

RESUMEN COMUNICACION

TÍTULO

RECOMENDACIONES BASADAS EN LA EVIDENCIA CIENTÍFICA SOBRE EL EJERCICIO FÍSICO EN LA PATOLOGÍA DEGENERATIVA DE COLUMNA: UN “CORTA Y PEGA” PARA NUESTRAS CONSULTAS

PALABRAS CLAVE

Ejercicio físico; Entrenamiento de estabilización; Patología de columna; Lumbalgia; Cervicalgia; Espondilosis

INTRODUCCIÓN

La lumbalgia y cervicalgia inespecíficas o mecánicas, que son el 85-90% de todas las algias vertebrales, afectan al 70-85% de la población y son las principales causas de discapacidad y absentismo laboral en nuestro entorno, causando un enorme impacto social, económico y sanitario. Por otro lado, diversas patologías espondilóticas específicas, en especial el dolor radicular secundario a hernias discales compresivas o la estenosis lumbar, presentan también una importante incidencia e impacto en nuestro medio.

En dichas patologías, las creencias catastrofistas y sobre el dolor y las conductas de evitación de actividad y el sobreuso de tratamientos pasivos, producen una prolongación y perpetuación de la discapacidad y un fracaso en la vuelta a las AVD y laborales del paciente.

El ejercicio físico podría ser un arma terapéutico eficaz y eficiente, tanto desde el punto de vista sanitario como socio-económico, en el tratamiento de dichas patologías.

OBJETIVOS

- Realizar una revisión de la literatura científica en relación con la evidencia de utilidad del ejercicio físico en el tratamiento de las patologías espondilóticas.
- Redactar recomendaciones basadas en la evidencia científica que puedan ser utilizadas en nuestras consultas.

MATERIAL Y MÉTODO

- Revisión de la literatura científica.
- Creación de un código QR que permita la descarga de un documento con las recomendaciones basadas en la evidencia científica.

RESULTADOS

Diversos tipos de ejercicio físico han demostrado mejorar el dolor, la funcionalidad y la salud mental en pacientes con patologías espondilóticas, especialmente la lumbalgia y cervicalgia mecánicas. Todavía se desconoce cuál es el tipo de ejercicio más adecuado y probablemente no todos los casos requieren el mismo tipo de ejercicio físico. En general, un programa de ejercicio físico que incluya (1) entrenamiento de fuerza (“core”), (2) de flexibilidad y (3) de capacidad aeróbica, podría ser con mucha probabilidad beneficioso. Además, la integración de la actividad física en la vida diaria puede convertirse en un arma terapéutica muy importante.

Entre las diferentes, modalidades de ejercicio, existe una amplia evidencia de que el entrenamiento de estabilización aborda de forma eficaz las alteraciones fisiopatológicas de los pacientes con lumbalgia y cervicalgias mecánicas, convirtiéndose en un tratamiento etiológico eficaz, habiendo demostrado mejorar la funcionalidad, la impresión global de recuperación, los factores psico-sociales, el dolor axial e irradiado, la fuerza y coordinación muscular y la estabilidad segmentaria.

CONCLUSIONES

El ejercicio físico ha demostrado ampliamente ser una de las armas terapéuticas más importantes en el tratamiento de la lumbalgia y cervicalgia mecánicas.

BIBLIOGRAFÍA

1. Aasa B, Berglund L, Michaelson P, Aasa U. Individualized Low-Load Motor Control Exercises and Education Versus a High-Load Lifting Exercise and Education to Improve Activity, Pain Intensity, and Physical Performance in Patients With Low Back Pain: A Randomized Controlled Trial. *Journal of Orthopaedic & Sports Physical Therapy*. febrero de 2015;45(2):77-85.
2. Akkan H, Gelecek N. The effect of stabilization exercise training on pain and functional status in patients with cervical radiculopathy. *BMR*. 21 de marzo de 2018;31(2):247-52.
3. Alhakami AM, Davis S, Qasheesh M, Shaphe A, Chahal A. Effects of McKenzie and stabilization exercises in reducing pain intensity and functional disability in individuals with nonspecific chronic low back pain: a systematic review. *J Phys Ther Sci*. 2019;31(7):590-7.
4. Alrwaily M, Schneider M, Sowa G, Timko M, Whitney SL, Delitto A. Stabilization exercises combined with neuromuscular electrical stimulation for patients with chronic low back pain: a randomized controlled trial. *Brazilian Journal of Physical Therapy*. noviembre de 2019;23(6):506-15.

