Best Practices and Clinician Perspectives on Chronic Pain Treatment and Management in Adults

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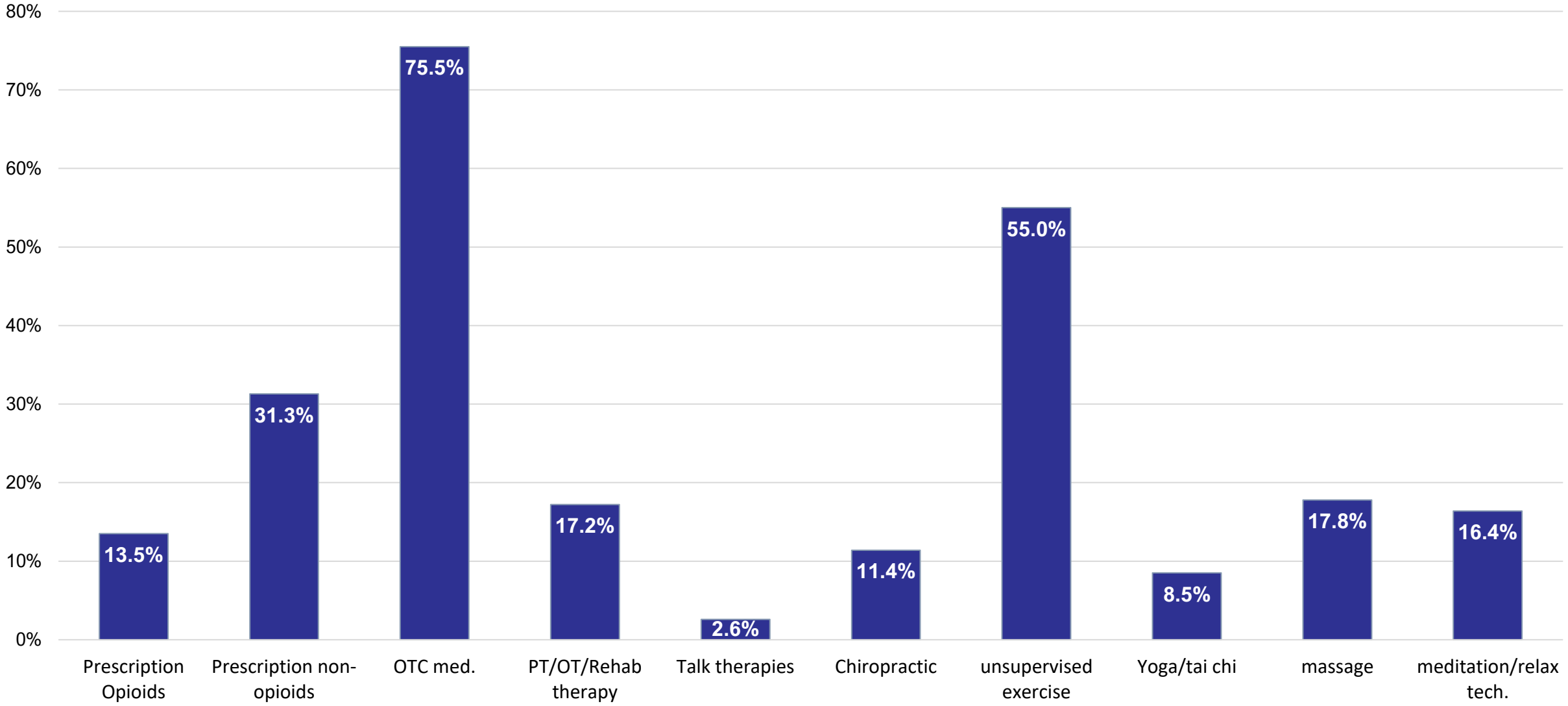
Prevalence of Pain Management Therapy Use During past 3 Months Among Adults with Chronic Pain, U.S., 2020



The New York Times

What Works for Low Back Pain? Not Much, a New Study Says.

