

Concept Paper

## **Movement-informed Breathwork (MiB): Integrating Muscular Contractions with Slow Conscious Connected Breathing for Therapeutic Application**

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### **Abstract**

This paper introduces Movement-informed Breathwork (MiB), a personalised breath-body approach with biofeedback that integrates a form of conscious connected breathwork (breathing without pauses) with targeted neuromuscular contraction and relaxation cycles. Drawing from neuromuscular torque chain dynamics, fascial research and sensorimotor trauma therapy principles, MiB aims to enhance autonomic regulation, interoceptive awareness and somatic-emotional integration by bridging traditional breathwork (deep, slow-paced), movement therapy and clinical practice across diverse populations and therapeutic settings. MiB demonstrates immediate feedback mechanisms for both participants and practitioners, enabling real-time assessment of neuromuscular patterns whilst promoting nervous system regulation. The approach is scalable from brief 5-10-minute sessions for awareness and downregulation to extended 90-minute sessions for deeper somatic exploration and trauma integration, with the aim of offering a contraindication-free,



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accessible framework for addressing autonomic dysregulation, emotional trauma and chronic pain through targeted neuromuscular retraining. The integration of contemporary neuroscience with traditional breathwork provides a scientifically informed approach that may enhance precision and effectiveness of movement-based therapeutic interventions. We believe it presents a significant advancement in integrative health practice that addresses both psychological and physical aspects of healing through the interconnection between breathing, movement and wellbeing.

### Keywords

Movement; breathwork; torque chains; autonomic regulation; trauma therapy; interoception; somatic integration

## 1. Introduction

The relationship between breathing, movement and neuromuscular coordination has been recognised across traditional healing systems for millennia, yet modern healthcare has largely compartmentalised these interconnected systems. Recent advances in fascial research, interoceptive neuroscience and movement analysis are revealing the profound connections between conscious breathing and optimal neuromuscular function. Movement-informed Breathwork (MiB), referred to in practice as the Swami Method by the developer (Figure 1), emerges from this convergence, offering a novel framework that integrates breathwork with targeted neuromuscular activation to enhance embodied awareness and therapeutic outcomes.



**Figure 1** Movement-informed Breathwork (MiB).

Traditional breathwork practices vary widely. While slow-paced breathwork is well-documented for stress reduction [1, 2], conscious connected breathing (CCB; breathing without pauses) is often utilised for emotional integration [3]. Conversely, movement assessments frequently overlook the foundational role of breathing in establishing optimal neuromuscular coordination and nervous system regulation. MiB bridges this gap by combining breathwork in the form of a CCB technique (inhalation followed by exhalation without pauses [3]) with systematic muscle activation patterns. This creates a dynamic assessment tool where the quality of the breath and the ability to sustain

muscular engagement provides immediate and bidirectional feedback. The CCB here is not high ventilation breathwork (HVB) [4, 5]. The practitioner employs a slower CCB-like pattern [6] (no holds between inhales and exhales) that is driven by and synchronised with the contraction and relaxation cycles of muscles. The bodily awareness and skill required to do this is a fundamental characteristic of MiB, and slightly different to HVB and classical CCB.

This approach builds upon recent advances in torque chain theory [7], which suggests that muscles can be functionally categorised based on whether they generate tension toward (Internal Torque Chain, ITC) or away from (External Torque Chain, ETC) the body's centre. Preliminary clinical application of this model is described in a recent case report regarding chronic hip pain [8], where targeted ITC retraining produced functional improvements and sustained pain relief. While this case study is promising, broader empirical validation is required. MiB represents the practical operationalisation of these theoretical principles, providing a standardised method for assessing and optimising torque chain function and balance through breath-coordinated muscle activation.

The accessibility of MiB distinguishes it from many movement interventions. Unlike high-intensity modalities, this approach only requires the ability to breathe and contract muscles, so it is accessible to individuals with mobility limitations, chronic pain conditions, or those intimidated by traditional exercise modalities. Furthermore, unlike psychedelic-assisted therapies, which show promise but remain limited by regulatory hurdles [9], MiB leverages the body's endogenous capacity for adaptation and self-regulation.

