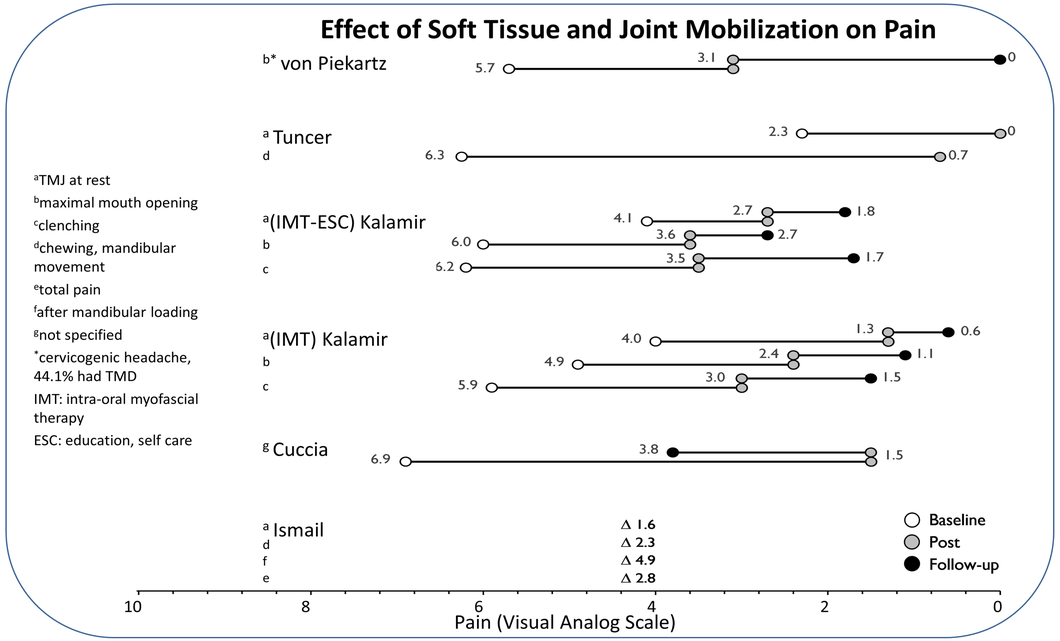
Does Soft Tissue and Joint Mobilization Reduce Pain in Adults with Temporomandibular Dysfunction (TMD)?

An Evidence Infographic created by The Evidence Workshop

Does the intervention work?



Can I do it?

	Intervention	Encounters				
	Description	Time to Apply	Number	Frequency	Duration	Clinician
Summary		15–45 min	6-24	0.5–3x/wk	3-24 wks	PT, Physio, Osteopath
Von Piekartz	Targeted tissue and masticatory muscle mobilization, exercise, and neuromusculo-skeletal treatment based on clinical judgement.	30 min	6	1-2x/wk	3-6 wks	Physical Therapist
Tuncer	Home physical therapy program of posture education, relaxation techniques, exercise, stretching, and TMJ soft tissue mobilization.	30 min	12	3x/wk	4 wks	Physical Therapist
(IMT-ESC) Kalamir	Intra-oral myofascial therapy to masticatory muscle trigger points. Two minutes of self care and education in home exercise.	15 min + home ex.	10	2x/wk	5 wks	Physiotherapist
(IMT) Kalamir	Intra-oral myofascial therapy to masticatory muscle trigger points.	15 min	10	2x/wk	5 wks	Physiotherapist
Cuccia	Manual therapy consisting of fine manipulation of tissue surrounding TMJ.	15-25 min	12	0.5x/wk	24 wks	Osteopath
Ismail	Soft tissue mobilization to TMJ, splint therapy.	45 min	24	2x/wk	12 wks	Physical Therapist

Will I get the same effect?

Is my patient like theirs?

- Adults, 30-50 years of age
- ~2:1 ratio of females:males
- TMD symptoms for at least 3 months
- Functional limitations due to painful, decreased passive and active mouth opening
- Clicking, popping, and tenderness
- In one paper, the primary diagnosis was cervicogenic headache; 44.1% had TMD

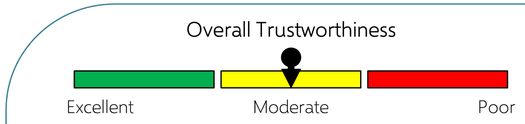
Is my setting like theirs?

