Evaluating the effects of The Jing Method™ on women with temporomandibular joint pain

Lucie Ellis-Jennings

March 2026

A dissertation submitted in partial fulfilment of the requirements of The Jing Institute of Massage & Complementary Medicine, for the Professional Diploma in Advanced Clinical Massage and Sports Massage BTEC Level 6.

Total word count: 4367

"I certify that this work has not been accepted in substance for any degree, and is not concurrently being submitted for any degree other than that of the Diploma in Advanced Clinical Massage and Sports Massage being studied at The Jing Institute of Massage & Complementary Medicine. I also declare that this work is the result of my own investigations except where otherwise identified by references and that I have not plagiarised the work of others"

Lucie Ellis-Jennings

Date: 9th March 2026

Your Nurturing Touch

MASSAGE THERAPY

Acknowledgments

I would like to begin by expressing my deepest gratitude to my husband, Steve, for his unwavering support throughout this degree. Thank you for believing in me, for your constant encouragement, and for taking endless days of annual leave to look after the children every time I travelled to Brighton. Your practical support, patience and faith in me made this journey possible, even during the moments when I doubted myself.

I would also like to thank my children for their patience and understanding while I was studying. Thank you for accepting the times when my attention was divided, and for supporting me with such quiet resilience. You are my motivation in more ways than you know.

Finally, I would like to thank the Jing family, who truly feel like a second family to me. In particular, I am deeply grateful to Rachel, Meg, Susan, Abi and Derek for their exceptional teaching, guidance and continued support throughout this journey.

I am also immensely grateful for my wonderful cohort of fellow students. The friendships formed, the shared learning, and the many happy memories created along the way have been one of the most meaningful parts of this experience. I feel incredibly fortunate to have been part of such a supportive, inspiring and compassionate community, and I complete this work full of gratitude.

YOU ARE ENOUGH

If you are reading this and wondering
whether you belong here or not,
whether you are capable, calm enough, brave enough,
please pause. You already are.
This path will ask you to learn with your head,
to question, reflect and think deeply.
It will ask you to work with your hands,
to trust what you feel beneath the skin.
And it will ask you to lead with your heart,
with compassion, curiosity and care.
Even on the days confidence feels distant,
your presence will still be enough.
Learning does not always arrive neatly.
Sometimes it comes between school runs,
late nights, tired mornings and quiet doubt,
alongside children who watch you try again.
They will learn from you as you learn here,
what courage, care and commitment look like.
By showing up, imperfect and willing,
you teach more than you realise.
This work was written with gratitude in my bones,
for those who held me steady along the way.

Jing is not just a place of learning,

it is a place of becoming.

And if you are walking this path after me,

know this without hesitation or doubt:

there is space for you here, exactly as you are,

you are enough.

Abstract

Background

The aim of this study was to evaluate the effects of The Jing Method™ on women with temporomandibular joint (TMJ) pain. Temporomandibular disorder (TMD) is a prevalent and often chronic condition associated with pain, functional limitation and reduced quality of life. TMJ pain is increasingly understood as multifactorial and best approached through a biopsychosocial framework rather than a purely biomechanical model. The Jing Method™ of Advanced Clinical Massage incorporates the HFMAST approach (Heat, Fascia, Muscles, Acupressure, Stretching and Teaching self-care) and seeks to address both tissue-based dysfunction and nervous system regulation.

Method

This small-scale within-subjects study followed eight women with chronic TMJ symptoms over a 16-week period, comprising a six-week control phase, a six-week intervention phase and a four-week follow-up. During the intervention phase, participants received three in-person Jing Method™ clinical massage treatments alongside guided home-based self-care delivered via pre-recorded videos. TMJ symptom frequency was measured weekly using the TMJ-7 questionnaire, with an additional numerical rating scale (0–10) used to capture pain intensity.

Results and Conclusion

Mean symptom frequency decreased by 42.63% and pain intensity decreased by 34.82% from baseline (mean score across weeks 1-6) to follow-up, with the largest reduction observed in ear pain or pressure (69.52%). The composite score combining pain intensity and frequency was reduced by 42.90%.

These findings provide preliminary evidence that a blended Jing Method™ approach may be effective in reducing TMJ-related pain and symptoms in women. As a small-scale study, the results should be interpreted cautiously.

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Abbreviations

Abbreviation	Full term
BPS	Biopsychosocial (model)
CNS	Central Nervous System
CS	Central Sensitisation
HFMAST	Heat, Fascia, Muscles, Acupressure, Stretching, and Teaching (self-care)
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NSAIDs	Nonsteroidal Anti-Inflammatory Drugs
TMD	Temporomandibular Disorders
TMD-7	Temporomandibular Disorder-7 questionnaire
TMJ	Temporomandibular Joint

Literature Review

Epidemiology and Impact of Temporomandibular Disorders (TMD)

TMD's are musculoskeletal conditions affecting the temporomandibular joint (TMJ), masticatory muscles, and associated structures. They are characterised by pain, restricted jaw movement, and difficulties with everyday jaw function (Ghurye and McMillan, 2017; NHS, 2023). Large meta-analyses estimate the prevalence of TMD to be between 29% and 34% of the global population (Alqutaibi et al., 2025; Valesan et al., 2021; Zieliński et al., 2024). Research consistently identifies TMD as a significant public health concern (Li and Leung, 2021; Maixner et al., 2011; Slade et al., 2016). The broader impact of TMD is reflected in findings that individuals diagnosed in hospital settings are 2–3 times more likely to rely on social benefits than the general population (Salinas Fredricson et al., 2022).

Women are up to twice as likely as males to experience symptoms (Bueno et al., 2018; Ferreira et al., 2016). Research suggests this disparity reflects a combination of hormonal and psychosocial factors, including altered oestrogen sensitivity and stress-related pain responses (Kapos et al., 2020; Khan et al., 2024; Turner et al., 2011). Psychological variables also appear influential, Häggman-Henrikson et al. (2020) found higher levels of pain catastrophising and anxiety among people with TMD compared with pain-free controls, suggesting an interaction between emotional distress and pain amplification.

Socioeconomic context is another determinant of outcomes. People living in deprived areas experience longer delays in diagnosis and reduced access to dental and musculoskeletal services, compounding the burden of chronic pain and reinforcing existing health inequalities (NHS, 2025; Williams et al., 2022). These disparities underscore the need for accessible, person-centred interventions that promote self-management rather than reliance on purely biomedical treatment models.

Clinically, TMD presents with a diverse symptom profile (Maini and Dua, 2025), a wide range of pain-related, functional and associated symptoms, which vary considerably between individuals (see Table 1).

Table 1. Commonly reported symptoms of TMD.

Symptom category	**Commonly reported symptoms**
Pain-related symptoms	Jaw pain, facial pain, pain in the temple region, ear pain, headaches
Functional symptoms	Pain or difficulty when chewing, restricted mouth opening, jaw locking or deviation
Muscular symptoms	Jaw stiffness, muscle tenderness, neck and shoulder pain
Joint-related symptoms	Clicking, popping or grinding noises in the temporomandibular joint
Associated symptoms	Bruxism (clenching or grinding), tinnitus, dizziness, disturbed sleep

Such symptoms can have psychosocial consequences. Durham et al. (2016) observed that pain and functional limitation often interfere with eating, sleep, and social interaction, leading to reduced quality of life. Supporting this, a national survey by Slade and Durham (2020) reported that one in six adults with orofacial pain experienced chronic symptoms, and a significant proportion withdrew from social or professional activities.

Qualitative findings suggest that TMD is rarely experienced as an isolated jaw condition. Patients frequently describe persistent muscular tension associated with stress or bruxism, and feelings of self-consciousness related to jaw clicking or limited opening mirror this association between physical discomfort and emotional distress (Durham et al., 2016).

These patterns align with Engel's biopsychosocial (BPS) model of health (Engel, 1977), which recognises that biological, psychological, and social factors interact dynamically to influence pain experience. This supports the use of holistic, multimodal approaches that extend beyond structural correction alone.

Conventional Management Approaches

Conventional management of TMD encompasses occlusal splints, pharmacological therapy, physiotherapy, intra-articular injections, and, in severe cases, surgery. Although these modalities remain common, the evidence for their long-term effectiveness is inconsistent.

Occlusal splints, for example, are routinely prescribed to reduce bruxism and protect dental structures. However, systematic reviews have reported variable outcomes (Albagieh et al., 2023). Durham et al. (2016) similarly noted that splints often fail to address the multifactorial nature of TMD, particularly where psychosocial stressors or central sensitisation (CS) contribute to ongoing symptoms.

Pharmacological treatments such as nonsteroidal anti-inflammatory drugs (NSAIDs) and muscle relaxants may provide short-term analgesia but can produce systemic side effects and do not address underlying BPS drivers of pain (Durham et al., 2016). Corticosteroid and botulinum toxin injections have been used to reduce inflammation or muscle hyperactivity, yet their efficacy remains uncertain, with reported improvements often short-term and limited by short follow-up periods and variable methodological quality (Moldez et al., 2018; Thambar et al., 2020).

Surgical procedures, including arthroscopy and open joint surgery, are typically reserved for severe structural pathology. Even in these cases,

outcomes are unpredictable. Al-Moraissi et al. (2017) found that orthognathic surgery alleviated symptoms for some patients but induced new complications for others, emphasising the risk-benefit ambiguity associated with invasive intervention.

Reflecting this mixed evidence base, the National Institute for Health and Care Excellence (NICE) (2024) advocates a conservative, stepwise approach beginning with reassurance, lifestyle modification, self-management strategies, and short-term analgesia, progressing to more invasive interventions only if necessary. Crucially, NICE highlights the importance of a BPS framework that recognises the influence of stress, anxiety, and behavioural habits on symptom persistence. A recent review concluded that “the best way to treat chronic TMD pain is to combine medicine and non-medicine treatments, designed to meet each person’s physical and emotional needs” (Jogna et al., 2025).

These limitations have contributed to a shift towards multimodal, patient-centred models of care. Increasing evidence supports physiotherapy, self-management education, and manual therapy as safe and sustainable first-line options that can address both mechanical and psychosocial dimensions of pain (Durham et al., 2016; Kapos et al., 2020). Collectively, this evidence suggests that future research and clinical practice should focus on integrative approaches capable of addressing the complexity of TMD.

Central Sensitisation and Pain Science

Recent advances in pain science emphasise the role of CS in the persistence of TMD and other chronic musculoskeletal conditions. CS refers to a state of heightened responsiveness of the central nervous system (CNS) to sensory input, resulting in pain amplification even in the absence of ongoing tissue damage (Latremoliere and Woolf, 2009; Woolf, 2011). Neurophysiological studies have demonstrated that sustained nociceptive input can lead to long-term changes in dorsal horn excitability (Ferrillo et al., 2022). Nijs et al., (2011) emphasises the importance of educating patients about CS in the treatment of chronic musculoskeletal pain.

Evidence suggests that individuals with TMD frequently exhibit lowered pressure-pain thresholds, widespread hyperalgesia, and comorbid chronic pain conditions such as fibromyalgia and tension-type headaches (Fillingim et al., 2011; Slade et al., 2016). These findings indicate that TMD should not be viewed merely as a local disorder of the jaw or masticatory muscles but rather as a manifestation of altered central pain processing.

Understanding the contribution of CS has important implications for clinical management. Interventions focused solely on biomechanical correction are unlikely to provide sustained benefit if central mechanisms remain unaddressed. Instead, effective treatment requires multimodal approaches that combine manual therapy with interventions aimed at modulating the nervous system, such as stress management, relaxation

training, and patient education (Nijs et al., 2011; Shi and Wu, 2023). Malfliet et al. (2025) demonstrated that integrating pain neuroscience education with graded physical activity can reduce disability and catastrophising in chronic pain populations, supporting the relevance of these strategies for TMD.

Pain-education interventions have been shown to decrease maladaptive illness beliefs and enhance engagement with self-care, providing a theoretical basis for the Teaching Self-Care component of the Heat, Fascia, Muscles, Acupressure, Stretching, and Teaching (HFMAST) framework within The Jing Method™ (Nijs et al., 2011). While existing evidence supports the use of such BPS strategies, more rigorous longitudinal research is required to determine their specific effects on TMD and to clarify how CS interacts with peripheral dysfunction over time.

Clinical observations reported in the literature indicate that people with chronic TMD frequently describe pain patterns extending beyond the jaw, often accompanied by fatigue, sleep disturbance, and emotional distress (Fillingim et al., 2011). These symptom profiles align with the concept of CS and reinforce the need for therapeutic models that address both tissue-based dysfunction and the neurophysiological processes underlying chronic pain.

The Biopsychosocial Model and The Jing Method™

Traditional biomedical models of pain have focused on structural or mechanical causes, such as joint misalignment or muscle dysfunction. These approaches have been criticised for oversimplifying complex chronic conditions such as TMD and for failing to account for the role of psychosocial factors in pain persistence (Suvinen et al., 2005; van der Meer et al., 2023).

Engel's BPS model reframed pain as a multidimensional experience shaped by biological, psychological, and social influences (Engel, 1977). Biological factors include tissue pathology and physiological processes that may contribute to nociception. Psychological and social factors include emotions, beliefs, coping behaviours, and environmental influences that can shape how pain is perceived, experienced, and maintained.

This perspective is now the dominant framework for understanding and managing chronic pain (Gatchel et al., 2007; Kapos et al., 2020), as illustrated in Figure 1.

