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REVIEW

MANUAL THERAPY FOR TEMPOROMANDIBULAR MYOFASCIAL PAIN: A PHENOTYPE-GUIDED NARRATIVE REVIEW

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ABSTRACT

Background: Manual therapy for temporomandibular myofascial pain is commonly used within conservative care for muscle-related temporomandibular disorders, which involve masticatory muscle pain, trigger-point sensitivity, impaired mandibular mobility, and functional limitation. Conservative and reversible interventions are preferred as first-line management.

Objective: This narrative review summarizes the rationale, clinical application, evidence limitations, and safety considerations of manual therapy for temporomandibular myofascial pain, with emphasis on phenotype-guided clinical reasoning.

Methods: A structured narrative framework was used. PubMed/MEDLINE, Scopus, Web of Science, and relevant reference lists were considered using terms related to temporomandibular disorders, myofascial pain, manual therapy, massage, mobilization, manipulation, muscle energy techniques, trigger points, and cervical therapy. Systematic reviews, randomized or controlled studies, and foundational clinical sources were prioritized. No formal risk-of-bias assessment, certainty grading, or meta-analysis was performed.

Results: Manual therapy may improve pain, pressure pain sensitivity, maximum mouth opening, and jaw-related function, especially when combined with education, therapeutic exercise, behavioral modification, and self-management. Evidence is most consistent for multimodal conservative programs rather than isolated manual techniques. The certainty of evidence for specific procedures such as positional release, reciprocal inhibition, post-isometric relaxation, and trigger-point pressure techniques remains limited and predominantly short term.

Conclusions: Manual therapy is a reasonable conservative option for selected patients with temporomandibular myofascial pain when delivered within an individualized, consent-based, multimodal rehabilitation plan. Available evidence supports cautious clinical use but does not allow strong technique-specific recommendations. Future research should include standardized Diagnostic Criteria for Temporomandibular Disorders-based diagnosis, detailed intervention reporting, longer follow-up, adverse-event surveillance, and patient-centered outcomes.

KEYWORDS

Temporomandibular disorders, temporomandibular joint, myofascial pain, manual therapy, orofacial pain, physiotherapy

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INTRODUCTION

Temporomandibular disorders (TMDs) affect the temporomandibular joint (TMJ), masticatory muscles, and related craniofacial structures[1,2]. Contemporary frameworks distinguish joint-related, muscle-related, and mixed presentations[1,3]. Within DC/TMD, muscle-related pain includes myalgia, local myalgia, myofascial pain, and myofascial pain with referral[1,3]. This review focuses on myogenous and myofascial temporomandibular pain rather than isolated disc displacement, degenerative joint disease, acute locking, or non-musculoskeletal orofacial pain.

Temporomandibular myofascial pain is multifactorial. Bruxism, clenching, unilateral chewing, psychosocial stress, sleep disturbance, trauma, microloading, cervical dysfunction, and maladaptive jaw posture may interact with peripheral and central pain mechanisms[2,4-7]. Trigger points in masticatory and neck-shoulder muscles can refer pain to the teeth, ear, temple, jaw, head, or cervical region, complicating differential diagnosis[4,5].

Conservative and reversible care is generally favored as first-line management for painful TMDs. Education, self-management, therapeutic exercise, habit modification, occlusal appliances when indicated, pharmacological support, and physiotherapy may be combined according to irritability and patient needs[2,8-10]. Manual therapy is frequently integrated because it may address soft-tissue sensitivity, protective guarding, joint hypomobility, and cervicomandibular interactions[9-14].

This narrative review synthesizes manual therapy approaches for temporomandibular myofascial pain, emphasizing rationale, technique selection, evidence, clinical integration, and safety. Its added value is a phenotype-guided clinical reasoning framework rather than endorsement of isolated techniques.

MATERIALS AND METHODS

This manuscript was prepared as a narrative review rather than a systematic review or meta-analysis. The discussion was structured around a predefined clinical question: Which manual therapy approaches are used for temporomandibular myofascial pain, which phenotypes may justify them, and how should they be interpreted within multimodal conservative care?

