



THERAPEUTIC RELEVANCE AND CLINICAL APPLICATIONS OF MYOFASCIAL INDUCTION THERAPY IN PHYSIOTHERAPY: A NARRATIVE REVIEW

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ABSTRACT:

This narrative review explores the effects of Myofascial Induction Therapy (MIT) on various musculoskeletal conditions, focusing on pain relief, range of motion, and functional outcomes. MIT has shown promising results in reducing pain sensitivity, improving mobility, and enhancing quality of life in patients with conditions such as chronic low back pain, breast cancer-related shoulder morbidity, and temporomandibular disorders. The review highlights the benefits of MIT in addressing myofascial dysfunction, including its ability to modulate pain without necessarily improving joint mobility in healthy individuals. Additionally, MIT demonstrates positive outcomes in improving cervical and shoulder ROM and reducing discomfort in survivors of head and neck cancer. These findings suggest that MIT could be

a valuable therapeutic intervention across various musculoskeletal disorders, supporting its integration into rehabilitation programs. Further research is needed to establish optimal treatment protocols and explore its long-term effects.

Keywords: Manual Therapy, Myofascial Pain Syndromes, Trigger Points, Trapezius Muscle, Range of motion, and Muscle stretching Exercises

INTRODUCTION

Myofascial Induction Therapy (MIT), a technique founded by Andrzej Pilat, has emerged as an innovative and effective manual approach aimed at restoring fascial dysfunctions that contribute to pain and restricted movement in various musculoskeletal conditions. This therapy primarily targets the myofascial system, which includes the fascia and surrounding tissues, to enhance tissue flexibility, reduce pain, and improve function. Over the years, MIT has been applied in a wide range of conditions, including chronic low back pain, temporomandibular disorders, post-surgical rehabilitation, and cancer survivorship. Despite its growing popularity, there remains a need to consolidate the existing evidence on its efficacy and clinical applicability across diverse patient populations. This narrative review aims to explore the therapeutic benefits of MIT, focusing on its impact on pain sensitivity, range of motion, and overall functional outcomes. By reviewing the latest studies and clinical trials, this review seeks to provide a comprehensive understanding of MIT's role in musculoskeletal rehabilitation and its potential as a complementary treatment in physiotherapy practice ^[1].

1) IMPACT OF MYOFASCIAL INDUCTION THERAPY ON LATENT TRIGGER POINTS AND PAIN SENSITIVITY

Myofascial Induction Therapy (MIT) has been shown to produce beneficial effects in various populations, such as improving shoulder range of motion (ROM) in breast cancer survivors and decreasing pain pressure threshold (PPT) over the radial nerve in individuals with epicondylalgia. However, the application of MIT on myofascial trigger points, particularly latent trigger points, remains underexplored. A clinical trial investigated the immediate effects of MIT on latent trigger points in the gastrocnemius muscle among 20 healthy twin participants. The study employed a pre-post design, measuring PPT and ankle dorsiflexion ROM with the knee both flexed and extended. Results demonstrated a statistically significant improvement in PPT ($p = 0.001$), indicating reduced sensitivity at the trigger point. However, no significant changes were observed in ankle dorsiflexion ROM, either with

the knee bent ($p = 0.420$) or extended ($p = 0.069$). These findings suggest that while MIT may be effective in reducing local sensitivity of latent trigger points, it does not produce immediate improvements in joint mobility in healthy individuals without existing range restrictions. This highlights the potential of MIT as a pain-modulating intervention, rather than a mobility-enhancing technique in populations without functional limitations. This indicates that MIT can be a valuable therapeutic option for reducing pain sensitivity in patients with myofascial dysfunction. Its use may enhance patient comfort, facilitate movement, and support further rehabilitation efforts when integrated with functional training [2].

2) MYOFASCIAL INDUCTION THERAPY IN CHRONIC LOW BACK PAIN

Chronic low back pain (CLBP) is a prevalent and disabling condition that significantly impacts individuals' quality of life, work capacity, and overall well-being. A recent study investigated the comparative effects of Myofascial Induction Therapy (MIT) and Pain Neuroscience Education (PNE) on pain, function, and quality of life in patients with CLBP. Forty patients were randomly assigned to receive either MIT or PNE over an 8-week period, with outcome measures including the Fear-Avoidance Beliefs Questionnaire (FABQ), Roland Morris Disability Questionnaire, McGill Pain Questionnaire, Finger Floor Test, SF-36 Quality of Life Questionnaire, and thoracolumbar fascia ultrasound imaging. Both groups showed significant improvements across all outcome measures ($p < 0.05$). However, the MIT group demonstrated greater improvements in physical function, mental health, and trunk mobility (as seen in the finger floor test), while the PNE group showed greater reduction in fear-avoidance beliefs. These findings suggest that although both interventions are effective, MIT may be more beneficial in enhancing physical mobility and overall quality of life in individuals with CLBP. The study supports the use of MIT as a hands-on therapeutic approach that reduces pain and restores functional movement, making it a valuable addition to the management strategies for CLBP [3].

