Impact and Replicability of Dynamic Brain Healing Protocol Administered by Practitioners: A Case Study, Part of 10 Case Study Results on Persistent Concussion Symptoms

Abstract:

Objective: This case study investigates the effectiveness of Dynamic Brain Healing (DBH) protocols on persistent post-concussive symptoms (PPCS) and neurotransmitter levels in a 60-year-old female patient as part of a more extensive group analysis involving cases.

Background: Persistent symptoms following a concussion can last months to years, affecting various physiological and cognitive functions. This study focuses on a holistic treatment modality targeting such prolonged effects. The subject is a 60 year-old female whose chief complaint was always feeling tired and never feels rested. She has very low energy, and her motivation is decreasing. She recalled being diagnosed with a concussion at the age of 8. This subject has not sought out therapies other than massage for her symptoms. By implementing a standardized treatment protocol, this study highlights the inherent value of the DBH system and the solidity of its teaching methodology. It provides an evaluation of the system's therapeutic effectiveness as well as the success of the educator in transmitting these protocols.

Methods: The patient was selected based on a history of concussion with symptoms persisting beyond six months. DBH treatment consisted of seven protocols, each lasting five minutes, administered over one month. Efficacy was evaluated using a Brain Health Assessment and Symptom Inventory, comparing baseline and post-treatment neurotransmitter levels (dopamine, acetylcholine, GABA, and serotonin) and symptom severity.

Results: Post-treatment, the patient improved neurotransmitter levels—37% in dopamine, 24% in acetylcholine, 11% in GABA, and 22% in serotonin. Improvement estimates are based on a true/false test that assesses these four neurotransmitters and their activity in the brain. This test was administered twice, and the difference in scores was used to calculate the effects.

Symptom inventory showed up to 50% improvement in pain and cognitive disturbances. The treatment led to significant relief in stiffness, hip and neck pain, and reduced heaviness, alongside cognitive enhancements and better emotional stability.

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Conclusion: The preliminary findings of this investigation suggest that the Dynamic Brain Healing (DBH) protocols, along with the effectiveness of the instructional approach, may lead to improved neurotransmitter levels and the mitigation of persistent post-concussive symptoms (PPCS). These outcomes hint at the potential advantages for brain health and functional recovery. The study carefully explores the optimal therapeutic boundary that fosters neurological healing without overburdening the nervous system. Crucially, this research aims to affirm the underlying principles of the DBH system—a system whose functionality is designed to be independent of the practitioners' intentions or tenure in practice. The results tentatively endorse the DBH system and its training approach, advocating their use in clinical settings irrespective of the practitioners' experience levels. Further research with the complete case series will be required to validate these findings and establish the treatment's broader applicability and mechanism of action.

Keywords: Dynamic Brain Healing, Persistent Post-Concussive Symptoms, Neurotransmitters, Case Study, Concussion, Cognitive Function.

Introduction:

The realm of neurorehabilitation and manual therapy for mild traumatic brain injury (mTBI) or persistent symptoms of concussion has seen an emerging paradigm with the introduction of the Dynamic Brain Healing (DBH) 7-Step Protocol, a novel intervention designed to address the lingering sequelae of traumatic brain injuries.

The demographic targeted by the DBH Protocol is often susceptible to adverse effects from intensive treatment regimens, particularly those with significant neurotransmitter deficiencies or diagnoses such as ADHD. In such scenarios, aggressive therapeutic strategies have been found counterproductive, potentially exacerbating neurological distress.[1–4]

By standardizing the treatment delivery, the study underscores the intrinsic merit of the DBH system and the robustness of its foundational training, thereby evaluating both the system's therapeutic potency and the efficacy of its pedagogical framework.

The Dynamic Brain Healing protocols were designed solely for concussion/mTBI recovery. Dynamic Brain Healing is a system that manually relieves pressure on the skull itself. Fascial and myofascial to mobilize cranial bones and soft tissues specific fascial fibers that attach to the lobe of the brain itself.