A structured, non-exhaustive search framework was used. PubMed/MEDLINE, Scopus, Web of Science, and key reference lists were considered using terms for TMD, temporomandibular myofascial pain, masticatory myalgia, DC/TMD, manual therapy, physiotherapy, massage, myofascial release, TMJ mobilization, cervical manual therapy, manipulation, muscle energy technique, post-isometric relaxation, reciprocal inhibition, trigger point, pressure release, positional release, maximum mouth opening, pressure pain threshold, disability, and jaw function.

The literature considered in this narrative review covered publications available from database inception to June 2026. A final targeted update, focused on PubMed/MEDLINE and reference-list screening, was completed on 20 June 2026.

Priority was given to systematic reviews, randomized or controlled studies, clinically relevant treatment studies, and foundational sources on diagnosis, pain mechanisms, safety, and conservative rehabilitation. Studies were most relevant when they included TMD, masticatory muscle pain, myalgia, or mixed craniomandibular-cervical populations and reported pain, pressure pain threshold, maximum mouth opening, disability, function, global perceived effect, or adverse events.

Because no exhaustive search, formal risk-of-bias assessment, certainty rating, or quantitative synthesis was performed, conclusions should be interpreted as clinically informed narrative synthesis. Recommendations are therefore described as evidence-informed rather than definitive, with qualitative attention to consistency, directness, sample size, follow-up, and reproducibility.

Ethics approval was not required because this narrative review did not report new studies involving human participants, human data, or animals performed by the authors.

RESULTS

Clinical phenotyping and treatment priorities

Before selecting a manual therapy technique, clinicians should first identify the dominant clinical presentation as myogenous, arthrogenous, cervicogenic, psychosocially maintained, or mixed[1-3,8,13,14]. This distinction is clinically relevant because patients with widespread tenderness, high irritability, sleep disturbance, and anxiety may require different treatment priorities than patients with localized masseter trigger points and mild mouth-opening limitation[2,4-8,15-17].

A DC/TMD-consistent assessment is therefore important, as clinical priorities may differ across local myalgia, myofascial pain with referral, mixed myogenous-arthrogenous pain, and presentations dominated by headache, cervical dysfunction, or psychosocial distress[1-3,13,14]. Manual therapy is most directly relevant when palpation-reproduced pain, movement-related limitation, protective guarding, or reversible mobility restriction is the dominant finding[9-14,18,19].

Clinical examination should include pain history, aggravating and easing factors, mandibular range of motion, joint noises or locking, masticatory and cervical palpation, parafunctional habits, and cervical and red-flag screening[1,2,6,8,13,14,17]. Technique selection should be guided by irritability, tissue sensitivity, informed consent, patient preference, therapist competence, and measurable treatment goals[8-12,15-17]. The key studies informing this narrative synthesis are summarized in *Table 1*, with emphasis on study design, manual therapy focus, and relevance to phenotype-guided clinical interpretation.

