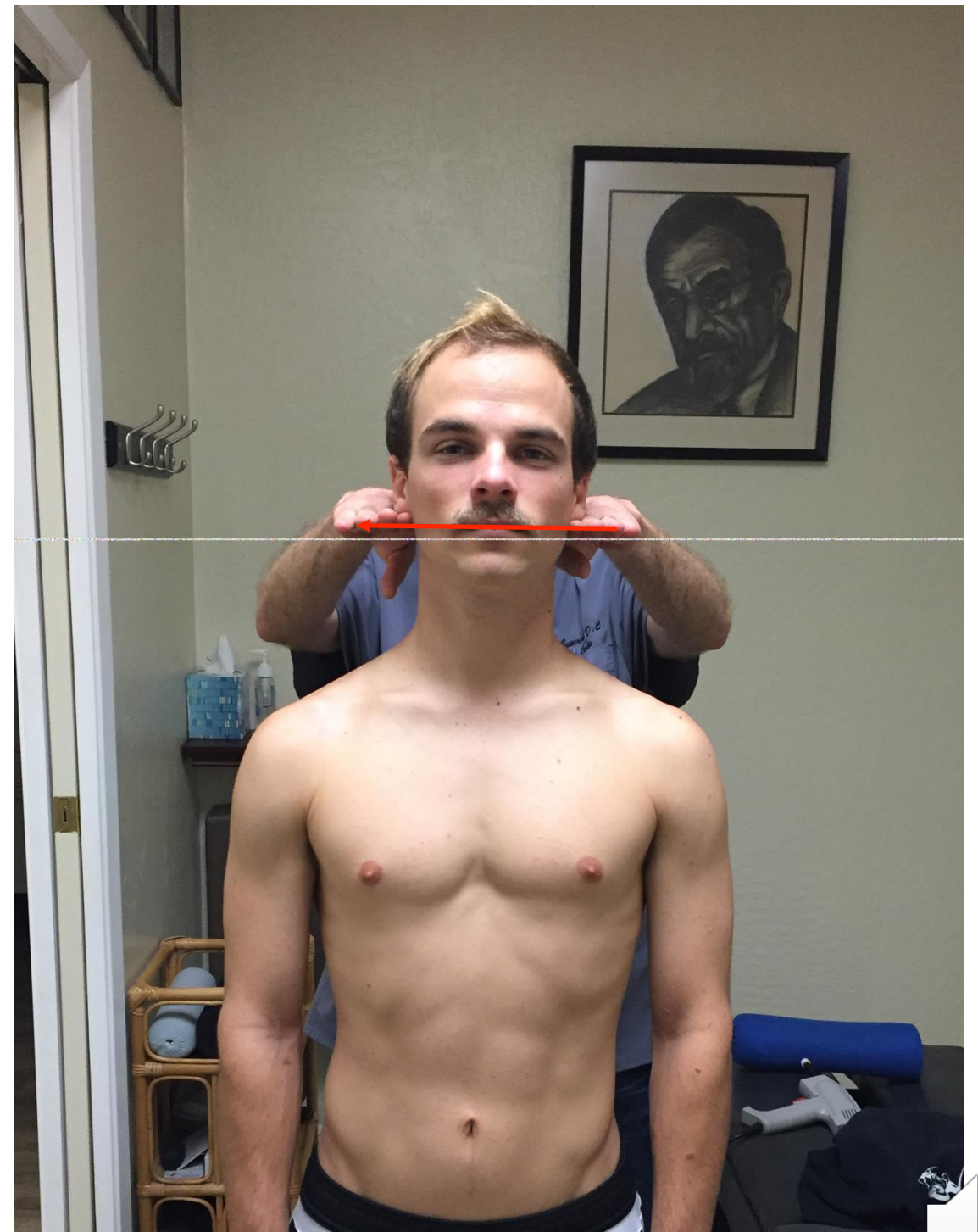


After postural balancing.

After Shoulders level



After Head Level



POSTURAL ANALYSIS / EVALUATION OF LATERAL POSTURE

Patient presented with forward head carriage, rounded-forward shoulders, and slight *Dowager Hump*.



From the position that the patient presented, prior to posture correction:

- A. Rotate shoulders all the way back, past neutral
- B. Retract head straight back, as far as patient can go.
- C. Stimulate with high-speed, low-force instrument areas of largest proprioceptive beds, including upper-cervical region and shoulder paraspinal region.



Remission Of Dowager's Hump by Manipulative Correction Of Spinal Alignment: A Case Report

Abstract

Date & Journal: Journal of Medicine & Life; 2023 Jun.

Dowager's hump is described as excessive kyphotic curvature in the thoracic spine with a Cobb angle of more than 40 degrees. This case report presents a 61 years old female office clerk who experienced headaches and neck pain for 3 years that extended into her right shoulder and upper chest. She consulted her primary care physician two months before seeing the chiropractor when the neck pain worsened. A diagnosis of cervicalgia related to osteoarthritis was made based on cervical and thoracic X-ray findings. The patient received non-steroid anti-inflammatory drugs (celecoxib and etoricoxib) and stretching exercises at home. At the onset of chiropractic care, radiographs showed loss of cervical lordosis, narrowing at the C4-C5, C5-C6, and C6-C7 intervertebral disc space with marginal osteophytes. Based on these findings, a working diagnosis of cervicogenic headache was established. After treatment for 9 months, the patient showed improvement in symptoms and function from cervical curve radiographic change and dextro-convexity of the thoracic spine. Avoiding forward head flexion and maintaining correct posture in daily activities will be key mechanisms to prevent the reoccurrence of Dowager's hump. The improvement of symptoms following chiropractic therapy has been shown to correlate with radiographic markers of spinal realignment.





POSTURE CORRECTION/
INSTRUMENT PROPRIOCEPTIVE
POSTURE BALANCING

POSTURAL CORRECTION / INSTRUMENT PROPRIOCEPTION OF LATERAL POSTURE

With the patient in the opposite/mirror-image posture, the correction includes:

A. Stimulating the upper-cervical region with a high-speed, low-force impulse that would communicate the corrected change through the proprioceptive neurological network and the cerebellum of the brain.



B. In the mirror-image posture, rotate shoulders and head posterior, and stimulate the paraspinal muscles, rhomboids, and even the spinus process at C7-T1.



HIGH-VELOCITY, LOW-AMPLITUDE SPINAL MANIPULATION **TRAINING OF PRESCRIBED FORCES AND THRUST DURATION:** **A PILOT STUDY.**

DATE & JOURNAL: J CHIROP R EDUC. 2019 APR 5

- **OBJECTIVE:** High-velocity, low-amplitude spinal manipulation (HVLA-SM) may generate different therapeutic effects depending on force and duration characteristics. Variability among clinicians suggests training to target specific thrust duration and force levels is necessary to standardize dosing. This pilot study assessed an HVLA-SM training program using prescribed force and thrust characteristics.
- **RESULTS:** Error from peak force target, expressed as adjusted mean constant error (standard deviation), went from 107 N at baseline, to 0.2 N immediately after training, and 32 N (53) 8 weeks after training for the 350 N target, and 63 N (148), -6 N (58), and 9 N (87) for the 550 N target. Student median values met thrust duration target, but doctors' were >150 ms immediately after training.
- **CONCLUSION:** After participation in an HVLA-SM training program, participants more accurately delivered two prescribed peak forces, but accuracy decreased 1 week afterwards. Future HVLA-SM training research should include follow-up of 1 week or more to assess skill retention.



III. ADVANCED CHIROPRACTIC ADJUSTIVE TECHNIQUE

A. OVERVIEW OF CLINICAL POSTURE NEUROLOGY

- I. Functional Movement Techniques using kinesiology tape for posture correction.

B. POSTURE ANALYSIS / EVALUATION OF A TO P AND LATERAL POSTURES

Posture Correction/ Instrument Proprioceptive Posture Balancing

Posture & Systemic Health- A review of the medical literature

Forward head posture research in children & Pediatric posture evaluation and correction

A current review of neurology literature including: posture, proprioception & posture, and conditions commonly treated by chiropractic methods.



Posture & Systemic Health:

A review of the medical literature



Posture & Systemic Health:

A review of the medical literature

The cerebellum increased in size in the course of vertebrate evolution. The large size in the human brain coincides with the need for synergy of muscles, especially for the maintenance of the erect posture

- **The Human Nervous System: An Anatomical viewpoint. Murray Barr and John Kieman**

The cerebellum is responsible for the regulation and control of muscular tone, the coordination of movement, and the control of posture and gait.

- **Principles of Neurology. Raymond Adams, Maurice Victor, Allan Roper, McGraw-Hill 1997**

The cerebellar input originates in proprioceptors and exteroceptors and is conveyed by massive afferent channels like the spinocerebellar, cuneocerebellar and vestibulocerebellar tracts. This input provides raw data about the condition and interrelationships of parts of the skeletomuscular system and of the body as a whole.



POSTURE-RELATED DIFFERENCES IN CARDIOVASCULAR FUNCTION BETWEEN YOUNG MEN AND WOMEN: STUDY OF NONINVASIVE HEMODYNAMICS IN RURAL MALAWI

Date & Journal: J Am Heart Assoc . 2022 Mar.

