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Question: For an adult patient with chronic, nonspecific low back pain is Pilates exercise effective in reducing pain?				Search databases: PubMed	
Author / Year/ Pedro scale	Purpose/Design/ Subjects	Intervention or description	Measurements	Outcomes	Comments /limitations
LOW BACK PAIN					
Yamoto, et al ¹ 2015	<p>Purpose: to determine the effects of the Pilates method for patients with non-specific, acute, subacute, or chronic low back pain</p> <p>Design: systematic review of 10 randomized controlled trials with meta-analysis</p> <p>Subjects: adult patients aged 16 years or older with acute, subacute, or chronic non-specific low back pain</p>	<p><u>6 trials</u> Pilates method vs. minimal intervention or no intervention</p> <p><u>4 trials</u> Pilates method vs. other types of exercise, including general exercise</p> <p>1x-3x/week for 10-90 days</p>	<p>Pain: VAS or NRS</p> <p>Disability: Rowland Morris (x4 studies), Oswestry (x3 studies), Quebec (x1)</p> <p>Global Impression of Recovery: Global Perceived Effect Scale (x1)</p> <p>Quality of Life Function: Patient Specific Functional Scale (x2)</p>	<p><u>Vs. Minimal Intervention</u></p> <p>Pain: in favor of Pilates (short-term, low quality, x6) (intermediate, moderate quality, x2)</p> <p>Disability: in favor of Pilates (short-term, low quality, x5) (intermediate, moderate quality, x2)</p> <p>Global Impression of Recovery: in favor of Pilates (short-term, low quality, x1)</p> <p>Function: in favor of Pilates (short-term, low quality, x1)</p> <p><u>Vs. Other Exercise</u></p> <p>Pain: in favor of Pilates (short-term, low quality, x2) (intermediate, low-quality, x1), no difference (x1, short-term and long-term)</p> <p>Disability: no</p>	Overall, there is low to moderate quality of evidence that Pilates is more effective than minimal intervention in the short and intermediate term. It is less clear if Pilates is more effective than other exercises. The decision to use Pilates for low back pain may be based on patient's preferences.

				difference (short term and intermediate, moderate quality, x2)	
Natour, et al ² 2015	<p>Purpose: to assess the effectiveness of Pilates method with chronic, non-specific low back</p> <p>Design: randomized controlled trail</p> <p>Subjects: male or female aged 18-50 years diagnosed with chronic non-specific LBP with pain between 4-7 on VAS</p>	<p>Both groups continued medication treatment of NSAIDs</p> <p>Pilates group: 50 minutes x2/week for 90 days</p> <p>Control: no intervention, just NSAIDS</p>	<p>Pain: VAS</p> <p>Function: Roland-Morris</p> <p>Quality of Life: SF-36</p> <p>Satisfaction with Treatment: Likert scale</p> <p>Flexibility: Sit and reach</p> <p>NSAID intake: recorded on chart</p>	<p>Significant difference favoring Pilates group regarding pain, function, and some quality of life domains.</p> <p>No significant difference with satisfaction.</p> <p>Pilates group took less NSAIDs (significant)</p>	
Antonio da Luz, et al ³	<p>Purpose: compare the effectiveness of mat Pilates and equipment Pilates in patients with chronic non-specific low back pain</p> <p>Design: Randomized controlled trial</p> <p>Subjects: male and female aged 18 to 60 years referred to PT following med appointment who experienced LBP for more than 3 months</p>	<p>All sessions lasted 1 hour 2x/week for 6 weeks and included 15-20 exercises with no more than 10 reps, and 3 levels of difficulty. In 1st session pt.'s trained to activate Powerhouse.</p> <p>Mat Group: exercises performed on the ground using a mat, Swiss ball, elastic bands</p> <p>Equipment Group: exercises on Cadillac, Reformer, Ladder Barrel, and Step Chair</p>	<p>Pain: NRS</p> <p>Disability: Roland-Morris</p> <p>Global Perceived Effect Scale: Global Perceived Effect Scale</p> <p>Kinesiophobia: Tampa Scale for Kinesiophobia</p>	<p>Six weeks after treatment, there was no significant difference between the groups for any of the assessed outcomes. However, the results can be considered clinically significant for both groups, given that the difference between the means before and 6 weeks after treatment for the primary outcomes of pain and disability were greater than the values considered clinically significant</p> <p>Six months after randomization, there was a significant</p>	

				improvement for the outcomes of disability, specific disability, and kinesiophobia in the group treated with equipment-based Pilates.	
Stieglitz, et al ⁴	<p>Purpose: to investigate the effectiveness of a 6-week equipment-based Pilates training program in reducing pain and disability in individuals with work-related chronic low back pain</p> <p>Design: 1 group pretest-posttest quasi-experimental design</p> <p>Subjects: aged 20-65 years of age with low back pain for more than 3 months, no surgery for the past 12 months, and no experience with Pilates</p>	<p>Consisted of 8 STOTT Pilates exercises performed on the Cadillac. Pilates protocol and exercises included in study.</p> <p>2 50-minute sessions for 6 weeks during the program. HEP = 30 minute exercise session, 3x/week.</p>	<p>Pain: VAS</p> <p>Disability: Oswestry</p> <p>All tested pre and post 6 week training program</p>	Statistically significant reduction in pain and improvement of disability	
Cruz-Diaz, et al ⁵	<p>Purpose: to determine the short-term and long-term effectiveness of Pilates in addition to PT vs. PT alone</p> <p>Design: randomized controlled trial</p> <p>Subjects: post-menopausal women 45-75 years of age with chronic low back pain for at least 3 months</p>	<p>Pilates group: sessions were 1 hour long, 2x/week for 6 weeks, and included strengthening (exercises that involved fitballs, magic rings, and therabands), stretching, breathing, and posture correction exercises. Pilates protocol included in study.</p> <p>PT group: application of</p>	<p>Pain: NRS</p> <p>Function: Oswestry</p> <p>Outcomes pre and post 6 week training program, and at 1 year follow-up</p>	<p>After 6 weeks, both groups have reduced pain, with a higher decrease in the Pilates group</p> <p>A remarkable decrease of disability is observed after 6 weeks and 1 year follow-up for the Pilates group.</p>	Using Pilates in addition to PT is more effective than PT alone (p<0.001)

		analgesic electrotherapy and joint mobilization of the spine.			
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Bibliography: (list complete reference for each article) Use AMA style.

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3. Antônio da Luz Jr, M., Pena Costa, L. P., Fuhro, F. F., Taccolini Manzoni, A. C., Bastos Oliveira, N. T., & Nunes Cabral, C. M. (2014). Effectiveness of Mat Pilates or Equipment-Based Pilates Exercises in Patients With Chronic Nonspecific Low Back Pain: A Randomized Controlled Trial. *Journal of the American Physical Therapy Association*, 94(5), 623–631.
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5. Cruz-Diaz. (2016). Short- and long-term effects of a six-week clinical Pilates program in addition to physical therapy on postmenopausal women with chronic low back pain: a randomized controlled trial. *Disability Rehabilitation*, 38(13), 1300–1308.