5. Andersen CH, Andersen LL, Gram B, Pedersen MT, Mortensen OS, Zebis MK, et al. Influence of frequency and duration of strength training for effective management of neck and shoulder pain: a randomised controlled trial. Br J Sports Med. noviembre de 2012;46(14):1004-10.
6. Andersen CH, Andersen LL, Zebis MK, Sjøgaard G. Effect of Scapular Function Training on Chronic Pain in the Neck/Shoulder Region: A Randomized Controlled Trial. J Occup Rehabil. junio de 2014;24(2):316-24.
7. Archer KR, Coronado RA, Haug CM, Vanston SW, Devin CJ, Fannesbeck CJ, et al. A comparative effectiveness trial of postoperative management for lumbar spine surgery: changing behavior through physical therapy (CBPT) study protocol. BMC Musculoskelet Disord. diciembre de 2014;15(1):325.
8. Bellido-Fernández L, Jiménez-Rejano JJ, Chillón-Martínez R, Gómez-Benítez MA, De-La-Casa-Almeida M, Rebollo-Salas M. Effectiveness of Massage Therapy and Abdominal Hypopressive Gymnastics in Nonspecific Chronic Low Back Pain: A Randomized Controlled Pilot Study. Offenbaeher M, editor. Evidence-Based Complementary and Alternative Medicine. enero de 2018;2018(1):3684194.
9. Blomgren J, Strandell E, Jull G, Vikman I, Røijezon U. Effects of deep cervical flexor training on impaired physiological functions associated with chronic neck pain: a systematic review. BMC Musculoskelet Disord. diciembre de 2018;19(1):415.
10. Brämberg EB, Bergström G, Jensen I, Hagberg J, Kwak L. Effects of yoga, strength training and advice on back pain: a randomized controlled trial. BMC Musculoskelet Disord. diciembre de 2017;18(1):132.
11. Calatayud J, Guzmán-González B, Andersen LL, Cruz-Montecinos C, Morell MT, Roldán R, et al. Effectiveness of a Group-Based Progressive Strength Training in Primary Care to Improve the Recurrence of Low Back Pain Exacerbations and Function: A Randomised Trial. IJERPH. 11 de noviembre de 2020;17(22):8326.
12. Cheng CH, Lai DM, Lau PY, Wang SF, Chien A, Wang JL, et al. Upright Balance Control in Individuals with Cervical Myelopathy Following Cervical Decompression Surgery: A Prospective Cohort Study. Sci Rep. 25 de junio de 2020;10(1):10357.
13. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, et al. Nonpharmacologic Therapies for Low Back Pain: A Systematic Review for an American College of Physicians Clinical Practice Guideline. Ann Intern Med. 4 de abril de 2017;166(7):493-505.
14. Costa LOP, Maher CG, Latimer J, Hodges PW, Herbert RD, Refshauge KM, et al. Motor Control Exercise for Chronic Low Back Pain: A Randomized Placebo-Controlled Trial. Physical Therapy. 1 de diciembre de 2009;89(12):1275-86.
15. Coulombe BJ, Games KE, Neil ER, Eberman LE. Core Stability Exercise Versus General Exercise for Chronic Low Back Pain. Journal of Athletic Training. 1 de enero de 2017;52(1):71-2.