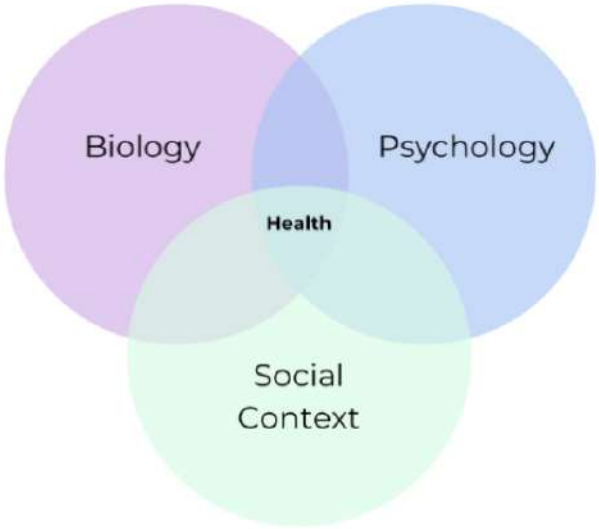

Figure 1. The biopsychosocial model sees health as a function of biological, psychological, and social factors

The relevance of the BPS model to TMD is well supported. Afari et al. (2014) demonstrated that psychological trauma and stress can contribute to chronic pain syndromes, while Ismail et al. (2016) linked anxiety and depression to poorer outcomes in people with TMD. More recent studies by Iodice et al. (2024) and Pinheiro et al. (2024) show that women with TMD experience higher levels of psychosocial distress, correlating with increased pain intensity and disability. Systematic reviews further confirm that stress, anxiety, and depression exacerbate myofascial symptoms and contribute to chronicity (Dere, 2024; Saini et al., 2025; Santos et al., 2022).

There is a growing number of studies that demonstrate The Jing Method™ is an effective treatment for depression, anxiety and stress (Aherin, 2023; Birch, 2024; Brown, 2025; Jarrett, 2024; Martinez-Perez, 2023; Meyrick, 2017; O'Flynn, 2024; Quayle, 2023). Collectively, these findings reinforce the value

of BPS approaches that address both physical and emotional dimensions of pain, consistent with current guidance from NICE (2024).

The Jing Method™ of Advanced Clinical Massage directly applies the principles of the BPS model through a multimodal framework combining manual therapy, movement, education, and self-care. Developed by Fairweather and Mari (2015, p. 6), the HFMAST model (Heat, Fascial techniques, Muscle work, Acupressure, Stretching & Teaching Selfcare) provides a structured yet adaptable framework for addressing the biological, psychological, and behavioural components of pain (see Table 2).

Table 2. The HFMAST model of the Jing Method™ mapped to biopsychosocial mechanisms of pain management.

HFMAST Element	Primary Therapeutic Focus	Biopsychosocial Relevance
Heat	Preparation of tissues; reduction of muscle tone and guarding	Biological: reduces sympathetic nervous system activity and pain sensitivity; Psychological: promotes relaxation and safety
Fascial techniques	Sustained fascial loading and release to improve tissue glide	Biological: addresses myofascial restriction and nociceptive input; Psychological: slow touch supports parasympathetic regulation
Muscle work (including trigger point therapy)	Reduction of hypertonicity and myofascial trigger point activity	Biological: decreases local pain drivers and referred pain; Behavioural: improves movement confidence
Acupressure	Stimulation of neurovascular and neuromodulatory points	Biological: modulates pain through neurophysiological mechanisms; Psychological: supports calming and body awareness
Stretching	Restoration of length, mobility, and functional movement	Biological: improves range of motion; Behavioural: encourages active participation in recovery
Teaching self-care	Education, self-management, and empowerment	Psychological and behavioural: enhances self-efficacy, reduces fear, supports long-term symptom management

This structured yet adaptable model allows practitioners to address the physiological, psychological, and behavioural factors underpinning pain, treating both local dysfunction and systemic stress responses simultaneously.

Person-centred care has been shown to enhance self-efficacy, improve outcomes, and strengthen therapeutic relationships by promoting shared

decision-making and empowerment (Lebert et al., 2022). This evidence aligns with the Jing Method's™ emphasis on client education and therapeutic alliance. La Touche et al. (2020) demonstrated that cervical spine manual therapy significantly reduced pain and improved mouth opening in patients with myofascial TMD, supporting the inclusion of cervical and shoulder work within this multimodal protocol. Similarly, Pimentel, Bonotto and Hilgenberg-Sydney (2018) found that self-management interventions, particularly when accompanied by education, improved function and reduced pain intensity.

The influence of the therapeutic relationship is particularly relevant to chronic pain management. Studies show that a strong alliance between client and practitioner characterised by collaboration, trust, and shared understanding predicts better clinical outcomes in musculoskeletal pain populations (Gillingham, 2017; Kinney et al., 2020; Lakke and Meerman, 2016; Unsgaard-Tøndel and Søderstrøm, 2021).

Preliminary evidence suggests that applying The Jing Method™ to TMD can yield clinically meaningful reductions in pain and improvements in jaw function (Lindsay, 2023; Schaay, 2024; Gompertz, 2025; Clarke, 2024; Davies, 2025). However, the existing literature remains limited by small sample sizes, short-term follow-ups, and methodological heterogeneity. For instance, some studies have evaluated fully hands-on clinical interventions, whereas others have employed online-only or blended self-care delivery

models. While this reflects the adaptability of The Jing Method™ in clinical practice, it complicates direct comparison and makes it difficult to isolate which components contribute most significantly to outcomes.

Collectively, the evidence indicates that multimodal, person-centred interventions offer promise for managing the complex interplay of physical and psychosocial factors in TMD. The HFMAST framework provides a structured method for integrating manual therapy with education and self-care, an approach that supports patient autonomy and may promote longer-term outcomes. This rationale underpins the current research project, which seeks to evaluate the effectiveness of a blended Jing Method™ intervention combining hands-on treatment with guided self-care for women with TMD.

Method

Ethical Considerations

Ethical approval was granted by the Jing Institute of Massage and Complementary Medicine (Appendix A4). Data was handled in accordance with UK GDPR and the Data Protection Act 2018. Participants were assigned numerical codes to protect confidentiality and were free to withdraw at any time prior to data anonymisation without providing a reason. No adverse events were reported during the study.

Recruitment

Participants were recruited through social media, the researchers email list and website. Posters were also displayed in local GP and dental practices with permission (see Appendix A1).

Individuals who expressed interest were sent the participant information letter (Appendix A2) and invited to attend a short video consultation to confirm eligibility, answer questions and ensure informed participation prior to enrolment. All participants were given the opportunity to ask further questions before providing written informed consent (Appendix A3).

Setting

All hands-on treatments took place in the researcher's own clinic in Orpington, Kent. The weekly questionnaires and self-care videos were completed at home using participants' own devices via Google Forms and online video links.

Participants

Eight women aged 25-65 took part in the study. All participants met the inclusion criteria of experiencing TMJ-related pain for at least three months and reported at least one pain and one non-pain symptom related to the jaw. They also needed to be able to attend three in-person treatment sessions, complete three self-care video sessions and fill in weekly online questionnaires for the full sixteen-week duration. No participants were existing clients, and no one withdrew from the study.

Study Design

This research adopted a within-subjects design over a 16-week period, consisting of a six-week control phase, a six-week intervention phase, and a follow-up four weeks later. The design was selected to enable each participant to act as her own control, thereby reducing the effect of inter-individual variability and allowing clearer observation of change over time. The study evaluated the effects of The Jing Method™ of Advanced Clinical

Massage, delivered through a blended model that combined hands-on treatments with guided self-care.

Table 3. Summary of Study Phases and weekly activities

Phase	Weeks	Description
Control (Baseline)	Weeks 1–6	No TMJ treatment delivered. Weekly TMD-7 symptom frequency and pain intensity scores collected to establish a stable baseline prior to intervention.
Intervention	Weeks 7–12	Six-week blended intervention combining hands-on clinical treatments and structured self-care exercises. Hands-on sessions took place in Weeks 7, 9 and 11. In Weeks 8, 10 and 12, the participant completed guided home-care exercises delivered via pre-recorded video. TMD-7 symptom frequency and pain intensity scores were collected weekly.
Follow-up	Week 16	No treatment administered. TMD-7 symptom frequency and pain intensity data collected four weeks post-intervention to assess maintenance of treatment effects.

Intervention

Participants received in-person massage treatments in Weeks 7, 9 and 11. The first session lasted ninety minutes and included a consultation, TMJ assessment and treatment. The follow-up sessions in Weeks 9 and 11 were fifty-five minutes each. Treatments followed The Jing Method™ TMJ protocol, including heat application, fascial work, deep tissue and trigger point techniques to the neck and shoulders, acupressure around the jaw and ears and stretching for the neck and upper shoulders. Self-care strategies were also introduced and reinforced during each session.

During Weeks 8, 10 and 12, participants were given access to a pre-recorded self-care video lasting approximately five to ten minutes. The routine was introduced in Week 7 and participants were encouraged to complete it at least three times per week throughout the intervention phase, recording adherence on their weekly questionnaire. The videos included heat, gentle myofascial and self-massage techniques, acupressure with breathwork and simple stretches for the jaw, neck and shoulders.

Outcome Measures

Two outcome measures were used in this study. The main measure was the TMD-7 questionnaire (see Appendix B1), which records the weekly frequency of seven TMD related symptoms. The TMD-7 was selected as the primary outcome measure due to its use in previous Jing Method™ research assessing symptom frequency in TMDs, allowing the findings of the present study to build directly on existing evidence and support comparison across studies.

Each item is scored on a 0–3 Likert scale, where higher scores indicate more frequent symptom occurrence. Total weekly scores range from 0–21.

A 0–10 Numeric Rating Scale (NRS) for overall pain intensity was added to capture pain levels. Participants completed both measures once a week during the control and intervention phases (Weeks 1–12), and again at follow-up in Week 16 via Google Forms.

Procedure

After the video consultation and consent process, participants began the six-week control phase (Weeks 1–6), which served as the baseline measurement period. During this time, they completed the TMD-7 and pain intensity ratings once per week, on the same day each week, without receiving treatment.

From Week 7, participants entered the intervention phase. This consisted of three in-person treatments (Weeks 7, 9 and 11) alongside guided home-based self-care introduced in Week 7 and supported through pre-recorded videos in Weeks 8, 10 and 12. Weekly questionnaires continued throughout the intervention phase, with reminders sent where needed to support consistency.

At Week 16, four weeks after the final treatment, participants completed the same outcome measures again to assess maintenance of change.

Results

Data from eight participants were analysed. Weekly TMD-7 symptom frequency scores, pain intensity ratings and composite scores were collected across the control phase (Weeks 1-6), the intervention phase (Weeks 7-12), and at follow-up (Week 16). Scores were summarised using group means for each outcome measure, and visual analysis was used to explore trends across phases.

Percentage change from baseline (mean score across the six-week control phase, Weeks 1-6) to post-intervention and to follow-up was calculated for the mean TMD-7 total score, pain intensity, composite score and each individual TMD-7 symptom. All values reported are group mean total scores, with lower scores indicating less frequent symptom occurrence. The findings below refer to Figures 2–5, with supporting numerical data presented in Appendix Tables D1-D3.

Symptom Frequency (TMD-7)

During the control phase, mean TMD-7 symptom frequency scores remained relatively stable, ranging between 13.25 and 13.75 (Figure 2). Following the introduction of the intervention in Week 7, scores demonstrated a consistent downward trend, reducing from 12.13 in Week 7 to 9.43 by Week 12. Minor week-to-week fluctuations were observed, including a temporary increase around Week 10, which is consistent with the variable nature of TMD symptoms. At follow-up, the mean symptom frequency score reduced further to 7.60.

Overall, mean symptom frequency decreased by 28.95% from baseline to the end of the intervention and by 42.63% from baseline to follow-up.

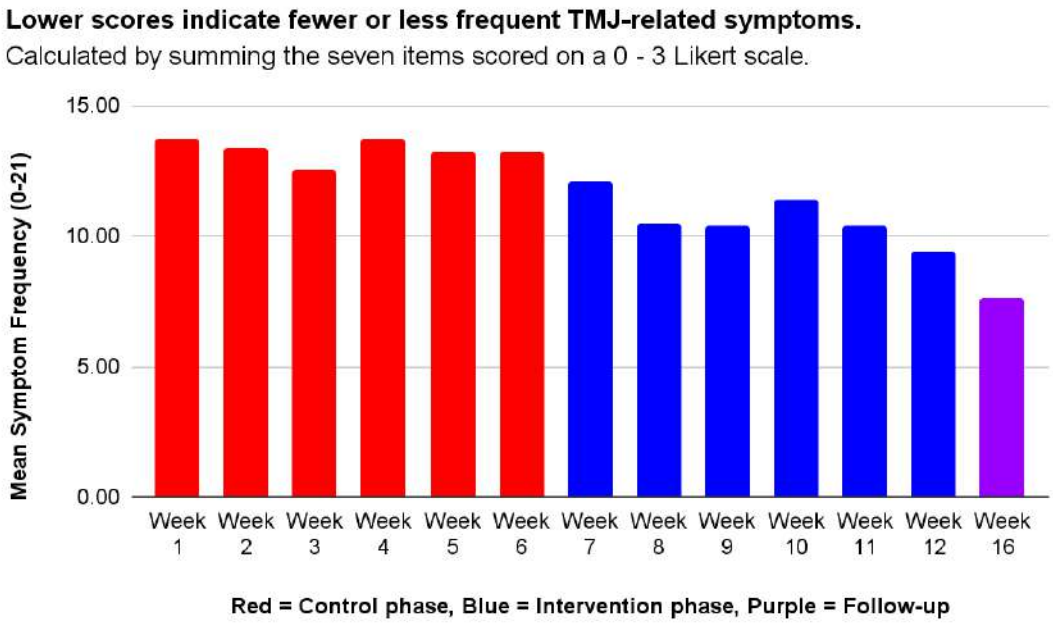

Figure 2. Total Mean Symptom Frequency Scores (TMD-7)

Individual TMD-7 Symptoms

Figure 3 illustrates weekly frequency patterns for each individual TMD-7 symptom. Although individual symptoms demonstrated some variability across weeks, all seven symptoms showed an overall downward trajectory during the intervention period. Improvements were generally maintained or enhanced at follow-up.