Recent neuroscientific findings support the biological plausibility of MiB's approach. Synchronising breath with widespread somatosensory and motor engagement can globally influence brain activity [10]. Specifically, research indicates that nasal airflow and respiratory rhythmicity can drive the synchronisation of neural oscillations, potentially optimising information transfer across brain networks [10]. The fluctuation in heart rate variability (HRV) induced by slow-paced breathing is also strongly implicated in altering brain network dynamics by vagal input [11], and may also depend on neuronal receptors that respond to the pulsatility of intracerebral pressure [12]. Consciously coupling movement and breath—as operationalised in MiB—may amplify brain-wide coordination and interoceptive signalling, providing a mechanism for improved emotional regulation and autonomic balance.

Moreover, evidence demonstrates that even elite athletes frequently exhibit dysfunctional breathing patterns, with nearly 45% showing thoracic or abdominal dominant patterns despite high conditioning levels [13]. These dysfunctional patterns correlate with increased injury risk, poor respiratory performance and inefficient autonomic regulation—precisely the issues MiB attempts to address through targeted neuromuscular retraining coordinated with optimised breathing mechanics.

Sessions can be adapted from brief 5-10-minute protocols for neuromuscular awareness and nervous system downregulation to extended 90-minute sessions, potentially facilitating deeper somatic exploration and trauma integration. This scalability, combined with the immediate feedback mechanisms (e.g., verbal encouragement or direct mechanical manipulation by the facilitator or physical feedback/interoceptive awareness on behalf of the participant), might make MiB particularly valuable for trauma-informed practice, where traditional movement approaches may be too activating or inaccessible for individuals with autonomic dysregulation.

By providing a framework that bridges traditional breathwork with contemporary neuroscience, fascial research and trauma-informed somatic approaches, MiB offers practitioners a proposed tool

for enhancing the precision and effectiveness of movement-based therapeutic interventions across diverse populations and clinical settings. Importantly, through detection and correction of imbalances, deficiencies and weaknesses, the approach ensures that everybody can yield benefit regardless of their level of athletic performance or baseline health or fitness state.

## **2. Theoretical Framework**

### **2.1 Fascial Networks and Interoceptive Awareness**

Contemporary fascial research has fundamentally shifted our understanding of connective tissue from passive structural support to an active, sensory-rich network integral to movement coordination and interoceptive awareness. Research has highlighted that interoceptive nerve endings outnumber proprioceptive endings significantly, highlighting the profound sensory capacity of fascial networks [14, 15].

The diaphragm exemplifies this fascial complexity, representing not merely a breathing muscle but a multifaceted fascial structure encompassing transversalis fascia, endothoracic fascia, thoracolumbar fascia and contractile tissue—all derived from the same embryological origin [16]. This fascial continuity extends throughout the body, creating what many describe as an "uninterrupted structure" capable of transmitting mechanical and electromagnetic information across distant regions.

### **2.2 Neuromuscular Torque Chains and Autonomic Regulation**

Somatic psychology models propose that emotional experiences, particularly traumatic ones, may be encoded in the body through procedural memory and autonomic imprinting [17]. Individuals with unresolved trauma may experience heightened autonomic arousal (hypervigilance, panic) or dissociative hypoarousal (numbing, collapse) due to the nervous system's impaired self-regulation capacity [18]. These dysregulated states may manifest in postural imbalances, restricted breathing patterns and chronic muscular tension patterns that become self-reinforcing over time. Perhaps similar mechanisms are at play during catatonia and other movement-related conditions associated with mood and affective disorders?

Recent advances in movement science have revealed the limitations of traditional single-muscle analysis, leading to the development of integrated neuromuscular models [19, 20]. The torque chain framework represents a paradigm shift that categorises muscles based on their directional force generation rather than isolated anatomical function. We have recently proposed that the neuromuscular system operates through distinct and binarised torque chains, which organise muscular tension and postural alignment in ways that influence autonomic function [7].

#### **2.2.1 Internal Torque Chain (ITC)**

Comprises muscles that generate tension toward the centre of the body, including core stabilising muscles such as the transverse abdominis, external obliques, psoas major, lower abdominals, teres major, anterior deltoids, sternocostal head of the pectoralis major and related postural stabilisers. These muscles demonstrate direct connections to the diaphragm and pelvic floor, contributing not only to structural integrity but potentially also to autonomic regulation. The ITC can be engaged more effectively with continuous, cyclical movements and breathing patterns.