Abstract

Background Cardiovascular risk is higher in men than in women, but little information exists about sex-related differences in cardiovascular function from low-income countries. We compared hemodynamics between sexes in rural Malawi in a cohort followed up since their birth. Methods and Results Supine, seated, and standing hemodynamics were recorded from 251 women and 168 men (mean age, 21 years; body mass index, 21 kg/m²) using oscillometric brachial waveform analyses (Mobil-O-Graph). The results were adjusted for estimated glomerular filtration rate, and plasma potassium, lipids, and glucose. Men had higher brachial and aortic systolic blood pressure and stroke index regardless of posture ($P<0.001$), and higher upright but similar supine diastolic blood pressure than women. Regardless of posture, heart rate was lower in men ($P<0.001$), whereas cardiac index did not differ between sexes. Women presented with lower supine and standing systemic vascular resistance index ($P<0.001$), whereas supine-to-standing increase in vascular resistance ($P=0.012$) and decrease in cardiac index ($P=0.010$) were higher in women. Supine left cardiac work index was similar in both sexes, whereas standing and seated left cardiac work index was higher in men than in women ($P<0.001$). Conclusions In young Malawian adults, men had higher systolic blood pressure, systemic vascular resistance, and upright cardiac workload, whereas women presented with higher posture-related changes in systemic vascular resistance and cardiac output. These findings show systematic sex-related differences in cardiovascular function in a cohort from a low-income country with high exposure to prenatal and postnatal malnutrition and infectious diseases.



HEMODYNAMIC RESPONSE TO POSITIVE END-EXPIRATORY PRESSURE AND PRONE POSITION IN COVID-19 ARDS.

Date & Journal: Respir Physiol Neurobiol . 2022 Apr.

Abstract

Background: Use of high positive end-expiratory pressure (PEEP) and prone positioning is common in patients with COVID-19-induced acute respiratory failure. Few data clarify the hemodynamic effects of these interventions in this specific condition. We performed a physiologic study to assess the hemodynamic effects of PEEP and prone position during COVID-19 respiratory failure.

Results: High PEEP improved $\text{PaO}_2/\text{FiO}_2$ ratio in all patients ($p = 0.004$), and significantly decreased pulmonary shunt fraction ($p = 0.012$), regardless of lung recruitability. PEEP-induced increases in $\text{PaO}_2/\text{FiO}_2$ changes were strictly correlated with shunt fraction reduction ($\rho = -0.82$, $p = 0.01$). From low to high PEEP, cardiac output decreased by 18 % ($p = 0.05$) and central venous pressure increased by 17 % ($p = 0.015$). As compared to supine position with low PEEP, prone positioning significantly decreased pulmonary shunt fraction ($p = 0.03$), increased $\text{PaO}_2/\text{FiO}_2$ ($p = 0.03$) and mixed venous oxygen saturation ($p = 0.016$), without affecting cardiac output. $\text{PaO}_2/\text{FiO}_2$ was improved by prone position also when compared to high PEEP ($p = 0.03$).

Conclusions: In patients with moderate-to-severe ARDS due to COVID-19, PEEP and prone position improve arterial oxygenation. Changes in cardiac output contribute to the effects of PEEP but not of prone position, which appears the most effective intervention to improve oxygenation with no hemodynamic side effects.



INVOLVING PATIENTS AND CLINICIANS IN A PILOT RANDOMISED CLINICAL TRIAL OF SPINAL MANUAL THERAPY VERSUS NERVE ROOT INJECTION FOR LUMBAR RADICULOPATHY: PROTOCOL OF A PATIENT AND PUBLIC INVOLVEMENT PROJECT

Date & Journal: BMJ Open . 2022 Apr 25.

Abstract

Introduction: A patient and public involvement (PPI) project will be embedded within the SALuBRITY pilot trial, a two parallel group, double sham controlled, randomised clinical trial. The study aims to compare the effectiveness of spinal manual therapy and corticosteroid nerve root injections, two methods commonly used to treat patients with lumbar radiculopathy. We aim to gather patients' and clinicians' perspectives and involve them in decisions related to the research question and objectives, proposed trial recruitment processes and methods, and proposed outcome measures.

Methods & Analysis: A small group of patients with lived experience of lumbar radiculopathy and primary care clinicians with experience in the treatment of patients with lumbar radiculopathy are involved. An initial kickoff event will prepare and empower the advisors for involvement in the project, followed by semistructured patient group and one-on-one clinician interviews. We will follow the Critical Outcomes of Research Engagement framework for assessing the impact of patient engagement in research. We will summarise and feedback PPI content to the patient and clinician advisors during a member-checking process to ensure accurate interpretation of patient and clinician inputs. Inductive and deductive thematic analysis will be used for the qualitative analysis of the interviews. Two surveys will be completed at different points along the trial to track the advisors' and researchers' experiences over the course of the PPI project. Any modifications to the SALuBRITY trial methods due to PPI inputs will be thoroughly documented and recorded in an impact log.

Ethics and dissemination: The independent research ethics committee of Canton Zurich confirmed that ethical approval for this PPI subproject was not required. PPI results will be disseminated in a peer-reviewed journal and presented at conferences.



SUBJECTIVE STABILITY PERCEPTION IS RELATED TO POSTURAL ANXIETY IN OLDER SUBJECTS.

DATE & JOURNAL: GAIT POSTURE. 2019 FEB

BACKGROUND:

Under static conditions, the objective and subjective measures of postural stability correlate well. However, age-related changes in postural control and task-related anxiety may modify the relationship between these subjective and objective measures. Ultimately, patients' symptoms represent subjective reports, thus understanding this relationship has clinical implications.

DISCUSSION:

Subjects accurately rate their own instability during dynamic postural challenges, irrespective of age and actual fall risk. However, anxiety may selectively modulate the perception of instability in older subjects. The perception of stability relies upon the integration of sensory afferents but also recruits emotional-cognitive processes, particularly in older individuals. The use of a safety harness has no influence on subjective or objective postural stability.

Castro P, Kaski D, Schieppati M, Furman M, Arshad Q, Bronstein A. Subjective stability perception is related to postural anxiety in older subjects. *Gait Posture*. 2019 Feb;68:538-544. doi: 10.1016/j.gaitpost.2018.12.043. Epub 2019 Jan 2. PMID: 30634135.



FLEXED POSTURE IN PARKINSONS DISEASE: ASSOCIATIONS WITH NON-MOTOR IMPAIRMENTS & ACTIVITY LIMITATIONS.

DATE & JOURNAL: PHYSTHER. 2019 MAR 4

BACKGROUND: People with Parkinson disease (PD) are twice as likely to develop flexed truncal posture as the general older population. Little is known about the mechanisms responsible beyond associations with age, axial motor impairments, and disease severity.

OBJECTIVE: The objective was to explore: (1) the associations of the non-motor impairments of PD with flexed posture and (2) the relationships of flexed posture with activity limitations.

CONCLUSIONS: Spinal proprioception and postural fatigue were the only non-motor impairments to make significant contributions to flexed posture. Given the negative influence of flexed posture on upper limb activity and respiratory function, interventions targeting spinal proprioception and postural awareness should be considered for people with PD who may develop flexed posture.

Forsyth AL, Joshi RY, Canning CG, Allen NE, Paul SS. Flexed Posture in Parkinson Disease: Associations With Nonmotor Impairments and Activity Limitations. Phys Ther. 2019 Jul 1;99(7):893-903. doi: 10.1093/ptj/pzz033. PMID: 30830153.



PROPRIOCEPTIVE MUSCLE TENDON STIMULATION REDUCES SYMPTOMS IN PRIMARY ORTHOSTATIC TREMOR

Date & Journal: J Neurol. 2018 July.

INTRODUCTION: Primary orthostatic tremor (OT) is characterized by high-frequency lower limb muscle contractions and a disabling sense of unsteadiness while standing. To date, therapeutic options for OT are limited. Here, we examined the effects of proprioceptive leg muscle stimulation via muscle tendon vibration (MTV) on tremor and balance control in patients with primary OT.

CONCLUSION: Proprioceptive stimulation did not reset tremor frequency consistent with the presumed central origin of OT. However, continuous MTV influenced the emergence of OT symptoms resulting in reduced tremor intensity, improved posture, and a relief from unsteadiness in half of the examined patients. These findings indicate that MTV either directly interferes with the peripheral manifestation of the central oscillatory pattern or prevents proprioceptive afferent feedback from becoming extensively synchronized at the tremor frequency.

Wuehr M, Schlick C, Möhwald K, Schniepp R. Proprioceptive muscle tendon stimulation reduces symptoms in primary orthostatic tremor. J Neurol. 2018 Jul;265(7):1666-1670. doi: 10.1007/s00415-018-8902-z. Epub 2018 May 16. PMID: 29767354.



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FORWARD HEAD POSTURE RESEARCH



THE IMPACT OF FORWARD HEAD POSTURE ON NECK MUSCLE ENDURANCE AND THICKNESS IN WOMEN WITH CHRONIC NECK PAIN: A CROSS-SECTIONAL STUDY

Date & Journal: BMC Musculoskeletal Disorders 2025 May 13.

Abstract

Background: Forward head posture (FHP) is a common postural deviation that has been linked to neck pain and dysfunction. The impact of FHP on neck muscle endurance and thickness in individuals with chronic neck pain remains unclear. This study aimed to compare neck muscle endurance and thickness between women with chronic neck pain and FHP versus those with chronic neck pain but normal head/neck posture.

Results: Women with FHP demonstrated significantly lower endurance of the extensor muscles, normalized thickness of the upper-trap muscle, and significantly higher Neck Pain and Disability Scale (NPDS) and Neck Disability Index (NDI) scores compared to the Non-FHP group. Craniovertebral angle (CVA) was positively correlated with extensor muscle endurance.

Conclusions: Our findings indicate that the endurance of neck extensor muscles decreases, and neck pain and disability increase in women with chronic neck pain and FHP. This emphasizes the importance of addressing FHP in patients with chronic neck pain and considering the improvement of neck extensor muscle endurance as part of their treatment. These findings may also serve as indicators of the severity of neck pain and assist in patient monitoring.