The largest reductions from baseline to follow-up were observed in ear pain or pressure (69.52%), jaw clicking or popping (51.52%), jaw locking or catching (50.77%), headaches or migraines (51.39%), and jaw pain or soreness (45.14%). Facial pain or tension also reduced (36.60%) and Neck or shoulder discomfort demonstrated the smallest reduction (11.93%), influenced by an increase at follow-up despite a downward trend during the intervention phase.

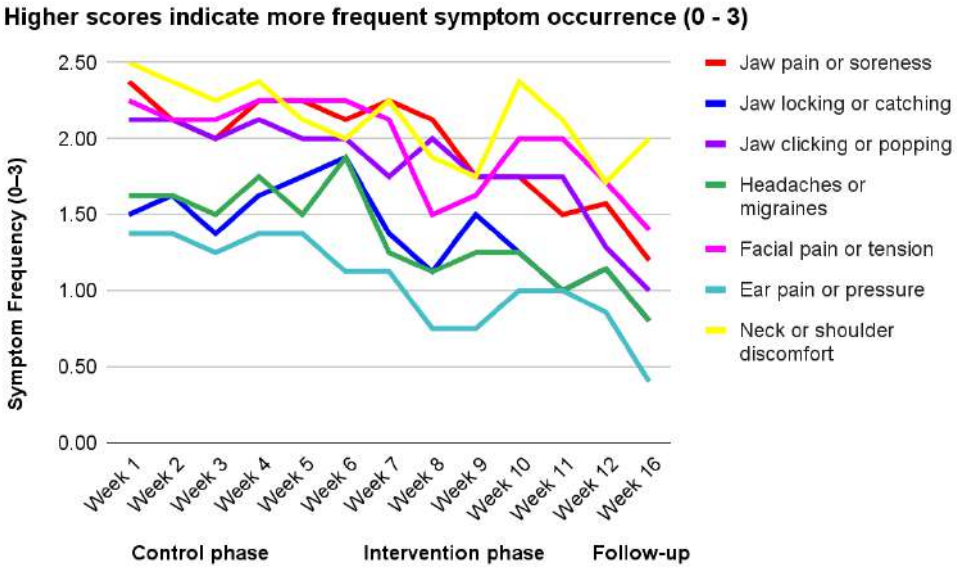

Figure 3. Weekly Frequency of Individual TMD-7 Related Symptoms

Pain Intensity (0-10 NRS)

Pain intensity followed a pattern similar to symptom frequency (Figure 4). Scores remained relatively stable during the control phase, ranging between 5.50 and 6.25, before gradually decreasing during the intervention period. By Week 12, mean pain intensity had reduced to 3.86. A minor increase was observed in Week 9; however, the overall downward trend was maintained. At follow-up, pain intensity reduced slightly further to 3.80. Mean pain intensity decreased by 33.79% from baseline to the end of the intervention and by 34.82% from baseline to follow-up.

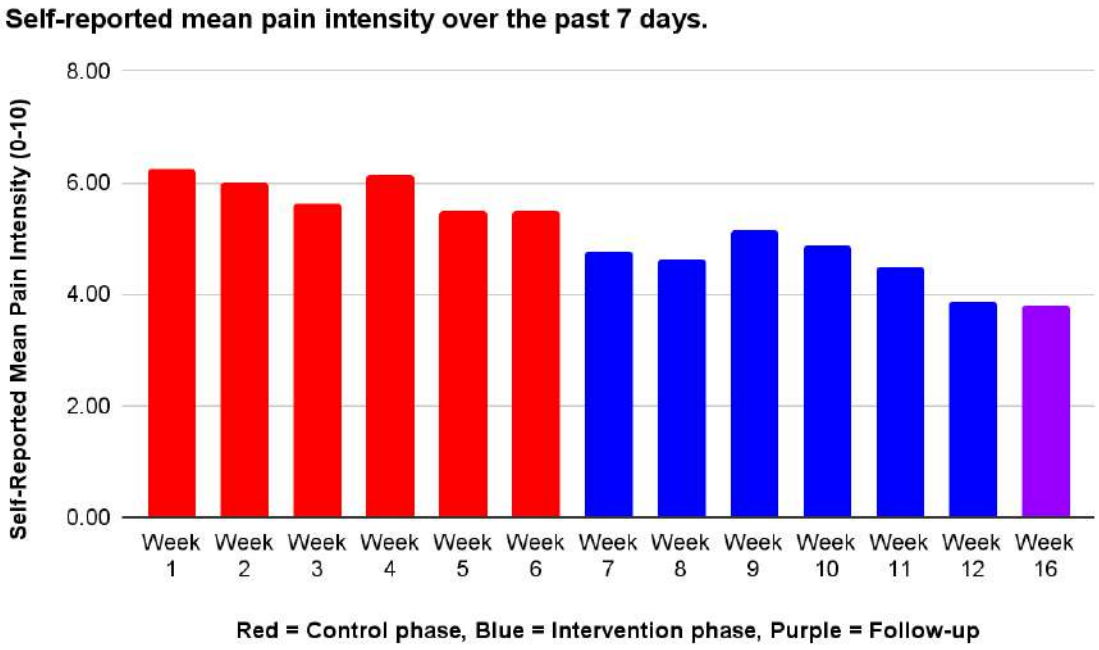

Figure 4. Weekly Pain Intensity Scores (NRS 0–10)

Composite Score (TMD-7 total score + pain intensity)

The composite score was calculated by adding the weekly TMD-7 total score (0-21) to the weekly pain intensity rating (0-10), producing a maximum combined score of 31. This also demonstrated a downward trend across the study period (Figure 5). During the control phase, scores ranged from 18.13 to 20.00. Across the intervention phase, composite scores reduced steadily, reaching 13.29 by Week 12. A further reduction was observed at follow-up, where the composite score measured 11.40. Although a small increase occurred in Week 10, this did not alter the overall pattern of improvement.

From baseline to follow-up, the composite score reduced by 42.90%.

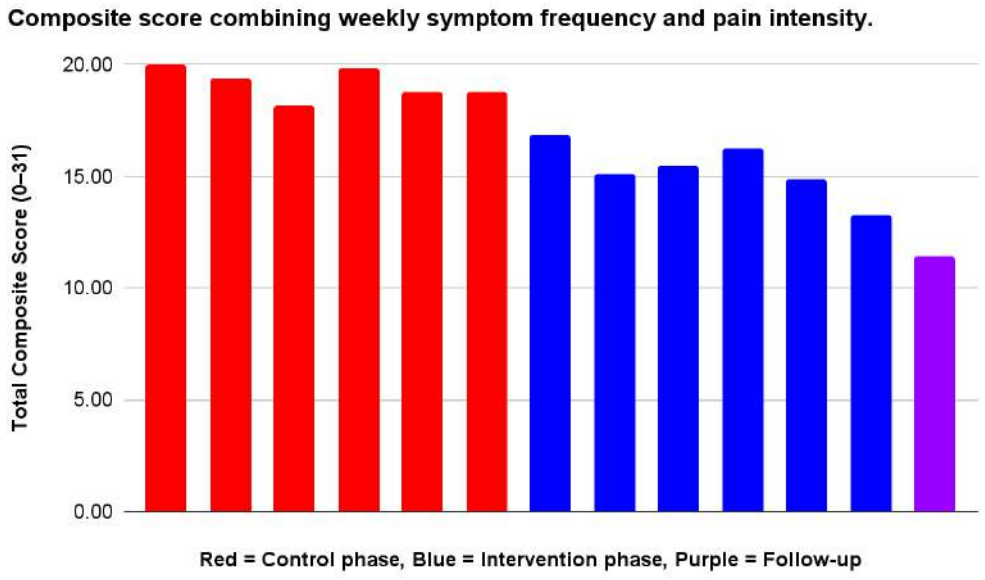

Figure 5. Total TMD-7 Composite Score (Symptom Frequency + Pain Intensity)

Across all outcome measures, scores remained stable during the control phase and then reduced consistently during the six-week intervention,

with further improvements observed at follow-up. Although minor week-to-week fluctuations were present, the overall direction of change was consistent across symptom frequency, pain intensity and composite scores. All individual TMD-7 symptoms demonstrated improvement to varying degrees.

Discussion

This study evaluated the effects of The Jing Method™ on symptoms of TMD in eight women and showed improvements in TMD-7 symptom frequency, pain intensity and individual symptom measures during the intervention phase, with further improvements shown at follow-up. The stability of scores during the control phase strengthens confidence that subsequent changes were associated with the intervention rather than normal symptom fluctuation.

The greatest improvements were observed in joint-related symptoms such as ear pain, jaw clicking and jaw locking. These symptoms are often reported as particularly distressing by individuals with TMD, and reductions in these areas are therefore clinically meaningful. Neck and shoulder discomfort showed the smallest overall change from baseline to follow-up. This was unexpected, as symptom patterns up to Week 12 followed a similar downward trajectory to other symptoms, and the neck and shoulder region was addressed in every hands-on session.

Closer examination of the data suggests that the lower overall percentage change was largely influenced by a slight increase at follow-up, rather than a lack of improvement during the intervention phase itself. It may also be relevant that the self-care component primarily targeted the jaw and facial region, while neck and shoulder symptoms are known to be more sensitive to fluctuating stress levels, posture and daily behavioural factors.

This pattern may indicate that cervical and shoulder symptoms require either continued self-management support or more frequent treatment input to maintain improvements over time.

These findings align with literature supporting conservative, multimodal approaches to TMD management that combine manual therapy, education and self-management strategies (Durham et al., 2016; Kapos et al., 2020; Malfliet et al., 2025; NICE, 2024; Nijs et al., 2011). Contemporary pain science emphasises the role of CS and altered nervous system processing in persistent TMD pain (Latremoliere and Woolf, 2009; Nijs et al., 2011). Interventions that promote relaxation, understanding and self-efficacy may help modulate these mechanisms and improve outcomes (Ferrillo et al., 2022; Knuutila et al., 2022). The blended Jing Method™ approach, incorporating calming techniques and guided self-care, offers a plausible explanation for the sustained improvements observed.

This study contributes to an emerging body of student-led research investigating The Jing Method™ in TMD. Previous projects by Davies (2025) and Gompertz (2025) reported improvements in pain and function using the TMD-7 questionnaire, with Davies also adopting a blended delivery model similar to the present study. More recent dissertations by Zito (2026) and Couse (2026) continue this trend, reflecting increasing consistency in outcome selection. Across Couse (2026), Davies (2025), Gompertz (2025), Zito (2026) and the present study, a total of 35 participants have now been

assessed using the TMD-7, with encouraging symptom reductions reported across all projects. However, variability in delivery format, including hands-on, online (Lindsay, 2023) and blended approaches, limits direct comparison between studies and highlights the need for greater methodological standardisation in future research.

This study demonstrated several strengths. The structured blended design represents a key strength, providing structured support both within and between treatment sessions. This is particularly relevant for TMD, where symptoms fluctuate. Weekly outcome collection across control, intervention and follow-up phases allowed detailed examination of symptom trajectories and the sustainability of change.

Several limitations should be acknowledged. The small, all-female sample limits generalisability, although this reflects the higher prevalence of TMD among women reported in the literature (Bueno et al., 2018; Ferreira et al., 2016). All outcome measures were self-reported and therefore subject to contextual influences. In addition, the dual role of therapist and researcher introduces potential for unintentional bias. While the therapeutic relationship is integral to The Jing Method™, it may also have influenced symptom reporting.

Despite these limitations, the findings offer useful implications for practice. Combining hands-on treatment with structured, accessible self-care appears to support sustained symptom improvement and greater client

involvement in recovery. The maintenance of change at follow-up may reflect the emphasis on teaching and guided self-care within the HFMAST framework, supporting participants to continue managing symptoms beyond the treatment period.

Future research would benefit from larger and more diverse samples to explore whether similar patterns of change are observed across populations. Including additional functional measures or qualitative interviews could provide deeper insight into participant experience.

Collaborative, multi-site studies involving dental practices, musculoskeletal clinicians or academic partners would strengthen external validity and increase sample size, while small-scale educational or complementary therapy research grants could support more rigorous, standardised investigation.

Conclusion

This study evaluated the effects of a blended Jing Method™ intervention on TMD symptoms in women aged 25-65. Across a sixteen-week within-subjects design, meaningful reductions were observed in symptom frequency, pain intensity and composite scores, with improvements maintained at four-week follow-up. The stability of scores during the control phase strengthens confidence that these changes were associated with the introduction of the intervention rather than natural fluctuation.

The largest reductions were observed in joint-related symptoms such as ear pain, jaw clicking and jaw locking, while overall pain intensity decreased by more than one-third from baseline to follow-up. These findings suggest that combining hands-on treatment with structured, guided self-care may offer a clinically relevant approach to supporting women with persistent TMD symptoms.

The results align with contemporary pain science and biopsychosocial models of care, which emphasise the need to address both peripheral tissue sensitivity and central mechanisms such as stress and nervous system sensitisation. They also sit within a growing body of Jing Institute research reporting positive outcomes not only in TMD, but in related domains including stress, anxiety and depression. This convergence of findings supports the rationale for multimodal, person-centred approaches such as the HFMAST framework.

Although limited by small sample size and lack of randomisation, this study contributes to the emerging evidence base supporting conservative, non-invasive management strategies for TMD. Together, these findings indicate that integrating therapeutic teaching within manual care may support sustained self-management beyond the treatment period.

Further research using larger, more diverse samples and standardised methodologies is needed to strengthen the evidence base and clarify long-term efficacy. Nevertheless, the present findings add to a growing body of evidence supporting The Jing Method™ as a biopsychosocial approach to managing TMD in women, particularly when therapeutic teaching and structured self-care are embedded within manual treatment.