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Study	Study design/evidence type	Manual therapy focus	Relevance to the present review
Taylor et al.[29]	Clinical study	Grade IV temporomandibular joint distraction mobilization	Provides early clinical evidence suggesting possible improvements in pain and mandibular range of motion in selected pain-dysfunction presentations. However, applicability to DC/TMD-defined myofascial pain remains indirect.
De Laat et al.[18]	Clinical treatment study	Counselling combined with physical therapy for masticatory myofascial pain	Supports the integration of physical therapy within broader conservative management strategies, including patient education, counselling, and self-management.
Tuncer et al.[19]	Randomized controlled trial	Manual therapy combined with home-based physical therapy	Suggests potential benefit from combining therapist-delivered manual therapy with home-based care. Nevertheless, the multimodal treatment package limits attribution of effects to a single technique.
Calixtre et al.[10]	Systematic review of randomized trials	Manual therapy for pain reduction and limited mandibular range of motion	Indicates potential short-term benefits of manual therapy; however, methodological and clinical heterogeneity restricts firm technique-specific conclusions.
Armijo-Olivo et al.[9]	Systematic review and meta-analysis	Manual therapy and therapeutic exercise	Provides strong support for combining manual therapy with therapeutic exercise and conservative education in the management of temporomandibular disorders.
La Touche et al.[14]	Systematic review and meta-analysis	Cervical manual therapy and exercise	Supports the consideration of cervical interventions when cervicomandibular impairments are present, particularly for short-term clinical outcomes.
Asquini et al.[12]	Systematic review	Craniomandibular manual therapy	Suggests improvements in pain and mouth opening, although the certainty of evidence remains limited by study quality and variability in intervention protocols.
Vieira et al.[11]	Systematic review of randomized trials	Manual therapy effects on pain, maximum mouth opening, and disability	Demonstrates clinically relevant potential for improving pain and function, especially when manual therapy is delivered as part of multimodal treatment protocols.
Liberato et al.[13]	Systematic review	Cervical joint manual therapy	Reports short-term improvements in orofacial pain and jaw function. Generalizability remains limited due to sample characteristics and variability across included studies.
Tariq et al.[26]	Randomized controlled trial	Massage therapy versus massage combined with post-isometric relaxation	Suggests that adding post-isometric relaxation to massage may enhance clinical outcomes in selected patient presentations; further replication is required.
Acikgoz et al.[38]	Clinical ultrasonography study	Immediate and short-term masseter muscle response to manual therapy	Provides emerging imaging-based evidence that may help link tissue-level responses with functional outcomes, although clinical implications remain preliminary.

Table 1. *Reference-linked evidence map of manual therapy for temporomandibular disorders and masticatory myofascial pain, with qualitative interpretation of evidence relevance.*

Abbreviations: DC/TMD, diagnostic criteria for temporomandibular disorders; MMO, maximum mouth opening; TMD, temporomandibular disorders; TMJ, temporomandibular joint.

The phenotype-guided framework in this review should be read as a practical aid to clinical reasoning, not as a validated treatment-allocation model. It does not assign a patient to one technique. Instead, it encourages the clinician to weigh the dominant pain presentation, irritability, regional findings, psychosocial contributors, patient preferences, contraindications, and response to care when building a multimodal plan. Treatment choices should remain flexible and should be revised when reassessment does not show a meaningful benefit.

Biological rationale for manual therapy

Manual therapy may influence temporomandibular myofascial pain through interacting biomechanical, neurophysiological, and psychosocial mechanisms. Soft-tissue techniques may alter perceived tone, tenderness, tissue extensibility, and local circulation; joint mobilization may improve accessory movement and mandibular arthrokinematics; mechanical stimulation may modulate nociceptive processing and pressure pain sensitivity[15,16]. These effects should not be interpreted as purely mechanical. Contemporary models emphasize sensory input, expectation, therapeutic alliance, autonomic responses, movement confidence, and contextual factors[15,16], which are relevant because TMD symptoms often combine local muscle sensitivity, cervical contributions, psychosocial stressors, and parafunctional behaviors.

Thus, improvements after manual therapy should be interpreted as interacting specific and non-specific effects, particularly because many trials test complex care packages with short follow-up.

Massage and myofascial soft-tissue techniques

Classical massage, effleurage, and petrissage

Massage applied to the masseter, temporalis, suprahyoid region, and cervical muscles is commonly used to reduce pain, guarding, and perceived tension. Effleurage, petrissage, and friction techniques differ in depth and focus but are typically used to prepare tissue, improve tolerance, or address localized tenderness[20-23].

Proposed effects include mechanoreceptor stimulation, nociceptive modulation, local circulatory changes, reduced sympathetic arousal, and endogenous pain modulation[23,24]. In TMD, massage most often targets the masseter and temporalis because they are accessible, commonly tender, and involved in parafunctional loading[18-22]. Protocols vary from brief localized applications to 20-30-minute sessions delivered one to three times weekly over days or weeks, usually with exercise, posture correction, relaxation, or splint therapy[18-21,25]. Conservative dosing should start with low-to-moderate pressure and progress only if irritability decreases. Reports should specify treated muscles, pressure/tolerance, duration, session number, co-interventions, and home program.