The hypothesis that neurodivergent brains or multiple head injures directly influences concussion recovery time and reduction of concussion symptoms without direct intervention without medication that introduces a toxin into the body.[5]

The research on myo-skeletal impact on concussion is limited, focusing on primarily the cervical muscles and myofascial tissues. Other research is focused on the vestibular system, and this treatment is not specifically for head injuries or concussions.[6] This led to these case studies showing the efficacy of the treatment in two treatments with newly graduated practitioners of the Fascia Training Institute.[7–9]

The Dynamic Brain Healing case study supports that fascial and osseous manipulation of the skull and fascia directly influences concussion symptoms.[10]

Concussion, a mild form of traumatic brain injury (TBI), commonly results from a direct blow to the head, neck, or body that leads to the rapid movement of the brain within the skull.[11–14] While most individuals recover from the initial symptoms of a concussion within a few weeks; some continue to experience persistent post-concussive symptoms (PPCS) that can last for months or even years.[15,16]

Objective:

This paper seeks to scrutinize the efficacy of the DBH Protocol, which has been applied by practitioners recently certified in the Level 1 program. The investigation is anchored on a structured protocol application over a concise span—two treatments within two weeks—administered by seven novice Dynamic Brain Healing practitioners with either an osteopathic, athletic therapy/trainer certfication.[17]

Methods:

Dynamic Brain Healing 7 System Protocols

Contrasting to prior research conducted by seasoned experts distributing multiple sessions across extended periods, this study pivots on a standardized approach, thus mitigating the variability introduced by practitioner experience and subjective treatment customization.

Subject 1 was a 60-year-old Caucasian female whose chief complaints included constantly feeling tired and never feeling rested. Subject 1 presented with postural imbalances and lines of tension noted on her assessments.

In this case study (1 of 10), we examine the impact of Dynamic Brain Healing Protocols on

Subject 1, who exhibited a range of physiological and cognitive symptoms. These include stiffness, hip and neck pain, a sensation of heaviness, impaired concentration, memory loss, persistent fatigue, and disturbed sleep. After two treatments, Subject 1 showed notable improvement in the mentioned symptoms and a significant enhancement in neurotransmitter levels.

The symptoms analyzed for this case study include:

- Stiffness
- Hip pain
- Feeling heavy
- Neck pain
- Difficulty concentrating
- Social anxiety
- Difficulty remembering
- Fatigue
- Don't feel right
- Falling asleep
- Wake-up rested
- Headache
- Light sensitivity
- Sound sensitivity

We used measurements from the baseline test and the after-treatment Brain Health Assessment and Symptom Inventory using the Department of Defense Pain Scale[18] to determine the efficacy of two Dynamic Brain Healing treatments on neurotransmitter levels in Subject 1. Neurotransmitters like dopamine, acetylcholine, GABA, and serotonin play crucial roles in regulating mood, attention, and overall cognitive functions.

Selection Criteria:

Practitioners were tasked with selecting patients based on the following criteria:

1. **Diagnosis of Concussion:** All participants had a self-reported or clinically diagnosed concussion.

2. **Duration of Symptoms:** Patients must have exhibited ongoing persistent symptoms for a duration of at least six-months post-injury, ensuring that they were beyond the typical recovery window.

3. **Nature of Symptoms:** The persistent symptoms should include but are not limited to headaches, dizziness, fatigue, cognitive disturbances, sensitivity to light or sound, and mood

disturbances.

4. **Exclusion Criteria:** Patients with no persistent symptoms.

Based on the criteria, each practitioner selected two clients. Demographics were not inclusive of any particular group, race, or sex.

Subject 1 underwent two Dynamic Brain Healing treatments consisting of 7 protocols (5 minutes on each protocol) within a span of one month.

