

Orthopaedic Manual Therapy for Temporomandibular Disorders: Integrating Osteopathic Techniques with Physiotherapy

Srdjan Andjelkov

Clinic for Rehabilitation and Physical Therapy “Manual physical therapy”, Belgrade, Serbia.

*Corresponding Authors

Srdjan Andjelkov, MSc, Spec PT, D.O.,
Clinic for Rehabilitation and Physical Therapy “Manual physical therapy”, Belgrade, Serbia.

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Abstract

Background: Temporomandibular disorders (TMD) comprise conditions affecting the temporomandibular joints, masticatory muscles, and associated structures. Conservative management commonly includes education, self-management, therapeutic exercise, and selected manual interventions. Osteopathic techniques are sometimes incorporated into rehabilitation, although their additional benefit within multimodal programmes remains uncertain.

Objective: To describe a structured clinical pathway integrating orthopaedic manual therapy, selected osteopathic techniques, and physiotherapy for patients with TMD in an outpatient rehabilitation setting.

Clinical Approach: The pathway includes screening and differential assessment, identification of predominantly muscular, articular, or mixed presentations, individualised education, symptom-guided manual therapy, progressive exercise, and reassessment over four to six weeks. Core outcome measures comprise pain intensity, the Jaw Functional Limitation Scale, maximum mouth opening, and patient-perceived change. Osteopathic techniques are considered optional adjuncts rather than substitutes for active rehabilitation.

Practice Observations: The originating practice account describes perceived short-term improvements in pain and jaw function, with transient post-treatment soreness. However, no patient-level dataset, sample size, or quantified outcome and adverse-event information is presented. These observations therefore cannot establish treatment effectiveness or safety.

Conclusion: A structured pathway may improve the consistency and documentation of multimodal TMD care. Education, exercise, and regular reassessment should remain central. Prospective studies are required to evaluate feasibility, quantify outcomes, and determine whether specific osteopathic adjuncts provide additional clinical benefit.

Keywords: Manual therapy; orofacial pain; osteopathy; physiotherapy; rehabilitation; temporomandibular disorders.

Introduction

Temporomandibular disorders encompass a heterogeneous group of conditions involving the temporomandibular joint (TMJ), masticatory muscles, and associated tissues. Clinical presentations may include pain during chewing, restricted mouth opening, joint sounds, and difficulty performing everyday activities such as eating, speaking, or yawning.

Assessment should consider both physical findings and the broader impact of symptoms. The Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) provide a framework for evaluating common physical diagnoses alongside pain-related disability and psychosocial factors. This supports a clinical approach that extends beyond local tenderness or joint mechanics alone (Schiffman et al., 2014).

For chronic TMD pain, clinical guidance supports education, self-management, selected manual interventions, supervised

jaw and postural exercises, and cognitive behavioural therapy. These recommendations support conservative rehabilitation but should not be interpreted as evidence for every technique used within an individual treatment programme (Busse et al., 2023).

In outpatient practice, physiotherapy may be combined with osteopathic techniques directed towards the jaw, cervical region, or other areas considered relevant to the patient's presentation. This integration requires clear clinical reasoning and transparent communication about uncertainty.

The purpose of this article is to describe a structured pathway for combining these approaches while separating established rehabilitation components from adjunctive techniques whose specific contribution remains unconfirmed.

Materials and Methods

Nature and Scope of the Article

This article describes a clinical approach originating from the Clinic for Rehabilitation and Physical Therapy “Manual physical therapy”, Belgrade, Serbia. It is based on the author’s practice abstract and selected relevant literature.

The manuscript is not a controlled study, systematic review, or analysed case series. No individual patient records or aggregate dataset are presented. The detailed documentation and progression procedures outlined below constitute a proposed framework for standardising the approach; they should not be interpreted as verified procedures applied to a defined study population.

Within this article, orthopaedic manual therapy refers to assessment-informed manual interventions used in musculoskeletal rehabilitation. Osteopathic techniques refer to selected additional procedures considered within the broader treatment programme.

Initial Assessment

The pathway begins with a clinical history addressing symptom onset, duration, location, aggravating activities, previous treatment, locking episodes, and functional limitations. Relevant contextual information includes sleep disturbance, perceived stress, oral behaviours, medication use, and concurrent dental or medical care.

Physical assessment should use a recognised diagnostic framework. DC/TMD-based assessment can help distinguish common muscle-related and joint-related pain conditions. Reproduction of the patient’s familiar pain is considered alongside history and examination findings rather than relying on tenderness alone (Schiffman et al., 2014).

For treatment planning, presentations may be described as muscle-dominant, joint-dominant, or mixed. These categories are practical descriptors and do not replace formal diagnoses or establish which intervention will be effective.