Myofascial release and deep friction massage

Myofascial release uses sustained, slow, low-load contact; deep transverse friction applies localized transverse pressure. In temporomandibular myofascial pain, these techniques may target the masseter, temporalis, pterygoid region, or cervical soft tissues according to clinical findings and provider training[20,22,26].

Craniomandibular manual therapy studies suggest short-term pain and maximum mouth-opening benefits, especially when combined with exercise and education[11,12,25-28]. However, higher pressure is not inherently superior and may aggravate highly irritable symptoms. Deep friction and intraoral approaches require consent, infection control, anatomical knowledge, and clear explanation.

Joint mobilization and manipulation

Temporomandibular joint mobilization

TMJ mobilization uses graded passive accessory movements to reduce pain, improve mobility, and support arthrokinematics. Techniques include distraction, anterior or inferior glide, medial-lateral glide, and translatory mobilization[29,30]. Low grades may be selected for pain modulation, whereas higher grades should be reserved for clear mobility restriction. Reports should include direction, grade, duration, repetitions, symptom response, and active retraining. Grade IV TMJ distraction has been reported to improve pain and mandibular range in selected pain-dysfunction presentations[29], and passive manual range techniques have been compared with splint therapy in disc displacement or mobility disorders[30]. These findings support joint-directed care only in selected patients and underscore the need to distinguish myogenous guarding from internal derangement, acute locking, or predominantly arthrogenous pain.

Cervical and cervicomandibular manual therapy

The cervical region is clinically relevant because trigeminocervical sensory convergence and jaw-neck motor coupling may explain coexistence of cervical symptoms with TMD and potential effects of cervical interventions on orofacial pain and function[13,14,31,32].

Systematic reviews suggest cervical manual therapy may provide short-term reductions in orofacial pain and improvements in jaw function, although certainty varies and many samples are predominantly female[13,14]. Interventions may include upper cervical mobilization, thrust manipulation, suboccipital release, and exercise. Thrust techniques require appropriate training and screening for traumatic, vascular, neurological, inflammatory, infectious, malignant, or instability-related contraindications.

Muscle energy techniques and neuromuscular facilitation

Post-isometric relaxation

Post-isometric relaxation is a muscle energy technique involving brief low-intensity isometric contraction against resistance followed by relaxation and gentle movement toward a new barrier. In TMD, it can target jaw-closing, jaw-opening, or lateral translation limitations. Typical protocols use about 20% maximal voluntary contraction for 5-10 seconds over several cycles[25-28].

Proposed mechanisms include autogenic inhibition, reduced alpha motor neuron excitability, lower protective tone, and improved movement confidence. Trials suggest post-isometric relaxation combined with massage or exercise can improve pain and maximum mouth opening in selected TMD populations[25-28], but evidence remains limited by short follow-up, diagnostic heterogeneity, and variable dosage.

Reciprocal inhibition and stabilization exercises

Reciprocal inhibition uses antagonist contraction to reduce overactivity in an agonist muscle group. Gentle resisted jaw opening, for example, may reduce jaw-closing muscle activity and can be combined with rhythmic stabilization, alternating isometrics, and controlled mandibular retraining. Direct evidence for reciprocal inhibition in temporomandibular myofascial pain is less robust than evidence for multimodal programs; it should therefore be used as an adjunct to education, graded movement, and functional retraining[9,25-28]. Reports should specify resisted direction, contraction intensity, hold time, repetitions, and progression criteria.

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Trigger-point pressure release and positional release

Trigger-point pressure release involves gradually increasing sustained pressure over a tender or taut point until tolerable discomfort is reached, followed by reassessment of pain, mouth opening, or sensitivity[33-37]. It is most often applied to the masseter and temporalis; intraoral pterygoid-region application requires advanced training, consent, and strict hygiene. Pilot and clinical studies suggest ischemic compression and transverse friction may reduce trigger-point tenderness in the immediate or short term[34,35]. Intraoral myofascial therapy has shown potential for chronic myogenous TMD in pilot randomized research[33]. Positional release and strain-counterstrain place tissue in comfort to reduce nociceptive input and guarding, with comparative masseter work reporting improvements in pain sensitivity and mouth opening[36].