BMJ Journals

BMJ Evidence-Based Medicine

Systematic Review of 301 placebo- or sham-controlled trials on 56 different treatments with an outcome measure of pain intensity

Chronic low back pain	Mean difference 0 to 100 (95% CI)	No of participants (studies)	Certainty of the evidence (GRADE)	Comments
Non-pharmacological intervention				
Exercise	−7.9 (−13.6 to −2.2)	676 (7)	⊕⊕⊕⊖ Moderate*	Probably provides small reductions in pain
Spinal manipulative therapy	−6.4 (−10.3 to −2.5)	445 (9)	⊕⊕⊕⊖ Moderate*	Probably provides small reductions in pain
Taping	−6.3 (−12.1 to −0.4)	967 (15)	⊕⊕⊕⊖ Moderate†	Probably provides small reductions in pain
Pharmacological interventions				
Antidepressants	−4.9 (−6.8 to −2.9)	1695 (10)	⊕⊕⊕⊖ Moderate*	Probably provide slight reductions in pain
TRPV1 agonists	−8.2 (−13.0 to −3.5)	433 (2)	⊕⊕⊕⊖ Moderate*	Probably provide small reductions in pain

- ***Downgraded by one level for serious risk of bias.**
- **†Downgraded by one level for serious inconsistency due to heterogeneity or single trial comparison.**
- **GRADE, Grading of Recommendations Assessment; NSAIDs, non-steroidal anti-inflammatory drugs; TRPV1, transient receptor potential vanilloid 1.**

Cashin AG, Furlong BM, Kamper SJ, et al. Analgesic effects of non-surgical and non-interventional treatments for low back pain: a systematic review and meta-analysis of placebo-controlled randomised trials. BMJ Evidence-Based Medicine Published Online First: 18 March 2025

Skelly AC, Chou R, Dettori JR, Turner JA, Friedly JL, Rundell SD, Fu R, Brodt ED, Wasson N, Kantner S, Ferguson AJR. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2020 Apr. Report No.: 20-EHC009.

	Function			Pain Intensity			Other treatments with moderate effect
CONDITION	short–term	intermediate-term	long-term	short–term	intermediate-term	long-term	
Chronic back pain	small ++	none +	none +	moderate +	small +	moderate +	Mind-body practice *short-term function and inter. term pain*
Knee osteoarthritis	small ++	moderate +	small +	small ++	moderate +	small +	NONE
Chronic neck pain	none +	none +	small +	none +	none +	none +	Manual therapies, physical modalities *short-term pain and function*
Hip osteoarthritis	small +	small +	insufficient evidence	small +	none +	insufficient evidence	NONE
Fibromyalgia	small +	small ++	none +	small +	none +	none +	Mind-body practice *short-term pain*; psychological therapies *inter. term function*

Cochrane Library

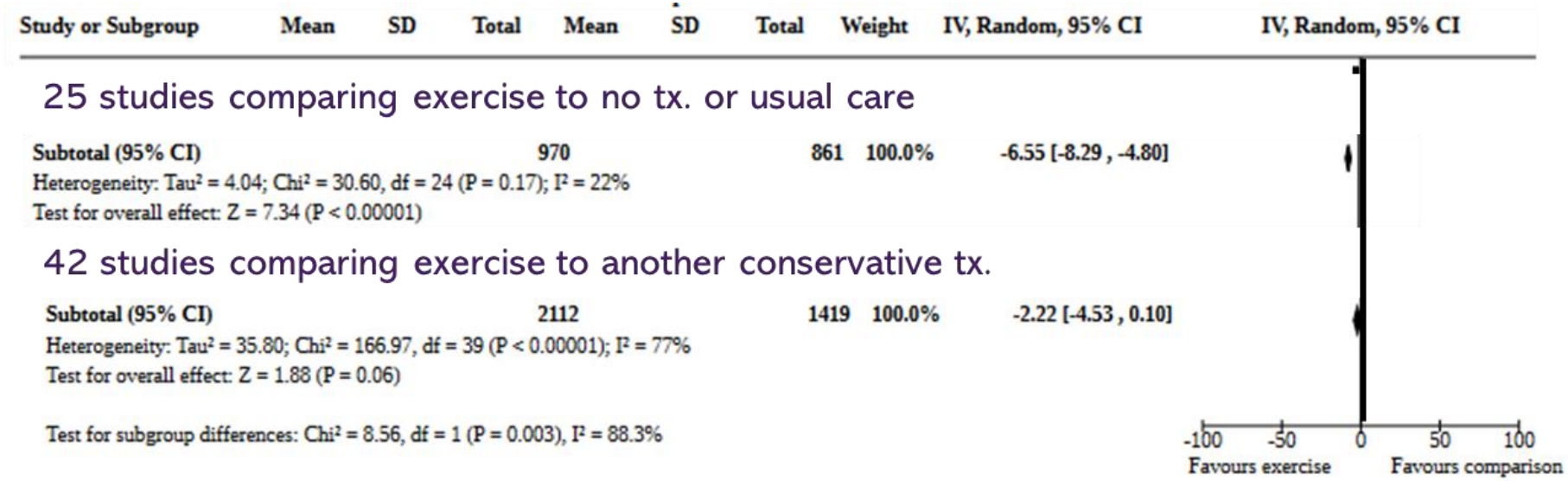
Exercise therapy for chronic low back pain (

