The Fall of PTSD: A New Approach to Healing Physical and Mental Symptoms using the Rubenstein Method.

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EXECUTIVE SUMMARY

Post-Traumatic Stress Disorder (PTSD) represents a significant challenge in the fields of mental and physical health, with many traditional therapeutic approaches yielding less than satisfactory results, especially when assessed over prolonged periods and specifically within veteran populations. It is estimated that 23% (4.4 million) of United States veterans are affected by PTSD, without considering the impact on military families and caregivers. Conventional treatments for PTSD, such as Cognitive Processing Therapy (CPT) and Cognitive Behavioral Therapy (CBT), have often faced criticism for their limited clinical efficacy, particularly in providing lasting relief from PTSD symptoms. Additionally, many veterans show little interest in these types of talk therapies, which is further complicated by a key factor that constrains the effectiveness of prevalent therapeutic interventions: the intrinsic nature of trauma memory. This type of memory is primarily non-verbal and experiential, rendering language-based therapies less effective. This manuscript asserts that a deeper physiological understanding of PTSD is essential for facilitating effective healing. Central to this discussion is the concept of mechanical hypoxia, recently discovered by Dr. David Rubenstein, which is a crucial factor in the pathology of PTSD and arises from ongoing diaphragmatic inhibition (DI). Addressing the physiological mechanism of DI begins with disruptions in the respiratory system, which is vital for promoting meaningful healing and ultimately reducing chronic pain, depression, anxiety, emotional dysregulation, insomnia, hypervigilance, and more. This white paper explores the role of the diaphragm in PTSD and provides a comprehensive perspective on therapeutic approaches. It introduces an evidence-based method transforming the lives of military veterans in the United States, the Rubenstein Method. Remarkably, this approach yields sustainable results known as a "durable effect" and is four times more effective than conventional holistic therapies. The Rubenstein Method results in immediate improvement in concentration, reaching 46% after two weeks, and an immediate improvement in the body's heart rate variability (stress response), reaching 49% after three weeks; these results contribute to enhanced sleep patterns and other benefits. By sharing these essential connections, we aim to create a pathway to healing that resonates on a deeper physiological level, fostering lasting relief and renewed hope for those who bravely served and anyone who has PTSD.

INTRODUCTION

Research highlights a critical yet often overlooked aspect of trauma's impact on the human body: the role of the diaphragm, the primary muscle responsible for respiration. Our findings indicate that this vital muscle often experiences significant impairment and inhibition due to traumatic experiences. The repercussions of compromised diaphragmatic function extend well beyond respiratory issues, triggering a cascade of negative biochemical, mechanical, and neurological consequences that can be insidious (Hodges et al., 2001). This emerging diagnosis underscores a deeply entrenched misunderstanding of the physiological effects of trauma, which are not only detrimental but also highly toxic to overall health. Impaired diaphragmatic function is increasingly recognized as a significant contributor to a range of conditions commonly associated with PTSD, including addiction, depression, anxiety, and chronic pain, particularly in the lower back, neck, shoulders, and jaw, collectively termed "The Pain Trifecta." The primary mechanism behind these adverse mental and physical effects lies in DI, which predisposes the brain to limbic dominance. This shift activates the fight-or-flight response, perpetuating a state of hyperarousal within the central nervous system. Over time, the limbic system becomes more dominant, explaining much of the mental dysregulations and stress-dominant states seen in PTSD.

This white paper aims to illuminate how restoring proper diaphragmatic function and applying the Rubenstein Method will catalyze a transformative healing process for individuals grappling with PTSD. Exploring this innovative approach aims to open new pathways for understanding and treating this complex disorder. The journey from trauma to triumph is possible, and those affected by PTSD or interested in the recovery process are encouraged to consider this novel perspective. Over two decades of research and protocol development have revealed the efficacy of the Rubenstein Method in addressing PTSD (Patent Application number US20080114271A1). This innovative system has demonstrated a fourfold increase in effectiveness for treating chronic pain with lasting results, a crucial factor in achieving comprehensive recovery from PTSD. Validated by Arizona State University's neurological laboratory studies, neuromuscular calibration (NC) identifies and corrects erroneous movement patterns in the brain that affect various bodily functions and cause several hidden forms of stress (Rubenstein, 2010). The psychological and alternative health communities do not yet understand these stress forms; other known treatments for chronic stress have yet to include NC.

We have observed that these errors often arise due to DI or other injuries manifesting in two forms in the central nervous system. The first form is altered templates (current motion templates) in the brain that govern movement and bodily responses. When the brain operates under faulty templates, the body cannot function optimally; nothing happens independently in the body or mind without brain control or influence. All happenings are based on templates of structural control to both sense and effect change or adjustments. This concept is the essence of the term homeostasis or balance. Rarely is something "New" to the brain, as it uses memorized templates to control, calculate, and respond to anything within the nervous system's control. The second way the central nervous system reveals a disruption in homeostasis is when the sensors designed to monitor vital conditions malfunction. This disruption of homeostasis leads to system issues and existing problems. It may account for the diverse and often elusive physical manifestations of PTSD, presenting challenges to effective healing and responsiveness to traditional therapeutic approaches. Through this comprehensive examination, we aim to deliver a more nuanced understanding of the intricate between trauma, relationship diaphragmatic function, and overall health, paving the way for innovative treatments that prioritize holistic recovery.