3) MYOFASCIAL INDUCTION TECHNIQUE ON PLANTAR PRESSURE DISTRIBUTION

The fascial system consists of mechanoreceptors and cells, such as myofibroblasts, that regulate tension and an extracellular matrix. Myofascial Induction Technique (MIT) has been shown to have therapeutic effects on the fascial system, yet studies comparing its effectiveness to a control intervention are limited. A single-blind, randomized clinical trial aimed to investigate the effects of MIT, compared to a simulated laser treatment, on plantar footprint variables in asymptomatic subjects. Thirty-six healthy participants

were randomly assigned to either the experimental group, which received bilateral plantar fascia MIT, or the control group, which received the simulated laser intervention. Both techniques were applied for 5 minutes. The recorded variables included surface area, mean pressure, and maximum pressure in the rearfoot, midfoot, and forefoot regions. Results revealed a significant increase in the forefoot surface area in the experimental group ($p = 0.026$), indicating that MIT had a notable effect on the plantar footprint compared to the simulated laser. This study suggests that MIT can positively influence foot function by altering plantar pressure distribution, particularly in the forefoot, making it a valuable tool in therapeutic interventions for foot-related conditions. The benefits of this finding include potential improvements in weight distribution across the foot, enhanced foot mobility, and a reduction in discomfort associated with abnormal pressure patterns. MIT can be particularly useful in addressing musculoskeletal foot issues, contributing to overall better functional outcomes and injury prevention [4].

4) MYOFASCIAL INDUCTION ON JOINT AMPLITUDE IN PEOPLE WITH AXIAL SPONDYLOARTHRITIS

Axial spondylarthritis (AxSpA) is a chronic inflammatory condition that causes structural changes, leading to alterations in body function. The soft tissue, especially the fascia, plays a significant role in the progression of the disease, though little is known about the effects of myofascial induction in affected individuals. This randomized controlled clinical trial aims to evaluate the efficacy of myofascial induction compared to its simulation on joint amplitude in people with the condition. In the study, 84 participants diagnosed with AxSpA will be randomly assigned to either the experimental group, which will receive myofascial induction, or the control group, which will undergo a simulated treatment. Both groups will receive six intervention sessions twice a week for three weeks, with assessments conducted at baseline, immediately post-intervention, and four weeks later. The study's findings may provide a better understanding of how myofascial induction affects joint mobility. The potential benefits of this study include improving joint range of motion, reducing stiffness, enhancing mobility, and potentially offering a novel physiotherapeutic strategy for better managing symptoms and improving overall quality of life [5].

5) MYOFASCIAL INDUCTION THERAPY ON CERVICAL MOBILITY AND PRESSURE PAIN THRESHOLD IN HEALTHY SUBJECTS

The purpose of this study was to investigate whether the application of myofascial induction therapy (MIT) targeted at the cervical region could result in changes in cervical range of motion and pressure pain thresholds (PPT) in asymptomatic subjects. Thirty-five participants, aged 21 ± 4 years, without any current neck, shoulder, or arm pain, were randomly divided into two groups: the experimental group, which received the real myofascial induction therapy, and the control group, which received a sham-manual procedure. PPT levels over the C5-C6 zygapophyseal joints and tibialis anterior muscles, as well as neck mobility, were assessed before and 5 minutes after the intervention. The results showed significant improvements in cervical flexion, extension, and left lateral-flexion in the experimental group compared to the control group ($p < 0.05$), with no significant changes observed in other motions, such as rotation or PPT levels. These findings suggest that myofascial induction therapy can enhance cervical mobility, particularly in flexion and lateral-flexion, in healthy individuals. However, it did not affect local or distant pressure pain thresholds. The benefits of this study include providing evidence that myofascial induction therapy can be effective in improving cervical mobility, which may be useful in the management of conditions involving restricted neck movement ^[6].

6) MYOFASCIAL INDUCTION IN TEMPOROMANDIBULAR DISORDER MANAGEMENT

This randomized controlled trial aimed to evaluate the effects of adding myofascial induction to a multimodal protocol for individuals with temporomandibular disorders (TMD). Sixty participants with restricted mandibular condyle and cervical vertebrae mobility were randomly assigned to either the control group (CG), receiving neuromuscular techniques and hamstring stretching, or the experimental group (EG), which also received suboccipital muscle inhibition. Primary outcomes measured vertical mouth opening and masseter pressure pain threshold, while secondary outcomes included orofacial mechanosensitivity, suboccipital range of motion, and lumbar flexibility. The EG showed significant improvements in suboccipital flexion ($p < 0.001$) and lumbar flexibility ($p = 0.009$), while no significant differences were found between groups for mouth opening or other secondary measures. These findings suggest that while myofascial induction improved suboccipital and lumbar mobility, it had no significant impact on mouth opening or orofacial sensitivity. This study highlights the potential benefits of

combining local and distal techniques in TMD treatment, although further research is needed to explore its broader effects [7].