Systematic Review of 249 trials of exercise treatment

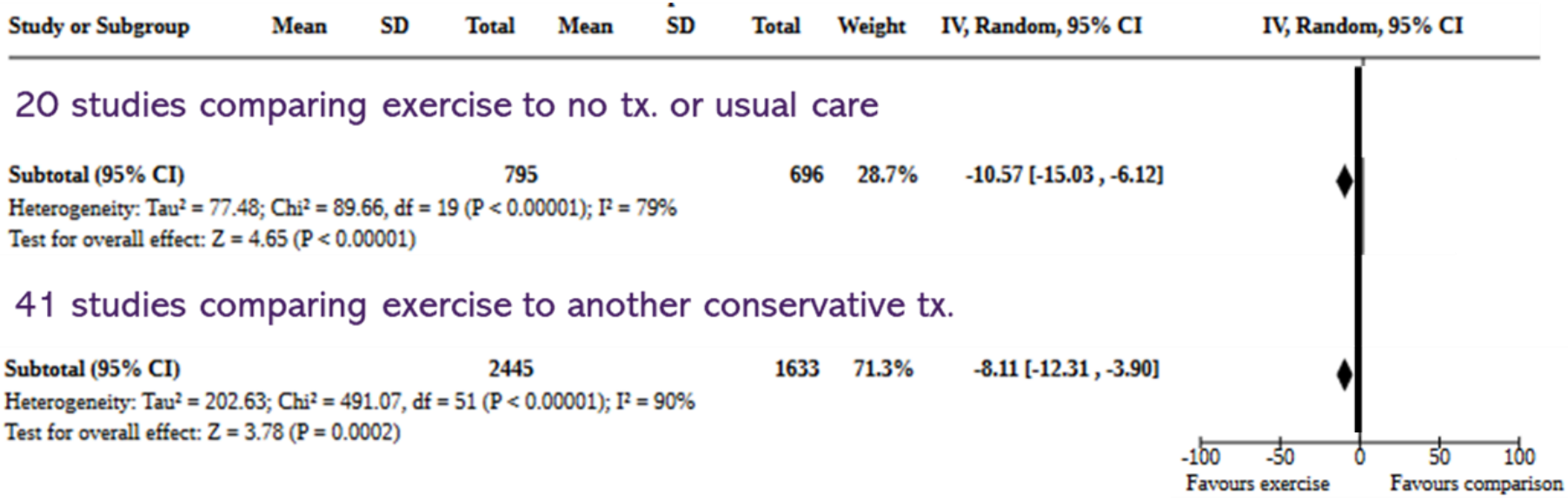
"We found moderate-certainty evidence that exercise is probably effective for treatment of chronic low back pain compared to no treatment, usual care or placebo for pain. The observed treatment effect for the exercise compared to no treatment, usual care or placebo comparisons is small for functional limitations, not meeting our threshold for minimal clinically important difference."

Hayden JA, Ellis J, Ogilvie R, Malmivaara A, van Tulder MW. Exercise therapy for chronic low back pain. Cochrane Database Syst Rev. 2021 Sep 28;9(9):CD009790.