BACKGROUND

The common denominator of PTSD's origin and symptomatology is the inhibition of the diaphragm. The diaphragm stops functioning correctly as a reaction within the brain's limbic area, which alters muscle function, shifting the brain's body from Ideal Motion Templates (IMT) to alternative current motion templates (CMT). IMT is innate and physics-based. The transition from IMT to CMT occurs without a person's awareness. This shift is subtle as the brain attempts to optimize motion; however, it manifests as pain, rapid heart rate, and other symptoms resulting from reliance on accessory breathing muscles. The Rubenstein Method can determine in 20 seconds whether the diaphragm is functioning and to what degree. It then applies direct treatment by generating a new signal from the brain to restore the diaphragm's natural function , and the Ideal Motion Template with the diaphragm. Hyperbaric oxygen chambers can show improved healing however, this does not address the more influential loss of continuous oxygen delivery needed during normal respiration. Considering an average of 20,000 breaths per day the shear numbers of natural respiration must be looked upon as the primary treatment for healing, not hyperbaric chambers.

DI initiates a chain reaction called Chronic Stress Cycle Syndrome (CSCS). This sequence begins with trauma and leads to the following bodily responses: 1. DI first, 2. minutes, hours, or days later, triggering jaw tension and pain, leading to 4. muscle overload, resulting in 5. pain and dysfunction as muscles struggle to compensate for the diaphragm's reduced power (Rubenstein, 2010).



Figure 1. The Chronic Stress Cycle-Syndrome is one of four stress types distinguished and utilized in The Rubenstein Method to provide a more exact understanding of the nature of how various stress inputs cause the symptomology observed in PTSD.

Continued DI causes the body's stress response to increase over time for a given unit of stress due to the increased respiratory rate per minute and the subsequent release of additional stress hormones; without disrupting the CSCS joint compression increases, which leads to erosion, pain, and disability. The body also becomes highly acidic, and homeostasis is lost. Consequently, body pain can severely limit lifestyle, while an overactive nervous system makes recovery increasingly difficult. Sleep quality is significantly compromised as well. Activating the diaphragm through a manual process facilitated by a trained calibrationist using the Rubenstein Method is the most advantageous first step in breaking the CSCS. The diaphragm and rib cage accessory breather muscles working together is the only way to optimize oxygen delivery to the brainbody. This cooperation is known as "Simultaneous Breathing" wherein the beginning and end of the breath is achieved by the motion from the chest and belly as what can be visually seen. It is physically impossible to optimize oxygen delivery without both, but the diaphragm plays the larger role without any scientific doubt. And let it not be forgotten that DELIVERY of oxygen is key. Proper breathing is restored, posture is improved, and other bodily sensations are reduced as homeostasis is restored. Next, performing a "Jaw Calibration" - a series of six motions that reduces the pressure within the temporomandibular joint (TMJ) causes sudden and dramatic mind/body relaxation. These two processes form a cornerstone that anchors the beginning of the breakup of the Chronic Stress Cycle.

Its restoration, which takes approximately 6-8 minutes, begins the measurable reversal of PTSD immediately. While this is not the complete Rubenstein Method, it is a crucial narrative aspect. DI leads to low-grade chronic hypoxia, as shallow breathing utilizes approximately 20% of the upper lung capacity. At the same time, the diaphragm is essential for optimal oxygen delivery, providing up to approximately 80% of the body's needs. The lower lungs, capable of seven times more oxygen absorption, depend on proper diaphragm function for adequate air intake.

During the research phase, the theme of 'psychological experience contained within the

framework of physiology' emerged. Inadequate instance, reduced cognitive sleep, for heightened abilities—including distractibility-increased time to recover from stress, and a general disinterest in activities. Additionally, it can result in increased emotional reactivity, also referred emotional to as intoxication, noticeable changes in personality, and significant emotional dysregulation. Veterans experiencing sleep pathologies often exhibit breathing dysfunctions, such as DI and/or sleep The primary breathing malfunction apnea. consistently identified is the diaphragm muscle's failure to function correctly. This prevents it from effectively drawing air into the deeper lungs, where optimal oxygenation occurs (Calais-Germaine, 1993). Consequently, the accessory breathing muscles become overused: 1. leading to increased breathing effort, generating 2. remote pain issues (aka referred pain), erroneously thought to have other causes, 3. releasing significant lactic acid, causing 4. compression pathologies to the cervical and lumbar spine from the diaphragm's lost function. This overcompensation can lead to at least 60 chronic pain conditions due to the body using accessory muscles to breathe (Travell& Simons, 1999). The reliance on accessory breathers instead of the diaphragm is a classic example of 'compensation' in the body, distinct from adaptation or improvement (Chokroverty, 2017).