### 2.2.2 External Torque Chain (ETC)

Includes muscles that generate tension away from the body's centre, such as the rectus abdominis, internal obliques, sternoclavicular head of the pectoralis major, latissimus dorsi, lumbar erectors and muscles supporting explosive movements. ETC activation appears more closely associated with sympathetic nervous system activity, tends to fatigue more quickly, elevates heart rates more rapidly and is characteristically more challenging to maintain in sustained, cyclical patterns.

This functional dichotomy provides a neurobiological basis for understanding how specific movement patterns influence autonomic regulation. The torque chain framework provides a contemporary lens through which to understand traditional yogic concepts of energetic channels and locks (*nadis* and *bandhas*). Where traditional yoga speaks of energy flow, the torque chain model identifies specific neuromuscular pathways that, when activated properly, might influence autonomic state and interoceptive awareness.

When ITC muscles are weak or poorly coordinated, compensatory patterns may emerge that can manifest as chronic pain, dysfunctional movement and altered emotional states. Sensorimotor trauma therapy suggests that habitual overactivation of certain muscles is linked to hyperarousal states [17]. Notably, Svebak described how low-level, but enduring psychogenic muscle tension can become pathophysiological when sustained by stress or effort, creating a 'vicious circle' of tension, local ischemia and pain [21]. This insight supports the need for conscious retraining. The integration of breathing patterns with torque chain activation might offer a practical means of assessing and optimising these fundamental neuromuscular relationships. Ultimately, again, this framework may offer a modern lens for interpreting traditional yogic concepts of energy channels (*nadis*) and locks (*bandhas*), correlating 'energy flow' with specific neuromuscular pathways [22].

## 2.3 Breathing Patterns and Nervous System Regulation

Controlled breathwork practices have demonstrated efficacy for stress management, mood enhancement and physiological regulation [23]. Specific breathing patterns influence autonomic nervous system activity, with exhale-focused techniques particularly effective for promoting parasympathetic activation [24].

The integration of muscle activation with breathing patterns appears to enhance these regulatory effects whilst providing additional neuromuscular benefits. CCB—characterised by continuous, connected patterns without breath holds—maintains consistent nervous system activation whilst allowing for sustained muscle engagement and interoceptive exploration. This approach disrupts breath-holding patterns associated with trauma responses and prevents sympathetic arousal while facilitating an increase in vagal tone.

## 3. Movement-informed Breathwork Protocol

### 3.1 Core Methodology

Before engaging in MiB, practitioners are encouraged to establish an environment of safety, which aligns with sensorimotor principles of dual awareness and grounding. This preparation is

particularly relevant for trauma survivors, as acknowledging bodily sensations without becoming overwhelmed may be essential for effective integration [17].

### 3.1.1 Breathwork Foundation and Mechanics

MiB integrates four fundamental elements that distinguish it from traditional breathwork approaches:

Conscious Connected Breathwork. Participants employ a continuous, connected breathing technique with inhalation through the nose combined with a gentle facial engagement that resembles a subtle smile or "smirk," reinforcing safety and interoceptive muscular engagement. Exhalation occurs through pursed lips, mimicking a whistling action without a whistling sound, to activate mechanoreceptors on the lips whilst maintaining gentle back-pressure. This is consistent with recent findings that the facial muscles and diaphragm are among the most stress-reactive regions in the body and likely benefit from targeted relaxation or activation during breathwork [25]. This pursed-lip technique supports sustained exhalation and parasympathetic activation while regulating emotional response through controlled vagal engagement. The continuous, connected nature of the breath cycle—without pauses between inhalation and exhalation—promotes continuous awareness and prevents breath-holding patterns associated with trauma responses or dysfunctional movement patterns.

Internal Torque Chain Activation. During inhalation, participants systematically contract specific muscle groups associated with the ITC, specifically those that generate tension toward the centre of the body. This includes the psoas major, vastus medialis obliquus, gluteus maximus, pectoralis major and teres major and related core stabilisers that contribute to both structural integrity and autonomic regulation. This breath initiates activation of the ITC, promoting parasympathetic regulation.