A recent ultrasonography study reported immediate and short-term changes in masseter muscle measures after manual therapy[38]. These findings are encouraging, but it remains unclear whether the observed tissue changes translate into sustained clinical benefit.

Because pressure techniques can provoke discomfort, dosage should be symptom-guided and explained beforehand. Excessive pressure is not recommended with acute inflammation, widespread sensitization, anticoagulant use, mucosal lesions, recent dental surgery, infection, or severe anxiety about intraoral contact. Reports should include treated muscle, extraoral/intraoral route, duration, number of points, tolerance, reassessment, and adverse events.

Integration into multimodal conservative care

Manual therapy should be one component of conservative management. A comprehensive physiotherapy plan may include education, reassurance, habit awareness, jaw relaxation, graded mandibular exercise, cervical/scapular exercise when indicated, ergonomic advice, sleep and stress-related counseling within scope, and referral for dental, psychological, or medical care when required[8-11,17,18]. *Figure 1* provides a phenotype-guided overview of how manual therapy approaches may be matched to dominant clinical findings and embedded within multimodal conservative care.

To make the main approaches easier to visualize, *Figure 2* provides simple schematic examples of TMJ mobilization, cervical manual therapy, sustained-pressure release, and a muscle energy technique. The drawings are educational rather than prescriptive and do not replace formal training, informed consent, or patient-specific clinical judgment.

Other non-invasive adjuncts may also be considered when they fit the patient's needs. An MLTJ systematic review reported potentially favorable effects of photobiomodulation for myogenic and arthrogenic TMD pain, but the authors cautioned that heterogeneous protocols prevented firm conclusions[39]. This supports the same practical message: adjunctive treatments should be weighed within the whole care plan rather than viewed as stand-alone solutions.

Treatment sequence should follow irritability. Highly irritable presentations require education, pain modulation, gentle soft-tissue work, low-grade mobilization, relaxation breathing, and avoidance of excessive mandibular loading. As irritability decreases, care can progress to stretching, coordination, resisted stabilization, chewing tasks, and self-management. Persistent clenching or suspected sleep bruxism may require dental evaluation and possible appliance therapy[6-8,17].

Outcome measurement should include pain intensity, maximum mouth opening, lateral excursion, protrusion, pressure pain threshold when available, jaw disability/function, headache frequency, patient-specific