Figure 2. The graphic below highlights the well-known patterns of referred pain caused by the overuse of the Sternocleidomastoid (SCM), an accessory breathing muscle. When the diaphragm does not function properly, the SCM takes on the extra workload of breathing,

eventually becoming overworked and dysfunctional. As illustrated, this strain results in significant pain, which is referred to areas such as the forehead, temples, jaw, behind the ears, behind the eyes, and the top and back of the head—often mistaken for tension headaches or migraines. These symptoms typically resolve immediately once the diaphragm is activated and the SCM is calibrated. This referred pain pattern also applies to other overburdened accessory breathing muscles (scalenes, levator scapulae, trapezius, and pectoralis minor), all of which can refer pain to different areas when chronically overworked.

Every treatment in the Rubenstein Method is designed around 'CNS reflexive reactions' rather than muscle memory or skill development. For example, the first treatment, which includes 'diaphragm activation' and a 'jaw calibration,' provokes a deep-tendon reflex specifically in the diaphragm muscle and neuromuscular attenuation reflexively derived from the jaw calibration, leading to immediate global muscle relaxation similar to that of a sedative. The TMJ joint has the highest density of mechanoreceptors of any joint, and when decompressed, the panic signal germane to the joint is turned off or dramatically reduced (Zimny, 1988). The patient experiences little or no stress or anxiety for about two days. Patients are not asked to learn a new skill. Instead, the Rubenstein Method triggers reflexes in the CNS to reset motion parameters and reactivity thresholds of the neuromuscular system. Although some instructions are verbally given to the patient for each treatment, the key elements lie within the reflex context rather than in the cognitive learning of skills.

After diaphragm activation and jaw calibration, the Rubenstein Method employs protocols conducted by a trained calibrationist on the entire body to identify the correct programming between the brain and the body part being treated, correcting disruptions in the body that have altered the brain's templates governing movement. This method generates new potential unavailable within the motion envelopes of skill building. This is demonstrated clearly through the results reflected in the magnitude of effect and the speed of the body's positive response, which is instantaneous. The best demonstration is with competitive athletes treated with this method, who have met or exceeded their personal best records, in every age category and nearly every sport.

The benefits of the Rubenstein Method illustrate advantage of programming versus another repetition-based skill building: the absence of injury or re-injury post-treatment. For example, the Rubenstein Method can 'reset' the threshold of the Golgi Tendon reflex so that common injuries, such as ankle twists or sprains, do not recur even under extreme circumstances. This is theoretically due to the expansion of the Golgi Tendon's threshold for being triggered, which allows for higher stretch angles within the motion potential envelope. Typically, when an ankle twist injury occurs, the dominant factor generating the injury comes from the Golgi Tendon. The injury occurs when the stretch reflex limit is reached, at this point, the Golgi Tendon informs the brain that its capabilities have been exceeded. The brain responds by sending a massive signal amplitude that maximally contracts the muscles under the Golgi Tendon's control, resulting in the injury. Approximately 90% of all athletic ankle injuries arise from this mechanism, but it is also observed in many other athletic injuries and non-athletic environments. The key point is that the Golgi Tendon can be reprogrammed to allow for increased angles without injury. This is not possible with other training methods known to the authors here.

SUPPORTING EVIDENCE

series of electroencephalograms (EEGs) Α measuring the impact of NC was completed at the Neurological and Performance Laboratory at Arizona State University in 2011. Professor Debbie Crews assessed Anticipation Time-the interval between neurons receiving and transmitting information-and heart rate variability and brain synchronization. Overall, the results indicated that individuals treated with the Rubenstein Method

scored 43% higher in focus and concentration, demonstrated a 49% improvement in the body's ability to handle stress, and that NC utilizing the Rubenstein Method was four times more effective with sustainable results compared to other holistic approaches for treating PTSD. Standard physical therapy exercises were performed with the control group, while the treatment group received the Rubenstein Method, which features a unique and subtle change of guiding the movement using a highly specific motion recipe and incorporates over 200 protocols.

The following charts are the data from the EEG masked study. Four participants had EEGs over three weeks. All the Rubenstein Method motions were performed using physical therapy protocols and the motion recipe from the Rubenstein Method.





- The vertical (Y) axis denotes time in . milliseconds.
- The light blue bars represent data collection • from patients receiving the Rubenstein Method, incorporating diaphragmatic restoration, and only 20 of more than 200 NC protocols. The dark blue represents participants receiving the same motion but without the NC motion recipe, only physical therapy. Neither group knew which mode of

Figure 3. Neurological EEG testing for the Rubenstein Method at the Arizona State University Neurological Laboratory by Dr. Debbie Crews, PhD (2011)

treatment they were receiving. All scores are averaged in the two groups tested.

- Using standard EEG brain mapping equipment, the time elapsed from stimulation to neuro-synaptic firing in response to that stimulation is measured in milliseconds. The graph above demonstrates that the Rubenstein Method decreased the time elapsed to 20 milliseconds, which is the onset of "Neuronal Synchronicity," aka the zone of maximum contraction. In this graph, the lower the score, the better.
- The horizontal axis represents the first measurement before treatment, while the next four represent measurements from EEG scans after treatment. The fourth grouping, "Base 2," occurred one week later than the "Post 2," which indicates the sustained effects of the Rubenstein Method.



Figure 4. Heart Rate Variability results were conducted by Debbie Crews, PhD, at the Arizona State University Neurological Laboratory.