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Appendix

Appendix A – Ethics and participant documentation

Appendix A1. Recruitment Poster

Appendix A2. Participant Information Letter

Lucie Ellis-Jennings
Your Nurturing Touch
142 Windsor Drive
Orpington
Kent BR6 6HQ
lucie@yournurturingtouch.co.uk
www.yournurturingtouch.co.uk

[Date]

Dear [Participant's Name],

Re: Participation in TMJ Massage Research Study

Thank you for your interest in my research project. I really appreciate you responding to my call for participants and would love to tell you more about what's involved.

I have been a massage therapist since 2016 and specialise in the treatment of chronic pain, including headaches, frozen shoulder, fibromyalgia, and jaw dysfunction. In 2022, I began the BTEC Level 6 Professional Diploma in Advanced Clinical and Sports Massage with Jing Advanced Massage Training - the highest-level qualification available for massage therapists in the UK.

As part of my final year, I am conducting a clinical research project titled: "Evaluating the effects of The Jing Method™ on women aged 25–65 with TMJ pain."

This study will explore whether a combination of massage therapy and self-care can reduce the pain and symptoms associated with temporomandibular joint dysfunction (TMD) — a condition affecting the jaw, face, head, and neck.

Who can take part?

I'm looking for women aged 25 to 65 who are currently experiencing TMJ-related symptoms and who have not previously worked with me as a client.

Inclusion Criteria (you must meet all of the following):

• Be a woman aged 25–65
• Have experienced TMJ-related pain for 3 months or more

Have **at least one pain symptom** such as:

Headaches
Pain in your jaw or ears
Pain in your neck or shoulders
Pain in your forehead or temples
Pain when eating or chewing

Have **at least one non-pain symptom** such as:

Difficulty opening your mouth all the way
Noise when opening or closing your mouth
Difficulty when eating or chewing your food
Jaw locking, clicking or popping
Teeth grinding or clenching
Tinnitus, dizziness or facial twitching
Difficulty speaking, swallowing, or sleeping due to jaw tension

Sensitivity to light or sound

Exclusion Criteria

You will not be eligible if you:

• Are not female or are outside the 25–65 age range
• Can not commit to the full study period or attend required sessions
• Can not commit to completing the weekly questionnaires
• Have had dental surgery in the last 12 weeks, or have jaw-related procedures planned
• Are pregnant or planning pregnancy during the study (due to hormonal changes, soft tissue responsiveness, and the need for prolonged positioning during treatment)
• Are currently undergoing any other TMJ-related treatment
• Have an existing therapeutic relationship with me (e.g. have previously received treatments, consultations, or attended classes with me)

What does the study involve?

The study lasts 16 weeks and has three parts:

Weeks 1–6: **Control phase**.
No treatment — just a simple weekly symptom questionnaire to establish a baseline.

Weeks 7–12: **Intervention phase**
In week 7 you will attend my clinic in Orpington for a 90 minute appointment including an initial consultation and Jing Method™ treatment. In weeks 9 and 11 you will return to my clinic in Orpington for a 60 minute Jing Method™ massage treatment. The Jing Method™ incorporates a range of massage techniques, stretches and some self-care exercises to be performed 3 times per week.

In weeks 8, 10 and 12 you will receive a 15-20 minute pre-recorded video to guide you through a self-care protocol for those weeks. This will need to be completed 3 times per week.

Each week: Each week you will receive an online symptom questionnaire 6 days after each intervention. This questionnaire will take approx 3-5 minutes to complete and must be completed within 24 hours.

Week 16: **Follow-up**
You'll complete a final questionnaire four weeks after your last treatment to see if the benefits lasted.

Contribution & Payment

To help cover the cost of providing this high-quality programme, I'm asking for a contribution of £125, which includes:

• Three in-person treatments (normally £70 each)
• Access to exclusive video-based self-care content
• Ongoing support throughout the study

These sessions are being offered to you at a significantly discounted to reflect your invaluable contribution to the study and acknowledges the time and feedback you provide to support the research. Payment will be required in full at the start of the study to secure your place.

Please note that this contribution is non-refundable, even if you choose to withdraw from the study at a later stage.

Risks and Benefits

There are very few risks. Some participants may experience temporary tenderness or mild bruising after massage, which will be explained in

advance. Benefits may include reduced jaw pain, improved mobility, better sleep, and a greater sense of control over your symptoms.

Participation is completely voluntary, and you are able to withdraw at any time. Your data will be anonymised and treated in strict accordance with UK GDPR regulations. Results will be shared with my tutors and may be published or presented at a professional conference, but your identity will never be disclosed.

Please note that once the study data is compiled your data will be fully anonymised and merged with group results. After this date, it will no longer be possible to identify or remove your individual data.

Important Note

Please do not start any new treatments (including medication or dental work) for TMJ symptoms during the study without first letting me know. This helps ensure the research stays accurate and meaningful.

If you have any questions or would like to confirm your place, please don't hesitate to get in touch.

Kind regards,
Lucie Ellis-Jennings
Your Nurturing Touch
lucie@yournurturingtouch.co.uk
www.yournurturingtouch.co.uk

Appendix A3. Informed Consent Form

INFORMED CONSENT FORM

Study Title: Evaluating the effects of The Jing Method™ on women aged 25–65 with TMJ pain

Researcher: Lucie Ellis-Jennings

Email: lucie@yournurturingtouch.co.uk

Location: Your Nurturing Touch, 142 Windsor Drive, Orpington, Kent, BR6 6HQ

Purpose of the Study:

You are invited to take part in a clinical research project as part of my final year on the BTEC Level 6 Professional Diploma in Advanced Clinical Massage with Jing Advanced Massage Training. The purpose of this study is to evaluate whether The Jing Method™, which combines advanced clinical massage techniques with guided self-care, can help reduce the symptoms of temporomandibular joint dysfunction (TMD) in women aged 25 to 65.

What Will Participation Involve?

Participation lasts 16 weeks and includes:

- Weeks 1–6: Complete a weekly online symptom questionnaire. No treatment is provided during this phase as the aim of this phase is to establish a baseline that we can compare results to.
- Weeks 7–12: Attend three in-person massage treatments (weeks 7, 9, 11) using The Jing Method™ TMJ Protocol. Complete guided self-care video routines (weeks 8, 10, 12). Continue weekly questionnaires and record how many times you completed the self-care routine.
- Week 16: Complete a final questionnaire to assess whether improvements were sustained.

Risks and Benefits:

Massage may cause mild tenderness or temporary bruising. All techniques will be adapted for your comfort. Benefits may include reduced pain, improved jaw function, and enhanced wellbeing.

Confidentiality & Data Protection:

All personal data will be handled in accordance with UK GDPR and the Data Protection Act 2018. Identifiable information will be kept separate from anonymised research data. Files will be securely stored and password protected. Data will be anonymised and merged with group results on 16 November 2025. After this date, it will no longer be possible to withdraw your individual data.

Voluntary Participation & Right to Withdraw:

Participation is voluntary and you may withdraw at any time. If you withdraw before 16 November 2025, your data will be deleted. After this date, anonymisation will prevent individual data removal.

Confirmation of Consent

Please read and tick the following statements to confirm your understanding:

☐ I have read and understood the study information.

☐ I understand that participation is voluntary and I may withdraw at any time.

☐ I understand how my data will be managed and anonymised.

☐ I understand that my data will be merged on 16 November 2025 and cannot be withdrawn after that date.

☐ I understand the risks and expectations of the study.

☐ I agree to take part in this research study.

Participant Name:

Signature: _____

Date: _____

Researcher Name: Lucie Ellis-Jennings

Signature: **Date:** 23/08/25

Appendix A4. Ethics Approval

	CHECKLIST OF INSTRUCTIONS FOR STUDENTS	✓
1	Complete Section 1 to Section 13	✓
2	Electronically sign and date	✓
3	Participation information form (see separate form)	✓
4	Participation consent form (see separate form)	✓

Jing BTEC Research Ethics Form

BTEC Level 6: Professional diploma in Advanced Clinical and Sports Massage

Section 1: to be completed by student

Student's name:	Lucie Ellis
Student number:	PF69855
BTEC Year-group:	2024-26
Date of application:	1st May 2025
Student e-mail address:	lucie@yournurturingtouch.co.uk
Title of research project:	*Evaluating the effects of the Jing method™ on women aged 25-65 with TMJ pain*

Section 2: Does your project involve any primary research using human subjects?

Please indicate as appropriate.

	YES	NO
Does your project involve any primary research using human subjects?	**Yes**	
If yes, does it involve children under 16?		No
If yes, does it involve children under 18?		No
Other vulnerable populations (i.e. mental illness, aged subjects)?		No
Does your project involve NHS patients, NHS staff or Local Authority Service Providers?		No

Are you planning to use deception?		No
Are you collecting sensitive personal data such as sexuality, mental health data, etc.?		No
Does your study involve paying participants or an alternative incentive to participate		No
Could the study put you or someone else at risk of injury?		No
Does your project make use of a validated questionnaire?	Yes	
If yes, please specify the name of the validated questionnaire you are using and attach a copy here. TMJ-7 and an additional question about intensity of pain using a **numerical pain rating scale (NPRS)** from 0–10.		

Section 3: Research premises

Where is your research being undertaken? 142 Windsor Drive, Orpington Kent BR6 6HQ	
If your research is being undertaken outside of your own premises, do you have written confirmation from the establishment involved? If yes, please provide evidence.	Not applicable

Section 4: Recruitment

How will you recruit subjects for this research study?

Posters in local GP and Dental Surgeries (if permission granted).

Email to my mailing list asking subscribers to forward the info to anyone they know with TMJ issues.

Social media – my own instagram and facebook page. Local Facebook groups.

Word of Mouth

Advert on my website

Section 5: Outline your project procedure

This research project will evaluate the effects of the Jing method™ on TMJ pain in women. It will run for 16 weeks and will follow a within-subjects design, incorporating a 6-week control period, a 6-week intervention phase, and a 4-week follow-up. The intervention will use a blended model combining in-person massage treatments with guided self-care via pre-recorded videos. Participants' symptoms will be tracked weekly using a validated questionnaire.

Participants will be recruited via social media, my email mailing list (whilst my own clients will be excluded due to a therapeutic alliance, they may have friends and family members that meet the inclusion criteria), posters in local dental and GP practices (subject to permission), my website, and through word of mouth. Individuals who express interest will be sent a participant information letter outlining the study aims, structure, timeline, and expectations. A short video consultation (approximately 20 minutes) will be arranged to assess eligibility based on the inclusion and exclusion criteria, answer questions, and confirm understanding. If suitable, participants will be asked to sign and return an Informed Consent Form prior to study commencement.

Weeks 1–6: Control Phase
Participants will receive the TMJ-7 questionnaire, with one additional question to measure pain intensity on a 0–10 scale. This will be completed weekly via Google Forms. No treatment will be provided during this phase. The aim is to establish a baseline for each participant's TMJ symptoms. Email or SMS reminders will be sent weekly to ensure consistency in questionnaire submission.

Weeks 7–12: Intervention Phase
This phase involves a combination of hands-on treatment and self-directed home care. Symptom questionnaires will continue to be sent weekly via google forms, 6 days after each intervention and must be returned within 24 hours, throughout weeks 7-12. A weekly text will also be sent to remind

the participants to complete the questionnaire.

In-person treatments will take place in Weeks 7, 9 and 11.

- Week 7: A 90-minute appointment including full consultation, TMJ assessment, and the first treatment.
- Weeks 9 and 11: Each session will be 55 minutes.
- All hands-on sessions will follow the **TMJ Protocol as published in Chapter 18 of *Massage Fusion: The Jing Method for the Treatment of Chronic Pain* (Fairweather & Mari, 2015)**.
- This protocol includes the full HFMAST framework:
    - Heat: e.g. hot stones applied to the shoulders and sacrum
    - Fascial techniques: sustained work to jaw, neck and shoulder regions
    - Muscle work: including deep tissue and trigger point therapy (posterior cervicals, suboccipitals, trapezius & Sternocleidomastoid)
    - Acupressure: focusing on points around the ears and jaw (SI 19, SJ 21 & GB 2)
    - Stretching: particularly for the neck and upper shoulders
    - Teaching: self care techniques taught to reinforce the treatment at home

In Weeks 8, 10 and 12, participants will be given access to a pre-recorded video (15–20 minutes), demonstrating a self-care routine to be completed at home. These routines will include:

- Heat application using a hot water bottle or wheat bag
- Gentle fascial release and self-massage techniques for the jaw, neck, and shoulders
- Acupressure with breathwork
- Stretches for the jaw, neck, and shoulders

Participants will be encouraged to complete the self-care routine at least three times per week. Each week during this phase, participants will continue completing the TMJ-7 questionnaire with one additional question to measure pain intensity on a 0–10 scale and also record how many times they completed the prescribed selfcare exercises.

Week 16: Follow-up
Four weeks after the final treatment, participants will complete a final TMJ-7 questionnaire with one additional question to measure pain intensity on a 0–10 scale. Participants will be asked if they had continued with any of the self-care they had been given.

Additional Considerations
Participants will be asked to avoid starting any new TMJ-related treatments (e.g. new medications, dental interventions, or therapies) during the 16-week study. Any such changes must be reported, as this may affect eligibility for inclusion in the final data analysis.

Section 6: Describe what your participants need to do

Participants will be asked to take part in a 16-week study, consisting of the following phases:

1. Recruitment and Initial Consultation

Participants will attend a **20-minute one-to-one online consultation** via video call.
During this session, I will:

- Confirm their eligibility
- Explain the purpose and structure of the study
- Answer any questions
- Obtain informed consent

After this, they will receive a confirmation letter detailing what is required of them, including key dates and expectations.

2. Control Phase (Weeks 1–6)

Participants will:

- Complete the TMJ-7 questionnaire, with an additional question asking about severity of pain using a numerical pain rating scale (NRS 0–10), once per week via Google Forms
- Submit the form on the same day each week, with reminders sent by email or text

This phase involves no treatment - only questionnaire completion to establish a baseline of TMJ symptom frequency and intensity.