Evaluation Of Forward Head Posture And Thoracic Kyphosis In Migraine

Date & Journal: Journal Of Clinical Neuroscience; 2024 Jan.

Abstract

Background: The purpose of the current study was to investigate the forward head posture (FHP), thoracic kyphosis and their relationships between individuals with migraine and healthy controls using the DIERS Formetric 4D motion imaging system.

Results: The fleche cervicale and kyphotic angle were significantly higher in patients with migraine compared to the control group. When NDI categories were compared, the migraine group showed a significant increase in the number of patients with moderate or severe disability. A positive correlation was found between fleche cervicale and thoracic kyphosis.

Conclusions: This study revealed that patients with migraines exhibited a greater FHP and thoracic kyphosis compared to the control group. A 3-dimensional objective measurement may be a reliable diagnostic tool to evaluate posture analysis in clinical practice in the future.



The Treatment And Rationale For The Correction Of A Cervical Kyphosis Spinal Deformity In A Cervical Asymptomatic Young Female: A Chiropractic Biophysics® Case Report With Follow-up



Date & Journal: Journal of Physical Therapy Science; 2023 May

Abstract

Purpose: To present a case demonstrating dramatic restoration of the cervical lordosis and reduction of forward head posture by use of Chiropractic BioPhysics® (CBP®) technique.

Methods: A 24-year-old cervical asymptomatic female presented with poor craniocervical posture. Radiography revealed forward head posture and an exaggerated cervical kyphosis.

Results: The patient received CBP care including mirror image® cervical extension exercises, cervical extension traction and spinal manipulative therapy. After 36 treatments over 17-weeks, repeat radiography demonstrated a dramatic improvement of an alteration of the cervical kyphosis to a lordosis and a reduction of forward head posture. Subsequent treatment increased the lordosis further. Long-term follow-up at 3.5 years showed some loss of original correction, however, a maintenance of the global lordosis.

Conclusion: This case demonstrates that non-surgical reversal of a cervical kyphosis to a lordosis is possible in a short time using CBP cervical extension protocols. It is logical if the kyphosis had not been corrected, over time, osteoarthritis and various craniovertebral symptoms would have evolved as the literature indicates. The diagnosis of gross spinal deformity, we argue, requires its correction prior to the onset of symptoms and permanent degenerative changes.

Resolution of Chronic Migraine Headaches and Improvement in Cervical Spine Kyphosis Following Chiropractic BioPhysics® (CBP®) Treatment: A Case Report With a Seven-Month Follow-Up



Date & Journal: Cureus. 2024 Sep 22.

Abstract

We present a chronic migraine (CM) patient demonstrating significant improvement in subjective and objective reported outcome measures with deeper cervical lordosis parameters and reduced forward head posture on radiographs. A 29-year-old male suffered from CM reporting significant pain and disability with aural, sensory, and motor disturbances during the migraine headaches. Aura with visual disturbances, abnormal facial and extremity sensation, sporadic motor weakness, and other signs of CM were found in the patient's history since age 10. The patient reported previous physical therapy, manual chiropractic, and over-the-counter medications. Migraine-specific prescriptions without long-term reduction in pain and disability were reported. The pain and suffering had been reported to be worsening, and he sought Chiropractic BioPhysics® (CBP®) spine and postural rehabilitation protocols. These protocols were used to increase cervical lordosis, reduce coronal imbalances, increase mobility, and create better posture. These protocols include specific prescriptions based on radiography for postural exercises, postural mirror image® (MI®) traction, and specific spinal manipulative therapy (SMT) focused on posture. All outcome measures improved with the resolution of all initial symptoms of CM. There was a 16° improvement in cervical lordosis, a 30% decrease in headache disability, and additional improvements. These improvements were maintained at a seven-month follow-up during which the patient received infrequent maintenance treatments. This successful treatment of a patient with CM with long-term follow-up adds to evidence that CBP® spinal structural rehabilitation may prove effective and serve as a possible tool for clinicians, physicians, and therapists to treat CM.

THE EFFECTS OF FORWARD HEAD POSTURE ON EXPIRATORY MUSCLE STRENGTH IN CHRONIC NECK PAIN PATIENTS: A CROSS-SECTIONAL STUDY.

Date & Journal: Turk J Phys Med Rehabil . 2020 May 18.

Abstract

Objectives: This study aims to investigate the relationship between forward head posture (FHP) and respiratory dysfunctions in patients with chronic neck pain.

Results: There was a negative correlation between the FHPmm with $P_{e_{max}}\%$ (ρ : -0.314; $p=0.005$). A negative correlation was also observed between $C7^\circ$ and $P_{e_{max}}$, $P_{e_{max}}\%$, forced expiratory volume in one sec (FEV1)/forced vital capacity (FVC)%, forced expiratory flow (FEF)25-75%, and FEF75% (ρ :-0.245, -0.349, -0.218, -0.214, and -0.259 respectively; $p=0.028$, 0.002, 0.035, 0.040, and 0.012, respectively). There was a positive correlation between neck disability and VAS scores (ρ : 0.424; $p<0.001$), while there was a negative correlation between neck disability and chest expansion, maximum voluntary ventilation (ρ : -0.201 and -0.217, respectively; $p=0.049$ and 0.046, respectively).

Conclusion: Based on our study results, FHP is associated with expiratory muscle weakness in chronic neck pain patients. To evaluate respiratory dysfunction, chest expansion tests may be useful, although these tests are not specific to muscle weakness. Interventions about FHP and neck pain should focus on the effects of respiratory muscle training.

Solakoğlu Ö, Yalçın P, Dinçer G. The effects of forward head posture on expiratory muscle strength in chronic neck pain patients: A cross-sectional study. Turk J Phys Med Rehabil. 2020 May 18;66(2):161-168. doi: 10.5606/tftrd.2020.3153. PMID: 32760893; PM



ALLEVIATION OF CHRONIC SPINE PAIN AND HEADACHES BY REDUCING FORWARD HEAD POSTURE AND THORACIC HYPERKYPHOSIS: A CBP® CASE REPORT.

DATE & JOURNAL: J PHYS THER SCI. 2018 AUG

Purpose: This case presents the reduction of both forward head posture and thoracic hyperkyphosis in a young male with chronic back pain and headaches by a comprehensive posture rehabilitation program as a part of Chiropractic BioPhysics® methods.

Results: After treatment the patient reported dramatic improvement in symptoms as indicated on valid disability questionnaires and substantial improvements in posture.

Conclusion: Posture-related pain and disability is not often addressed in allopathic medicine but substantial posture improvements are achievable in short time periods as this case illustrates. Poor postures in young patients should be corrected to avoid long-term consequences. Radiography as used in spinal rehabilitation is safe and reliable.



Fortner MO, Oakley PA, Harrison DE. Alleviation of chronic spine pain and headaches by reducing forward head posture and thoracic hyperkyphosis: a CBP® case report. J Phys Ther Sci. 2018 Aug;30(8):1117-1123. doi: 10.1589/jpts.30.1117. Epub 2018 Aug 7. PMID

IMPROVING POSTURE TO REDUCE THE SYMPTOMS OF PARKINSON'S: A CBP® CASE REPORT WITH A 21 MONTH FOLLOW-UP.

DATE & JOURNAL: J PHYS THER SCI. 2019 FEB

Purpose: To demonstrate the reduction of symptoms related to Parkinson's disease by improvement in posture.

Results:

After 38 treatments over 5 months, the patient had significant improvements in posture alignment as well as gait, balance, hand tremors, low back and knee pains and SF-36 values. A 21 month follow-up revealed the patient had remained essentially well and the initial postural improvements were maintained.

Conclusion: This case demonstrates improvement of various symptoms in a patient with Parkinson's disease. Since poor posture is a long known clinical manifestation of this disorder, it is proposed that the improvement of posture in these patients may lead to improved outcomes. X-ray use in the diagnosis and management in those with spine deformity is safe and not carcinogenic.



Anderson JM, Oakley PA, Harrison DE. Improving posture to reduce the symptoms of Parkinson's: a CBP® case report with a 21 month follow-up. J Phys Ther Sci. 2019 Feb;31(2):153-158. doi: 10.1589/jpts.31.153. Epub 2019 Feb 7. PMID: 30858655; PMCID: PMC63824

NON-SURGICAL RELIEF OF CERVICAL RADICULOPATHY THROUGH REDUCTION OF FORWARD HEAD POSTURE AND RESTORATION OF CERVICAL LORDOSIS: A CASE REPORT.

DATE & JOURNAL: J PHYS THER SCI. 2017 AUG

Purpose:

To present a case demonstrating the relief of cervical radiculopathy following the dramatic reduction of forward head posture and restoration of the cervical lordosis by use of a multi-modal rehabilitation program incorporating cervical extension traction.

Results:

The patient received a multi-modal rehabilitation protocol including mirror image extension exercises, cervical extension traction, and spinal manipulative therapy. After forty treatments over 17 weeks, the patient reported a complete resolution of radiculopathy and significant improvement in neck pain level. Post radiography demonstrated correction of the spine and posture alignment. The patient remained well and maintained corrected posture with limited treatment one year later.

Conclusion:

Our case demonstrates the relief of cervical radiculopathy resulting from the non-surgical correction of forward head posture and cervical kyphosis.



FORWARD HEAD POSTURE RESEARCH IN CHILDREN



THE INFLUENCE OF BACKPACK WEIGHT IN SCHOOL CHILDREN: GAIT, MUSCLE ACTIVITY, POSTURE AND STABILITY

DATE & JOURNAL: ORTHOPAED. 2021 JUN

ABSTRACT

Background: wearing a school backpack every day may cause postural problems and affect the gait pattern of children and adolescents. the aim of the present study was to analyze the influence of a 4 kg backpack load on the gait pattern and postural sway.