Heart Rate Variability findings:

- Represents the subjects' ability to lower their heart rate intentionally and respiration under stress.
- A remarkable 49% improvement was achieved with the group that received the Rubenstein Method, as measured on the tenth day after the last treatment. This finding indicates an increasing ability to relax under stress, even though ten days had elapsed after the Brain-Body The Rubenstein Method treatments ended.

- The light blue (experimental group receiving the Rubenstein Method) doubled their pre-test scores in this category. At the same time, no significant improvement occurred with the dark blue (control group receiving physical therapy).
- The data shows brain changes in controlling the "state of concentration" and the subjects' ability to calm down under stress.

Quantitative EEG Maps



Figure 5. The top row is the experiment, and the bottom is the placebo group. EEG imaging displayed as theta (5-7 Hz), alpha (8-12 Hz), beta (13-20 Hz), and beta2 (21-30 Hz). Conducted by Debbie Crews, PhD, at Arizona State University Neurological Laboratory (5-7 Hz), alpha (8-12 Hz), beta (13-20 Hz), and beta2 (21-30 Hz). Conducted by Debbie Crews, PhD, at Arizona State University Neurological Laboratory.

- These EEG scans are an average of the experimental and control groups.
- The experimental group (top row), having received The Rubenstein Method, shows greater Brain Synchronization (ability to focus) than the control group (bottom row), demonstrating the effect of The Rubenstein Method on Brain-Wave Synchronization.



Figure 6. Demonstrates the effect size of the Rubenstein Method at treatment end and follow-up compared to other holistic approaches for treating pain.

- In the graph, the standard of 0.7 effect size for a "Large" effect represents the statistical equivalent of the best improvement expected with the current models of recognized treatments for reducing pain in the body and treating PTSD.
- The Rubenstein Method produces 4.7 times more effect than other approaches used in treating chronic pain, which is why it is the future of PTSD treatment.

A retrospective qualitative and quantitative analysis of seven participants over 12 weeks reveals that the Rubenstein Method produces immediate and replicable positive results. While almost instantaneous significant results are obtained for sleep quality, what follows in the weeks ahead is an ability to maintain and experience an overall increased sensation of 'well-being'. On an intake form, clients were asked to rate five areas of their well-being as Better, Same, or Worse (BSW). The five categories are: 1) Sleep, 2) Focus and Concentration, 3) Reactivity to Stressors, 4) Overall Energy, and 5) Body Pain. Maximum and minimum scores for these data clusters range from +15 to -15, respectively; each category could score between -3 and +3; 5(+3) =+15 and 5(-3) = -15.



Linear Graph of the Better Same Worse Model

Figure 7. A statistical linear graph demonstrates that the Rubenstein Method produces immediate and replicable positive results, as indicated by the diagonal line with an upward trend.

THE RUBENSTEIN METHOD[™] STRESS INDEX

Respiratory Rate Correlations (v7)