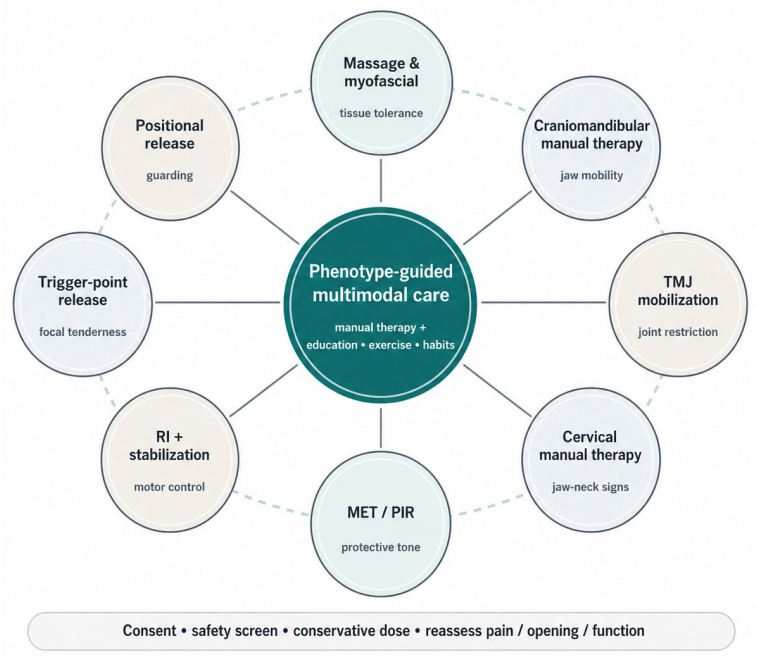


Figure 1. *Conceptual phenotype-guided clinical reasoning framework for temporomandibular myofascial pain. The figure shows how dominant clinical findings and relevant contributing factors may help clinicians prioritize components of individualized care. It is not a validated treatment-allocation algorithm and does not prescribe a single manual therapy technique for a given phenotype. Manual therapy, when appropriate, should be combined with education, self-management, therapeutic exercise, behavioral strategies, and other conservative interventions. Treatment choices should be adjusted according to contraindications, patient preferences, clinical response, and repeated reassessment.*

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goals, global perceived effect, and adverse events. Reassessment after a defined treatment block helps identify responders and avoid ineffective care; statistically significant changes should be linked to patient-centered functional improvement. A practical summary of the evidence-informed manual therapy approaches, including qualitative evidence strength, dosage and reporting priorities, clinical use, and implications for research reporting, is provided in *Table 2*.

DISCUSSION

Clinical safety considerations

Manual therapy is generally low risk when delivered by trained clinicians using conservative dosing, but safety screening is essential. Red flags include unexplained weight loss, fever, malignancy history, recent facial or cervical trauma, suspected fracture, infection, inflammatory arthropathy flare, neurological deficits, severe progressive headache, vascular symptoms, sudden occlusal change, acute jaw locking, or pain suggestive of non-musculoskeletal disease. These presentations warrant medical or dental evaluation before manual intervention.

Intraoral techniques require consent, glove use, mucosal inspection, infection-control procedures, and clear communication. They should be avoided with mucosal lesions, active infection, recent surgery, poor tolerance, or refusal. Cervical thrust techniques require separate screening and should be avoided when contraindications or unexplained neurological or vascular symptoms are present.

Limitations of the current evidence

Evidence for manual therapy in temporomandibular myofascial pain is promising but heterogeneous. Studies vary in diagnosis, symptom duration, cervical involvement, dosage, therapist training, comparators, co-interventions, outcomes, sample size, and follow-up[9-14]. These limitations restrict conclusions about long-term effectiveness, recurrence prevention, clinical importance, cost-effectiveness, and safety, especially because adverse events are inconsistently reported.

Evidence from myofascial pain outside the jaw points in the same direction. In an MLTJ randomized study of women with descending trapezius myofascial pain, manual and instrument-assisted ischemic compression produced within-group improvements without a consistent between-group advantage, and post-treatment discomfort was documented[40]. Although this population is not directly equivalent to TMD, the study reinforces cautious technique-specific claims and the need to report adverse effects clearly. A recent systematic review of physiotherapy for TMD similarly found short-term improvements in pain and function but called for larger, better-reported studies[41].

Many interventions are multimodal, reflecting clinical reality but limiting isolation of single-technique effects. Future research should describe treatment components,