PRIMARY ANALYSES, Outcome 7: Function (/100): Medium-term follow-up (~6 months)



PRIMARY ANALYSES, Outcome 3: Pain (/100): Medium-term follow-up (~6 months)



Does Type of Exercise Matter?

Chronic Back Pain

Pilates

Core-Strengthening

Strength-Based

Mind-Body

McKenzie Exercise

Knee Osteoarthritis

Aquatic Exercise

Stationary Cycling

Strength-Based

Yoga (stiffness, QoL)

Aerobic Exercise (pain)

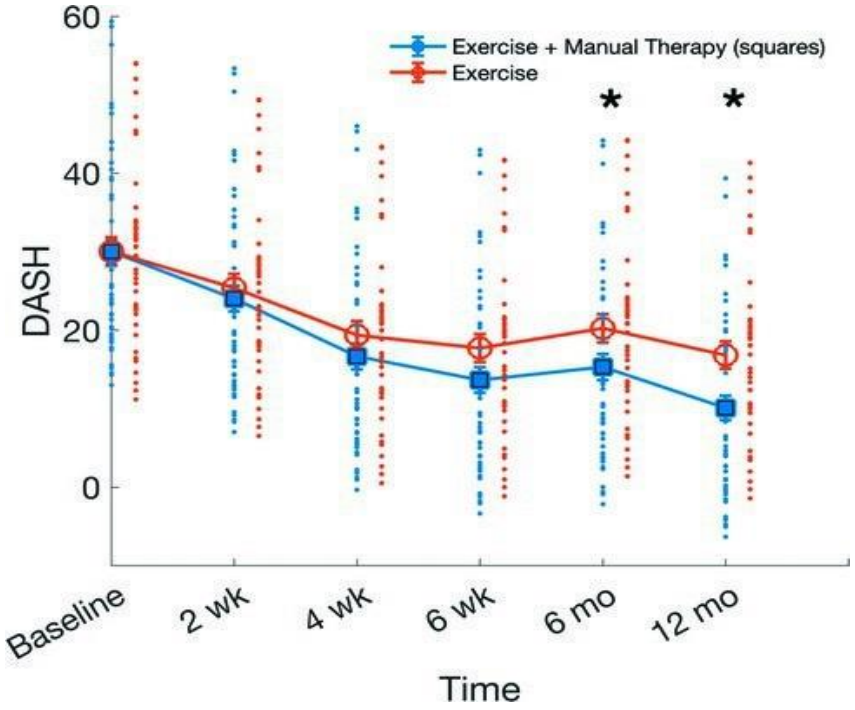
Fernández-Rodríguez R, Álvarez-Bueno C, Cavero-Redondo I, et al. Best Exercise Options for Reducing Pain and Disability in Adults With Chronic Low Back Pain: Pilates, Strength, Core-Based, and Mind-Body. A Network Meta-analysis. *J Orthop Sports Phys Ther*. 2022 Aug;52(8):505-521.

Hayden JA, Ellis J, Ogilvie R, et al. Some types of exercise are more effective than others in people with chronic low back pain: a network meta-analysis. *J Physiother*. 2021 Oct;67(4):252-62.