16. Daher A, Carel RS, Tzipi K, Esther H, Dar G. The effectiveness of an aerobic exercise training on patients with neck pain during a short- and long-term follow-up: a prospective double-blind randomized controlled trial. Clin Rehabil. mayo de 2020;34(5):617-29.
17. Demir S, Dulgeroglu D, Cakci A. Effects of dynamic lumbar stabilization exercises following lumbar microdiscectomy on pain, mobility and return to work. Randomized controlled trial. EUROPEAN JOURNAL OF PHYSICAL AND REHABILITATION MEDICINE. 2014;50(6).
18. Frutiger M, Borotkanics R. Systematic Review and Meta-Analysis Suggest Strength Training and Workplace Modifications May Reduce Neck Pain in Office Workers. Pain Practice. enero de 2021;21(1):100-31.
19. Gordon R, Bloxham S. A Systematic Review of the Effects of Exercise and Physical Activity on Non-Specific Chronic Low Back Pain. Healthcare. 25 de abril de 2016;4(2):22.
20. Gross AR, Paquin JP, Dupont G, Blanchette S, Lalonde P, Cristie T, et al. Exercises for mechanical neck disorders: A Cochrane review update. Manual Therapy. agosto de 2016;24:25-45.
21. Gross A, Kay TM, Paquin JP, Blanchette S, Lalonde P, Christie T, et al. Exercises for mechanical neck disorders. Cochrane Back and Neck Group, editor. Cochrane Database of Systematic Reviews [Internet]. 28 de enero de 2015 [citado 16 de febrero de 2025];2015(1). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD004250.pub5>
22. Halvorsen M, Falla D, Gizzi L, Harms-Ringdahl K, Peolsson A, Dederig A. Short- and long-term effects of exercise on neck muscle function in cervical radiculopathy: A randomized clinical trial. J Rehabil Med. 2016;48(8):696-704.
23. Hayden JA. Some types of exercise are more effective than others in people with chronic low back pain: a network meta-analysis.
24. Hayden JA, Ellis J, Ogilvie R, Malmivaara A, Van Tulder MW. Exercise therapy for chronic low back pain. Cochrane Back and Neck Group, editor. Cochrane Database of Systematic Reviews [Internet]. 28 de septiembre de 2021 [citado 16 de febrero de 2025];2021(10). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD009790.pub2>
25. Ilves O, Häkkinen A, Dekker J, Wahlman M, Tarnanen S, Pekkanen L, et al. Effectiveness of postoperative home-exercise compared with usual care on kinesiophobia and physical activity in spondylolisthesis: A randomized controlled trial. J Rehabil Med. 2017;49(9):751-7.
26. Iversen V, Vasseljen O, Mork P, Fimland M. Resistance training vs general physical exercise in multidisciplinary rehabilitation of chronic neck pain: A randomized controlled trial. J Rehabil Med. 2018;50(8):743-50.