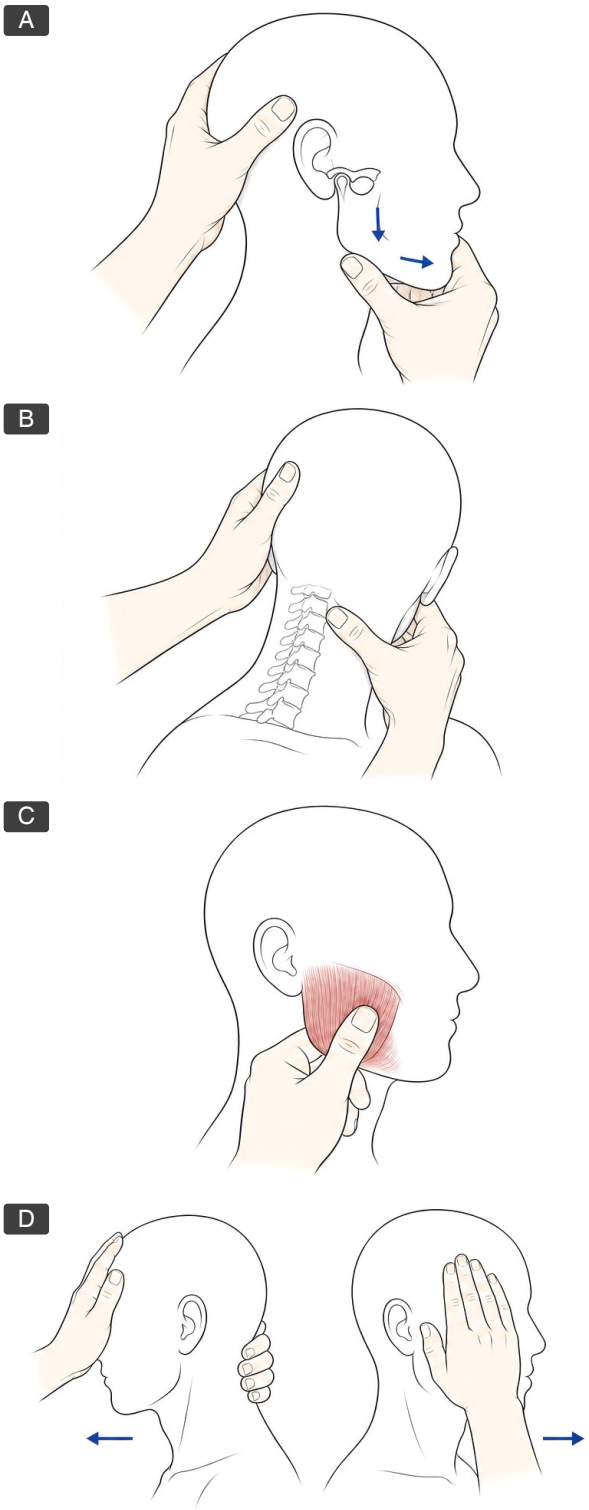


Figure 2. *Representative schematic illustrations of selected manual therapy approaches discussed in this review: A) TMJ mobilization; B) cervical manual therapy; C) sustained-pressure release directed to an involved masticatory muscle; and D) a muscle energy technique using gentle resisted mandibular motion. The drawings are intended to help readers visualize the general approaches; they are not step-by-step treatment protocols. Technique selection, force, duration, and progression should be individualized according to examination findings, patient tolerance, contraindications, treatment goals, and response to care. These illustrations do not replace formal clinical training or informed consent.*