TARGET	SECONDARY SYSTEMS		PRIMARY SYSTEMS	
MEASURE (N=22K)	"FIGHT OR FLIGHT" REFLEXES		"RELAXATION" REFLEXES	
RESPIRATORY RATE / MIN	19+	11-18	8-10	3-7
CONTROL PAUSE (SEC.)	1-5	6-10	11-18	19-40
BLOOD CO2 %	3.5 – 4.5	4.6 – 5.9	6.0 - 6.7	6.8 – 7.5
% Gen. Population	61%	27%	11%	1%
% In Recovery PTSD & Addiction	91%	9%	0%	0%
BREATHING TYPE	LURCH NECK CHEST	CHEST NECK + SHOULDER	DIAPHRAGM CHEST	SIMULTANEOUS DIAPHRAGM + CHEST 50/50
PREDOMINANT AIRWAY	моитн	MOUTH/NOSE	NOSE	NOSE
AIRWAY ARCHITECTURE	SMALL DIAMETER SWELLING, STICKY, DRY	SIGNIFICANT AIRWAY RESTRICTION	NEUTRAL AIRWAY	
SLEEP RESULT	EXHAUSTED	FATIGUED	RECOVERED	REFRESHED
SLEEP RESULT	EXHAUSTED	FATIGUED	RECOVERED	REFRESHED
SLEEP RESULT	EXHAUSTED	FATIGUED	RECOVERED NO CLINCH OR GRIND	REFRESHED PAIN AND SYMPTOM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING	EXHAUSTED TENSION/PAIN CLINCH, GRIND POPPING 30MM	FATIGUED	RECOVERED NO CLINCH OR GRIND NO PAIN	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS	EXHAUSTED TENSION/PAIN CLINCH, GRIND POPPING 30MM	FATIGUED INTERMITTENT POPPING, CLINCH, A/O GRIND, TENSION	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS	EXHAUSTED TENSION/PAIN CLINCH, GRIND POPPING 30MM	FATIGUED INTERMITTENT POPPING, CLINCH, A/O GRIND, TENSION	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS PROPORTIONALITY STRESS REACTION	EXHAUSTED TENSION/PAIN CLINCH, GRIND POPPING 30MM 7+	FATIGUED INTERNITTENT CLINCH, ANO GRIND, TENSION 5-6 NOT CONTROLLED	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS PROPORTIONALITY STRESS REACTION	EXHAUSTED TENSION/PAIN CLINCH, GRIND DOPPING 30MM 7+ OVER WHELMING DISPROPORTIONATE	FATIGUED INTERMITTENT POPPING, CENICF, A/A CENICF, A/A CENICF, A/A S-6 NOT CONTROLLED	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS PROPORTIONALITY STRESS REACTION FOCUS AND CONCENTRATION	EXHAUSTED TENSION/PAIN CLINCH, GRND POPPING 30MM 7+ OVER WHELMING DISPROPORTIONATE DISPROPORTIONATE	FATIGUED INTERMITTENT POPPING, CLINCH, A/O GRINO, TENSION 5-6 NOT CONTROLLED INTERMITTENT & LOW QUALITY	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4 WELL CONTROLLED GOOD MAJORITY OF THE TIME	REFRESHED PAIN AND SYMPTOM FREE 50MM
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS PROPORTIONALITY STRESS REACTION FOCUS AND CONCENTRATION	EXHAUSTED TENSION/PAIN CLINCH, GRIND POPPING SOMM 7+ OVER WHELMING DISPROPORTIONATE EXTREME DISPROPORTIONATE	FATIGUED INTERNITERN CLINCH, AVO GRIND, TENSION 5-6 NOT CONTROLLED INTERMITTENT & LOW QUALITY	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4 WELL CONTROLLED MAJORITY OF THE TIME	REFRESHED PAIN AND SYMPTOM FREE 50MM CLUB PERTURBED SOLID AND SUSTAINED CUALS SUBJOY
SLEEP RESULT TMJ SYMPTOMS BITE OPENING BACKGROUND STRESS PROPORTIONALITY STRESS REACTION FOCUS AND CONCENTRATION BRAIN DOMINANCE Nervous System	EXHAUSTED TENSION/PAIN CUINCY, GAIN COPPING SOMM 7+ OVER WHELMING DISPROVENTIONATE EXTREME DISPROVENTIONATE EXTREME DISPROVENTIONATE	FATIGUED INTERMITTENT POPPING, CLINCH, A/O GRIND, TENSION 5-6 NOT CONTROLLED INTERMITTENT & LOW QUALITY	RECOVERED NO CLINCH OR GRIND NO PAIN 3-4 WELL CONTROLLED MAJORITY OF THE TIME CORTEXLIMBLC	REFRESHED PAIN AND SYMPTOM FREE 50MM SYMPTOM FREE 50MM SYMPTOM PERTURBED SULID AND SULID AND FREE 50MM



Technical Overview: The Rubenstein Method[™] Stress Index (v7)

This chart results from analyzing over 22,000 respiratory and physiological measurements collected over 2.5 years. The subjects in this study were individuals with known or suspected PTSD, encompassing both civilian and military

populations. Notably, 65% of participants were actively recovering from addiction. These metrics were compiled under consistent clinical protocols, allowing for reliable time and individual comparisons.

Core Conclusion

The primary conclusion drawn from this extensive dataset is that all symptoms of PTSD and addiction are directly correlated with respiratory rate, as illustrated in the first row of the chart. This establishes respiratory rate as a foundational biomarker for understanding and tracking dysregulation in the nervous system.

Notably, subjects within the red column (19+ breaths per minute) were found to have 0% functional diaphragm activity, as confirmed by manual palpation during examination. These individuals relied entirely on accessory breathing muscles (e.g., neck, chest, and shoulder) for respiration. This dysfunction of the primary breathing mechanism is a defining characteristic of individuals with Complex PTSD or PTSD, and it severely compromises oxygen delivery and autonomic regulation.

Once the diaphragm was reactivated using The Rubenstein MethodTM, subjects were observed to move immediately from the red into the yellow zone—typically within four days. This rapid transition indicated the return of basic diaphragmatic function and a measurable drop in respiratory rate and stress reactivity.

Crossing the thick black dividing line between the yellow and blue columns marks a pivotal moment: the secondary systems (i.e., sympathetic "fight or flight" reflexes) were no longer dominant. Through ongoing diaphragm training and structured breathing exercises, subjects progressed into the blue zone, signifying the engagement of primary systems, including the relaxation reflexes necessary for proper recovery.

The blue column represents a transformative shift in the subject's physiology, psychology, and biology. It is associated with:

- Restored diaphragmatic breathing
- Balanced nervous system signaling
- Improved blood CO₂ levels
- Recovered sleep quality
- Well-regulated stress reactions
- Enhanced concentration and mental clarity
- Significant reduction in chronic pain and TMJ symptoms

Each session incorporated dialog and/or quantitative measurements in clinical practice to assess the subject's real-time position within this framework. This allowed practitioners and clients to objectively track progress, ensuring alignment with treatment goals such as restoring sleep, reducing stress, and achieving sustainable energy and resilience.

Measurement Reliability

- Respiratory Rate (breaths per minute): This is useful but can show variability based on recent activity or stress exposure. Despite its slight susceptibility to situational factors, it is a valid and insightful initial indicator.
- Control Pause (in seconds): This is a highly reliable secondary measure that circumvents the short-term respiratory rate variability. Thus, it is a more stable indicator of the underlying physiological state.
- Blood CO₂ %: Values are inferred, not directly measured, based on the Textbook of Medical Physiology (Guyton & Hall). This approximates cellular oxygen delivery accurately, which is more meaningful than mere oxygen presence.

