

FPIN's Clinical Inquiries

Physical Therapy for Low Back Pain

Corey Lyon, DO, and Lindsey Kolar, MD

University of Colorado Family Medicine Residency, Denver, Colorado

Kristen DeSanto, MSLS, MS, RD, AHIP

University of Colorado Health Sciences Library, Denver, Colorado

Clinical Question

Is early physical therapy an effective treatment for acute low back pain?

Evidence-Based Answer

There is some evidence that early physical therapy may decrease posttreatment health care utilization for low back pain. (Strength of Recommendation [SOR]: B, based on a single randomized controlled trial [RCT].) Physical therapy started within 24 hours of clinical presentation provides only minimal improvements in pain (one point out of 11), patient satisfaction (two points out of 21), and mental health (five points out of 101) within one week, and even these improvements are lost at one, three, and six months. (SOR: B, based on a single RCT.) Physical therapy started within 48 to 72 hours of presentation does not result in clinically significant improvements in pain or disability at one to four weeks. (SOR: B, based on RCTs and a systematic review of RCTs.)

Evidence Summary

A 2008 RCT of 110 adults presenting to the emergency department for acute nonspecific low back pain evaluated the effectiveness of emergency department-based physical therapy initiated within 24 hours of presentation.¹ Treatment consisted of education, reassurance, pain management, mobility training, interventional

therapy (electric current from 70 to 130 Hz with pulse duration of 130 μ s and swing pattern of six seconds), walking training, and walking aids. The control group received only walking training and walking aids. Both groups started outpatient physical therapy within one week of discharge. Patient satisfaction was slightly better in the treatment group compared with the control group at discharge (mean difference [MD] = 2.1 points on a 21-point scale; 97.5% confidence interval [CI], 1.2 to 2.9). Mental health scores were also slightly higher in the treatment group at discharge (MD = 5 points on a 101-point scale; 97.5% CI, 0.3 to 9). Pain relief was slightly better in the treatment group within one week after discharge (MD = -0.9 points on an 11-point scale; 97.5% CI, -1.6 to -0.1). These benefits were lost at one, three, and six months, and there were no other differences in satisfaction, pain, activity limitations, or mental or physical health.

A 2015 RCT of 220 adults with acute low back pain of less than 16 days' duration examined the effectiveness of early physical therapy on pain and disability.² The intervention consisted of patient education plus four physical therapy sessions within three weeks, initiated within 72 hours of enrollment. Usual care consisted of patient education with no additional intervention. Early physical therapy had a non-clinically significant benefit on disability scores measured

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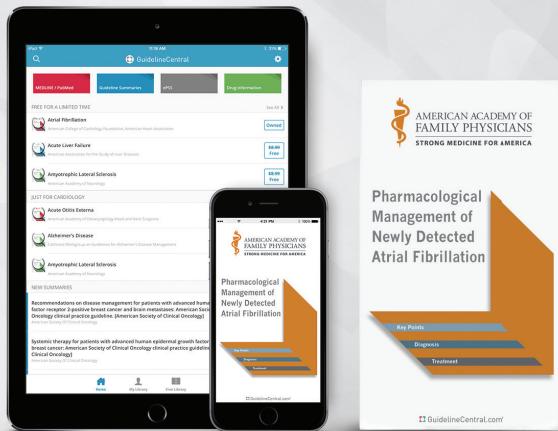
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at four weeks (MD = -3.5 points on a 101-point scale; 95% CI, -6.8 to -0.08) and three months (MD = -3.2; 95% CI, -5.9 to -0.47). There was no significant difference in pain at either of these intervals.

A 2010 RCT of 148 patients with acute nonspecific low back pain compared first-line care (advice to stay active, use of acetaminophen, and reassurance) plus early physical therapy vs. first-line care alone on pain, global perceived effect, function, and disability.³ Physical therapy was based on the McKenzie method, a systematic, exercise-based assessment and treatment in which patients are classified according to posture, range of motion, and response to different loading strategies of the spine. Patients are then assigned certain sustained posture and repetitive movement exercises based on this classification. In this study, physical therapy was initiated within 48 hours of clinical presentation and consisted of a maximum of six sessions over three weeks. Physical therapy plus first-line care had a non-clinically significant benefit on pain scores at one week (MD = -0.4; 95% CI, -0.8 to -0.1) and three weeks (MD = -0.7; 95% CI, -1.2 to -0.1), and as a mean value over the first seven days (MD = -0.3; 95% CI, -0.5 to 0.0). Early physical therapy decreased posttreatment health care utilization (risk ratio = 0.27; 95% CI, 0.1 to 0.7) but did not have a significant effect on disability.

A 2006 systematic review of 11 RCTs (N = 1,245) for patients with acute nonspecific low back pain compared the McKenzie method with passive therapy and advice to stay active.⁴ Compared with advice to stay active, physical therapy was associated with a significant increase in disability scores (two RCTs; N = 261; weighted MD = 3.85 on a 101-point scale; 95% CI, 0.30 to 7.39) and no significant change in pain at 12 weeks (two RCTs; N = 261; MD = 5.02; 95% CI, -1.19 to 11.22). Compared with passive therapy (e.g., education booklets, rest, ice, massage), physical therapy resulted in a significant decrease in pain at one week (two RCTs; N = 470; weighted MD = -4.16 points on a 101-point scale; 95% CI, -7.12 to -1.20) and disability at one week (two RCTs; N = 470; weighted MD = -5.22 points on a 101-point scale; 95% CI, -8.28 to -2.16).

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Address correspondence to Corey Lyon, DO, at corey.lyon@ucdenver.edu. Reprints are not available from the authors.

References

1. Lau PM, et al. Early physiotherapy intervention in an accident and emergency department reduces pain and improves satisfaction for patients with acute low back pain. *Aust J Physiother*. 2008;54(4):243-249.
2. Fritz JM, et al. Early physical therapy vs usual care in patients with recent-onset low back pain. *JAMA*. 2015;314(14):1459-1467.
3. Machado LA, et al. The effectiveness of the McKenzie method in addition to first-line care for acute low back pain. *BMC Med*. 2010;8:10.
4. Machado LA, et al. The McKenzie method for low back pain: a systematic review of the literature with a meta-analysis approach. *Spine (Phila Pa 1976)*. 2006;31(9):E254-E262. ■