3. Intervention Phase (Weeks 7–12)

This phase involves a blended model of care, alternating between hands-on treatments and guided home-based self-care.

- **Week 7**: Participants will attend a 90-minute in-person session, including full consultation, TMJ assessment, and the first hands-on treatment at my clinic.
- **Weeks 8, 10, and 12**: Participants will receive links to pre-recorded video sessions (approx. 15–20 mins), demonstrating self-care routines to follow at home. These will include breathwork, myofascial techniques, self-massage, acupressure, and gentle stretching.
- **Weeks 9 and 11**: Participants will return to the clinic for 55-minute hands-on treatments, following the standardised Jing Method™ HFMAST protocol for TMJ and neck/shoulder work.

Participants will also:

- Complete the TMJ-7 questionnaire with additional question asking about intensity of pain (with NPRS) weekly, on the same day each week via Google Forms
- Receive reminders via text weekly to support compliance
- Log how many times they completed the self-care video routine during home-based weeks (this will also be an additional question added to the google form from week 8 on-wards)

4. Post-Intervention Follow-Up (Week 16)

Participants will:

- Complete one final TMJ-7 questionnaire via Google Forms four weeks after their final treatment
- This will assess any sustained changes in TMJ symptoms and pain intensity

Throughout the study, participants are asked not to start any new treatments or therapies related to TMJ pain. If any changes occur (e.g. medication, new therapy), they should inform me as soon as possible, as this may affect their inclusion in the study.

Section 7: Respecting confidentiality and ethical issues for participants

How will you manage participant confidentiality? Ensure that the information refers to GDPR and is compliant with this legislation. What ethical considerations are there?

All personal data will be handled in accordance with UK GDPR and the Data Protection Act 2018. I am registered with the Information Commissioner's Office (ICO) and will ensure participants' confidentiality is protected at all times. Identifiable information (e.g. names, contact details) will be stored separately from questionnaire and treatment data, which will be anonymised using participant codes. All digital files will be securely stored and password protected.

In addition, all of my devices are password protected to maintain the highest level of data security. Data will be retained for no longer than 12 months after the study ends and will then be securely deleted.

Participants will give informed consent before joining the study and can withdraw at any time without consequence. All participation is voluntary. The study poses minimal risk, though there is a small possibility of minor bruising from hands-on massage techniques. This will be clearly explained in the

participant information sheet and consent form. Participants' well-being will be prioritised throughout, and no identifiable information will be included in the reporting of results. I am a fully qualified therapist and will work within my insurance and licencing guidelines. I have taken additional CPD training in TMJ massage.

Whilst participants will be able to leave the study at any point, I intend to state on my participant letter the date at which all anonymous data will be merged with group results. Therefore after this date, it will no longer be possible to identify or remove any individual data. This date will be around 16th November as The 16 weeks should have passed and that is when I plan to start merging and analysing the anonymous data.

Section 8: Inclusion and exclusion criteria

What sort of people will the subjects be?

Inclusion Criteria

Participants must meet **all** of the following:
- Be a woman aged 25–65
- Have experienced TMJ-related pain for 3 months or more

Have at least **one pain symptom** such as:

- Headaches
- Pain in your jaw or ears
- Pain in your neck or shoulders
- Pain in your forehead or temples
- Pain when eating or chewing

Have at least **one non-pain symptom** such as:

- Difficulty opening your mouth all the way
- Noise when opening or closing your mouth
- Difficulty when eating or chewing your food
- Jaw locking, clicking or popping
- Teeth grinding or clenching
- Tinnitus, dizziness or facial twitching
- Difficulty speaking, swallowing, or sleeping due to jaw tension
- Sensitivity to light or sound

Participants must also:

• Be able to attend **three in-person sessions** at the researcher's clinic in Orpington
• Be willing and able to complete **three home-based self-care video sessions** (approx. 15–20 minutes each) three times per week from week 8 of the study.
• Complete a **short weekly online questionnaire** for the full 16-week duration of the study
• Give **informed consent** to participate

Exclusion Criteria

Participants will be excluded if they:

• Are not female, or are outside the 25–65 age range
• Cannot commit to the full study period or attend required sessions
• Are unable or unwilling to complete the video-based self-care activities
• Cannot commit to completing the weekly questionnaires
• Have had major dental work in the past 12 weeks, or are due to have any during the study
• Are currently experiencing a flare-up of acute jaw symptoms requiring urgent care
• Are **pregnant or planning pregnancy** during the study period — due to hormonal changes, soft tissue responsiveness, and **the need for prolonged positioning during treatment**
• **Have an existing therapeutic relationship with the researcher**, such as having received treatments, consultations, or attended classes previously

Rationale for female-only participation

This study focuses exclusively on female participants, as research consistently shows that women are significantly more likely to experience temporomandibular joint dysfunction (TMD) than men. TMD has been found to be up to twice as prevalent in females, particularly during their reproductive years, with hormonal fluctuations (especially in oestrogen) believed to influence joint laxity and pain sensitivity. Selecting only female participants helps to reduce biological variability and allows for more accurate, relevant analysis within the population most affected by the condition. This gender-specific focus is consistent with previous research in this field and supports a more targeted evaluation of the effectiveness of the Jing Method for TMD symptoms.

In addition, women's health has historically been underrepresented in clinical and musculoskeletal research, with many treatment models originally developed using male participants and later generalised to women. Conditions that primarily or disproportionately affect women—such as chronic pain, migraines, and TMJ dysfunction—have received comparatively less research funding and academic attention. By focusing this study on female participants, the research aims to contribute to a growing body of gender-specific data that supports better-informed, evidence-based care for women experiencing TMD.

Section 9: Student declaration:

I understand that I can only start my project, once this ethical application has been approved. This applies to ALL projects, whether using human participants or not.	YES	

Student's handwritten signature:

(To be completed, once ethical approval has been provided)

Print Name: **Lucie Ellis** **Date: 08/05/2025**

ONCE YOU HAVE COMPLETED THE ABOVE ETHICS DETAILS, THEN YOU CAN PROCEED TO PARTICIPANT INFORMATION AND CONSENT FORMS, SO READ BELOW AS IT IS IMPORTANT TO BE CLEAR ABOUT WHAT YOUR PARTICIPANTS NEED TO DO.

Informed consent must be obtained for **all** participants before they take part in your project. The Consent Form should clearly state the parameters and content of the research. It should explain what is expected of the participants and what they will be doing. It should draw specific attention to any elements that could conceivably cause subsequent objections, and the measures you are taking to ensure the confidentiality of their data. It should also state that the participants are free to withdraw from the study at any time.
Studies should not involve participants under 18 without express permission from your supervisor. Studies carried out in schools require the permission of the head-teacher, and of any responsible adults as per the head teachers' recommendation. Minors aged over 14 years should also sign an individual consent form themselves. If you are planning to carry out a project whereby you will be in contact with minors, you must establish from the head-teacher or other responsible adult whether the work proposed will require you to have the relevant DBS disclosure. Please seek advice from your Local Authority.

You must complete a consent form for every participant involved in your study.

Jing's assessment (to be signed by Jing after ethics and participant information details completed)

EITHER:
This project is not designed to include fieldwork with human participants. Insofar as secondary data are to be used, I am confident that appropriate procedures are in place for data protection and non-disclosure of any personal or confidential data.

Signature: .....date: .....

OR:
This project is designed to include fieldwork with human participants.
(please circle yes or no)

YES	All necessary statutory, legislative or other formal external approvals have been obtained (e.g., permissions, police checks, external research ethics and governance approvals in the case of research involving NHS staff or patients or Local Authority service providers or users).
YES	The design of this study ensures that the dignity, welfare and safety of the participants will be ensured and that if children or other vulnerable individuals are involved they will be afforded the necessary protection.
YES	I am confident that participants will be given all necessary information before the study, in the consent form, and after the study if necessary.
YES	I am confident the participants' confidentiality will be preserved.
YES	I consider that any risks involved to the student, the participants, and any third party are minimal.
YES	I consider that Departmental approval should be given, since ethical risks have been appropriately addressed in the proposal and I am confident that steps will be taken to minimise any risks.

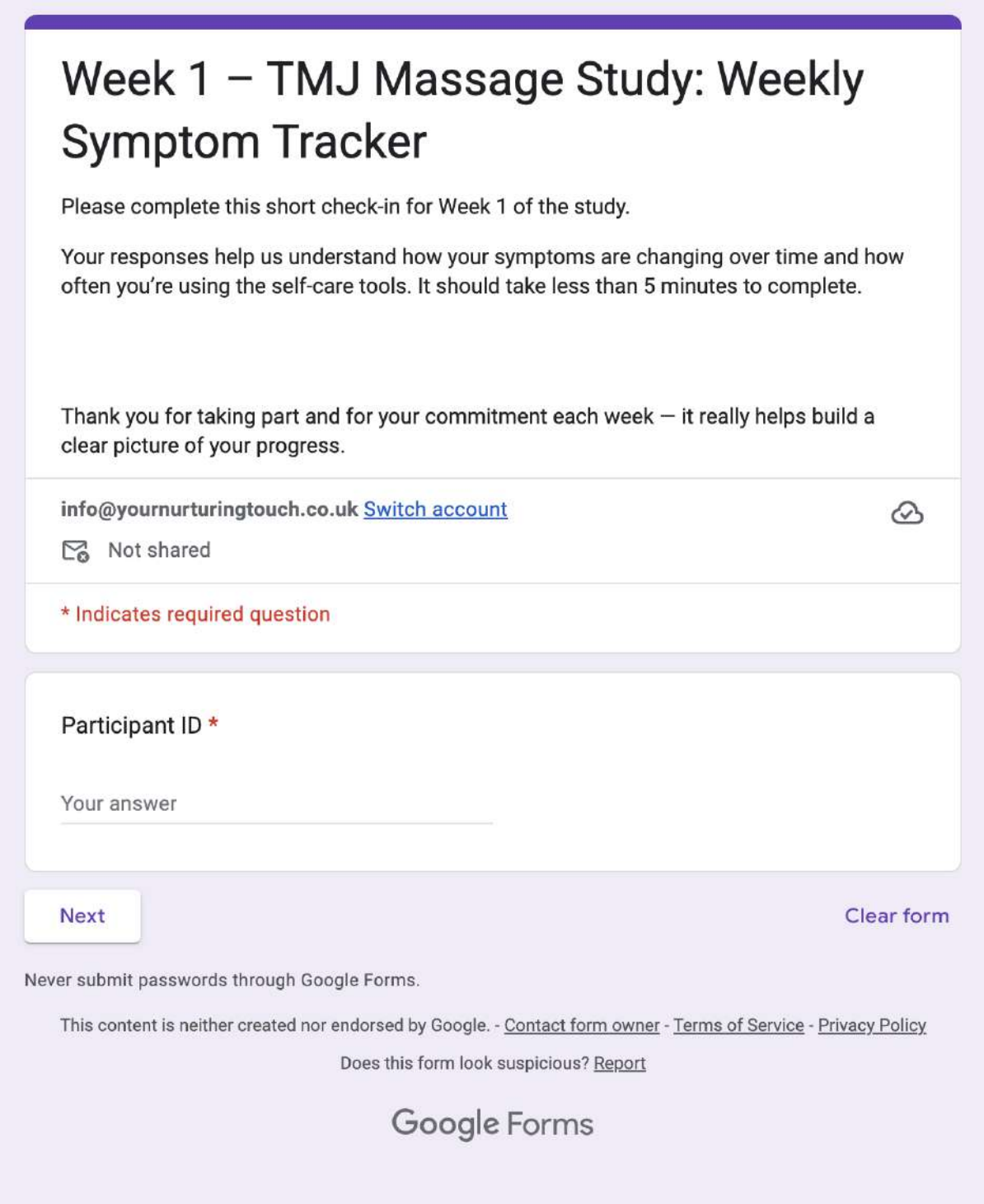
Signature: .....Susan Harrison..... date: ....12/5/25.....

If a second opinion was sought from a research ethics expert, the advisor should also sign this form below:
Advisor's name (please print):

Advisor's signature: ..... date: .....
Once the Jing's signature has been obtained, the student must return the completed form to the Jing Office.

Appendix B – Outcome measures

Appendix B1. TMD-7 Questionnaire sent out and completed weekly via Google Forms



Week 1 – TMJ Massage Study: Weekly Symptom Tracker

Please complete this short check-in for Week 1 of the study.

Your responses help us understand how your symptoms are changing over time and how often you're using the self-care tools. It should take less than 5 minutes to complete.

Thank you for taking part and for your commitment each week — it really helps build a clear picture of your progress.

info@yournurturingtouch.co.uk Switch account

Not shared

* Indicates required question

Participant ID *

Your answer

Next

Clear form

Never submit passwords through Google Forms.