Chart Structure and Interpretation

The chart is organized into four columns, each color-coded to reflect specific systemic states:

- Red (Far Left) 19+ RR/min, 1–5 sec Control Pause, 3.5–4.5% CO₂
 o Indicates Complex PTSD or PTSD
 - o Breathing via mouth, with restricted/swollen airways

- o Associated with exhaustion, extreme stress, TMJ pain, limbic brain dominance, and poor sleep
- o 61% of the general population, and 91% of those in recovery, fall into this state
- Yellow 11–18 RR/min, 6–10 sec Control Pause
 - o Indicates chronic stress adaptation, transitional state
 - o Partial diaphragm use, intermittent symptoms
 - o Still shows significant nervous system noise and frequent limbic involvement
 - o Blue 8–10 RR/min, 11–18 sec Control Pause
 - o Indicates recovered system with consistent diaphragmatic breathing
 - o Well-controlled stress reactions, good sleep, and majority cortex brain dominance
- Green (Far Right) 3–7 RR/min, 19–40 sec Control Pause, 6.8–7.5% CO₂ o Represents optimal nervous system function
 - o Simultaneous diaphragm and chest breathing (50/50) with open airways
 - o Subjects are refreshed, experience no TMJ tension, and have excellent concentration with absent nervous system noise
 - o Only 1% of the general population reaches this state

Clinical Utility

Since its development in 2013, this chart has been used as a dynamic progress map for both practitioners and patients. It:

- Provides scientifically sound benchmarks
- Facilitates goal setting by showing clear rightward progress toward lower stress states
- Serves as a visual and data-driven feedback tool
- Clarifies patient status at any given moment

- Offers a quantifiable and practical method for tracking nervous system rehabilitation Additional Notes
- The chart confirms that respiratory biomarkers, especially control pauses, can quantify trauma-induced dysregulation.
- The apparent contrast between the general and recovery populations (e.g., 91% of recovering individuals are in the red zone) offers powerful diagnostic and therapeutic insight.

PROBLEM STATEMENT

Breathing is one of the most fundamental physiological processes, yet dysfunctions in breathing mechanics remain overlooked, mainly in mainstream healthcare. Improper breathing-particularly diaphragm inhibition-can lead to systemic compensation, forcing accessory muscles to take over functions meant for the diaphragm. This compensation often results in chronic musculoskeletal pain, reduced cognitive impaired oxygenation, function, emotional instability, and heightened physiological stress responses. Studies suggest that dysfunctions in breathing mechanics contribute to multiple chronic conditions, including cardiovascular strain (high blood pressure), autonomic nervous system dysregulation, and neurocognitive impairment.

Despite growing recognition of the impact of breathing dysfunction on overall health, there remains a substantial gap in research identifying how neuromuscular calibration techniques can be systematically integrated into clinical practice. Existing studies highlight the connection between respiration and neurological function. However, more controlled trials are needed to determine breathing interventions' long-term physiological and psychological effects on chronic pain, emotional regulation, and cognitive function (Total Relief Method (TRM), 2024). Further research is essential to validate how the Rubenstein Method influences autonomic nervous system regulation and chronic disease progression, particularly in populations with heightened stress responses and neuromuscular instability.

Research suggests that disrupted breathing patterns can contribute to increased emotional reactivity (emotional intoxication), compromised cognitive function (heightened distractibility and reduced focus), and neuromuscular imbalances leading to at least 60 chronic pain conditions (TRM, 2024). Cardiovascular and autonomic nervous system dysfunction also affects heart rate variability and stress resilience (Physiopedia, 2025).

SOLUTION

The Rubenstein Method utilizes established components of anatomy and brain function, resulting in a fundamentally new model for treating PTSD. Specific indicators of healing from PTSD include: 1) restoration of quality sleep, 2) reduction of stress reactivity, 3) the ability to focus and concentrate on tasks until completion, 4) management of body pain, 5) restoration of essential relationships and relationship skills through 'appropriateness in behavior' to foster quality human relationships, 6) reducing or eliminating psychotropic medications and their significant side effects, and 7) restoring hope.

Additionally, this new model restores optimal or near-optimal function across all athletic levels and ages. The Rubenstein Method targets the root of musculoskeletal dysfunctions, which can only originate in the brain, not in the kinetic chain. In case after case, the brain identifies a neurological flaw in the cerebrum and cerebellar signal orientation and/or propagation. It modifies this to align more accurately with the IMT, resulting in the cessation of most pain and improved performance.

This model demonstrates how respiratory issues, which encompass emotions, thoughts, and behaviors, represent a fundamental first step in healing from PTSD. True healing is not believed to effectively or timely take place without retraining breathing after trauma experiences, regardless of the type of trauma. Military PTSD should not be conflated with civilian forms, as the differences in intensity and complexity can be vast enough to render comparisons irrelevant. Understanding neurobiological and epigenetic changes is crucial, as it has been proven that they occur and are distinct from military PTSD (Smith et al., 2020; Katrinli et al., 2024).