Measurement Tools:

To ascertain the efficacy of these protocols, quantitative tools were employed:

1. **Self-Reported Brain Health Assessment:** This instrument is distinguished by its meticulous design; each question directly correlates to a particular neurotransmitter, ensuring precision in feedback on potential imbalances.
2. **Symptom Inventory:** Utilizing the Department of Defense pain scale[18], this inventory renders a measure of discomfort/pain by assessing both the intensity and characteristics of the pain.
3. **Baseline Test vs. Post-Treatment Test:** The preliminary assessment provides a foundational snapshot, detailing the patient's status before the intervention. A subsequent test post-intervention identifies any marked changes, charting the potential impact of the treatment.

With this methodology, the study aimed to determine the efficacy of the Dynamic Brain Healing Level 1 system, ensuring a comprehensive grasp of subjective and objective improvements in brain health and overall patient well-being.

Treatment Procedure:

The Dynamic Brain Healing System, developed by Simone Fortier and The Fascia Training Institute, is a proprietary, copyrighted, and trademarked therapeutic approach developed to address various bodily dysfunctions and promote recovery of persistent concussion symptoms and mild traumatic brain injury (mTBI) symptoms. This unique system utilizes seven distinctive protocols to target physiological restrictions around the cranium and cervical spine.

Detailed descriptions of these protocols are as follows:

1. Protocol 1 (Duration: 5 minutes)

- **Purpose of Technique:** To release fascial restrictions along the spine, dural tube, and spinal cord, restore the flow of cerebrospinal fluid (CSF) and lymphatic fluid - a process hindered if C2 is fascially restricted, and shift the body from a fight or flight response to a more relaxed state.
- **Influenced Structures:**
    - **Brain:** Cerebellum, Dura Mater
    - **Fascia:** Deep cervical fascia, Ligamentum nuchae
    - **Nerve:** Influences a wide range of areas from the spinal column to the fingers • **Meridian:** Acupuncture point for migraines, headaches, myopia, infraorbital neuralgia • **Muscle:** Rectus capitis anterior, rectus capitis lateralis, and others.
    - **Bone:** Occiput to C7
    - **Lymphatic Vessels:** Superficial and inferior deep lymph nodes.

2. Protocol 2 (Duration: 5 minutes)

- **Purpose:** To create space in the cranium.
- **Influenced Structures:**
    - **Brain:** Frontal, temporal lobe, and others
    - **Fascia:** Temporal fascia
    - **Nerve:** Facial, zygomatic, and trigeminal nerves
    - **Meridian/Acupuncture points:** Kidney, adrenal gland, and others
    - **Muscle:** Frontalis muscle, nasalis, and others
    - **Bone:** Sphenoid, mandible, and others
    - **Lymphatic Vessels:** Nasal, oral, frontal lymph, etc.

3. Protocol 3 (Duration: 5 minutes)

- **Purpose:** Influence Vagal and Phrenic Nerves
- **Influenced Structures:**

- **Brain:** Medulla Oblongata
- **Fascia:** Fascia of the abdominal viscera and others
- **Nerve:** Phrenic, Vagal
- **Muscle:** Rectus abdominus, serratus anterior, and others
- **Acupuncture points:** Connection of all 14 meridians
- **Bone:** Rib cage, thoracic and lumbar spine
- **Lymphatic Vessels:** Draining fluid from the peritoneal cavity

Protocol 4 (Duration: 5 minutes)

Purpose: Influence aponeurosis over the cranium to influence the auditory system **Structures Influenced:**

- *Brain:* Temporal lobe, auditory cortex, corpus callosum, brain stem, and more • *Fascia:* Annular mater, denticulate ligament, ligaments of the malleus, and more • *Nerve:* The 8th cranial nerve, the vestibulocochlear nerve
- *Muscle:* Various muscles connected to the ear and jaw
- *Meridian:* All acupuncture points
- *Bone:* Temporal bone and structures it articulates with
- *Lymphatic Vessels:* Inner and external ear draining pathways

Protocol 5 (Duration: 5 minutes)

Purpose: Reduce load on the visual system and light sensitivity

Structures Influenced:

- *Brain:* Various regions responsible for vision and eye movement • *Fascia:* Capsule of Tenon and related eye structures
- *Nerve:* Four cranial nerves