Systematic Muscle Contraction and Relaxation. During exhalation, participants consciously release the activated muscles, creating alternating patterns of tension and relaxation that may enhance interoceptive awareness and identify areas of dysfunction. This process involves gentle movements coordinated with the breath cycle, allowing for the discovery of 'blind spots' in muscular awareness (i.e., an area of sensorimotor amnesia or chronic holding), as a biofeedback loop.

Facilitator Assessment. Trained practitioners observe muscle activation patterns, breathing quality and stress responses, providing real-time feedback about neuromuscular function and areas requiring attention. Practitioners may be able to sense asymmetries in muscle activation, identifying areas where tension might be excessive or lacking.

## 3.2 Session Variations and Structure

### 3.2.1 Brief Sessions (5-10 Minutes)

Designed for neuromuscular assessment, stress reduction, or integration into training sessions. These protocols focus on establishing basic breathing patterns and identifying primary areas of tension or weakness while providing immediate downregulation benefits.

### 3.2.2 Standard Sessions (20-30 Minutes)

Comprehensive protocols that systematically address multiple muscle groups whilst promoting deeper nervous system regulation. The practice begins with engagement of deep core stabilisers (transverse abdominis, pelvic floor, lower diaphragm) to increase interoceptive awareness and establish a foundation for subsequent movement. These sessions are suitable for therapeutic settings and regular practice.

### 3.2.3 Extended Sessions (45-90 Minutes)

Intensive protocols that have the potential to facilitate altered states of consciousness and profound somatic exploration. These sessions allow for deeper integration and emotional processing whilst maintaining focus on neuromuscular awareness. Contractions can be adjusted based on internal somatic feedback. As practitioners discover areas of excessive tension or inadequate activation, they can direct conscious attention to these regions or towards others, while maintaining the breath pattern.

## **3.3 Core Trauma-Informed Principles**

MiB operates under two core trauma-informed principles that distinguish it from traditional breathwork approaches:

### 3.3.1 Continuous Breath Connection

Disrupting breath-holding patterns (which are usually tied to whole-body movement patterns) prevents sympathetic arousal and facilitates vagal tone activation, mitigating autonomic dysregulation. Unlike some traditional pranayama practices that incorporate breath retention, MiB emphasises continuous flow to maintain regulatory capacity and avoid potential triggering of trauma responses.

### 3.3.2 Somatic Compassion

The practice encourages non-judgemental engagement with bodily sensations, breaking fear-avoidance cycles common in trauma-related disorders and fostering a sense of embodied safety. This approach fosters sensorimotor reorganisation, potentially helping release trauma-related muscular tension and autonomic hyperactivity through conscious neuromuscular engagement and proactive agency rather than passive release.

## **3.4 Assessment Capabilities**

MiB can provide immediate feedback regarding:

- Breath-holding patterns under stress.
- Muscle activation capabilities and limitations.
- Compensation patterns and asymmetries.
- Nervous system regulation capacity.
- Interoceptive awareness and embodied connection.

This real-time assessment capability distinguishes MiB from static evaluation methods, providing dynamic information about how individuals respond to stress and challenge whilst offering pathways for immediate intervention and regulation.

## **4. Clinical Applications**

### **4.1 Psychological Applications**

MiB offers evidence-informed benefits for various psychological conditions where autonomic dysregulation plays a significant role:

#### **4.1.1 Anxiety Disorders**

By enhancing parasympathetic activation through ITC engagement, MiB may help reduce sympathetic dominance and associated anxiety symptoms. The continuous, cyclical breathing patterns combined with ITC activation might help interrupt anxiety-related tension patterns associated with mouth breathing [26].

#### **4.1.2 Depression**

The active engagement of core musculature may counteract the postural collapse and psychomotor retardation often seen in depressive states, potentially influencing mood through bottom-up processing. Additionally, the increased interoceptive awareness fostered by MiB may help reconnect individuals with sensations of vitality and embodied presence [27].

#### **4.1.3 Trauma-Related Conditions**

For individuals with PTSD or complex trauma, MiB might provide a gentle pathway to reconnect with bodily sensations in a titrated manner, addressing somatic aspects of traumatic experience that may remain unresolved through cognitive approaches alone. While the theory that “trauma is stored in the body” remains hypothetical [17, 28], clinical observation suggests that somatic interventions can access emotions inaccessible to cognitive therapy. MiB provides a structured, ‘bottom-up’ approach to processing.