Stress reactivity is a key indicator of military and civilian PTSD. As reactivity decreases, so do stress levels, the frequency of episodic depression, and anxiety. A long-term goal is to reach a time when suicide rates significantly decline, as the absence of stress never occurs, particularly in the Cycle of Chronic Stress. The pilot study contained herein demonstrates that restoring sleep and more normative emotional states leads to the healing of PTSD. The restoration of quality sleep is a primary indicator of healing, not a secondary symptom, but a fundamental pathology that affects every aspect of mental health or illness.

Several unique biomechanical and neuromuscular indicators significantly affect the level of suffering and, consequently, the stress experienced by veterans with PTSD. These include the diaphragm and jaw regions. Other factors, such as the influence of the feet on spinal issues, are often overlooked. This paper demonstrates that addressing key stress responses responsible for suffering and pain can lead to effective treatment and has the potential to reduce the likelihood of PTSD-related comorbidities, such as suicide. Much work remains, and future studies on this process are warranted; preliminary results are hard to ignore due to their positive and consistent nature.

Using the Rubenstein Method for neuromuscular calibration (NC) enhances homeostasis by reducing hypertonicity and creating ideal or near-ideal muscle tone, strength, flexibility, and coordination. NC causes more optimal patterns of movement intelligence. Restoring normal or enhanced physiological function reduces susceptibility to future injuries and fosters resilience against recurring health complications. NC's resets neural pathways, leading to long-term adaptations that are strong and resistant to re-injury or the recurrence of pain complexes, especially those linked to chronic symptoms.

The trauma-stress model underscores the dominance of the physiology over the psychology – a crucial realization of inestimable importance. It both explains, at least in part, and reveals that suffering associated with PTSD, whether emotional, mental, or physical, is underpinned by stress physiology and is not derived from dysfunctional psychology as once believed.

The relaxation response (the opposite of the 'fight or flight' response) is primarily driven by deeper, slower breathing and can be accompanied by mindfulness techniques. However, those techniques are absent from better breathing and are conclusively ineffective. Nearly all mindfulness and meditation techniques worldwide begin with a slowed breathing-centered process. This places better (diaphragmatic) breathing firmly in first place for the relaxation response (Benson, 2006). The goal is to collapse the Stress Cycle altogether, which requires treatment over an average of six weeks.

The Rubenstein Method is designed to reset the entire respiratory system to become reflexively anti-stress, anti-anxiety, and to create a robust, lifelong result. The medical term for longevity of result is "a durable effect." This idea in medicine is lonely because it is seen as a long-shot result and is not the goal of Western medicine as a whole, although some exceptions are emerging. Evidence indicates that the Rubenstein Method offers a transformative approach to breathing rehabilitation. Activating the diaphragm through a manual process facilitated by a trained practitioner in the Rubenstein Method, then performing a "Jaw Calibration" - a series of six motions that reduce the pressure within the TMJ, causes sudden and dramatic mind/body relaxation. These two processes form a cornerstone that anchors the beginning of the breakup of the Chronic Stress Cycle.

Advancements in electroencephalogram (EEG) analysis, heart rate variability studies, and biomarker tracking could provide crucial insights into breathing optimization for disease prevention and long-term physiological rehabilitation. The field requires large-scale, randomized, controlled studies to understand further the biomechanical, neurological, and systemic interactions governing breathing dysfunction and the Rubenstein Method (American Academy of Sleep Medicine).

Integrating the Rubenstein Method into treatment protocols for medical professionals represents a significant advancement in addressing breathing dysfunction as a primary cause rather than a secondary symptom. recalibrating By neuromuscular function, healthcare providers can restore efficient breathing mechanics, enhance physiological and emotional resilience, and alleviate chronic pain syndromes. This approach offers financial donors and investors a high-impact healthcare innovation that could redefine treatment methodologies across multiple disciplines. including neurology, respiratory therapy, physical rehabilitation, and mental health. Investing in NC research and deployment presents an opportunity dramatically improve patient outcomes, to significantly lower healthcare costs, and pioneer a next-generation therapeutic model for physiological optimization.

CONCLUSION

In conclusion, the exploration of the relationship between diaphragmatic function and PTSD offers a promising new direction in mental health treatment, particularly for veterans and others affected by trauma. Acknowledging the impact of mechanical hypoxia and the disruptions to both the brain and muscle systems, and the physiological consequences of traumatic experiences on the neuromuscular system underscores the urgency for innovative therapeutic approaches. Profound transformation can be facilitated in physical and psychological health by prioritizing restoring diaphragmatic function through the Rubenstein Method. This is not theoretical as thousands of cases of fully more nearly fully recovered cases of military and civilian PTSD are a matter of history. Our findings suggest that addressing the root causes of PTSD not only alleviates symptoms but also fosters overall well-being, providing a beacon of hope for those on their journey from trauma to recovery. As we advance this understanding, we invite continued research and collaboration in the pursuit of effective therapies that resonate with the physiological realities of trauma, ultimately empowering individuals to reclaim their lives and thrive.