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Does this form look suspicious? Report

Google Forms

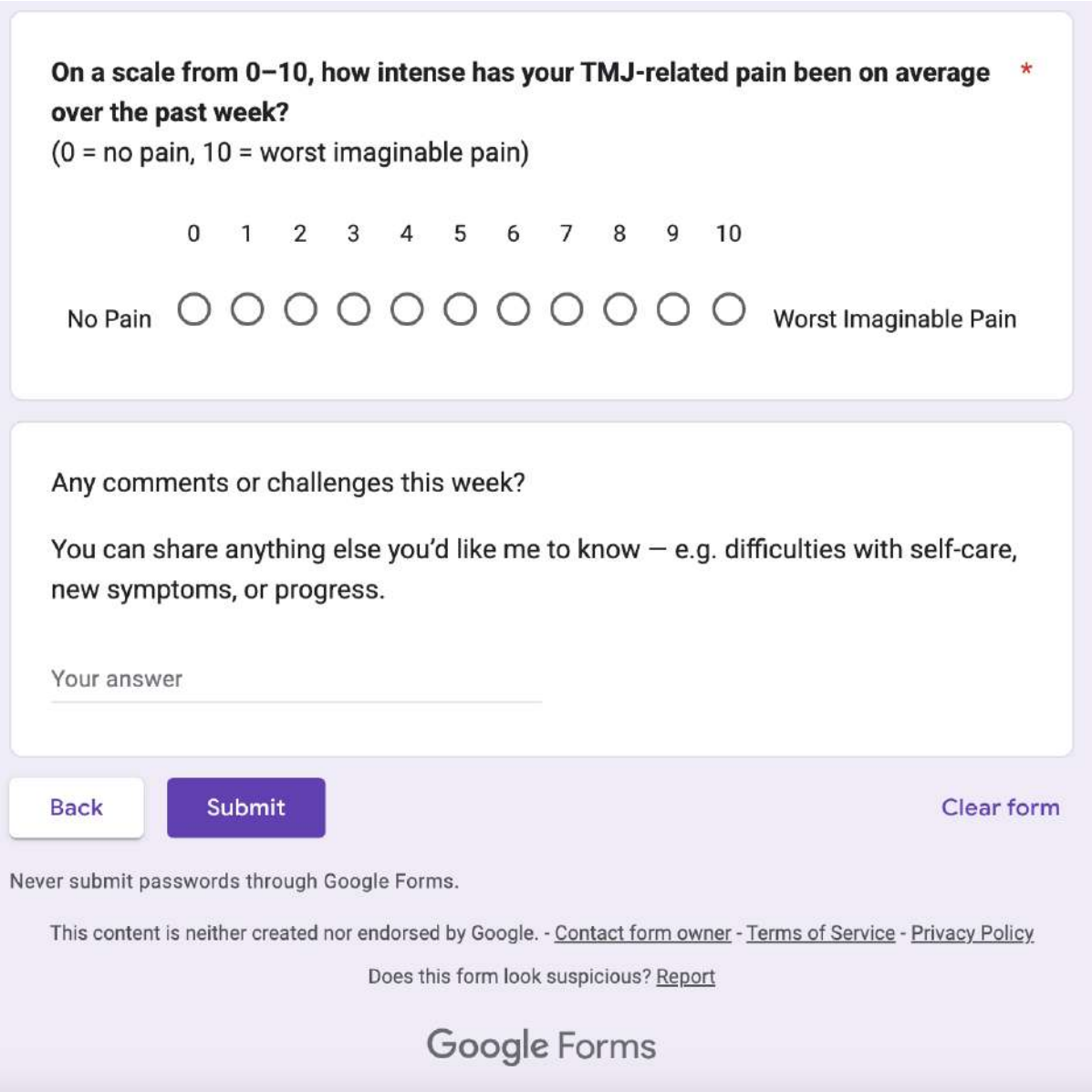
Your Symptoms

To take part in this study, you need to be experiencing symptoms consistent with TMJ dysfunction. The following validated questions (known as the TMJ-7) will help assess the frequency of your symptoms. Please answer each one honestly based on your experience over the past month.

At the end, you'll also be asked to rate how intense your pain has been.

In the past 7 days, how often have you experienced the following... *

	Never	Occasionally (less than once a week)	Often (1–3 times per week)	Frequently (most days)	Always (every day)
Jaw pain or soreness	○	○	○	○	○
Jaw locking or catching	○	○	○	○	○
Jaw clicking or popping	○	○	○	○	○
Headaches or migraines	○	○	○	○	○
Facial pain or tension	○	○	○	○	○
Ear pain or pressure	○	○	○	○	○
Neck or shoulder discomfort	○	○	○	○	○



Appendix C – Intervention materials

Appendix C1. JING TMJ Joint Pain Protocol as shown in Massage Fusion.

18 Temporomandibular joint pain protocol

Introduction

The techniques in this chapter stem directly from clinical experience as outlined in the quote:

> *During my 15 years experience as a dental nurse I had watched so many people suffer with TMJ and its associated symptoms (including toothache, migraine, visual disturbances and ear disorders) while the usual orthodox treatment protocols seemed to be ineffective at best, or painful and potentially damaging at worst.*
> *Then almost 14 years ago after training in massage, and with the support of my dental surgeon and a willing group of TMJ patients I developed a massage and trigger point protocol that saw sufferers move out of pain and misery, and back into enjoying their lives. Many clients were reporting a reduction in symptoms from their first treatment and every one of them were either completely resolved if not dramatically improved within 4–6 treatments. That protocol became the basis for the techniques outlined in this chapter which has now been taught to hundreds of therapists around the UK and Europe, who are freeing people from the misery of TMJ.*
> *Trigger Point Therapy is changing people's lives. It is that simple and that powerful.*
> Tracey Kiernan, Ex-Dental Nurse and Jing Massage Therapist and Teacher

The techniques in this chapter have been used to great effect for a variety of common jaw disorders including:

- Temporomandibular joint (TMJ) disorder
- Bruxism (extreme teeth grinding)
- Migraines
- Headaches
- Unexplained face and jaw pain.

For maximum effect, the techniques can also be combined with those from the neck and shoulder protocol (see Chapter 13).

Heat and preparatory work over the drape

- The client is in a prone position. Start with heat application over the neck and shoulder area.

Figure 18.1
Paddy pawing of the trapezius

- Begin with a few minutes of still work over the towel. One hand rests between the scapula and the other on the sacrum.
- Palm and compress the upper trapezius from the head of the table. Use an alternate rocking motion using your body weight to lean into the tissues – like a cat doing 'paddy pawing'. **See Figure 18.1, p. 345**

Muscular and trigger point work

Posterior cervicals

- In forward t'ai chi stance facing the head, knead the posterior cervical muscles using pick up petrissage. Grasp the tissue at the back of the client's neck with a broad grasp: your thumb is one side and your fingers the other. Knead the tissues slowly and rhythmically. The hand that is not working rests on the top of the client's head. Move from your Hara so that your stroke is dynamic, with involvement from your whole body. **See Figure 18.2**

Suboccipitals

In the same position, work under the occipital ridge with the same side thumb (see description for posterior cervicals). Use static pressure first then cross fibre friction with the pressure in one direction only. Treat any trigger points you find. Trigger points in the sub-occipital muscles located under the skull are a common cause of headache and migraine pain. **See Figure 18.3**

Upper trapezius

- Undrape the upper back. Apply wax or oil at this point.
- In kneeling stance, use a soft fist or forearm effleurage to open up the upper trapezius. Support the head at the occiput with one hand and lean in with your bodyweight at the end of the stroke to give a slight stretch to the trapezius. **See Figure 18.4**

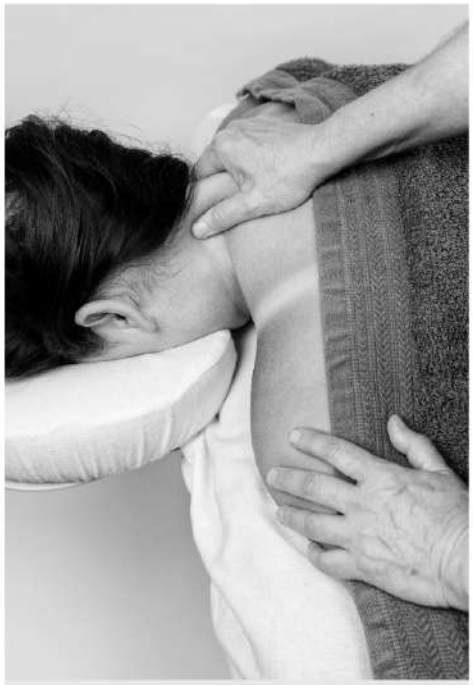


Figure 18.2
Kneading the posterior cervicals

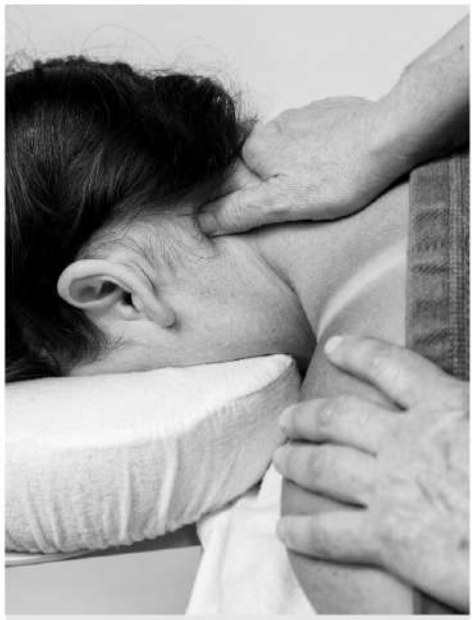


Figure 18.3
Treating the suboccipitals

This puts the SCM on a slack and makes it easier to grasp for the trigger point work.

- Rest your right forearm on the table and have your left hand on the client's head. Use a pincer grasp to gently squeeze and compress the SCM starting up by the mastoid process. Work slowly as this muscle can be exquisitely tender. As you work down to the clavicular attachment, where the belly gets thinner, you can pronate your hand to grasp the muscle. Work with care as the carotid artery is in this region. 'Don't press on anything that presses back at you!' **See Figure 18.7**
- **Working the attachment points:** to work these points on the sternum and clavicle you can hook in with a downward pressure.

Figure 18.7
Working the SCM with pincer grasp

- To finish off use a claw-like hand and rake into the muscle above the point where the sternal and clavicular heads divide. Sweep upward to the occiput (the cranial fascia anchors around the ear). Use static pressure to work the attachment points around the mastoid process.

Platysma and clavicopectoral fascia

- Use myofascial release (MFR) cross hand stretch over the pectoral area to treat the superficial fascia and platysma muscle (i.e. the superficial muscle you see when you make a 'monster face').
- **Thoracic release:** place one hand under the head and the other on the client's chest. Put the fascia on a stretch and use your sense of listening touch to follow the tissues. Wait and hold for any releases that may occur. **See Figure 18.8**
- In addition, you can place your upper hand gently under the chin, which provides a more targeted fascial stretch of this area. **See Figure 18.9**

Intra-oral technique using gloves

The techniques below allow you to get to some of the attachment points of muscles inside the mouth. Explain to your client why you are doing this and ensure that they are comfortable with the techniques. Agree a signal so that you will come out of their mouth if they feel uncomfortable. Use fresh gloves on each client and always check for a latex allergy first. Vinyl gloves are an alternative. Although the techniques are very safe you

Figure 18.8
MFT thoracic release

Figure 18.4
Broad work to the upper trapezius

- **Trapezius**: using supported thumbs, muscle strip the upper trapezius. Stand or sit at the head of the table at the opposite corner to where you are working. Use body weight to apply deep muscle stripping from the occipital ridge to the acromioclavicular joint. Treat trigger points using thumb over thumb or supported fingers. **See Figure 18.5**
- Repeat on the other side and finish with forearm work to both trapezius muscles.

Holding the head and grounding

- Now turn your client so that they are in a supine position.
- In a seated stance, sit and hold your client's head for a few minutes. This is an incredibly relaxing experience. If you tune in with your listening touch you may also be able to feel the cranial rhythm

Figure 18.5
Stripping the upper trapezius

Figure 18.6
Holding the head and grounding

which feels like a very subtle filling and emptying of fluid in a water filled balloon. **See Figure 18.6**

Sternocleidomastoid (SCM)

- Sit in a seated stance at the head of the table. To work the right SCM turn the client's head slightly to the right and bring it a little closer to their shoulder.

This puts the SCM on a slack and makes it easier to grasp for the trigger point work.

- Rest your right forearm on the table and have your left hand on the client's head. Use a pincer grasp to gently squeeze and compress the SCM starting up by the mastoid process. Work slowly as this muscle can be exquisitely tender. As you work down to the clavicular attachment, where the belly gets thinner, you can pronate your hand to grasp the muscle. Work with care as the carotid artery is in this region. 'Don't press on anything that presses back at you!' **See Figure 18.7**
- **Working the attachment points**: to work these points on the sternum and clavicle you can hook in with a downward pressure.

Figure 18.7
Working the SCM with pincer grasp

- To finish off use a claw-like hand and rake into the muscle above the point where the sternal and clavicular heads divide. Sweep upward to the occiput (the cranial fascia anchors around the ear). Use static pressure to work the attachment points around the mastoid process.

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Intra-oral technique using gloves

The techniques below allow you to get to some of the attachment points of muscles inside the mouth. Explain to your client why you are doing this and ensure that they are comfortable with the techniques. Agree a signal so that you will come out of their mouth if they feel uncomfortable. Use fresh gloves on each client and always check for a latex allergy first. Vinyl gloves are an alternative. Although the techniques are very safe you

Figure 18.8
MFT thoracic release

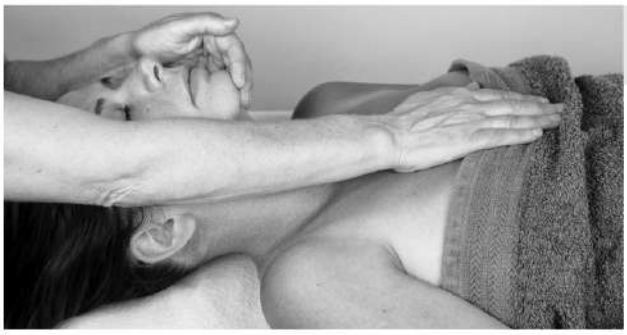


Figure 18.9
Thoracic release with hand under chin

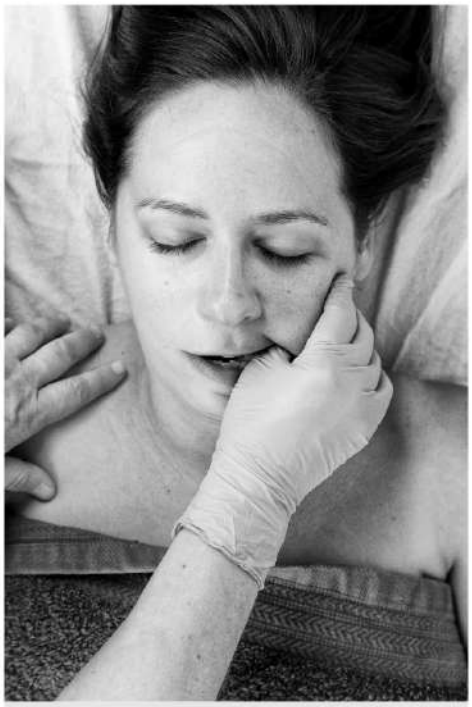


Figure 18.10
Treating the masseter

Figure 18.11
Treating the temporalis tendon

may also wish to check with your insurance provider that you are covered to carry out intra-oral work. If you do not wish to carry out these techniques yourself you can show the client how to self treat the muscles involved.