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Approach	Qualitative evidence strength and key references	Typical dosage/ reporting priorities	Evidence-informed clinical use	Interpretation for clinical and research reporting
Massage and myofascial soft-tissue techniques	Low-moderate adjunct; short-term/heterogeneous. Key references:[18,20,22,23,26]	Report treated muscles, pressure level/tolerance, duration, frequency, number of sessions, and co-interventions	Use for pain modulation, tissue tolerance, and preparation for active exercise in tender masseter, temporalis, and cervical muscles	Present as adjunct, not stand-alone cure.
Craniomandibular manual therapy	Low-moderate; stronger with exercise/education. Key references:[10,12,19,27,28]	Report specific technique, therapist training, symptom response, progression rules, and home program	Apply when jaw mobility limitation, localized masticatory sensitivity, or protective guarding is clinically dominant	Avoid broad claims; heterogeneity limits technique-specific recommendations.
TMJ mobilization	Low; phenotype-dependent and partly indirect for purely myogenous pain. Key references:[29,30]	Report direction, grade, duration, repetitions, treated side, and active retraining	Consider low-grade mobilization for pain-sensitive patients and higher-grade mobilization only when joint restriction is evident	Differentiate myogenous guarding from disc displacement, locking, inflammatory joint disease, or non-musculoskeletal causes.
Cervical manual therapy	Low to moderate for short-term pain/function outcomes in selected TMD samples. Key references:[13,14,31,32]	Report cervical level, technique, thrust/non-thrust status, screening, exercise pairing, and adverse events	Use when neck pain, headache, upper cervical dysfunction, or cervicomandibular coupling is present	Frame as phenotype-guided; screen carefully for neurological, vascular, traumatic, or inflammatory red flags.
Muscle energy techniques / post-isometric relaxation	Low; supportive RCTs but limited replication and follow-up. Key references:[25-28]	Report contraction intensity, duration, repetitions, treated muscles, rest intervals, and co-interventions	Use low-intensity isometric contractions followed by relaxation and graded movement to reduce protective tone and improve movement confidence	Appropriate as an adjunct; not enough evidence for isolated technique superiority.
Reciprocal inhibition and stabilization exercises	Very low to low as a distinct manual therapy mechanism for TMD. Key references:[9,25-28]	Report resisted direction, contraction intensity, hold time, repetitions, and progression criteria	Use gentle antagonist activation and stabilization within graded movement retraining	Describe as clinical reasoning-based adjunct rather than a proven stand-alone intervention.
Trigger-point pressure release and positional release	Low; immediate/short-term effects and indirect evidence predominate. Key references:[33-37]	Report intraoral/extraoral route, muscle, pressure duration, number of points, tolerance, reassessment, and adverse events	Apply symptom-guided pressure or comfort positioning to focal tender points when tolerated	Avoid aggressive dosing; consent/ contraindications are critical intraorally.
Multimodal conservative rehabilitation	Moderate and most defensible clinical recommendation. Key references:[8-11,17,18]	Report education, exercises, behavioral components, manual therapy content, adherence, and referral pathways	Combine manual therapy with education, habit modification, graded jaw exercise, cervical/ scapular exercise, and interdisciplinary referral when indicated	This should be the central recommendation because the evidence base rarely isolates a single manual technique.

Table 2. *Evidence-informed manual therapy approaches, evidence strength, reporting priorities, and clinical implications for temporomandibular myofascial pain.*

Abbreviations: RCT, randomized controlled trial; RCTs, randomized controlled trials; TMD, temporomandibular disorders; TMJ, temporomandibular joint.

progression rules, therapist experience, adherence, and co-interventions sufficiently for replication. Evidence certainty should also be formally graded in future systematic reviews, because narrative interpretation cannot replace risk-of-bias assessment or GRADE-based judgments.

Future directions

Future trials should use standardized criteria such as DC/TMD and clearly define myogenous and mixed subgroups. Patient-reported outcomes should be selected in advance and should include pain intensity, pain-related interference, jaw function, disability, global perceived

improvement, and quality of life, alongside objective measures such as maximum mouth opening when relevant. Adverse events and short-term symptom flares should be reported consistently, including their severity, duration, and likely relationship to treatment. To make interventions reproducible, authors should describe the anatomical target, technique, force or grade, duration, frequency, number of sessions, progression criteria, clinician training, and co-interventions. Longer follow-up is needed to determine whether early improvements are maintained.

Comparative effectiveness studies should determine which patients benefit most, which techniques suit specific phenotypes, and whether adding cervical manual therapy or muscle energy techniques improves outcomes beyond education and exercise alone. Research should also examine mechanisms, patient preference, self-management adherence, and interdisciplinary pathways involving physiotherapy, dentistry, oral medicine, psychology, and pain medicine.

CONCLUSIONS

Manual therapy is a relevant conservative intervention for temporomandibular myofascial pain when applied within structured clinical reasoning. Massage/myofascial techniques, TMJ mobilization, cervicomandibular manual therapy, muscle energy techniques, trigger-point pressure release, and positional release may reduce pain and improve mandibular function, particularly with education and exercise. Evidence is not equally strong across techniques; the most defensible recommendation is multimodal, phenotype-guided conservative care. Isolated technique-specific claims remain limited by diagnostic heterogeneity, variable dosage, inconsistent comparators, limited adverse-event reporting, and short follow-up. Clinical use should be individualized, conservative, symptom-guided, consent-based, and integrated into multimodal care. Future trials require standardized diagnosis, transparent reporting, certainty grading, adverse-event monitoring, longer follow-up, and patient-centered outcomes.

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