Screening also identifies findings requiring further dental or medical investigation. Referral decisions and any reason for deferring manual treatment should be documented. Associated cervical symptoms are assessed when relevant, without presuming that cervical impairment is the primary cause of the TMD.

Education and Self-Management

Education is adapted to the patient’s symptoms, concerns, and goals. The programme described in the originating abstract includes discussion of sleep routines, awareness of parafunctional behaviours, temporary dietary adjustments, and strategies for reducing unnecessary jaw tension.

Patient explanations should encourage confidence in movement and avoid suggesting that the jaw requires repeated structural correction. Functional goals may include more comfortable

chewing, improved tolerance of speaking, or reduced interference with sleep and work.

The home programme should be manageable and reviewed regularly. Difficulties with adherence should prompt adjustment of the programme rather than an assumption of poor motivation.

Manual Therapy

Manual interventions are selected according to the clinical presentation, symptom irritability, relevant precautions, patient preference, and response to treatment.

For muscle-dominant presentations, the proposed approach includes gentle soft-tissue interventions and muscle energy techniques. Joint-dominant presentations may be managed with appropriately selected TMJ mobilisation. Mixed presentations require prioritisation of the findings most relevant to pain and function.

Treatment records should specify the technique, anatomical region, duration, patient response, and reason for continuation or modification. Intraoral procedures require specific consent, appropriate infection-control measures, and professional competence.

Cervical and thoracic interventions may be incorporated when assessment identifies a relevant impairment. Neurodynamic interventions should have a documented clinical indication and should not be routine components of every TMD programme.

Osteopathic Adjuncts

The originating practice model includes balanced ligamentous tension, cranial approaches, and diaphragm-focused techniques. These are considered optional adjuncts with uncertain additional benefit.

A randomised trial has examined osteopathic manual therapy in comparison with conventional conservative treatment. However, evidence from comparisons between treatment packages cannot identify the effect of each component or demonstrate that adding a particular osteopathic technique to physiotherapy improves outcomes (Cuccia et al., 2010).

Breathing-focused work may be considered when patients report stress-associated breath-holding or difficulty relaxing. Any rationale should remain cautious: improved subjective relaxation does not establish correction of diaphragm dysfunction, structural change in the TMJ, or successful treatment of sleep bruxism.

The clinical purpose, patient response, and time devoted to these adjuncts should be recorded separately from the core rehabilitation programme.

Therapeutic Exercise

Exercise is the active component of the pathway. The model includes jaw relaxation, controlled opening, cervical motor-

control training, scapular exercises, and graded exposure to activities limited by pain.

Selection should follow identified functional needs. Opening deviation does not automatically require correction, and cervical or scapular exercises should not imply that a particular posture is responsible for the disorder.

Progression is guided by tolerance, symptom response, and functional improvement. Passive treatment should support participation in activity rather than become the principal long-term management strategy.

Proposed Treatment Phases

The four-to-six-week period described in the original abstract can be organised into three overlapping phases.

Table 1: Proposed phases of the clinical pathway

Phase	Clinical emphasis	Proposed components
Initial management	Understanding symptoms and establishing tolerable activity	Education, shared goals, gentle movement, selected manual interventions
Functional rehabilitation	Improving jaw use and activity tolerance	Progressive exercise, indicated cervical rehabilitation, graded return to chewing and opening tasks
Consolidation	Increasing independence	Home-programme refinement, return to usual activities, flare-management planning

These phases represent an organisational framework rather than a validated schedule. Actual session frequency, treatment duration, exercise dosage, and progression must be documented in any subsequent clinical study.

Outcome Monitoring

Assessment should occur at baseline and at a defined follow-up point, with interim reassessment used to guide treatment.

Table 2: Proposed outcome and safety documentation

Domain	Outcome measure	Documentation requirements
Pain	Numerical Rating Scale, 0–10	Consistent pain definition and recall period
Jaw function	JFLS-8 or JFLS-20	Version, language, scoring method, and assessment date
Mouth opening	Measurement in millimetres	Type of opening measured and standardised measurement method
Perceived improvement	Patient Global Impression of Change	Scale and response categories
Adherence	Attendance and home-programme record	Planned and completed sessions; method of assessing home participation
Safety	Structured adverse-event log	Event type, severity, onset, duration, management, and possible relationship to treatment

The Jaw Functional Limitation Scale provides a condition-specific assessment of functional limitation. Its eight-item and twenty-item versions should be identified explicitly and used consistently during follow-up (Ohrbach et al., 2008).

Safety monitoring should include direct questioning about new or worsened symptoms. Missing documentation must not be interpreted as evidence that no adverse event occurred.