Results: the backpack load, on average 15% of the body weight, led to a slower walking speed, shorter step length and increased double-support phase. increased anterior pelvic and trunk tilt, as well as hip flexion were also observed. furthermore, the muscle activity and postural sway of the children were affected by the increased load.

Conclusions: school backpacks weighing 4 kg caused changes in gait, muscle activity, posture and stability in elementary school children. due to the weight of the backpack, the centre of mass shifted backwards and the children became less stable. during gait, this was compensated by increased anterior pelvic and trunk tilt and increased hip flexion. the activity of the paraspinal muscles was decreased and indicates that the backpack is carried passively. this may cause a negative long-term effect.



Hell AK, Braunschweig L, Grages B, Brunner R, Romkes J. Einfluss des Schulrucksackgewichtes bei Grundschulkindern: Gang, Muskelaktivität, Haltung und Stabilität [The influence of backpack weight in school children: gait, muscle activity, posture and stability]. Orthopade. 2021 Jun;50(6):446-454. German. doi: 10.1007/s00132-020-04047-8. Epub 2020 Dec 9. PMID: 33296024; PMCID: PMC8189948.

CHARACTERIZATION OF CERVICAL SPINE IMPAIRMENTS IN CHILDREN AND ADOLESCENTS POST-CONCUSSION.

DATE & JOURNAL: INT J SPORTS PHYSTHER. 2019 APRIL

BACKGROUND: PATIENTS WITH CONCUSSION MAY PRESENT WITH CERVICAL SPINE IMPAIRMENTS, THEREFORE ACCURATE CHARACTERIZATION OF CERVICAL POST-CONCUSSION IMPAIRMENTS IS NEEDED TO DEVELOP TARGETED PHYSICAL THERAPY INTERVENTIONS.

PURPOSE: TO CHARACTERIZE THE TYPE, FREQUENCY AND SEVERITY OF CERVICAL IMPAIRMENTS IN CHILDREN AND ADOLESCENTS REFERRED FOR PHYSICAL THERAPY AFTER CONCUSSION.

CONCLUSION: HIGH PREVALENCE OF CERVICAL SPINE IMPAIRMENTS WAS OBSERVED IN THE SUBJECTS INCLUDED IN THIS STUDY WITH MUSCLE TENSION, JOINT MOBILITY, AND MUSCLE STRENGTH BEING MOST COMMONLY AFFECTED. THE CATEGORIES OF IMPAIRMENTS EXAMINED IN THIS COHORT WERE CONSISTENT WITH THE RECOMMENDATIONS OF THE MOST RECENT CLINICAL PRACTICE GUIDELINES FOR NECK PAIN. THIS STUDY PROVIDES PRELIMINARY DATA TO SUPPORT THE FRAMEWORK FOR A CERVICAL SPINE EVALUATION TOOL IN CHILDREN AND ADOLESCENTS FOLLOWING CONCUSSION.



Tiwari D, Goldberg A, Yorke A, Marchetti GF, Alsalaheen B. CHARACTERIZATION OF CERVICAL SPINE IMPAIRMENTS IN CHILDREN AND ADOLESCENTS POST-CONCUSSION. Int J Sports Phys Ther. 2019 Apr;14(2):282-295. PMID: 30997280; PMCID: PMC6449018.

EFFECT OF DURATION OF SMARTPHONE USE ON MUSCLE FATIGUE AND PAIN CAUSED BY FORWARD HEAD POSTURE IN ADULTS

Date & Journal: Journal of Physical Therapy Science; 2016 Jun.

- Purpose: The effect of duration of smartphone use on neck and shoulder muscle fatigue and pain was investigated in adults with forward head posture.
- Results: There was a significant difference in the degree of fatigue in the left upper trapezius muscles in group 2 and left cervical erector spinae and bilateral upper trapeziuses group 3. There was a significant difference in fatigue in the left upper trapezius in groups 1 and 3. The VAS showed significant differences in all groups before and after the experiment and between groups 1 and 3.
- Conclusion: Pain and fatigue worsened with longer smartphone use. This study provided data on the proper duration of smartphone use. Correct posture and breaks of at least 20 minutes are recommended when using smartphones.



MUSCULOSKELETAL DISORDER AND PAIN ASSOCIATED WITH SMARTPHONE USE: A SYSTEMATIC REVIEW OF BIOMECHANICAL EVIDENCE.

DATE & JOURNAL: HONG KONG PHYSIOTHER J. 2018 DEC

The number of smartphone users is growing dramatically. Using the smartphone frequently forces the users to adopt an awkward posture leading to an increased risk of musculoskeletal disorders and pain. The objective of this study is to conduct a systematic review of studies that assess the effect of smartphone use on musculoskeletal disorders and pain. A systematic literature search of AMED, CINAHL, PubMed, Proquest, ScienceDirect using specific keywords relating to smartphone, musculoskeletal disorders and pain was conducted. Reference lists of related papers were searched for additional studies. Methodological quality was assessed by two independent reviewers using the modified Downs and Black checklist. From 639 reports identified from electronic databases, 11 were eligible to include in the review. One paper was found from the list of references and added to the review. The quality scores were rated as moderate. The results show that muscle activity of upper trapezius, erector spinae and the neck extensor muscles are increased as well as head flexion angle, head tilt angle and forward head shifting which increased during the smartphone use. Also, smartphone use in a sitting position seems to cause more shift in head-neck angle than in a standing position. Smartphone usage may contribute to musculoskeletal disorders. The findings of the included papers should be interpreted carefully in light of the issues highlighted by the moderate-quality assessment scores.



Eitivipart AC, Viriyarajanakul S, Redhead L. Musculoskeletal disorder and pain associated with smartphone use: A systematic review of biomechanical evidence. Hong Kong Physiother J. 2018 Dec;38(2):77-90. doi: 10.1142/S1013702518300010. Epub 2018 Aug 14. P

Remember to look up!



0° degrees
10 - 12 lbs



15° degrees
27 lbs



30° degrees
40 lbs



45° degrees
49 lbs



60° degrees
60 lbs

Combat Tech-Neck

INFANT PEDIATRIC POSTURE EVALUATION (UPSIDE DOWN)

An infant is evaluated posturally by the Doctor of Chiropractic, holding the infant upside down, by their thighs (bilaterally) with the infant facing away from the DC and toward the parent.

Evaluation:

1. Look at infant's head for any:
 - a. Head rotation;
 - b. Head tilt;
 - c. High shoulder;
2. Look at infant's hips:
 - a. High hip;
 - b. Rotation of hip



POSTURE CORRECTION IN CHILDREN (INFANT)

- I. To analyze an infant's posture where the infant cannot hold their head in the upright position on their own:
 - a) Hold the infant upside down by the thighs, facing the parent. Hold the infant straight in front of you, and watch the direction the head is in. **ie. Rotation of the head, lateral head tilt. Be aware of shoulder rotation**
 - b) Once you analyze the relative position of the head and shoulders, you will set up the child for instrument posture correction **if the child cannot rotate fully in both directions.**
 - c) In this case (*right*) the infant's head is rotating to the left side, and has a left head tilt.
 - d) Facing the parent, lay the infant ride-side-down with the parent's arms held outward, and put the infant cervical spine over the wrist of the parent. Also, rotate the left arm and shoulder posterior.
 - e) Correction: Lightly superstress the infant head over the wrist of the parent, putting the head into the mirror image right head tilt. Gently, on the lowest setting (#1) stimulate the upper cervical area with the infant's head bent over the fulcrum of the parent arm.
 - f) Re-check posture with infant in upside down position.



POSTURE CORRECTION IN CHILDREN (INFANT)

- II. As you see in the re-checked posture, the infant's head rotation is now rotating to the right side with no restriction or decrease in range of motion. Also, the level of the head and ears is balanced with no head tilt.



POSTURE CORRECTION IN CHILDREN (INFANT)

III. OBSERVATIONS:

PATIENT HAD AN IMMEDIATE BOWEL MOVEMENT AFTER LUMBAR SPINE WAS CHECKED, AND PARENT COMMENTED THAT THE BABY WAS EXTREMELY CONSTIPATED PRIOR TO COMING IN.

- a) Received phone call at 7:00AM the following day, parent claiming that the infant slept through the night all night long for the very first time since birth.
- b) Infants are people too! Don't be afraid to do chiropractic care on an infant. The results sometimes can be amazing!





COMPONENTS OF STANDING POSTURAL CONTROL EVALUATED IN PEDIATRIC BALANCE MEASURES: A SCOPING REVIEW

DATE & JOURNAL: PUBLISHED: APRIL 21, 2017

Abstract

Objective:

To identify measures of standing balance validated in pediatric populations, and to determine the components of postural control captured in each tool.

Conclusions:

Assessing children's balance with valid and comprehensive measures is important for ensuring development of safe mobility and independence with functional tasks. Balance measures validated in pediatric populations to date do not comprehensively assess standing postural control and omit some key components for safe mobility and independence. Existing balance measures, that have been validated in adult populations and address some of the existing gaps in pediatric measures, warrant consideration for validation in children.

Sibley KM, Beauchamp MK, Van Ooteghem K, Paterson M, Wittmeier KD. Components of Standing Postural Control Evaluated in Pediatric Balance Measures: A Scoping Review. Arch Phys Med Rehabil. 2017 Oct;98(10):2066-2078.e4. doi: 10.1016/j.apmr.2017.02.032. Epub 2017 Apr 22. PMID: 28438514.