27. Jarrett MS, Orlando JF, Grimmer-Somers K. The effectiveness of land based exercise compared to decompressive surgery in the management of lumbar spinal-canal stenosis: a systematic review. BMC Musculoskelet Disord. diciembre de 2012;13(1):30.
28. Kernc D, Strojnik V, Vengust R. Early initiation of a strength training based rehabilitation after lumbar spine fusion improves core muscle strength: a randomized controlled trial. J Orthop Surg Res. diciembre de 2018;13(1):151.
29. Khorami AK, Oliveira CB, Maher CG, Bindels PJE, Machado GC, Pinto RZ, et al. Recommendations for Diagnosis and Treatment of Lumbosacral Radicular Pain: A Systematic Review of Clinical Practice Guidelines. JCM. 3 de junio de 2021;10(11):2482.
30. Kim B, Yim J. Core Stability and Hip Exercises Improve Physical Function and Activity in Patients with Non-Specific Low Back Pain: A Randomized Controlled Trial. Tohoku J Exp Med. 2020;251(3):193-206.
31. Kostadinović S, Milovanović N, Jovanović J, Tomašević-Todorović S. Efficacy of the lumbar stabilization and thoracic mobilization exercise program on pain intensity and functional disability reduction in chronic low back pain patients with lumbar radiculopathy: A randomized controlled trial. BMR. 11 de noviembre de 2020;33(6):897-907.
32. Lam OT, Strenger DM, Chan-Fee M, Pham PT, Preuss RA, Robbins SM. Effectiveness of the McKenzie Method of Mechanical Diagnosis and Therapy for Treating Low Back Pain: Literature Review With Meta-analysis. Journal of Orthopaedic & Sports Physical Therapy. junio de 2018;48(6):476-90.
33. Landén Ludvigsson M, Peterson G, Peolsson A. Neck-specific exercise may reduce radiating pain and signs of neurological deficits in chronic whiplash - Analyses of a randomized clinical trial. Sci Rep. 17 de agosto de 2018;8(1):12409.
34. Li Y, Li S, Jiang J, Yuan S. Effects of yoga on patients with chronic nonspecific neck pain: A PRISMA systematic review and meta-analysis. Medicine. febrero de 2019;98(8):e14649.
35. Lindbäck Y. PREPARE: Pre-surgery physiotherapy for patients with degenerative lumbar spine disorder: a randomized controlled trial protocol. 2016;
36. Lotzke H, Jakobsson M, Brisby H, Gutke A, Hägg O, Smeets R, et al. Use of the PREPARE (PREhabilitation, Physical Activity and exeRcise) program to improve outcomes after lumbar fusion surgery for severe low back pain: a study protocol of a person-centred randomised controlled trial. BMC Musculoskelet Disord. diciembre de 2016;17(1):349.
37. Ludvigsson ML, Peterson G, Dederig Å, Falla D, Peolsson A. Factors associated with pain and disability reduction following exercise interventions in chronic whiplash. European Journal of Pain. febrero de 2016;20(2):307-15.
38. Ludvigsson ML, Peterson G, Peolsson A. Neck-specific exercise for radiating pain and neurological deficits in chronic whiplash, a 1-year follow-up of a randomised clinical trial. Sci Rep. 21 de abril de 2020;10(1):6758.

39. Macedo LG, Maher CG, Latimer J, McAuley JH. Motor Control Exercise for Persistent, Nonspecific Low Back Pain: A Systematic Review. *Physical Therapy*. 1 de enero de 2009;89(1):9-25.
40. Marchand AA, Houle M, O'Shaughnessy J, Châtillon CÉ, Cantin V, Descarreaux M. Effectiveness of an exercise-based prehabilitation program for patients awaiting surgery for lumbar spinal stenosis: a randomized clinical trial. *Sci Rep*. 26 de mayo de 2021;11(1):11080.
41. Martin-Gomez C, Sestelo-Diaz R, Carrillo-Sanjuan V, Navarro-Santana MJ, Bardón-Romero J, Plaza-Manzano G. Motor control using cranio-cervical flexion exercises versus other treatments for non-specific chronic neck pain: A systematic review and meta-analysis. *Musculoskeletal Science and Practice*. julio de 2019;42:52-9.
42. McCaskey MA, Schuster-Amft C, Wirth B, Suica Z, de Bruin ED. Effects of proprioceptive exercises on pain and function in chronic neck- and low back pain rehabilitation: a systematic literature review. 2014;
43. Mo Z, Zhang R, Chang M, Tang S. Exercise therapy versus surgery for lumbar spinal stenosis: A systematic review and meta-analysis. *Pak J Med Sci [Internet]*. 13 de julio de 2018 [citado 16 de febrero de 2025];34(4). Disponible en: <http://pjms.com.pk/index.php/pjms/article/view/14349>
44. Mueller J, Niederer D. Dose-response-relationship of stabilisation exercises in patients with chronic non-specific low back pain: a systematic review with meta-regression. *Sci Rep*. 9 de octubre de 2020;10(1):16921.
45. Namnaqani FI, Mashabi AS, Yaseen KM, Alshehri MA. The effectiveness of McKenzie method compared to manual therapy for treating chronic low back pain: a systematic review.
46. Oosterhuis T, Costa LO, Maher CG, De Vet HC, Van Tulder MW, Ostelo RW. Rehabilitation after lumbar disc surgery. *Cochrane Back and Neck Group, editor. Cochrane Database of Systematic Reviews [Internet]*. 14 de marzo de 2014 [citado 16 de febrero de 2025];2014(3). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD003007.pub3>
47. Owen PJ, Miller CT, Mundell NL, Verswijveren SJJM, Tagliaferri SD, Brisby H, et al. Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis. *Br J Sports Med*. noviembre de 2020;54(21):1279-87.
48. Patti A, Bianco A, Paoli A, Messina G, Montalto MA, Bellafiore M, et al. Effects of Pilates Exercise Programs in People With Chronic Low Back Pain: A Systematic Review. *Medicine*. enero de 2015;94(4):e383.
49. Peolsson A, Landén Ludvigsson M, Overmeer T, Dederig Å, Bernfort L, Johansson G, et al. Effects of neck-specific exercise with or without a behavioural approach in addition to prescribed physical activity for individuals with chronic whiplash-associated disorders:

a prospective randomised study. BMC Musculoskelet Disord. diciembre de 2013;14(1):311.

50. Peolsson A, Peterson G, Hermansen A, Ludvigsson ML, Dederig Å, Löfgren H. Physiotherapy after anterior cervical spine surgery for cervical disc disease: study protocol of a prospective randomised study to compare internet-based neck-specific exercise with prescribed physical activity. BMJ Open. febrero de 2019;9(2):e027387.

51. Pocovi NC, De Campos TF, Christine Lin CW, Merom D, Tiedemann A, Hancock MJ. Walking, Cycling, and Swimming for Nonspecific Low Back Pain: A Systematic Review With Meta-analysis. Journal of Orthopaedic & Sports Physical Therapy. febrero de 2022;52(2):85-99.

52. Price J, Rushton A, Tyros I, Tyros V, Heneghan NR. Effectiveness and optimal dosage of exercise training for chronic non-specific neck pain: A systematic review with a narrative synthesis. Regnaud JP, editor. PLoS ONE. 10 de junio de 2020;15(6):e0234511.

53. Quentin C, Bagheri R, Ugbole UC, Coudeyre E, Pélissier C, Descatha A, et al. Effect of Home Exercise Training in Patients with Nonspecific Low-Back Pain: A Systematic Review and Meta-Analysis. IJERPH. 10 de agosto de 2021;18(16):8430.

54. Saeterbakken AH, Nordengen S, Andersen V, Fimland MS. Nordic walking and specific strength training for neck- and shoulder pain in office workers: a pilot-study. Eur J Phys Rehabil Med [Internet]. diciembre de 2017 [citado 16 de febrero de 2025];53(6). Disponible en: <https://www.minervamedica.it/index2.php?show=R33Y2017N06A0928>

55. Saragiotto BT, Maher CG, Yamato TP, Costa LO, Menezes Costa LC, Ostelo RW, et al. Motor control exercise for chronic non-specific low-back pain. Cochrane Back and Neck Group, editor. Cochrane Database of Systematic Reviews [Internet]. 8 de enero de 2016 [citado 16 de febrero de 2025];2016(11). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD012004>

56. Searle A, Spink M, Ho A, Chuter V. Exercise interventions for the treatment of chronic low back pain: a systematic review and meta-analysis of randomised controlled trials. Clin Rehabil. diciembre de 2015;29(12):1155-67.

57. Shamsi MB, Rezaei M, Zamanlou M, Sadeghi M, Pourahmadi MR. Does core stability exercise improve lumbopelvic stability (through endurance tests) more than general exercise in chronic low back pain? A quasi-randomized controlled trial. Physiotherapy Theory and Practice. 2 de abril de 2016;32(3):171-8.

58. Shi Z, Zhou H, Lu L, Pan B, Wei Z, Yao X, et al. Aquatic Exercises in the Treatment of Low Back Pain: A Systematic Review of the Literature and Meta-Analysis of Eight Studies. Am J Phys Med Rehabil. febrero de 2018;97(2):116-22.

59. Sipaviciene S, Kliziene I. Effect of different exercise programs on non-specific chronic low back pain and disability in people who perform sedentary work. Clinical Biomechanics. marzo de 2020;73:17-27.