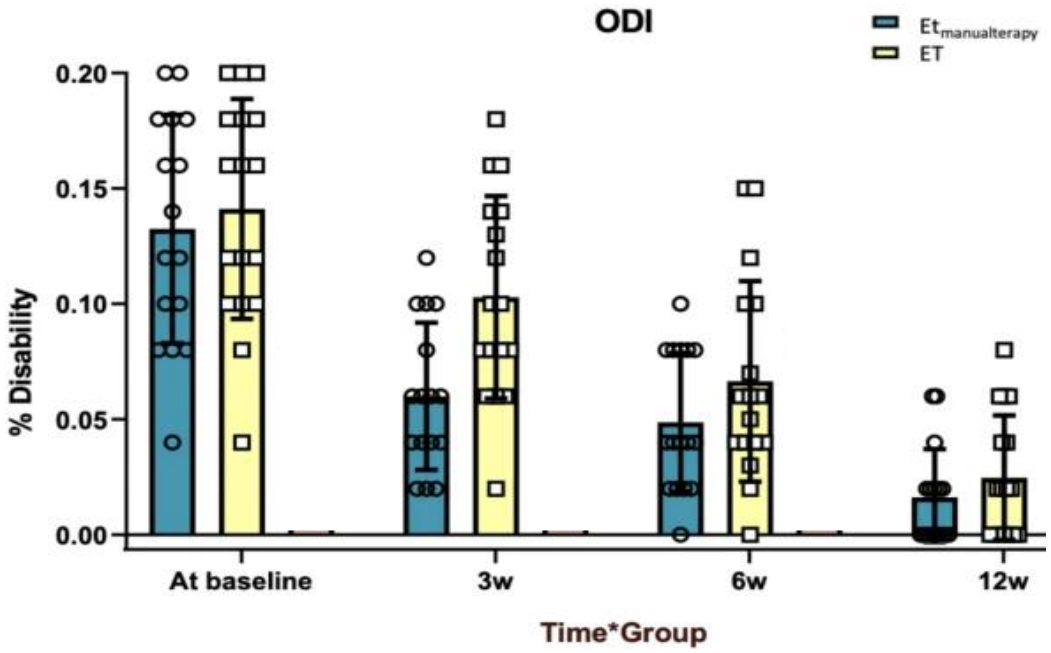
Mo L, Jiang B, Mei T, Zhou D. Exercise Therapy for Knee Osteoarthritis: A Systematic Review and Network Meta-analysis. Orthop J Sports Med. 2023 Jun 5;11(5):23259671231172773.

What Does Make Exercise More Effective?

Multi-Modal Intervention



Michner LA, McClure PW, Tate AR, et al. Adding Manual Therapy to an Exercise Program Improves Long-Term Patient Outcomes Over Exercise Alone in Patients With Subacromial Shoulder Pain: A Randomized Clinical Trial. *JOSPT Open.* 2(1):2024:29-48.

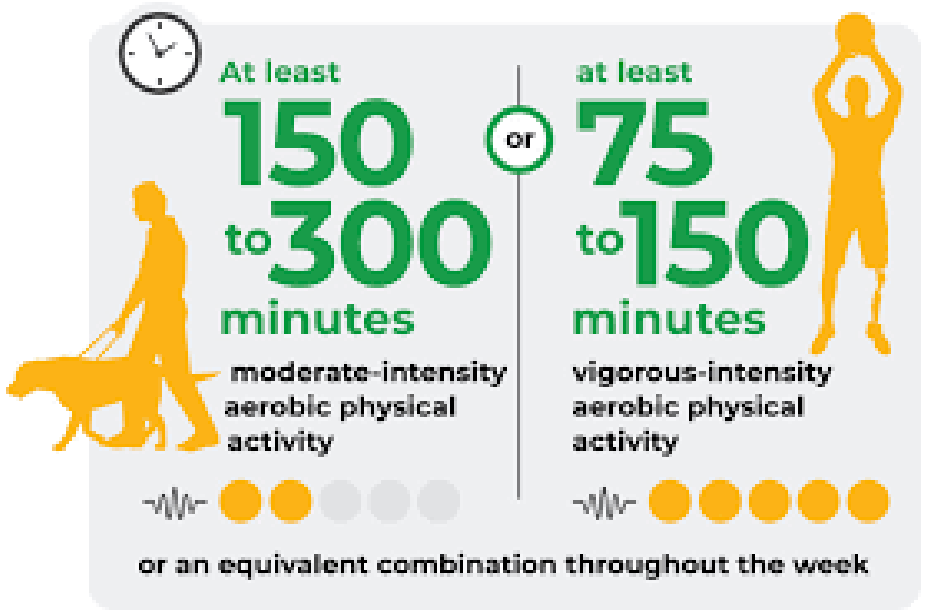


Blanco-Giménez, P., Vicente-Mampel, J., Gargallo, P. *et al.* Clinical relevance of combined treatment with exercise in patients with chronic low back pain: a randomized controlled trial. *Sci Rep* 14, 17042 (2024).

What Does Make Exercise More Effective?

Adequate Dose?