7) EFFECTS OF MYOFASCIAL INDUCTION IN TEMPOROMANDIBULAR DISORDER MANAGEMENT

This pilot study aimed to evaluate the effects of Myofascial Induction Therapy (MIT) on post-caesarean section (C-section) scars that were more than one and a half years old. MIT is a manual technique applied in physiotherapy to restore altered fascial tissue, which can become dysfunctional due to scars or injuries. The study focused on healthy individuals without any underlying pathology affecting the healing process. Over eight weekly sessions, MIT was applied to ten participants, with assessments conducted on both deep and superficial scar tissue. Ultrasound imaging revealed changes at the deep tissue level, while measurements of the scar fold indicated superficial improvements. Functional outcomes were evaluated using Schober's Test, and quality of life was assessed through a patient-specific questionnaire. The results suggest that MIT could offer beneficial changes in scar tissue structure and functional improvement, providing a foundation for future research in this area [8].

8) IMPACT OF MYOFASCIAL INDUCTION THERAPY ON PAIN AND FUNCTION IN HEAD AND NECK CANCER SURVIVORS

This study aimed to evaluate the efficacy of Myofascial Induction Therapy (MIT) in improving cervical and shoulder pain, range of motion, maximum mouth opening, and cervical muscle function in survivors of head and neck cancer (HNC). In this single-blind, placebo-controlled, randomized crossover study, 22 HNC survivors (average age 56.55) received a 30-minute session of MIT, which involved manual unwinding, and a placebo session using simulated pulsed shortwave therapy, with a 4-week washout interval between treatments. Key outcome measures, including cervical and shoulder pain (visual analogue scale), cervical range of motion (measured with a cervical range of motion device and goniometer), maximum mouth opening (measured with a digital caliper), and cervical muscle function (deep cervical flexor endurance test), were assessed before and after both sessions. Results revealed that a single session of MIT significantly improved cervical pain, affected-side shoulder pain, cervical range of motion, maximum mouth opening, and cervical muscle function, with effect sizes ranging from moderate to large. This suggests that MIT, in the form of manual unwinding, can provide significant therapeutic benefits in reducing pain and improving mobility and function in HNC survivors [9].

9) EFFECT OF MYOFASCIAL INDUCTION THERAPY ON NECK-SHOULDER PAIN IN BREAST CANCER SURVIVORS

This study aimed to investigate the immediate effects of myofascial induction (MI) on perceived pain, cervical and shoulder range of motion (ROM), and mood state in breast cancer survivors (BCSs) with shoulder and arm morbidity. The study utilized a randomized, single-blind, placebo-controlled crossover design with 21 BCSs who had completed adjuvant therapy for breast cancer. Participants received either MI, focusing on fascial unwinding of the upper limb, or placebo pulsed shortwave therapy. Each session lasted 30 minutes, with a 4-week wash-out period between sessions. The main outcome measures included the Visual Analogue Scale (VAS) for pain and anxiety, shoulder-cervical goniometry for ROM, the Profile of Mood States (POMS) for psychological distress, and the Attitudes Towards Massage (ATOM) Scale. The results showed significant time \times group interactions for pain in the affected arm, with MI leading to reduced pain intensity. MI also demonstrated significant improvements in affected shoulder ROM, including flexion, abduction, external rotation, and internal rotation, as well as cervical rotation and lateral flexion. Additionally, a negative correlation was found between changes in pain intensity and improvements in shoulder/arm internal rotation ROM. The study concluded that a single session of MI was more effective than placebo electrotherapy in reducing pain intensity and improving neck-shoulder ROM in BCSs, suggesting MI as a promising intervention for this population. The benefits of MI in this study include significant pain reduction, improved mobility, and better quality of life for BCSs suffering from shoulder and cervical restrictions, thus enhancing functional rehabilitation and overall well-being in post-cancer care ^[10].

CLINICAL IMPLICATIONS

This study highlights Myofascial Induction Therapy (MIT) as an effective intervention for reducing pain and improving mobility in various musculoskeletal conditions. Its integration into physiotherapy can enhance pain management and functional recovery, particularly in chronic pain, post-surgical rehabilitation, and conditions like temporomandibular disorders. MIT's role in addressing fascial restrictions can be beneficial in optimizing patient outcomes when combined with conventional therapies. Further research is needed to establish long-term benefits and refine clinical application.

CONCLUSION

In conclusion, Myofascial Induction Therapy (MIT), founded by Andrzej Pilat, demonstrates promising therapeutic benefits in a variety of clinical settings. The reviewed studies highlight its effectiveness in reducing pain, improving range of motion, and enhancing functional outcomes across diverse populations, including individuals with chronic low back pain, temporomandibular disorders, post-surgical scars, and breast cancer survivors. MIT's ability to modulate pain sensitivity, restore mobility, and improve quality of life positions it as a valuable tool in physiotherapy. However, while the evidence supports its efficacy, further research with larger sample sizes and standardized protocols is needed to fully understand its long-term effects and optimal clinical applications. As a hands-on therapeutic intervention, MIT offers a promising approach for addressing myofascial dysfunction and improving musculoskeletal health, warranting its integration into comprehensive rehabilitation strategies.

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