IV. INTRODUCTION TO DIVERSIFIED MYOFASCIAL RELEASE PROCEDURES

- A. INSTRUMENT ASSISTED MUSCLE BALANCING
- B. TRIGGER POINT THERAPY RESEARCH
- C. FIBROTIC ADHESIONS, MYOSPASMS AND PIRIFORMIS WORK WITH INSTRUMENTS IN COMPETITIVE ATHLETES



INSTRUMENT ASSISTED MUSCLE BALANCING

*(ADJUNCTIVE THERAPY TO WORK ON
THE MUSCULATURE & POSTURE)*

Massage is a great adjunctive therapy to use for preparatory readiness of muscle tissues prior to hands on treatment. Reminders:

- Only use on large muscle groups, NEVER over bony process or in the cervical spine. Not near hair or on bare skin. (Only over material or towel.)
- T1- L5 in the paraspinal muscle region, gluteal region and around shoulder musculature region.
- May go slightly deeper on extremely muscular athletes.
- ONLY use for 4 seconds on one spot, then move location.
- Entire treatment lasts between 1 and 2 minutes.
- Go Light & be careful.



MYOFASCIAL RELEASE

(DONE BY HANDS ONLY)

- During therapy, find the myofascial area that feels stiff and fixed instead of elastic and movable under light manual pressure.
- Manually apply pressure and stretching will help loosen up restricted movement, leading to reduced pain.
- Insurance will only cover HANDS ONLY myofascial therapy work. No instrument work will be covered.



MYOFASCIAL TRIGGER POINT THERAPY: WHAT IS IT?

- Myofascial pain results from muscle injury or repetitive strain.
- When stressed or injured, muscles form trigger points, like contracted knots that cause pain & tightness
- Common cause of pain
- When these points are pressed on, muscle fibers shorten, and cause referred pain



RESEARCH ON TRIGGER POINTS

- Patients evaluated in one pain management center were found to have a myofascial component to their pain in 95% of cases

(Gerwin RD. A study of 96 subjects examined for both fibromyalgia and myofascial pain. J Musculoskeletal Pain 1995; 3 (suppl. 1):121-5.).

- There is increasing awareness that active myofascial trigger points often play a role in the symptoms of patients with tension headaches

(Fernandez-de-Las-Penas C,onso-Blanco C, Cuadrado ML, Gerwin RD, Pareja JA. Myofascial trigger points and their relationship to headache clinical parameters in chronic tension-type headache. Headache 2006; 46(8):1264-72.).

- Low back pain, neck pain

(Fernandez-de-Las-Penas C,onso-Blanco C, Miangolarra JC. Myofascial trigger points in subjects presenting with mechanical neck pain: A blinded, controlled study. Man Ther 2006;).

- Temporomandibular pain, forearm and hand pain, postural pain

(Treaster D, Marras WS, Burr D, Sheedy JE, Hart D. Myofascial trigger point development from visual and postural stressors during computer work. J Electromyogr Kinesiol 2005;), pelvic/urogenital pain syndromes.



TREATMENT OF MYOFASCIAL TRIGGER POINTS

- Take a full medical and pain history
- Ergonomics of your work station and other regular activities.
- Assess and make suggestions to improve the quality of your sleep
- Make nutritional recommendations
- Choose an appropriate exercise/movement program
- Learn some self-treatment, self management and self care to assist you to treat your condition and your trigger points.



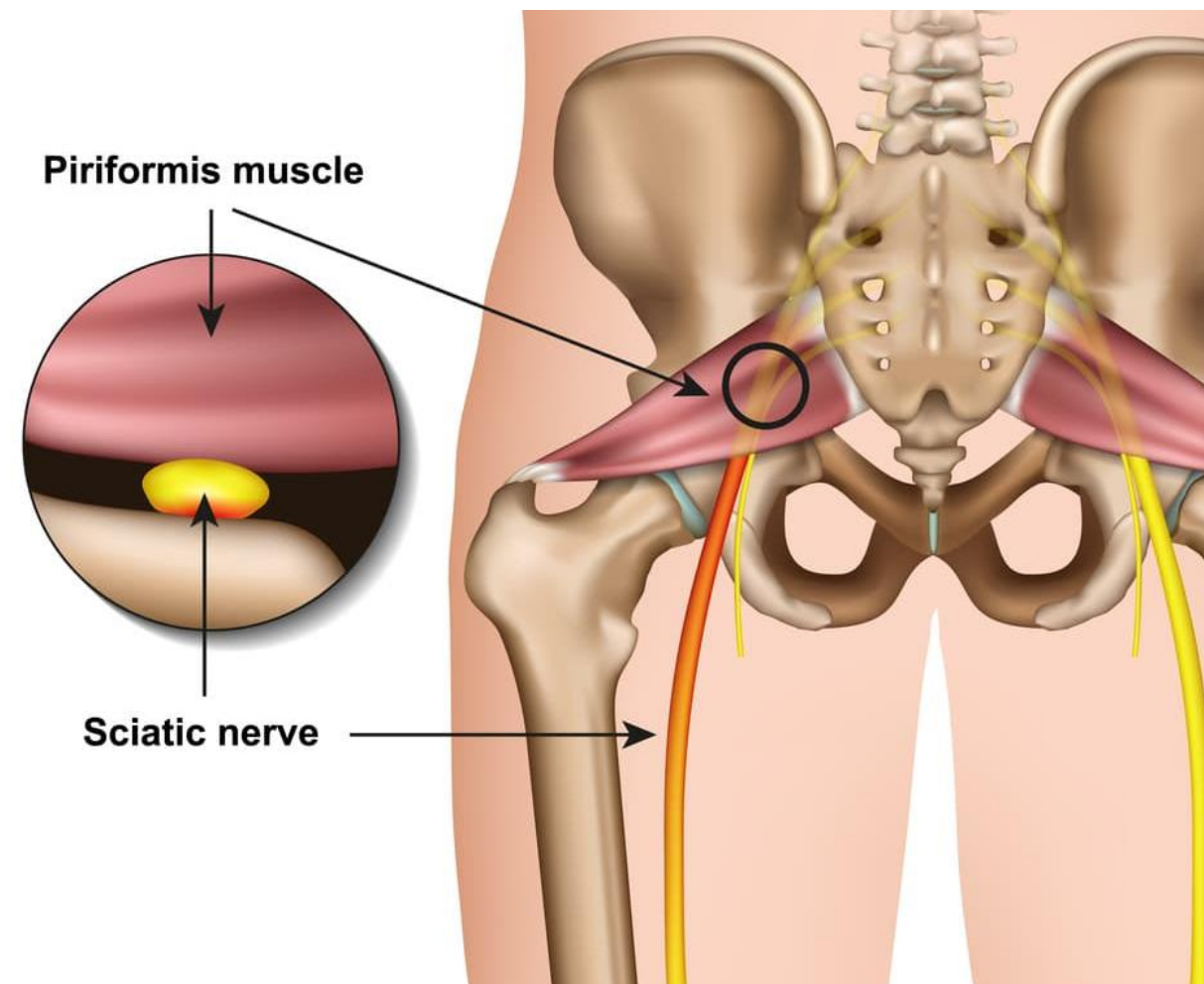
PIRIFORMIS SYNDROME

The piriformis syndrome is a condition in which the piriformis muscle irritates the sciatic nerve, causing pain in the buttocks, and referring pain along the entire course of the sciatic nerve.

Patients usually complain of deep buttock pain which is made worse by sitting, stairs, or squats. The piriformis muscle assists in abduction and laterally rotating the thigh. Stretching the muscle often duplicates the pain.

Anatomically, the piriformis muscle lies deep to the gluteal muscles. It originates from the sacral spine and attaches to the greater trochanter. The sciatic nerve usually passes underneath the piriformis muscle, but in 15% of the population it travels through the muscle. Any acute or chronic injury with inflammation irritates the sciatic nerve. Piriformis syndrome is diagnosed by symptoms from the physical exam.

Once diagnosed, the treatment will include progressive piriformis stretching starting with four seconds of sustained stretch or up to 60sec. sustained stretch using your hands.