World Health Organization **Physical activity guidelines for adults (age 18–64 years)**



PTJ

Gibbs MT, Hayden JA, Cashin AG, et al. **Are Exercise Interventions in Clinical Trials for Chronic Low Back Pain Dosed Appropriately to Meet the World Health Organization's Physical Activity Guidelines?** *Phys Ther*, 2024;104:1; pzad114

Reviewed 249 exercise trials (426 groups)

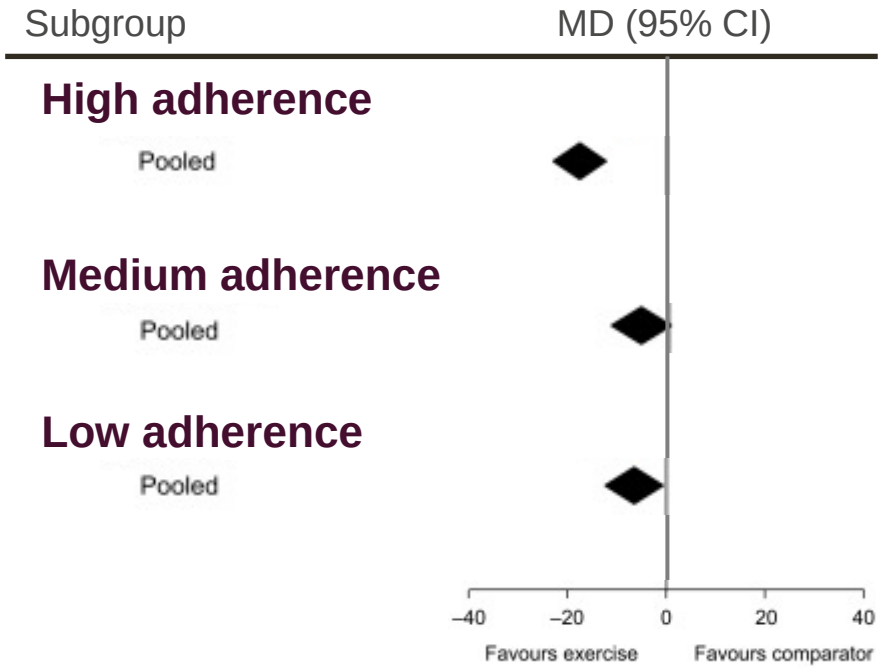
7.6% of trials included at least one intervention group that met 1 or more component of the WHO guideline

Evaluation was challenging due to poor reporting within trials

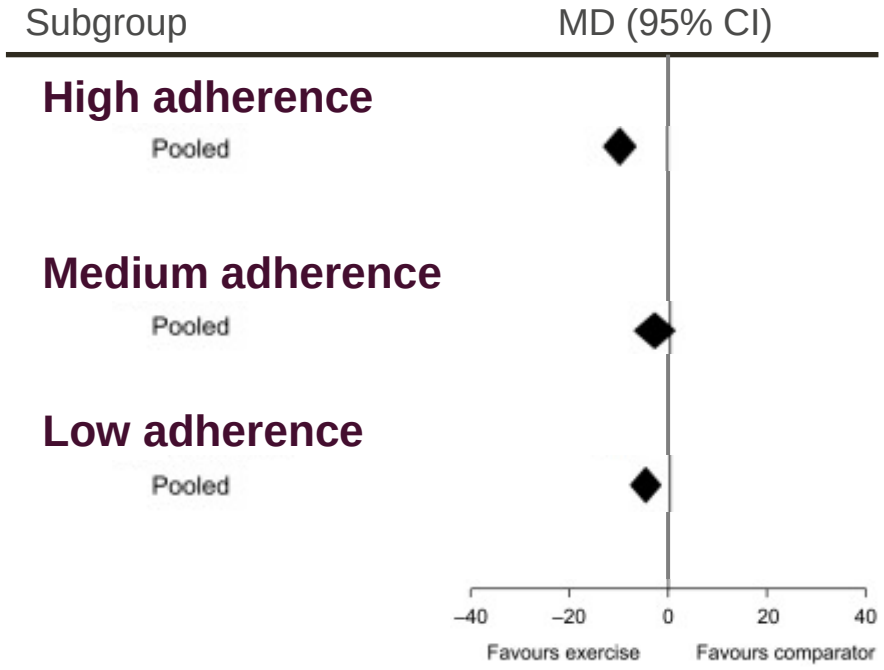
What Does Make Exercise More Effective?