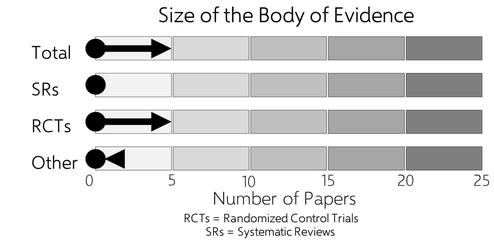
- Outpatient and home settings in Germany, Italy, Turkey, and Australia

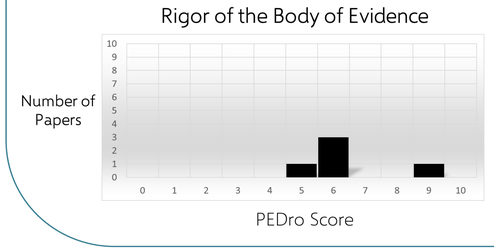
Can I do it?

- Self-described physical therapists, physiotherapists, and osteopaths; some with specialized training

Can I trust the evidence?







I can trust it because...

All the RCTs reported point estimates, variability measures, and between group comparisons.

Patients were randomly allocated to groups.

Groups were matched at baseline for factors likely to influence outcomes.

Follow-up time was adequate to observe an effect.

In most cases, assessors did not know which intervention was applied to which patient.

Intention to treat was rarely use, but dropout rates were low. It is not likely that dropouts inflated the effect of manual therapy.

I should remain skeptical because...

Experimental methods may have inflated the beneficial effects of soft tissue and joint mobilization.

Clinicians knew that they were applying soft tissue or joint mobilization; patients knew which intervention they were receiving.

It is difficult to blind clinicians and patients to high touch interventions like soft tissue and joint mobilization; nevertheless, knowledge of interventions may have biased the results in favor of manual therapy.

Clinicians who delivered manual therapy were not the same individuals as those who delivered control interventions. Many manual clinicians had advanced training in specialized techniques; they may have been better clinicians than those delivering control interventions.

Control groups were used, but control interventions usually did not provide a high touch alternative to manual therapy or a sham manual technique. The use of a high touch intervention in one group but not the other may have inflated the effect of manual therapy.

How can I learn more?

Read the RCTs

- Cuccia, A.M., Caradonna, C., Annunziata, V., & Caradonna, D. (2009). Osteopathic manual therapy versus conventional conservative therapy in the treatment of temporomandibular disorders: A randomized controlled trial. *Journal of Bodywork & Movement Therapies, 14*(2), 179-184. doi:10.1016/j.jbmt.2009.08.002
- Ismail, F., Demling, A., Hebling, K., Fink, M., & Stiesch-Scholz, M. (2007). Short-term efficacy of physical therapy compared to splint therapy in treatment of arthrogenous TMD. *Journal of Oral Rehabilitation, 34*(11), 807-813. doi:10.1111/j.1365-2842.2007.01748.x
- Kalamir, A., Pollard, H., Vitiello, A., & Bonello, R. (2010). Intra-oral myofascial therapy for chronic myogenous temporomandibular disorders: A randomized, controlled pilot study. *The Journal of Manual & Manipulative Therapy, 18*(3), 139-146. doi:10.1179/106698110X12640740712374
- Tuncer, A.B., Ergun, N., Tuncer, A.H., & Karahan, S.A (2012). Effectiveness of manual therapy and home physical therapy in patients with temporomandibular disorders: A randomized controlled trial. *Journal of Bodywork & Movement Therapies, 17*(3), 302-308. doi:10.1016/j.jbmt.2012.10.006
- von Piekartz, H., & Lüdtke, K. (2011). Effect of treatment of temporomandibular disorders (TMD) in patients with cervicogenic headache: A single-blind, randomized controlled study. *Cranio: The Journal of Craniomandibular Practice, 29*(1), 43-56. doi:10.1179/crn.2011.008

Read the SR

- Martins, W.R., Blasczyk, J.C., Furlan de Oliveira, M.A., Lagôa Gonçalves, K.F., Bonini-Rocha, A.C., Dugailly, P.M., & de Oliveira, R.J. (2015). Efficacy of musculoskeletal manual approach in the treatment of temporomandibular joint disorder: A systematic review with meta-analysis. *Manual Therapy*, 21, 10-17. doi:10.1016/j.math.2015.06.009

Background Reading

- Okeson, J.P. (2008) *Management of temporomandibular disorders and occlusion*. St. Louis, MO: Mosby, Inc.

Search PubMed

- Go to www.pubmed.gov
- Type the following into the dialog box: temporomandibular joint dysfunction syndrome AND physical therapy modalities AND musculoskeletal manipulations

Review PEDro

- Go to www.pedro.org.au
- Click the advanced search box and type "temporomandibular" into the abstract and title box.
- In the command line enter "systematic reviews"

How were these papers chosen?

- Papers were selected from a SR (Martins et al.) examining the guiding question, "Does Soft Tissue and Joint Mobilization Reduce Pain in Adults with TMD?" The SR examined patients similar to those in our clinic.
- SRs are rich, yet complex, tools for evidence appraisal. Unpacking a SR, by examining individual papers, may be helpful to understand how well an intervention will work in a clinical setting.

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