60. Slater J, Kolber MJ, Schellhase KC, Patel CK, Rothschild CE, Liu X, et al. The Influence of Exercise on Perceived Pain and Disability in Patients With Lumbar Spinal Stenosis: A Systematic Review of Randomized Controlled Trials. *American Journal of Lifestyle Medicine*. 2016;10(2).
61. Smith BE, Littlewood C, May S. An update of stabilisation exercises for low back pain: a systematic review with meta-analysis. *BMC Musculoskelet Disord*. diciembre de 2014;15(1):416.
62. Suh JH, Kim H, Jung GP, Ko JY, Ryu JS. The effect of lumbar stabilization and walking exercises on chronic low back pain: A randomized controlled trial. *Medicine*. junio de 2019;98(26):e16173.
63. Tetreault LA, Rhee J, Prather H, Kwon BK, Wilson JR, Martin AR, et al. Change in Function, Pain, and Quality of Life Following Structured Nonoperative Treatment in Patients With Degenerative Cervical Myelopathy: A Systematic Review. *Global Spine Journal*. septiembre de 2017;7(3_suppl):42S-52S.
64. Verbrugghe J, Agten A, Stevens S, Hansen D, Demoulin C, O. Eijnde B, et al. Exercise Intensity Matters in Chronic Nonspecific Low Back Pain Rehabilitation. *Medicine & Science in Sports & Exercise*. diciembre de 2019;51(12):2434-42.
65. Wells C, Kolt GS, Marshall P, Hill B, Bialocerkowski A. The Effectiveness of Pilates Exercise in People with Chronic Low Back Pain: A Systematic Review. Hug F, editor. *PLoS ONE*. 1 de julio de 2014;9(7):e100402.
66. Wewege MA, Booth J, Parmenter BJ. Aerobic vs. resistance exercise for chronic non-specific low back pain: A systematic review and meta-analysis. *BMR*. 25 de octubre de 2018;31(5):889-99.
67. Wieland LS, Skoetz N, Pilkington K, Vempati R, D'Adamo CR, Berman BM. Yoga treatment for chronic non-specific low back pain. Cochrane Back and Neck Group, editor. *Cochrane Database of Systematic Reviews* [Internet]. 12 de enero de 2017 [citado 16 de febrero de 2025];2017(1). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD010671.pub2>
68. Yamato TP, Maher CG, Saragiotto BT, Hancock MJ, Ostelo RW, Cabral CM, et al. Pilates for low back pain. Cochrane Back and Neck Group, editor. *Cochrane Database of Systematic Reviews* [Internet]. 2 de julio de 2015 [citado 16 de febrero de 2025];2015(7). Disponible en: <http://doi.wiley.com/10.1002/14651858.CD010265.pub2>
69. Zhang C, Li Y, Zhong Y, Feng C, Zhang Z, Wang C. Effectiveness of motor control exercise on non-specific chronic low back pain, disability and core muscle morphological characteristics: a meta-analysis of randomized controlled trials. *Eur J Phys Rehabil Med* [Internet]. noviembre de 2021 [citado 16 de febrero de 2025];57(5). Disponible en: <https://www.minervamedica.it/index2.php?show=R33Y2021N05A0793>

70. Zhang R. Postoperative functional exercise for patients who underwent percutaneous transforaminal endoscopic discectomy for lumbar disc herniation.
71. Zhu F, Zhang M, Wang D, Hong Q, Zeng C, Chen W. Yoga compared to non-exercise or physical therapy exercise on pain, disability, and quality of life for patients with chronic low back pain: A systematic review and meta-analysis of randomized controlled trials. Manzoli L, editor. PLoS ONE. 1 de septiembre de 2020;15(9):e0238544.
72. Zronek M, Sanker H, Newcomb J, Donaldson M. The influence of home exercise programs for patients with non-specific or specific neck pain: a systematic review of the literature. Journal of Manual & Manipulative Therapy. 14 de marzo de 2016;24(2):62-73.