Masseter

- Sit at the side of the table on the opposite side to where you are working and ask the client to open their mouth.

- Wearing gloves, place your thumb against the buccal surface of the cheek and ask the client to half close their mouth. Move your thumb as far back between the cheek and the teeth as is comfortable. You should be able to feel the tip of your thumb touching the coronoid process, the fin shaped piece of bone rising from near the back of the mandible.
- Using the thumb and index finger, apply gentle compression to the masseter using a pincer grasp. Work slowly and carefully as the masseter trigger points can be very tender, so work with communication and keep an eye on your client's face. **See Figure 18.10, p. 349**

Temporalis tendon

- With the client's mouth open as far as possible without inducing pain, ask the client to shift their mandible towards the side being treated to allow more room to work. With the pad of your little finger of your right hand touching the inside cheek surface, glide your finger posteriorly very gently until it runs into a fin shaped bony surface embedded in the cheek. This is the coronoid process.
- Place your little finger on the inside surface of the coronoid process and use gentle static pressure to examine where the temporalis tendon attaches. The tendon is very hard and will feel like a continuation of the coronoid process. Friction may be used if the tendon is not too tender. **See Figure 18.11, p. 349**
- Remove gloves.

External treatment of the temporalis

- With the client's mouth closed, work the temporalis tendon directly above the zygomatic arch (cheekbone) with transverse friction. Ask the client to clench their teeth and you will feel it move beneath your fingers. **See Figure 18.12**
- Repeat with the client's mouth open to stretch the tendon slightly. Less pressure is needed when the tendon is stretched.

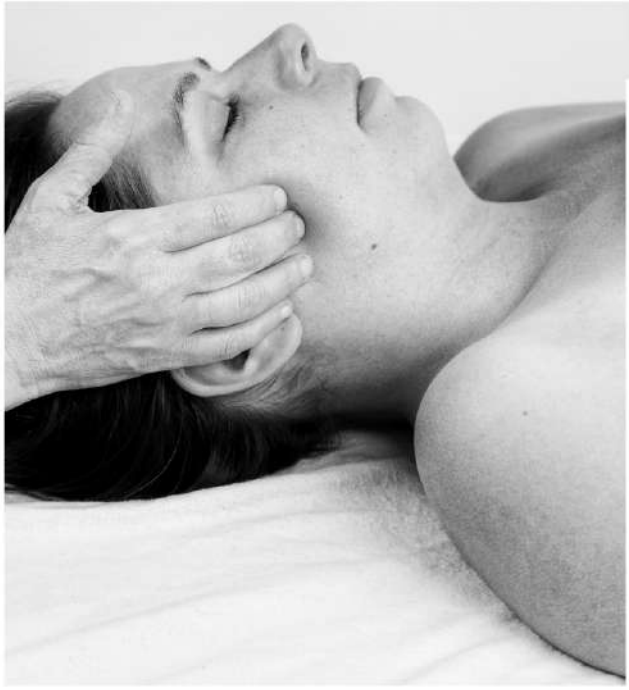


Figure 18.12
External treatment of the temporalis

- Use a 'shampoo' technique to relax the temporalis. Treat one side of the client's head at a time, working the muscle with soft relaxed fingers. You can also work the temporalis using deep thumb pressure by using the weight of the client's head to apply pressure to the muscle by gently turning their head onto a supported thumb. Work specifically and treat any trigger points you find.

Acupressure points

There are three points in front of the ear (at the side of the face) that are very effective for treating TMJ disorders. The middle point, SI 19, is the easiest to find and locating this one first will help you to orientate to the position of the other two.

Small Intestine 19 (SI 19): Auditory Palace

- **Location**: anterior to the tragus (the pointy bit in the middle of the ear) in a depression formed when the mouth is opened. **See Figure 18.13**
- Ask your client to open their mouth slightly and palpate for the small depression just in front of the middle of their ear. Manipulate the point with thumbs or fingers and hold for 3–5 breaths.

San Jiao 21 (SJ 21): Ear Door

- **Location:** in another small depression just above SI 19.
- Manipulate the point in the same way as above.

Gall Bladder 2 (GB 2): Auditory Convergence

- **Location:** in another small depression just below SI 19 (located with the mouth open).
- Manipulate the point in the same way as above.

Stretches

Manual traction

- With the head in a neutral position, hook your fingers under the occiput. Gently traction the head back towards you with your fingers in the occiput and leaning backwards slightly. **See Figure 18.14**

SCM stretch

- Support the client's head on either side. Ask the client to breathe in and then on the out breath take them into a gentle rotation. Your upper hand

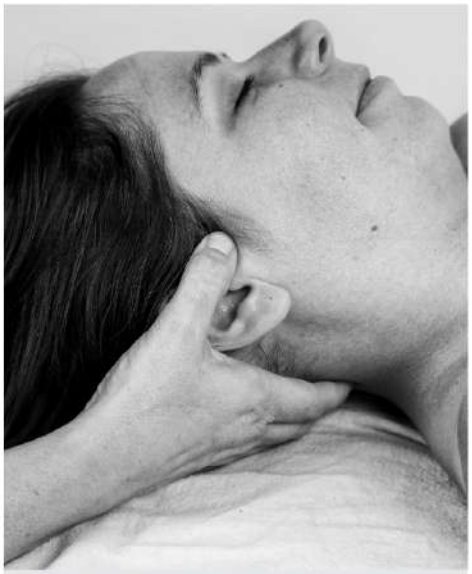


Figure 18.13
Location of acupressure point Small Intestine 19

Figure 18.14
Manual traction

Figure 18.15
SCM stretch

Figure 18.16

Figure 18.17

gently presses their head towards the table to encourage maximum range of motion (ROM). Both your hands are working – like rotating a ball in your hands. Work with client communication so that they tell you when they feel the stretch. Wait and hold for 10–30 seconds.
See Figure 18.15

Stretch for the masticatory muscles

- Ask the client to open their mouth approximately 15 degrees. Place both of your thumbs on their chin. Ask the client to close their mouth while you provide resistance to the closure with your thumbs. Hold the masticatory muscles under isometric tension, for approximately 5 seconds. **See Figure 18.16**
- Finish the sequence with grounding and still work. **See Figure 18.17**

Teaching self-care suggestions

These can be found in the Self-Care Resourcess (available at http://www.handspringpublishing.com/resources/self-care-resources-for-massage-clients/).

Appendix C2. Treatment 1 Protocol (week 7)

Treatment 1 Protocol – HFMAST Framework

Explain basic principles of JING method/HFMAST, what to expect from a TMJ treatment and why we work on more than the Jaw.

Prone

Begin with grounding: one hand on sacrum, one on thoracic spine; encourage patient to take 3 deep breaths.

Apply gentle rocking to down-regulate the nervous system.

Forward tai-chi stance on the couch, apply bodyweight pressure down the bladder meridian line.

Heat

Apply hot stones in gentle effleurage movements from arms, down erector muscles to lower back and then up lateral side towards head and neck to gently warm the tissues.

Maintain consistent, comfortable temperature throughout.

Place a warm stone in participants hands.

Fascia

Perform cross-handed stretches across the whole back.

Skin rolling lateral to medial on both sides of spine to release superficial fascial restrictions.

Muscles

Knead the posterior cervical muscles

Use static pressure and cross fibre friction into suboccipitals.

Release the trapezius with stripping, money sign and uncoiling techniques.

Forearms on each side of the back.

Sidelying **Stretching**

Mobilise arm up to ceiling, posteriorly for pectoral stretch, then overhead for latissimus dorsi stretch.

Apply a gentle spinal twist. Soft Tissue Release of Trapezius. Repeat on the other side.

Supine

Intra oral techniques using gloves. Release the temporalis tendon with your little finger and massage the masseter muscle between your thumb and forefinger.

Controlled cervical stretches, including supported head extension off the couch. Gentle lengthening of SCM, scalenes and upper trapezius.

Work the scalenes & sternocleidomastoid with stripping, pincer grasp and MFR claw technique.

Suboccipitals with supported fingers.

Platysma cross handed stretch and transverse MFR hold.

Skin rolling over masseter.

Shampooing & Cross fibre frictions to Temporallis

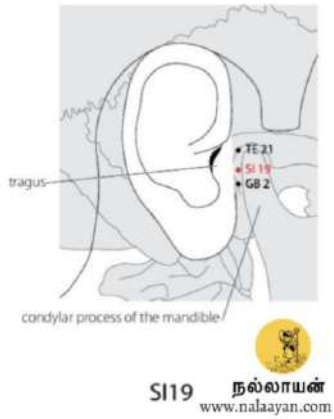
Acupressure

Small Intestine 19 (SI 19) Auditory Palace - Anterior to the tragus, ask the client to open their mouth slightly and palpate for the small depression just in front of the middle of the ear.

Hold for 3-5 breaths.

San Jiao 21 (SJ 21 also known as TE21 and TW21) Ear Door - Small depression just above SI 19.

Gall Bladder 2 (GB 2) Auditory Convergence - Small depression just below GB 2.



https://nalaayan.com/topics/acupuncture/

Teaching

Introduce concept of self-care exercises (to be given in home-care videos in following weeks).

Teach skin rolling and demonstrate over masseter.

Appendix C3. Treatment 2 Protocol (week 9)

Treatment 2 Protocol – HFMAST Framework

Prone

Begin with grounding: one hand on sacrum, one on thoracic spine; encourage patient to take 3 deep breaths.

Apply gentle rocking to down-regulate the nervous system.

Forward tai-chi stance on the couch, apply bodyweight pressure down the bladder meridian line.

Heat

Effleurage with stones from upper arms, along paraspinals and over scapulae to soften tissue.

Place a warm stone in the client's palms for grounding.

Fascia

Perform cross-handed stretches across the whole back.

Skin rolling lateral to medial on both sides of spine to release superficial fascial restrictions.

Muscles

Knead the posterior cervical muscles

Stripping along the levator scapulae and posterior cervical muscles.

Trigger point release to trapezius and levator scapulae with thumb and pincer grasp.

Forearms on each side of the back.

Side-lying

Stretching

Arm mobilisations (abduction, horizontal abduction, flexion) with soft tissue release of upper trapezius. Gentle spinal mobilisation through side-lying rotation.

Lateral cervical work: kneading scalenes and upper trapezius.

Soft Tissue Release of Trapezius.

Repeat on the other side.

Supine

Intra oral techniques using gloves. Release the temporalis tendon with little finger and massage the masseter muscle between your thumb and forefinger.

Controlled cervical stretches, including supported head extension off the couch. Gentle lengthening of SCM, scalenes and upper trapezius.

Work the scalenes & sternocleidomastoid with stripping, pincer grasp and MFR claw technique.

Work the medial and lateral pterygoids.

Static pressure to suboccipitals with supported fingers.

Work the temporalis with shampooing, cross fibre frictions and stripping.

Platysma cross handed stretch and transverse MFR hold.

Acupressure

Gall Bladder 20 (GB 20) Feng Chi – below occiput, in depression between SCM and trapezius.

Stomach (ST 6) Jawbone – in the masseter belly, one finger width anterior and superior to the angle of mandible.

Large Intestine (LI 4) Hegu – web between thumb and index finger, bilateral, only if not contraindicated e.g. pregnancy).

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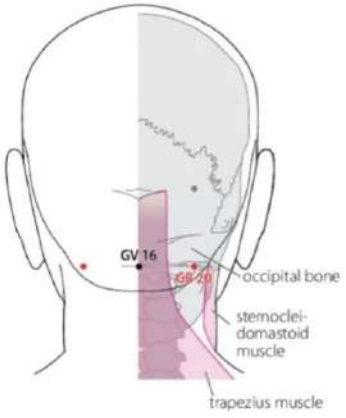
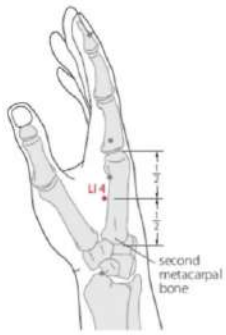
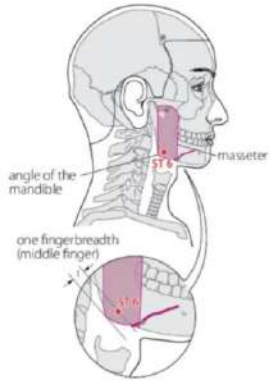




LI4



ST6

Teaching

- Demonstrate tongue-on-palate posture ("resting the tongue on the roof of the mouth, slightly back, to reduce clenching").
- Introduce gentle **self-massage to SCM and trapezius** for home practice.
- Encourage journaling of pain triggers (stress, chewing, clenching)

Appendix C4. Treatment 3 Protocol (week 11)

Treatment 3 Protocol – HFMAST Framework

Prone

Begin with grounding: one hand on sacrum, one on thoracic spine; encourage patient to take 3 deep breaths.

Apply gentle rocking to down-regulate the nervous system.

Forward tai-chi stance on the couch, apply bodyweight pressure down the bladder meridian line.