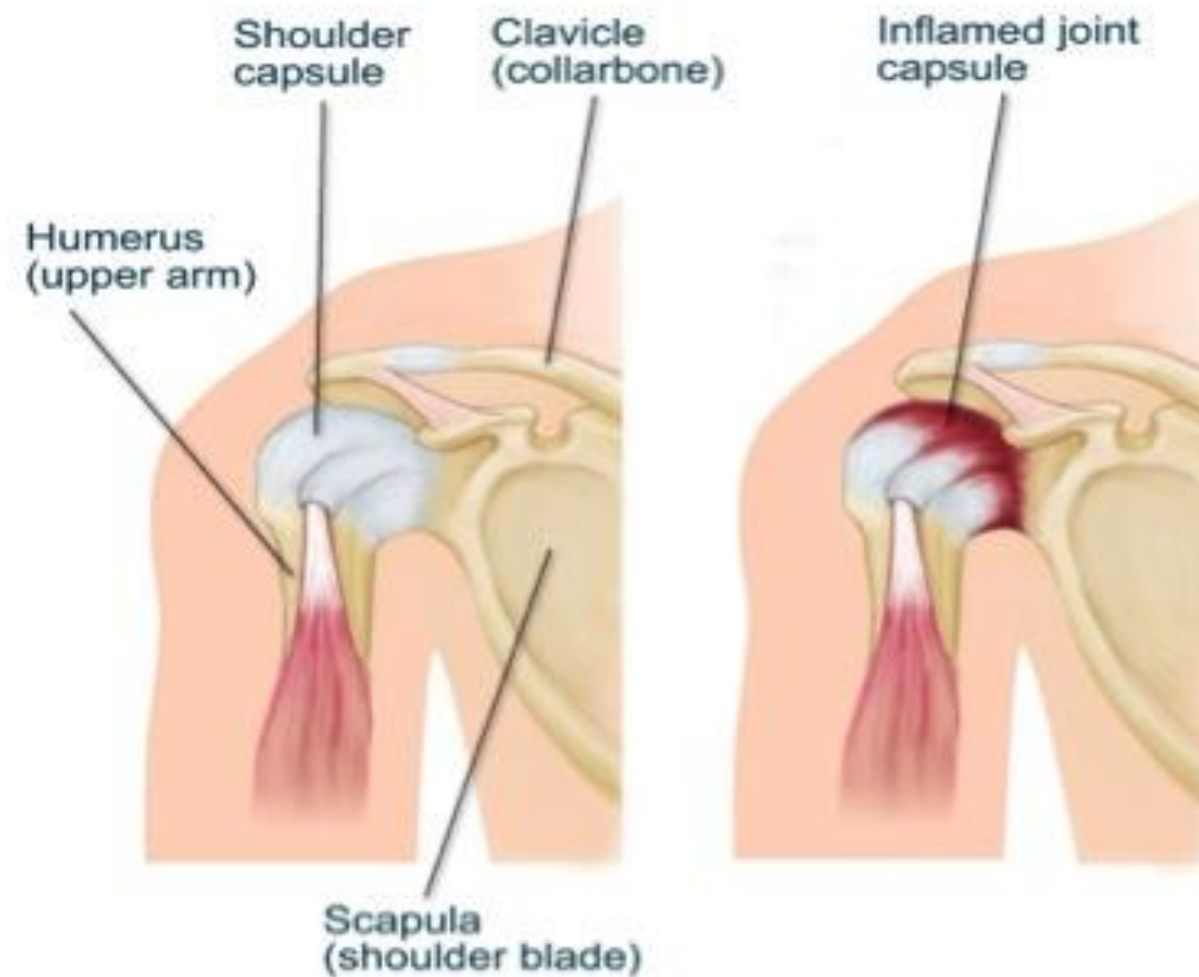


Frozen Shoulder Syndrome

Shoulder range of motion is locked up. Common in pitchers, quarterbacks, and sports that use a dominant arm.

Treatment:

- Dig Myofascial trigger points
- Put patient through full range of motion while working on specific trigger points
- May use electric massagers to loosen muscles prior to hands-on work



A CRITICAL OVERVIEW OF THE CURRENT MYOFASCIAL PAIN LITERATURE - OCTOBER 2017



J Bodyw Mov Ther . 2017 Oct.

Abstract

In this overview of the myofascial pain literature, we have included several original contributions ranging from a study by Bowen and colleagues of trigger points in horses to the introduction of a new clinical entity of "laryngeal muscle myofascial pain syndrome in dysphonic patients." Minerbi and colleagues described for the first time the referred pain patterns of the longus colli muscle, while Casale and associates studied the spinal modulatory action of dry needling or acupuncture stimulation. Many dry needling articles are included in this overview with several recent outcome studies. Slowly, there is increasing scientific support for using dry needling for a variety of conditions.

Several researchers explored specific aspects of dry needling, such as needle placements, whether eliciting a local twitch response is desired, and the role of psychological factors in post-needling soreness. Contributions originated in Australia, Belgium, Brazil, Canada, China, Germany, Greece, India, Israel, Italy, Korea, Portugal, Spain, Switzerland, Turkey, the UK, and the USA.

Dommerholt J, Finnegan M, Hooks T, Chou LW. A critical overview of the current myofascial pain literature - October 2017. J Bodyw Mov Ther. 2017 Oct;21(4):902-913. doi: 10.1016/j.jbmt.2017.08.002. Epub 2017 Aug 18. PMID: 29037647.





EXAMPLES OF MY PREVIOUS PROFESSIONAL PATIENTS







- **Tim Brown DC US Surf Tour
Medical Director**

US Open 2025

•Michael Rodrigues – Brazil





Pono US Open 2025





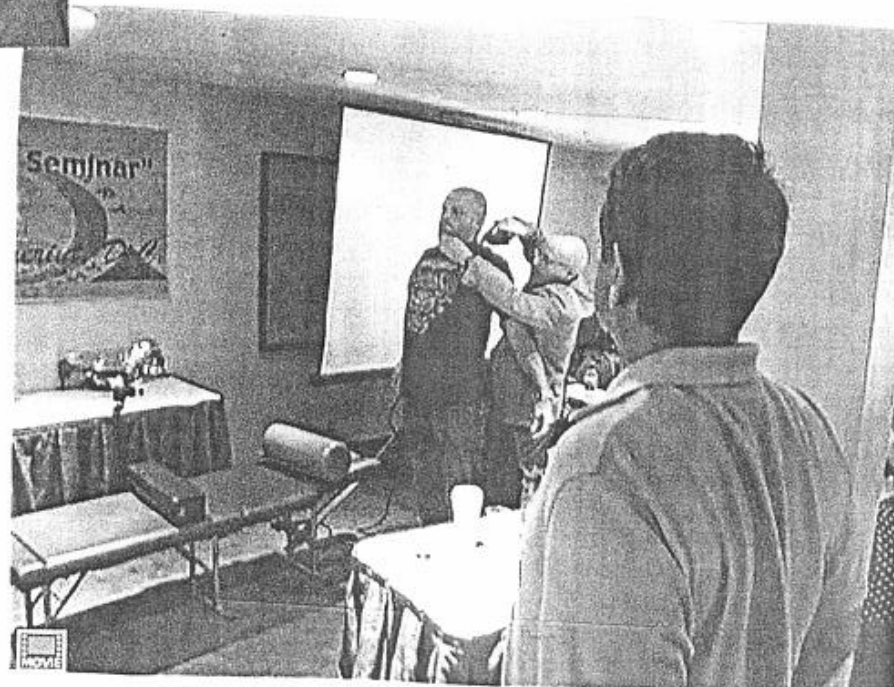
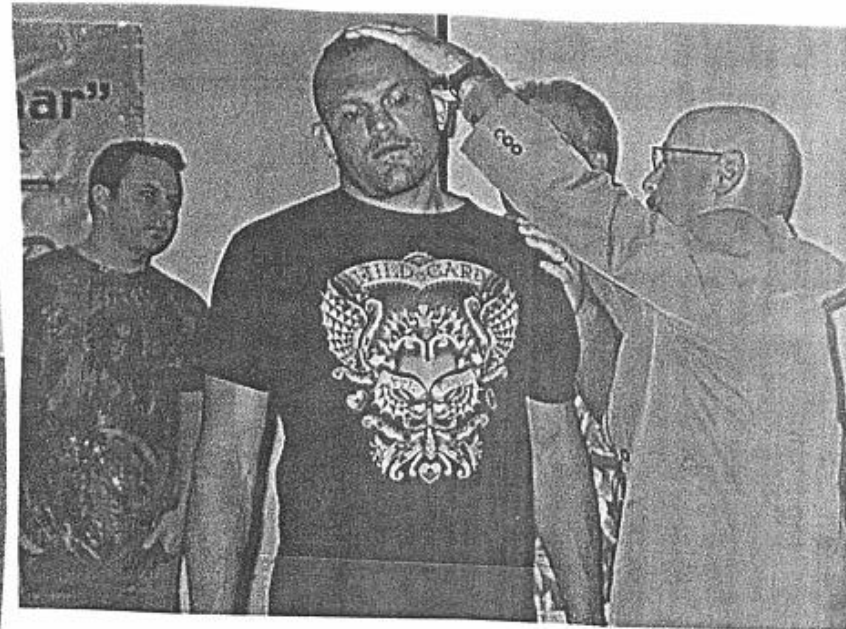








THE "ICEMAN" CHUCK LIDDELL GETS HIS
POSTURE CORRECTED BY MARK CYMERINT
D.C. IN AUGUST 2008.