#### **4.1.4 Stress-Related Disorders**

The practice offers tools for autonomic regulation that may be beneficial in conditions characterised by allostatic load and chronic stress activation [29]. The balance between ITC and ETC activation may provide a practical means to modulate stress responses for anybody looking to optimise their health and wellness.

### **4.2 Physical Applications**

Beyond psychological benefits, MiB might address physical manifestations of dysregulation:

#### 4.2.1 Chronic Pain

By altering tension patterns in the torque chains, MiB may help interrupt pain-tension cycles and restore more balanced muscular activation. One clinical observation suggests that many conditions diagnosed as structural problems (such as femoroacetabular impingement syndrome) often respond to neuromuscular retraining that focuses on proper activation of the ITC, particularly the psoas major, producing immediate pain relief and functional improvement [8]. This aligns with Alfvén's model of psychomuscular tension in children, which demonstrated that generalised stress can lower local pain thresholds by inducing chronic muscle tension—a pattern MiB aims to detect and re-pattern before it becomes a self-reinforcing source of pain [30]. A small 2014 pilot study with 14 participants found slow-paced breathwork significantly reduced pain, stress, negative emotions and physical activity limitations in veterans with chronic pain, suggesting it may be an effective non-pharmacological intervention to complement standard chronic pain treatments [31]. Lastly, extended exhale breathing (used in MiB) has been shown to have an impact on reducing pain [32].

#### 4.2.2 Fatigue Conditions

For conditions like chronic fatigue syndrome, where autonomic dysregulation is often present, this approach may aid the return to physical activity with a subjectively guided approach that prevents excessive post-exertional malaise. Additionally, conditions with overlapping phenomena involving movement and the autonomic nervous system such as joint hypermobility, fibromyalgia and postural orthostatic tachycardia syndrome may respond to targeted torque chain training, a potentially fascinating avenue of future research.

#### 4.2.3 Functional Neurological Disorders

The emphasis on interoceptive awareness and neuromuscular precision may help address the disconnection between intention and movement seen in some functional disorders [33]. By providing clear somatic feedback through breathwork-movement coordination, individuals can potentially rebuild disrupted sensorimotor pathways.

### **4.3 Integration with Existing Therapeutic Approaches**

MiB serves as a complementary approach that can enhance traditional yoga therapy, physiotherapy and psychotherapy interventions. Rather than replacing existing modalities, it offers a framework for understanding how movement and breath interventions affect both physical and psychological functioning, potentially increasing the precision and effectiveness of current practices.

#### 4.3.1 Yoga Therapy Integration

Understanding torque chain dynamics can refine alignment cues and muscular engagement in traditional postures, particularly those involving core stability and dynamic movement. The continuous connected breath of MiB can complement traditional pranayama practices, offering an accessible entry point for those who find breath retention challenging or triggering.

#### 4.3.2 Somatic Psychotherapy

MiB provides specific protocols for potentially addressing the neuromuscular aspects of trauma while maintaining the safety and titration principles essential to trauma-informed practice.

#### 4.3.3 Clinical Settings

The accessibility and immediate feedback capabilities of MiB make it potentially suitable for integration into various healthcare settings, from primary care to rehabilitation facilities, requiring minimal equipment and offering contraindication-free application.

### **5. Implementation Guidelines**

#### **5.1 Practitioner Considerations**

For healthcare providers, yoga therapists and movement professionals integrating MiB into their practice:

##### 5.1.1 Assessment

Begin with observing the client's natural breathing pattern and postural tendencies, noting signs of torque chain imbalance such as chest-dominant breathing, collapsed posture, or excessive tension in the upper shoulders which may be bilateral or lateralised.

##### 5.1.2 Introduction

Start with simple awareness practices before progressing to more targeted activations, allowing clients to develop comfort with interoceptive sensing. Establish safety and explain the voluntary nature of all aspects of the practice.

##### 5.1.3 Progression

Gradually increase complexity by adding more specific muscle activations and eventually incorporating dynamic movement while maintaining breath-muscle coordination. Progress from foundational awareness to more sophisticated neuromuscular patterns based on individual capacity and therapeutic goals.