- *Muscle:* Muscles controlling eye movement
- *Meridian:* Acupuncture points related to vision and other conditions
- *Bone:* Bones forming the eye socket
- *Lymphatic Vessels:* Vessels around the eye

Protocol 6 (Duration: 5 minutes)

Purpose: To optimize cranial nerve function and improve interhemispheric integration. **Structures Influenced:**

- *Brain:* Medial longitudinal fasciculus, cranial nerve nuclei, insular cortex, and basal ganglia • *Fascia:* Cranial base fascia, fascia of the cranial nerves
- *Nerve:* Multiple cranial nerves, especially those involved in sensory input and facial movements • *Meridian/Acupuncture points:* Points related to facial function, sensation, and balance • *Muscle:* Muscles of facial expression, those controlled by the cranial nerves • *Bone:* Ethmoid, occiput, and associated cranial bones
- *Lymphatic Vessels:* Those draining the brain and facial regions

Protocol 7 (Duration: 5 minutes)

Purpose: To balance the body's energy systems and enhance cerebral blood flow. **Structures Influenced:**

- *Brain:* Limbic system, thalamus, hypothalamus, and associated structures for hormonal balance and emotional regulation
- *Fascia:* Perivascular fascia, fascia associated with pineal and pituitary glands
- *Nerve:* Cranial nerves associated with sensation, parasympathetic nervous system
- *Meridian/Acupuncture points:* Points influencing the body's energy meridians and circadian rhythms

- *Muscle:* Deep intrinsic muscles of the cranium and neck
- *Bone:* Frontal, parietal, sphenoid, and more
- *Lymphatic Vessels:* Vessels associated with the brain's glymphatic system and draining cerebral structures

When applied in succession, these protocols provide comprehensive treatment covering various aspects of brain function and physiology.[19–22] Each of these protocols was administered following the stipulated timeframes, ensuring that the aims of each were met to gauge their effectiveness and impact. The application and results of each protocol were observed and recorded for further analysis.

Each protocol involves specific manipulations and procedures, which are administered based on the patient's individual presentation and requirements. The protocols are designed to be comprehensive and holistic, ensuring that multiple body systems are addressed and integrated during treatment.[19,20]

The Brain Health Assessment measures neurotransmitter levels before (baseline) and after the treatment.[23–29] The percent improvement in each neurotransmitter was calculated based on these measurements.

The Brain Health Assessment consists of 114 true or false questions. Each answer informs on a one of four specific neurotransmitters in the brain, dopamine, acetylcholine, GABA, or serotonin. There are 25 questions each related to dopamine, acetylcholine, and serotonin, and 40 questions pertaining to GABA included in the assessment.

A reduction in total neurotransmitter score signifies an improvement in that neurotransmitter level in the brain. For example, if someone scores 10/25 in dopamine initially and 5/25 on dopamine post-treatment, their dopamine levels improved by 50% throughout the course of treatment.

Results:

For this patient, she showed:

- **Dopamine:** Experienced a 37% improvement
- **Acetylcholine:** Showed a 24% improvement
- **GABA:** Recorded an 11% improvement

- **Serotonin:** Noticed a 22% improvement

Symptom Inventory: 15 Symptoms

	Treatment 1	Treatment 2	Percentage Improvement
Stiffness	7	4	42.86%
Hip Pain	8	4	50.00%
Feeling Heavy	7	4	42.86%
Neck Pain	3	2	33.33%
Difficulty Concentrating	10	6	40.00%
Social Anxiety	8	5	37.50%
Difficulty Remembering	10	7	30.00%
Fatigue	10	8	20.00%
Don't Feel Right	9	7	12.50%
Falling Asleep	10	8	20.00%
Wake up Rested	8	6	25.00%
Headache	0	0	-
Light Sensitivity	2	1	50.00%
Noise Sensitivity	0	0	-

The Dynamic Brain Healing Protocols

Subject 1 underwent two sessions of Dynamic Brain Healing treatments within a month, yielding remarkable outcomes:

- Physiological Improvements: Subject 1 reported decreased stiffness, hip and neck pain, and a feeling of heaviness. This relief in symptoms significantly enhanced her overall sense of well-being.