HISTORY OF CHIROPRACTIC IN PROFESSIONAL SPORTS | 1920 - 2022

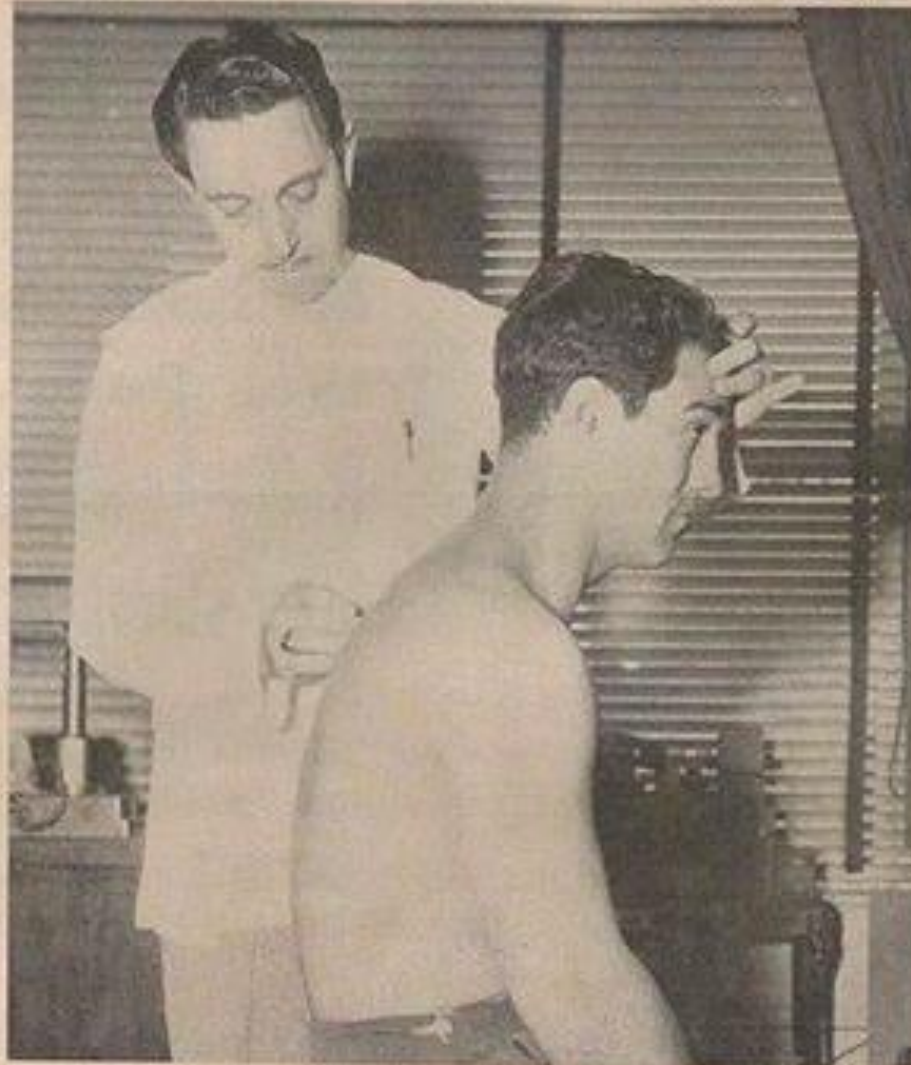
ROCKY MARCIANO, HEAVYWEIGHT BOXING CHAMPION, RELIES ON CHIROPRACTIC

The obvious aspiration of every prizefighter is to attain the top spot in his particular class. To reach this goal, perfect physical fitness is a must. Immediate responsive reflexes, co-ordination, and stamina are the result of proper training, good habits, a well-balanced diet, and last but certainly not least, a spine free from nerve interference as the result of bony encroachment.

Rocky Marciano, world's heavyweight champ, exemplifies near perfect physical fitness. This, no doubt, is attributive to his willingness to take all measures necessary to keep him in the optimum of health. He does not smoke or drink and shuns devitalized and demineralized foods. The fact that the "Rock" receives his periodic adjustment indicates that he appreciates the efficacy of Chiropractic as one of the most important factors in the maintenance of health.

E. J. CREALEASE, D.C.

Chiropractic Institute
New York, N.Y.



Heavyweight Champion Rocky Marciano and Chiropractor Edward J. Crealesse of Brockton, Mass.



Chiropractic Helps Babe Ruth and Other Yankees Keep in Perfect Physical Condition

EVERY baseball fan will of course immediately recognize "Babe" Ruth in the picture reproduced above. But the gentleman at the extreme left, in the process of applying a bandage, is not so well known to the general public. In Chiropractic circles, however, he is quite as prominent as is the Bambino in the baseball world.

We present, Erle V. Painter, D. C., trainer of the New York Yankees, and the man largely responsible for the excellent physical condition of this fine team. By applying the principles of modern Chiropractic, in treating Ruth, Dr. Painter has amazed the wisecracks of the diamond, who years ago opined that "The Babe" was definitely "out of the running." The results he has accomplished with other members of the team have been almost equally remarkable.

Although he never clouts one over the fence, or aids in a sensational double play, Erle Painter is generally recognized as one of the most valuable men on the Yankee pay roll.

Dr. Painter is one of a growing group of enlightened Chiropractors who place much stress upon preventive counsel. As a general practitioner, he has devoted much time to teaching patients how to relax and rest; what to eat; how to walk correctly; the proper posture to maintain, and other essentials of health conservation. He conceives the Chiropractor's duty to embrace not only the correct adjustment of the spine, but also to educate the patient in maintaining a high standard of health. And this creed is heartily endorsed by Chiropractors of high standing throughout the country.

THE AMERICAN LEAGUE BASE BALL CLUB OF NEW YORK, INC.

13

No. 4571

New York, May 31st, 1939 19

PAY TO THE ORDER OF Erle V. Painter

\$330.00

YANKEES \$330 and 00 cts

DOLLARS

TO THE
MANUFACTURERS TRUST COMPANY

YORKVILLE BANK BUILDING

1511 THIRD AVENUE

NEW YORK

E. V. Painter

PRESIDENT

REGGAE/ POP ARTIST ANUHEA GETTING ADJUSTED





REGGAE/ POP ARTIST
MATISYAHU
GETTING ADJUSTED



DODGERS GETTING ADJUSTED







PRO SURFERS GETTING ADJUSTED





PRO SURFERS GETTING ADJUSTED

CURRENT REVIEW OF NEUROLOGY LITERATURE INCLUDING: POSTURE, PROPRIOCEPTION, AND CONDITIONS COMMONLY TREATED BY CHIROPRACTIC METHODS



EFFECTS OF CHIROPRACTIC CARE ON STRENGTH, BALANCE, AND ENDURANCE IN ACTIVE-DUTY U.S. MILITARY PERSONNEL WITH LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL

Date & Journal: Journal of Alternative & Complementary Medicine; 2020 Jul.

Abstract

Objectives: To investigate whether chiropractic care influences strength, balance, and/or endurance in active-duty United States military personnel with low back pain (LBP). Participants were randomly allocated to 4 weeks of chiropractic care or to a wait-list control.

Interventions: Chiropractic care consisted of spinal manipulation, education, advice, and reassurance.

Results: Participants had mean age of 30 years (18-40), 17% were female, 33% were non-white, and 86% reported chronic LBP. Mean maximum pulling strength in the chiropractic group increased by 5.08 kgs and decreased by 7.43 kgs in the wait-list group, with a statistically significant difference in mean change between groups. Statistically significant differences in mean change between groups were also observed in trunk muscle endurance and balance with eyes closed, but not in balance with eyes open. Differences in mean change between groups were statistically significant in favor of chiropractic for LBP-related disability, pain intensity and interference, and fear-avoidance behavior.

Conclusions: Active-duty military personnel receiving chiropractic care exhibited improved strength and endurance, as well as reduced LBP intensity and disability, compared with a wait-list control.



Vining R, Long CR, Minkalis A, Gudavalli MR, Xia T, Walter J, Coulter I, Goertz CM. Effects of Chiropractic Care on Strength, Balance, and Endurance in Active-Duty U.S. Military Personnel with Low Back Pain: A Randomized Controlled Trial. J Altern Complem

DEVELOPMENT OF A MANNEQUIN LAB FOR CLINICAL TRAINING IN A CHIROPRACTIC PROGRAM

Date & Journal: J Chiropr Educ . 2022 Mar 31.

Abstract

Objective: Faced with COVID-19 safety protocols that severely limited the ability to conduct chiropractic technique instruction in the usual manner, our university invested the resources to develop a new mannequin lab for hands-on training, which would help supplement the loss of person-to-person contact.

Results: Mannequins were produced in 7 weeks, and space was built out for a special lab. Faculty members are developing classroom procedures to introduce the mannequin to students, phase in the skills from static and motion palpation, and practice thrust performance.

Conclusion: The production run was successful, and the resulting equipment, well-received by students and faculty. In addition to helping teach manual skills, the lab serves as a platform for educational research to test the efficacy of mannequin-based training protocols. With the pressure sensors on known locations along the spine, future research may be able to test the ability of students to identify and contact specific target locations for adjustive thrusts.



Owens EF, Dever LL, Hosek RS, Russell BS, Dc SS. Development of a mannequin lab for clinical training in a chiropractic program. J Chiropr Educ. 2022 Mar 31. doi: 10.7899/JCE-21-10. Epub ahead of print. PMID: 35394042.

EFFECTS OF EXPERIMENTALLY INDUCED CERVICAL SPINE MOBILITY ALTERATION ON THE POSTURAL ORGANISATION OF GAIT INITIATION

Date & Journal: Sci Rep . 2022 Apr 11.

Abstract

Gait initiation (GI), the transient period between quiet standing and locomotion, is a functional task classically used in the literature to investigate postural control. This study aimed to investigate the influence of an experimentally-induced alteration of cervical spine mobility (CSM) on GI postural organisation. Fifteen healthy young adults initiated gait on a force-plate in (1) two test conditions, where participants wore a neck orthosis that passively simulated low and high levels of CSM alteration; (2) one control condition, where participants wore no orthosis; and (3) one placebo condition, where participants wore a cervical bandage that did not limit CSM. Centre-of-pressure and centre-of-mass kinematics were computed based on force-plate recordings according to Newton's second law. Main results showed that anticipatory postural adjustments amplitude (peak backward centre-of-pressure shift and forward centre-of-mass velocity at toe-off) and motor performance (step length and forward centre-of-mass velocity at foot-contact) were altered under the condition of high CSM restriction. These effects of CSM restriction may reflect the implementation of a more cautious strategy directed to attenuate head-in-space destabilisation and ease postural control. It follows that clinicians should be aware that the prescription of a rigid neck orthosis to posturo-deficient patients could exacerbate pre-existing GI deficits.



PHOTOBIO-MODULATION THERAPY: A NOVEL THERAPEUTIC APPROACH TO ALZHEIMER'S DISEASE MADE POSSIBLE BY THE EVIDENCE OF A BRAIN-GUT INTERCONNECTION

Abstract

Date & Journal: Journal of Integrative Neuroscience; 2024 Apr 30.