Heat

Effleurage with stones from upper arms, along paraspinals and over scapulae to soften tissue.

Place a warm stone in the client's palms for grounding.

Fascia

Perform cross-handed stretches across the whole back.

Skin rolling lateral to medial on both sides of spine to release superficial fascial restrictions.

Muscles

Knead the posterior cervical muscles

Stripping along the levator scapulae and posterior cervical muscles.

Use static pressure and cross fibre friction into suboccipitals.

Release the trapezius with stripping, money sign and uncoiling techniques.

Forearms on each side of the back.

Side-lying

Stretching

Arm mobilisations (abduction, horizontal abduction, flexion) with soft tissue release of upper trapezius. Gentle spinal mobilisation through side-lying rotation.

Lateral cervical work: kneading scalenes and upper trapezius.

Soft Tissue Release of Trapezius.

Repeat on the other side.

Supine

Intra oral techniques using gloves. Release the temporalis tendon with your little finger and massage the masseter muscle between your thumb and forefinger.

Controlled cervical stretches, including supported head extension off the couch. Gentle lengthening of SCM, scalenes and upper trapezius.

Work the scalenes & sternocleidomastoid with stripping, pincer grasp and MFR claw technique.

Static pressure to suboccipitals with supported fingers.

Work the medial and lateral pterygoids.

Work the temporalis with shampooing, cross fibre frictions and stripping.

Platysma cross handed stretch and transverse MFR hold.

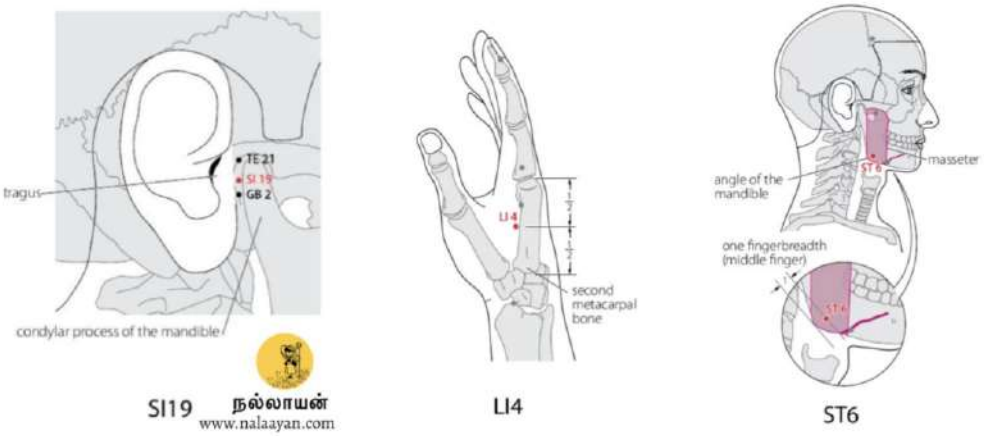
Acupressure

Small Intestine 19 (SI 19) Auditory Palace - Anterior to the tragus, ask the client to open their mouth slightly and palpate for the small depression just in front of the middle of the ear.

Stomach (ST 6) Jawbone – in the masseter belly, one finger width anterior and superior to the angle of mandible).

Large Intestine (LI 4) Hegu – web between thumb and index finger, bilateral, only if not contraindicated e.g. pregnancy.

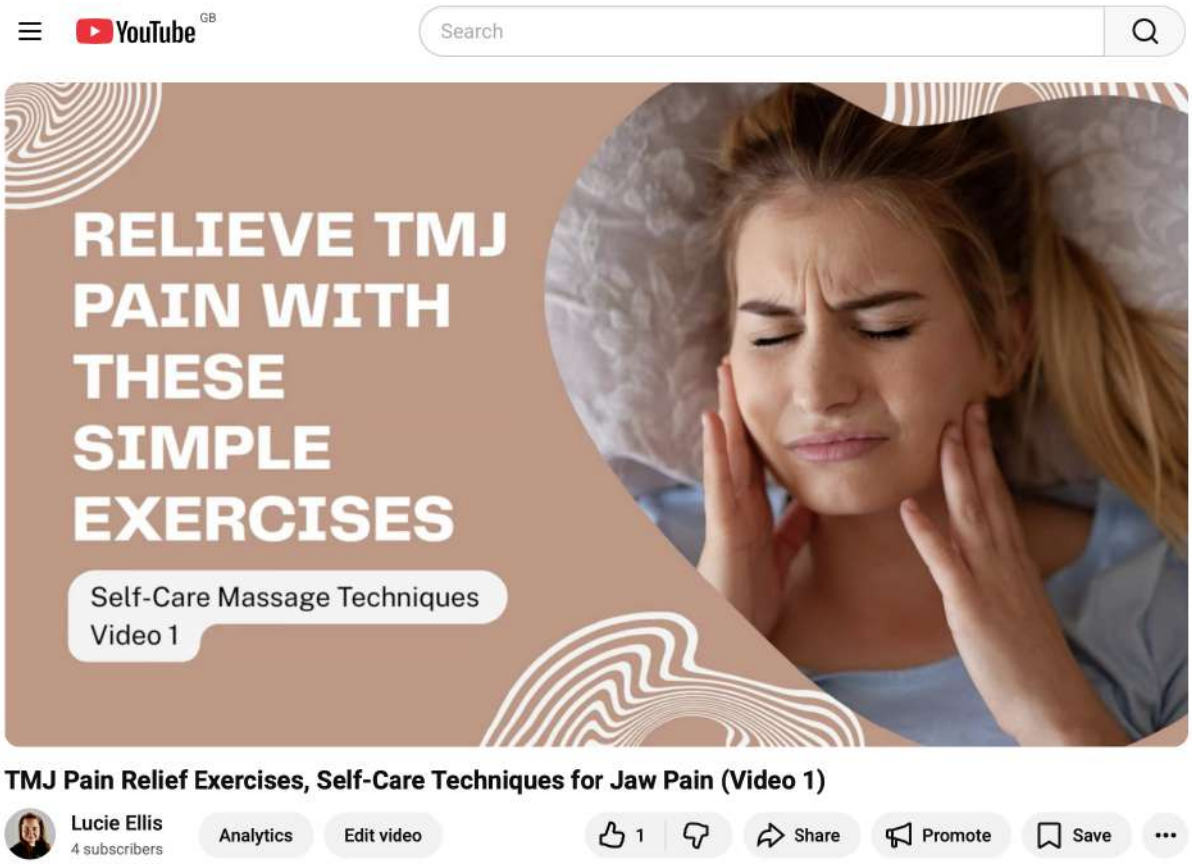
https://nalaayan.com/topics/acupuncture/



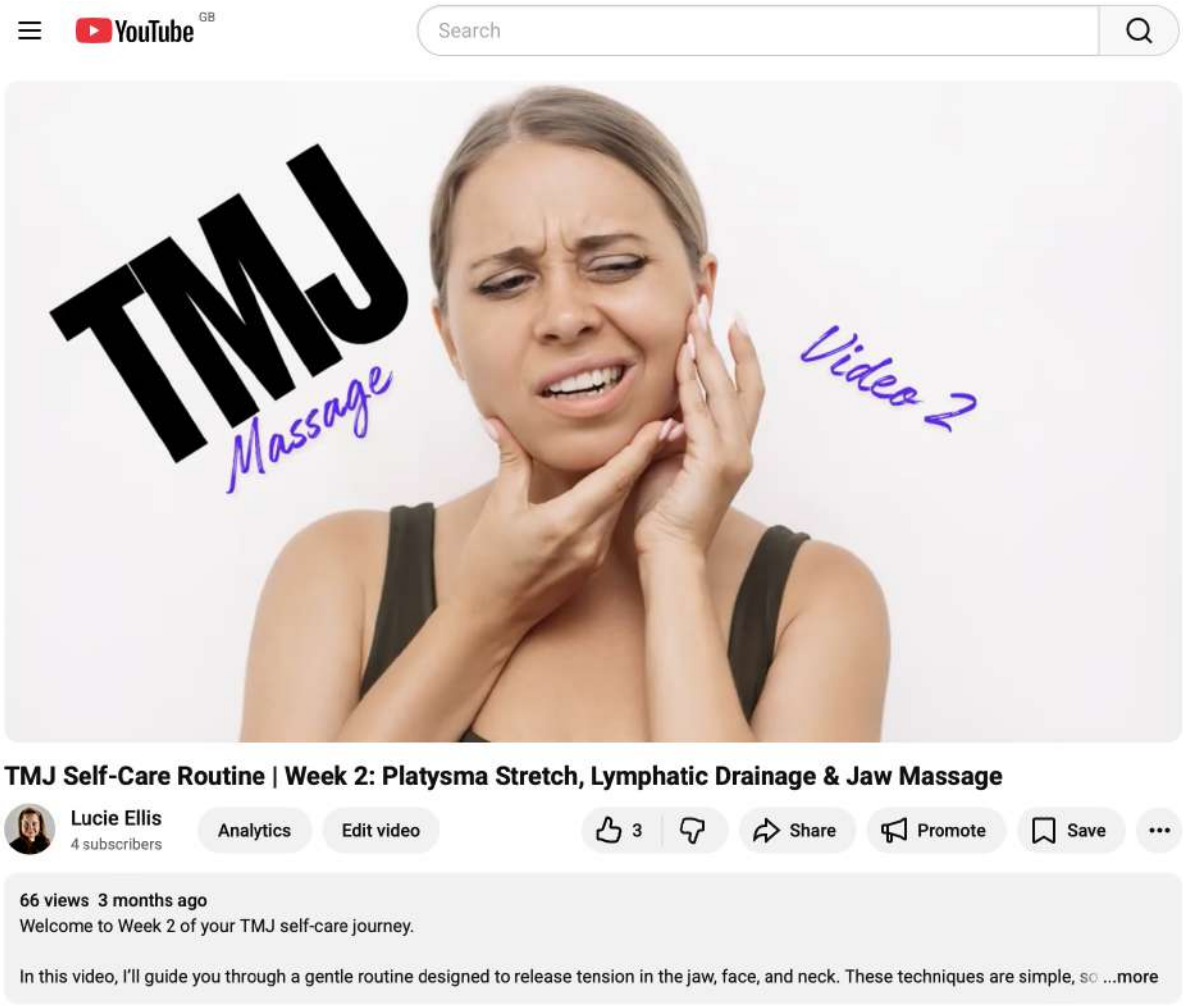
Teaching

- Demonstrate tongue-on-palate posture ("resting the tongue on the roof of the mouth, slightly back, to reduce clenching").
- Introduce gentle **self-massage to SCM and trapezius** for home practice.
- Encourage journaling of pain triggers (stress, chewing, clenching)

Appendix C5. Self care video resources.



https://www.youtube.com/watch?v=QuQy82-FGOc



https://www.youtube.com/watch?v=G1EawW9Fby8&t=168s

TMJ Self-Care Routine | Week 3: Neck, Jaw and Shoulder Release for Lasting Relief

Lucie Ellis
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Appendix D – Supporting results

Appendix D presents detailed outcome data supporting the summary results reported in the Results section.

Appendix D1. Baseline, Intervention and Follow-up Scores for Individual TMD-7 Symptoms With Percentage Reduction From Baseline

Symptom	Baseline Mean (Weeks 1–6)	Intervention Mean (Weeks 7–12)	Follow-up (Week 16)	% Change (Baseline → Follow-up)
Jaw pain or soreness	2.19	1.82	1.20	45.14% reduction
Jaw locking or catching	1.63	1.23	0.80	50.77% reduction
Jaw clicking or popping	2.06	1.71	1.00	51.52% reduction
Headaches or migraines	1.65	1.17	0.80	51.39% reduction
Facial pain or tension	2.21	1.83	1.40	36.60% reduction
Ear pain or pressure	1.31	0.91	0.40	69.52% reduction
Neck or shoulder discomfort	2.27	2.01	2.00	11.93% reduction

Appendix D2. Total mean symptom frequency, pain intensity and composite scores by study phase

Week	Mean Total TMD-7 Score (0–21)	Pain Intensity (0–10 NRS)	Composite Score (0–31)	Phase
Week 1	13.75	6.25	20.00	Control
Week 2	13.38	6.00	19.38	Control
Week 3	12.50	5.63	18.13	Control
Week 4	13.75	6.13	19.88	Control
Week 5	13.25	5.50	18.75	Control
Week 6	13.25	5.50	18.75	Control
Week 7	12.13	4.75	16.88	Intervention
Week 8	10.50	4.63	15.13	Intervention
Week 9	10.38	5.13	15.50	Intervention
Week 10	11.38	4.88	16.25	Intervention
Week 11	10.38	4.50	14.88	Intervention
Week 12	9.43	3.86	13.29	Intervention
Week 16	7.60	3.80	11.40	Follow-up

Appendix D3. Summary of changes in mean symptom frequency, pain intensity and composite scores from the baseline control phase (Weeks 1–6) to the end of intervention (Week 12) and follow-up (Week 16).

Mean symptom frequency values are presented as mean-per-item scores on a 0–3 Likert scale. Pain intensity values are presented on a 0–10 numerical rating scale (NRS). Composite scores represent the sum of the total TMD-7 score (0–21) and pain intensity (0–10), producing a combined score out of 31.

Outcome Measure	Baseline Mean (Weeks 1–6)	Week 12 (End of Intervention)	% Change (Baseline → Intervention)	Week 16 (Follow-up)	% Change (Baseline → Follow-up)
Mean Symptom Frequency (0-3 per item)	1.90	1.35	28.95% reduction	1.09	42.63% reduction
Pain Intensity (0-10 NRS)	5.83	3.86	33.79% reduction	3.80	34.82% reduction
Composite Score (0-31)	13.31	9.43	29.15% reduction	7.60	42.90% reduction

Baseline values represent the mean of the six-week control phase (Weeks 1–6), while Week 12 and Week 16 values represent single time-point scores.