- Cognitive Enhancements: Positive changes were observed in Subject 1's cognitive functions. She experienced improvements in concentration and memory, reporting a clearer mental state and a sharper focus in her daily activities.
- Emotional and Psychological Benefits: Subject 1 noted a decline in feelings of fatigue and general malaise. Furthermore, her sleep quality improved, improving her emotional and psychological stability.
- Neurotransmitter Levels: Following the treatment sessions, there was a significant improvement in Subject 1's neurotransmitter levels, indicative of enhanced neural activity and function.

Discussion:

The Fascia Training Institute's Dynamic Brain Healing System represents a pioneering shift in the treatment of neurological conditions, particularly those stemming from concussions, neurodivergence, and PTSD.

Unlike traditional methods primarily focusing on symptomatic relief, this system is fundamentally structured around fascial, myofascial, and osseous release to promote change and healing. By creating space between the cranial sutures, releasing fascial fibers attached to the brain and its lobes, and structurally generating space over the pituitary gland, the technique addresses the root causes of brain distress. This fascially focused methodology alleviates symptoms and aims to restore the brain's natural state of health, emphasizing the importance of the body's connective tissue in overall brain function.

The unique aspect of the Fascia Training Institute's method is its emphasis on the fascial system's role in brain health. By creating space over the dural tube and across various areas of the brain, this approach seeks to remove the brain from the perpetual state of fight or flight that many individuals with neurological issues experience.

This state of fight or flight can exacerbate symptoms and hinder recovery, making the institute's ability to transition the brain to a more relaxed state pivotal in the healing process.

The Fascia Training Institute recognizes there is a treatment hierarchy that influences recovery. The priority is to take the brain out of fight or flight or healing will not occur no matter how amazing for great a treatment may be. Healing is a progressive journey, where each session builds upon the last, ensuring that improvements are achieved and retained, establishing a new, healthier baseline after each treatment.

Designed with the needs of individuals suffering from concussions, those who are neurodivergent, and individuals lacking the resources for recovery, the system offers hope to those that traditional

or approach treatments do not work or last. It also provides substantial support for those with PTSD, aiming to alleviate symptoms through a structured, facially-based program. This approach underscores a holistic understanding of brain health, recognizing the interconnectedness of physical structures and emotional well-being. By fostering an environment conducive to healing, the Fascia Training Institute's Dynamic Brain Healing method creates lasting change, making each treatment a step towards a more resilient and healthier brain, transforming the landscape of neurological rehabilitation.

The significant improvement in dopamine (37%) suggests enhanced mood and motivation levels in the subject.[30,31] This neurotransmitter is crucial for reward and pleasure mechanisms in the brain, playing a role in combating depressive states and low energy.[32]

A 24% increase in acetylcholine levels implies better cognitive function, learning, and memory processes as it is integral in transmitting signals between nerve cells.[33] Though modest, the 11% improvement in GABA levels is crucial for regulating anxiety promoting calmness and relaxation.[34]

Improved GABA levels are typically associated with better stress management and quality of sleep.[34]

Finally, a 22% improvement in serotonin levels indicates improved mood and emotional stability. Serotonin is essential for maintaining mood balance, and its deficit often leads to depression.[35–37]

Conclusion:

Subject 1's case presents a compelling narrative of recovery and improvement following applying the Dynamic Brain Healing Protocols. These protocols appear to ameliorate physiological and cognitive symptoms, improving the quality of life for the patient involved.

Nevertheless, further scientific inquiry is necessary.

Ten case studies will be analyzed to further establish the treatment's efficacy and mechanism.

While the Subject 1 case suggests promising potential for the Dynamic Brain Healing Protocols, it is crucial to approach these findings with cautious optimism. The observed improvements in both physiological and cognitive symptoms point towards the efficacy of the treatment, yet these findings are preliminary. More case studies are necessary to support these findings.

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