The evidence of brain-gut interconnections in Alzheimer's disease (AD) opens novel avenues for the treatment of a pathology for which no definitive treatment exists. Gut microbiota and bacterial translocation may produce peripheral inflammation and immune modulation, contributing to brain amyloidosis, neurodegeneration, and cognitive deficits in AD. The gut microbiota can be used as a potential therapeutic target in AD. In particular, photobiomodulation (PBM) can affect the interaction between the microbiota and the immune system, providing a potential explanation for its restorative properties in AD-associated dysbiosis. PBM is a safe, non-invasive, non-ionizing, and non-thermal therapy that uses red or near-infrared light to stimulate the cytochrome c oxidase (CCO, complex IV), the terminal enzyme of the mitochondrial electron transport chain, resulting in adenosine triphosphate synthesis. The association of the direct application of PBM to the head with an abscopal and a systemic treatment through simultaneous application to the abdomen provides an innovative therapeutic approach to AD by targeting various components of this highly complex pathology. As a hypothesis, PBM might have a significant role in the therapeutic options available for the treatment of AD.



PHOTOBIO-MODULATION THERAPY ON BRAIN: PIONEERING AN INNOVATIVE APPROACH TO REVOLUTIONIZE COGNITIVE DYNAMICS

Abstract

Date & Journal: Cells. 2024 Jun 3.

Photobiomodulation (PBM) therapy on the brain employs red to near-infrared (NIR) light to treat various neurological and psychological disorders. The mechanism involves the activation of cytochrome c oxidase in the mitochondrial respiratory chain, thereby enhancing ATP synthesis. Additionally, light absorption by ion channels triggers the release of calcium ions, instigating the activation of transcription factors and subsequent gene expression. This cascade of events not only augments neuronal metabolic capacity but also orchestrates anti-oxidant, anti-inflammatory, and anti-apoptotic responses, fostering neurogenesis and synaptogenesis. It shows promise for treating conditions like dementia, stroke, brain trauma, Parkinson's disease, and depression, even enhancing cognitive functions in healthy individuals and eliciting growing interest within the medical community. However, delivering sufficient light to the brain through transcranial approaches poses a significant challenge due to its limited penetration into tissue, prompting an exploration of alternative delivery methods such as intracranial and intranasal approaches. This comprehensive review aims to explore the mechanisms through which PBM exerts its effects on the brain and provide a summary of notable preclinical investigations and clinical trials conducted on various brain disorders, highlighting PBM's potential as a therapeutic modality capable of effectively impeding disease progression within the organism -a task often elusive with conventional pharmacological interventions.



EFFECT OF PHOTOBIOMODULATION THERAPY ON REDUCING ACUTE PAIN AND INFLAMMATION FOLLOWING SURGICAL REMOVAL OF IMPACTED MANDIBULAR THIRD MOLARS: A RANDOMIZED, SPLIT-MOUTH CLINICAL TRIAL

Date & Journal: Photobiomodul Photomed Laser Surg . 2022 Apr.

Abstract

Objective: This study aimed to compare the effects of photobiomodulation therapy (PBMT) on analgesic and inflammatory reduction with that of ibuprofen following surgical removal of impacted mandibular third molars (IMTMs).

Results: The study sample included 25 patients (average age of 22.88 years) with 50 bilateral symmetrical IMTMs. Pain level was highest at 2 h after surgery in both groups and gradually decreased over time ($p < 0.01$). Swelling and trismus at 48 h were higher than at 24 h ($p < 0.01$). Within the first 48 h postoperatively, pain level, swelling, and trismus were significantly lower in the PBMT group ($p < 0.05$). Postoperative sIgA was also significantly lower in the PBMT group ($p < 0.05$).

Conclusions: In short-term and specific conditions of this study, it was found that PBMT helped promote postoperative pain relief and anti-inflammation after surgical removal of IMTMs. The results suggested that there may be a link between a decrease in salivary sIgA levels and decrease in inflammatory processes after PBMT.



IMPROVEMENTS IN CERVICAL SPINAL CANAL DIAMETER AND NECK DISABILITY FOLLOWING CORRECTION OF CERVICAL LORDOSIS AND CERVICAL SPONDYLOLISTHESES USING CHIROPRACTIC BIOPHYSICS TECHNIQUE: A CASE SERIES.

DATE & JOURNAL: J RADIOL CASE REP . 2020 APR 30

Abstract

Cervical spondylolisthesis indicates instability of the spine and can lead to pain, radiculopathy, myelopathy and vertebral artery stenosis. Currently degenerative cervical spondylolisthesis is a wait-and-watch condition with no treatment guidelines. A literature review and discussion will be provided. 8 females presented with neck pain, disability, and history of motor vehicle collision. Radiographs revealed abnormal cervical alignment, spinal canal narrowing, and spondylolistheses. After 30 sessions of Chiropractic BioPhysics® care over 12 weeks, patients reported improved symptoms and disabilities. Radiographs revealed improvements in cervical alignment, spondylolistheses, and spinal canal diameter. Motor vehicle collision may cause instability and abnormal alignment of the cervical spine leading to cervical spondylolisthesis. Improving spinal alignment may be an effective treatment to reduce vertebral subluxation and cervical spondylolistheses and improve neck disability as a result of improved spinal alignment.



BEST PRACTICES FOR CHIROPRACTIC MANAGEMENT OF PATIENTS WITH CHRONIC MUSCULOSKELETAL PAIN: A CLINICAL PRACTICE GUIDELINE.

DATE & JOURNAL: J ALTERN COMPLEMENT MED . 2020 OCT.

Abstract

Objective: To develop an evidence-based clinical practice guideline (CPG) through a broad-based consensus process on best practices for chiropractic management of patients with chronic musculoskeletal (MSK) pain.

Conclusions: These evidence-based recommendations for a variety of conservative treatment approaches to the management of common chronic MSK pain conditions may advance consistency of care, foster collaboration between provider groups, and thereby improve patient outcomes.



Hawk C, Whalen W, Farabaugh RJ, Daniels CJ, Minkalis AL, Taylor DN, Anderson D, Anderson K, Crivelli LS, Cark M, Barlow E, Paris D, Sarnat R, Weeks J. Best Practices for Chiropractic Management of Patients with Chronic Musculoskeletal Pain: A Clinical Practice Guideline. J Altern Complement Med. 2020 Oct;26(10):884-901. doi: 10.1089/acm.2020.0181. Epub 2020 Jul 30. PMID: 32749874; PMCID: PMC7578188.

THE IMPACT OF SPINAL MANIPULATION ON MIGRAINE PAIN AND DISABILITY: A SYSTEMATIC REVIEW AND META-ANALYSIS

DATE & JOURNAL: HEADACHE. 2019 APR

BACKGROUND:

Several small studies have suggested that spinal manipulation may be an effective treatment for reducing migraine pain and disability. We performed a systematic review and meta-analysis of published randomized clinical trials (RCTs) to evaluate the evidence regarding spinal manipulation as an alternative or integrative therapy in reducing migraine pain and disability.

CONCLUSIONS:

Spinal manipulation may be an effective therapeutic technique to reduce migraine days and pain/intensity. However, given the limitations to studies included in this meta-analysis, we consider these results to be preliminary. Methodologically rigorous, large-scale RCTs are warranted to better inform the evidence base for spinal manipulation as a treatment for migraine.



TREATING 'SLOUCHY' (HYPERKYPHOSIS) POSTURE WITH CHIROPRACTIC BIOPHYSICS®: A CASE REPORT UTILIZING A MULTIMODAL MIRROR IMAGE® REHABILITATION PROGRAM.



DATE & JOURNAL: J PHYS THER SCI. 2017 AUG

- Purpose: To present a case of the non-surgical reduction of 'slouchy' hyperkyphosis posture utilizing the multimodal Chiropractic BioPhysics® rehabilitation program emphasizing the mirror image® concept.
- Results: After 6-months of treatment the patient displayed a total correction of the posterior thoracic translation with a significant reduction in thoracic hyperkyphosis. The dramatic correction of her overall posture and spine alignment corresponded to the significant relief of neck and back pains, headaches and improvement of various other health issues as demonstrated by self-report and SF-36.
- Conclusion: Poor postures corresponding to poor health can be changed for the better with multimodal rehabilitation programs that are now showing consistent postural improvements corresponding with improvements in various health conditions. We suggest that the postural correction of those with various pain symptoms be considered as a first line non-pharmalogical, non-surgical rehabilitation approach for those presenting with poor posture.

CORRECTION OF PSEUDOSCOLIOSIS (LATERAL THORACIC TRANSLATION POSTURE) FOR THE TREATMENT OF LOW BACK PAIN: A CBP® CASE REPORT.

Date & Journal: Journal of Physical Therapy Science; 2018 Sep.

- Purpose: To present the case of a total reduction of pseudoscoliosis spinal deformity in an adult female suffering from recurrent back pains.
- Results: The patient achieved a complete reduction of the lateral thoracic translation posture (pseudoscoliosis) as indicated on a post-treatment radiograph after 36 total treatments. Most orthopedic tests became normalized and the patients back pains were significantly improved after the correction of posture, but only slight improvements after the initial 12 sessions of manipulative therapy only.
- Conclusion: Pseudoscoliosis is structurally reducible by use of CBP® mirror image® lateral translation traction methods and exercises and led to the resolution of back pains in this case. The diagnosis of pseudoscoliosis as opposed to true scoliosis is very important and likely underdiagnosed in common practice. Upright radiographic imaging is essential to differentiate these two spinal disorders and offers no harm to the patient. Comprehensive assessment including routine use of x-ray is recommended to differentiate between spinal disorders.



Henshaw M, Oakley PA, Harrison DE. Correction of pseudoscoliosis (lateral thoracic translation posture) for the treatment of low back pain: a CBP® case report. J Phys Ther Sci. 2018 Sep;30(9):1202-1205. doi: 10.1589/jpts.30.1202. Epub 2018 Sep 4. PMID: 30

Thank you, Docs!

A brief evaluation survey will be emailed to you in the coming days.
Please fill out the evaluation ASAP & press “submit”.

Hope you enjoyed the seminar and I thank you for your continued support!
We really appreciate all of you!

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