Results: Descriptive Practice Observations

The originating clinical account describes perceived improvements in pain, jaw function, and maximum mouth opening during routine treatment. It also reports favourable impressions of adherence and minor, transient soreness following some interventions.

These observations are not supported by a defined dataset in the present manuscript. The number of patients, diagnostic distribution, baseline severity, treatment exposure, follow-up completion, and concurrent interventions are unspecified.

Consequently, no effect sizes, responder rates, adherence percentages, or adverse-event frequencies can be calculated. The available information also does not permit comparison between muscle-dominant, joint-dominant, and mixed presentations.

No individual case narratives are included. The practice observations should therefore be interpreted as hypothesis-generating.

Discussion

Clinical Contribution

The principal contribution of the proposed pathway is a structured approach to assessment, treatment selection, and documentation. It aims to make clinical decisions explicit and to connect treatment with outcomes meaningful to the patient.

For chronic TMD pain, its core components overlap with recommended conservative care. Nevertheless, the relevant guideline concerns pain lasting at least three months, and

recommendations should not automatically be extrapolated to acute presentations (Busse et al., 2023).

The pathway does not require every patient to receive every intervention. A limited programme addressing the main functional problems may be more appropriate than a broad package of techniques without clearly documented indications.

Interpretation of Treatment Response

Improvement during multimodal care cannot establish the effectiveness of a particular component. Education, exercise, therapeutic interaction, natural symptom fluctuation, concurrent treatment, and other contextual factors may all contribute.

Similarly, an immediate change after manual treatment does not demonstrate a specific structural mechanism. Reassessment can inform whether an intervention remains useful for an individual patient, but it cannot replace controlled evaluation. Osteopathic treatment has been investigated in TMD, providing a basis for further research. However, this does not establish the additional value of the particular cranial, ligamentous, or diaphragm-focused techniques included in the present model (Cuccia et al., 2010).

Interdisciplinary Management

Coordination with dentistry is relevant when symptoms require clarification of dental causes or when an oral appliance is being considered for a specific indication. Psychological care may be appropriate when distress, avoidance, or persistent pain substantially affects function.

Dental coordination should not imply routine splint prescription for chronic TMD pain. The BMJ guideline issued a conditional recommendation against reversible occlusal splints for that indication, reinforcing the need for individualised decisions (Busse et al., 2023).

Limitations

The absence of a defined clinical sample is the main limitation. Without documented outcomes and a comparator, the manuscript cannot establish effectiveness, superiority, or safety.

Additional limitations include the short observation period described in the abstract, possible selective recall of favourable outcomes, and insufficient information about concurrent care. The practical categories used to guide treatment should not be interpreted as validated predictors of response.

Favourable impressions of feasibility require confirmation through measurable indicators such as recruitment, attendance, treatment completion, acceptability, and documentation burden.

Future Research

A prospective observational study could evaluate implementation using predefined eligibility criteria, standardised outcomes,

and systematic adverse-event collection. Treatment exposure and concurrent interventions should be recorded in sufficient detail to support interpretation.

A subsequent controlled trial could compare a standardised education-and-exercise programme with the same programme plus clearly specified osteopathic adjuncts. Comparable therapist contact and longer follow-up would help assess whether any additional benefit is clinically meaningful and sustained.

Conclusion

A structured pathway provides a practical framework for integrating manual therapy with education and exercise in TMD rehabilitation. Clinical assessment, shared goals, active participation, and consistent outcome monitoring should remain central.

The available practice account does not establish that specific osteopathic techniques improve outcomes beyond established conservative care. Their additional contribution and tolerability require prospective evaluation with clearly defined interventions and transparent reporting.

Declarations

Ethics statement: This descriptive clinical practice article presents a proposed care pathway and unquantified practice observations. It does not report a research cohort, individual patient records, or an analysis of patient-level data. No claim of ethics committee approval or formal exemption is made.

Consent for Publication

No identifiable patient information, patient images, or individual case narratives are included.

Competing Interests

Srdjan Andjelkov is the owner of the Clinic for Rehabilitation and Physical Therapy “Manual physical therapy”, Belgrade, Serbia, whose clinical approach is described. The author declares no other conflicts of interest.

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Author Contributions

Srdjan Andjelkov developed the clinical approach, contributed the originating abstract, and reviewed and approved the manuscript for submission.

Data Availability

No patient-level dataset is presented in this manuscript.

Originality and Concurrent Submission

This manuscript is not under consideration by another journal. Prior dissemination of the related conference abstract is disclosed below.

Prior Dissemination

A related abstract is available on the Magnus Conferences scientific programme webpage. The work is scheduled for an oral PowerPoint presentation on 24 September 2026. Conference abstract.

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