Adherence

Systematic review of 46 trials with 56 exercise groups



Exercise effects on pain at different levels of adherence



Exercise effects on function at different levels of adherence

Jones MD, Hansford HJ, Bastianon A, et al. Exercise adherence is associated with improvements in pain intensity and functional limitations in adults with chronic non-specific low back pain: a secondary analysis of a Cochrane review. J Physiother. 2025;71(2):91-9.

What Does Make Exercise More Effective?

Other Considerations

- ✓ Despite purported differences in mechanisms, many exercise interventions across different pain conditions share mediators including self-efficacy, fear of movement, and pain beliefs.
- ✓ Adherence and outcomes of exercise likely improve when the mechanisms of trust, motivation, and confidence are used to enhance therapeutic alliance.
- ✓ Exercise prescribed in a way that is tailored to an individual's goals, with personalized advice, education, and reassurance can increase motivation and adherence.

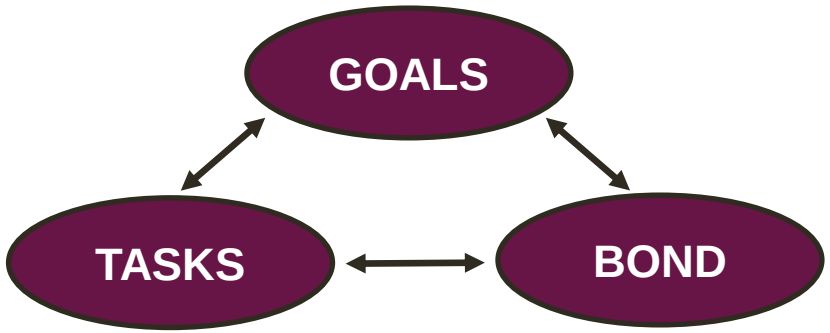
Alaiti RK, Castro J, Lee H, et al. What Are the Mechanisms of Action of Cognitive-Behavioral, Mind-Body, and Exercise-based Interventions for Pain and Disability in People With Chronic Primary Musculoskeletal Pain?: A Systematic Review of Mediation Studies From Randomized Controlled Trials. *Clin J Pain*. 2022;38(7):502-9.

Wood L, Foster NE, Dean SG, et al. Contexts, behavioural mechanisms and outcomes to optimise therapeutic exercise prescription for persistent low back pain: a realist review. *Br J Sports Med.* 2024;58(4):222-230.

What Is the Value of Supervision?

Therapeutic Alliance

Optimal TA is achieved when patient and therapist share beliefs about the goals of treatment, and view the methods to achieve these as efficacious and relevant.



Motivational Interviewing

MI is a collaborative conversation style that can strengthen a person's own motivation and commitment to change

- MI is a **guiding** style of communication, that sits between following (good listening) and directing (giving information and advice).
- MI is designed to **empower** people to change by drawing out their own meaning, importance and capacity for change.
- MI is based on a **respectful** and **curious** way of being with people that facilitates the natural process of change and honors client autonomy.

Ardito, R.B. & D. Rubellino (2011) Therapeutic alliance and outcome of psychotherapy: historical excursus, measurements and prospects for research. *Front Psychol* 2:270.

Miller, W.R. & T.B. Moyers (2017) Motivational Interviewing and the clinical science of Carl Rogers. *J Consult Clin Psychol 85*(8), 757-66

Summary

- ✓ Exercise is one of the few consistently beneficial treatments for persons with chronic pain for both pain and function outcomes
- ✓ The specific type of exercise may not matter as much as developing a personalized plan that can be adhered to.
- ✓ Supervised exercise programs (e.g., physical therapy) can be particularly beneficial when provided;
  - ❖ as part of a tailored, multi-modal intervention
  - ❖ in a manner that builds therapeutic alliance and intrinsic motivation for behavior change