##### 5.1.4 Trauma-Sensitive Approach

Maintain awareness of potential trauma responses, offering options to modulate intensity and ensuring clients can self-regulate throughout the process. Emphasise client agency and choice in all aspects of the practice.

#### **5.2 Session Structure**

A typical MiB session might follow this structure:

#### 5.2.1 Orientation and Safety (5-10 Minutes)

Establishing presence, explaining the practice and creating a container for safe exploration. This includes assessment of current state and any contraindications or modifications needed.

#### 5.2.2 Breath Awareness (5-15 Minutes)

Introducing the connected breath pattern without muscle activation, allowing participants to establish the foundational breathing rhythm and assess baseline nervous system state.

#### 5.2.3 Primary Activation (10-20 Minutes)

Beginning engagement of core ITC muscles in coordination with breath, starting with simple awareness and progressing to more sustained activation patterns.

#### 5.2.4 Exploration and Integration (15-30 Minutes)

Exploring dynamic movement patterns while maintaining breath-muscle coordination, identifying areas of strength, weakness, or compensation patterns.

#### 5.2.5 Regulation and Closure (5-15 Minutes)

Gradual transition back to normal functioning with retained awareness, integration of insights and establishment of regulatory capacity for post-session stability. The duration and emphasis can be adjusted based on client needs, therapeutic context and practitioner experience.

### **5.3 Integration with Yoga Therapy**

For yoga practitioners and instructors specifically, MiB enhances traditional practices in several evidence-informed ways:

#### 5.3.1 Asana Enhancement

Understanding torque chain dynamics refines alignment cues and muscular engagement in traditional postures, allowing assessment of asana through the lens of effective muscle engagement rather than focusing solely on external alignment.

#### 5.3.2 Pranayama Connection

Again, the continuous connected breath of MiB complements traditional pranayama practices, offering an accessible entry point for those who find breath retention challenging or triggering. The MiB method is designed to be accessible for beginners and individuals with medical or physiological contraindications to breath retention.

### 5.3.3 Philosophical Alignment

The focus on embodied awareness and somatic integration aligns with yogic concepts of pratyahara (sensory withdrawal) and dharana (concentration), supporting the progression toward meditative states through body-based awareness.

### 5.3.4 Therapeutic Applications

For yoga therapists working with specific populations, the torque chain framework provides a physiological rationale for adapting practices to address particular imbalances or conditions whilst maintaining connection to traditional wisdom.

## 6. Future Research Directions

### 6.1 Empirical Validation Opportunities

Future investigation into MiB should focus on several key research directions to provide robust quantitative validation:

#### 6.1.1 Physiological Markers

Longitudinal studies measuring heart rate variability (HRV), electromyography (EMG) readings and relevant cellular metabolites in participants before and after structured MiB interventions to establish objective measures of efficacy.

#### 6.1.2 Standardised Assessment

Implementation of standardised assessment protocols and detailed case report templates across multiple practitioners to enable systematic documentation of interventions and outcomes in a comprehensive database.

#### 6.1.3 Mechanistic Investigations

Utilisation of advanced imaging techniques, such as fMRI or fMRS, to observe real-time changes in neural activity during specific muscular contractions within the torque chains, whilst measuring interoceptive accuracy using established protocols during muscular tension modulation. As suggested by recent research, EEG studies could investigate whether the specific combination of breath and ITC activation enhances brain-wide neural synchrony more effectively than breathwork alone [34, 35].

#### 6.1.4 Cross-Disciplinary Validation

Partnerships with breathwork practitioners, sports scientists, psychedelic researchers and mental health professionals to identify common physiological mechanisms and validate the torque chain model across different applications.

#### 6.1.5 Clinical Trials

Structured investigation of efficacy in specific conditions such as PTSD, anxiety disorders, chronic pain and conditions with overlapping movement and autonomic features like joint hypermobility and fibromyalgia.

#### 6.1.6 Comparative Studies

Examining differences in outcomes between MiB and traditional yoga practices, conventional psychotherapeutic interventions, or other somatic approaches to establish specific therapeutic advantages.