CALL TO ACTION

Practitioners, researchers, and advocates in the field of mental health are encouraged to embrace this innovative perspective on PTSD treatment. Integrating the understanding of diaphragmatic function into therapeutic practices can open new avenues for healing and recovery. Mental health professionals are urged to explore the Rubenstein Method and evaluate its potential to enhance the lives of individuals affected by trauma. Moreover, we invite individuals experiencing PTSD or supporting someone who is to consider these innovative therapies, as they may offer the relief and transformation necessary for lasting recovery.

Let us work together to promote a holistic approach to healing that addresses the physiological foundations of trauma, fostering resilience and hope for veterans and anyone facing the challenges of PTSD. Join us in this vital movement toward effective, evidence-based treatment solutions that resonate with the deeper needs of both body and mind.

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Appendix A

Figure 1. The Chronic Stress Cycle-Syndrome is one of four stress types distinguished and utilized in The Rubenstein Method to provide a more exact understanding of the nature of how various stress inputs cause the symptomology observed in PTSD.



Figure 2. The graphic below highlights the well-known patterns of referred pain caused by the overuse of the Sternocleidomastoid (SCM), an accessory breathing muscle. When the diaphragm does not function properly, the SCM takes on the extra breathing workload, eventually becoming overworked and dysfunctional. As illustrated, this strain results in significant pain, which is referred to areas such as the forehead, temples, jaw, behind the ears, behind the eyes, and the top and back of the head—often mistaken for tension headaches or migraines. These symptoms typically resolve immediately once the diaphragm is activated and the SCM is calibrated. This referred pain pattern also applies to other overburdened accessory breathing muscles (scalenes, levator scapulae, trapezius, and pectoralis minor), all of which can refer pain to different areas when chronically overworked.



Figure 3. Neurological EKG testing for the Rubenstein Method at the Arizona State University Neurological Laboratory by Dr. Debbie Crews, PhD (2011)



Figure 4. Heart Rate Variability results were conducted by Debbie Crews, PhD, at the Arizona State University Neurological Laboratory.



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Figure 5. The top row is the experiment, and the bottom is the placebo group. EEG imaging displayed as theta (5-7 Hz), alpha (8-12 Hz), beta (13-20 Hz), and beta2 (21-30 Hz). Conducted by Debbie Crews, PhD, at Arizona State University Neurological Laboratory (5-7 Hz), alpha (8-12 Hz), beta (13-20 Hz), and beta2 (21-30 Hz). Conducted by Debbie Crews, PhD, at Arizona State University Neurological Laboratory.



Quantitative EEG Maps

Figure 6. Demonstrates the effect size of the Rubenstein Method at treatment end and follow-up compared to other holistic approaches for treating pain.

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Figure 7. A statistical linear graph demonstrates that the Rubenstein Method produces immediate and replicable positive results, as indicated by the diagonal line with an upward trend.

Linear Graph of the Better Same Worse Model



Figure 8. The Rubenstein Method Stress Index (v7)

THE RUBENSTEIN METHOD[™] STRESS INDEX

(V)							
TARGET	SECONDAR	SECONDARY SYSTEMS		PRIMARY SYSTEMS			
MEASURE (N=22K)	"FIGHT OR FLIGHT"		"RELAXATION" REFLEXES				
REFLEXES							
RESPIRATORY RATE / MIN	19+	11-18	8-10	3-7			
CONTROL PAUSE (SEC.)	1-5	6-10	11-18	19-40			
BLOOD CO2 %	3.5 – 4.5	4.6 – 5.9	6.0 – 6.7	6.8 – 7.5			
% Gen. Population	61%	27%	11%	1%			
% In Recovery PTSD & Addiction	91%	9%	0%	0%			
BREATHING TYPE	LURCH NECK CHEST	CHEST NECK + SHOULDER	DIAPHRAGM CHEST	SIMULTANEOUS DIAPHRAGM + CHEST 50/50			
PREDOMINANT AIRWAY	моитн	MOUTH/NOSE	NOSE	NOSE			
AIRWAY ARCHITECTURE	SMALL DIAMETER SWELLING, STICKY, DRY	SIGNIFICANT AIRWAY RESTRICTION	NEUTRAL AIRWAY				
SLEEP RESULT	EXHAUSTED	FATIGUED	RECOVERED	REFRESHED			
TMJ SYMPTOMS	TENSION/PAIN	INTERMITTENT POPPING,	NO CLINCH	PAIN AND			
BITE OPENING	CLINCH, GRIND POPPING 30MM	CLINCH, A/O GRIND, TENSION	NO PAIN	FREE 50MM			
BACKGROUND STRESS	7+	5-6	3-4	⊴2			
PROPORTIONALITY STRESS REACTION	OVER-WHELMING DISPROPORTIONATE	NOT CONTROLLED	WELL CONTROLLED	UN- PERTURBED			
FOCUS AND		INTERMITTENT & LOW	GOOD MAJORITY OF	SOLID AND			
CONCENTRATION	ENERGY DRAIN*	QUALITY	THE TIME	CREATES ENERGY*			
	LIMPIC		CORTEX/LIMBIC	CORTEX			
Nervous System	CHRONIC	LINDIC/CORTEX		CORTEX			
Noise	OVERWHELM	FREQUENT	OCCASIONAL	ABSENT			

Respiratory Rate Correlations (v7)