### **6.2 Training and Implementation Framework**

As MiB continues to develop, considerations for systematic training include:

#### 6.2.1 Standardised Protocols

Development of core practice sequences for specific populations or conditions, with clear guidelines for progression and adaptation based on individual needs and therapeutic goals.

#### 6.2.2 Integration Frameworks

Guidelines for incorporating MiB into existing yoga therapy, physiotherapy, or clinical practice settings, with particular attention to bridging traditional and contemporary approaches whilst maintaining safety and efficacy.

#### 6.2.3 Assessment Tools

Creation of observational and self-report measures specific to torque chain function and balance, allowing practitioners to track progress and refine interventions based on objective feedback.

#### 6.2.4 Practitioner Training

Development of structured training programmes that ensure competence in both the theoretical foundation and practical application of the torque chain framework, including trauma-informed principles and safety considerations. The challenge facing further work in this area is to avoid reductionist perspectives and fragmentation of the neuromuscular system from the rest of the body and brain.

## **7. Conclusions**

Currently, MiB is adopted by a small number of coaches and clinicians who anecdotally find it to be a helpful framework for working with clients and patients who are suffering in an accessible and safe way. We stress that this paper forms a conceptual framework from which anecdotal experience can be built upon and reinforced by empirical evidence. By developing the practice and gathering scientific data, it is hoped that MiB may become a valuable tool for integrative health practice, providing a novel framework that bridges traditional breathwork, movement therapy and clinical

assessment. By combining slow and controlled CCB with systematic muscle activation based on torque chain theory, MiB aims to provide immediate feedback about neuromuscular function whilst promoting nervous system regulation and embodied awareness.

The accessibility of MiB is key. Through quality coaching and proper application, our intention is to create a contraindication-free approach, developed to be helpful across diverse populations and settings, from trauma recovery to athletic performance optimisation. Its foundation in contemporary fascial research, neuromuscular science and trauma-informed practice provides credible theoretical grounding whilst maintaining practical applicability for both healthcare providers and movement professionals.

By considering the possibility that the neuromuscular system, and particularly the interplay between the ITC and ETC, might mediate physical, emotional and psychological health, we can deepen our understanding of how movement practices influence wellbeing. The torque chain framework provides a common language and potentially measurable phenomenon that can facilitate communication across traditionally disparate fields such as neuroscience, orthopaedics, sports medicine, somatic therapy and yoga therapy.

As healthcare increasingly recognises the importance of integrative approaches that address both psychological and physical aspects of healing, we believe MiB offers a valuable tool for practitioners seeking evidence-informed methods that honour the interconnection between breathing, movement and wellbeing. Through continued research, refinement and integration with existing practices, MiB may contribute significantly to the evolving field of movement-assisted psychotherapy and its applications for human health and resilience.

The integration of breathwork and movement assessment represents a natural evolution in our understanding of human function and healing. MiB offers a practical, accessible means of harnessing this integration for the benefit of individuals and communities seeking enhanced health, emotional regulation and somatic awareness. Ultimately, by recognising movement practices as the bridge between body and mind, we open the door to a new era of healing—one that transcends traditional boundaries and harnesses the full transformative power of the neuromuscular system to restore balance and resilience across innumerable aspects of human health.

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## **Author Contributions**

Conceptualisation, E.C., R.A.; writing—original draft preparation, E.C.; writing—review and editing, Y.L., R.A., G.W.F. All authors have read and agreed to the published version of the manuscript.

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## Competing Interests

R.A. is founder of Moved Academy and Movement Ayahuasca, two companies which teach and apply the concepts introduced in this paper. E.C. is a medical doctor, practicing movement specialist as well as an instructor at Moved Academy and facilitator at Movement Ayahuasca. G.W.F. is a qualified Breath Teacher with The Breath-Body-Mind Foundation, New York, and also provides advisory/consulting services along with speaking engagements.

## AI-Assisted Technologies Statement

Artificial intelligence (AI) tools were used solely for basic grammar correction and language refinement in the preparation of this manuscript. Specifically, OpenAI's ChatGPT was employed to improve the readability and linguistic clarity of the English text. All scientific content, data interpretation, and conclusions were developed independently by the author. The authors have thoroughly reviewed and edited the AI-assisted text to ensure its accuracy and accept full responsibility for the content of the manuscript.

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