ABSTRACTS August 2025

An overview of systematic reviews investigating clinical features for diagnosing neck pain and its associated disorders

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J Man Manip Ther. 2025 Aug;33(4):286-298.
doi: 10.1080/10669817.2024.2436403.

Abstract:

Background: Neck pain is a common condition that is often difficult to diagnose. Previous literature has investigated diagnostic accuracy of examination measures, but the strength and clinical applicability are limited. This overview of systematic reviews aimed to investigate clinical features for diagnosing neck pain and its associated disorders.
Methods: An overview of systematic reviews was conducted searching four electronic databases for systematic reviews evaluating diagnostic criteria for neck pain. Quality and risk of bias were assessed using the AMSTAR 2 and ROBIS. Clinical features for neck pain were investigated for diagnostic utility.
Results: Twenty-seven systematic reviews were included. Hand radiculopathy and numbness have good specificities (0.89-0.92) for facet and uncinate joint hypertrophy. For facet-related dysfunction, the extension rotation test (ERT) and manual assessment have good sensitivities and moderate-good specificities. Positive ERT combined with positive manual assessment findings (+LR = 4.71; Sp = 0.83) improves diagnostic accuracy compared to positive ERT alone (+LR = 2.01; Sp = 0.59). Canadian C-spine Rules and Nexus criteria have excellent validity in screening for cervical fracture or instability. Imaging appears to have validity in diagnosing ligamentous disruption or fractures but lacks clarity on predicting future neck pain. Increased fatty infiltrates have been found with whiplash-associated disorders and mechanical neck pain.
Conclusions: This review found limited indicators providing strong diagnostic utility for diagnosing neck pain. Strength of recommendations are limited by heterogeneous outcomes, methodology, and classification

systems. Future research should investigate new differential diagnostic criteria for specific structures contributing to neck pain.

General strengthening exercise for chronic primary low back pain: a systematic review with meta-analyses

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19th International Forum for Back and Neck Pain Research in Primary Care

Abstract:

Study design, Objective(s), and Background:
General strengthening exercise (GSE) is beneficial for improving physical and mental health. However, evidence syntheses of GSE for chronic primary low back pain (CPLBP) are lacking. Therefore, this ongoing Cochrane Review investigates the benefits, harms and associated certainty of evidence of GSE for CPLBP on pain intensity, functional limitations, health-related quality of life (HRQoL), psychological functioning (i.e., depressive symptoms), and adverse events at end-of-treatment and closest to 6 and 12 months after end-oftreatment (medium and long-term, respectively) compared to 'placebo, sham, or attention control' and 'no trial treatment'.
Methods: This review included randomized controlled trials (RCTs) from a larger ongoing Cochrane Review on exercise therapy for CPLBP. Meta-analyses (DerSimonian and Laird) were applied to estimate mean differences (MD) with 95% confidence intervals (CIs). MDs were interpreted as trivial (MD: <5 from 0-100), small (MD: 5-10 from 0-100), moderate (MD: >10-20 from 0-100), and large (MD: >20 from 0-100). Overall certainty of evidence was investigated using GRADE.
Results: We included 10 RCTs (n=718), all comparing GSE to 'no trial treatment'. For pain intensity, effects were small at end-of-treatment (MD = -8.69, CI: -13.77;-3.61, I2 = 74%, GRADE = low) and medium-term (MD = -7.66, CI: -14.05;-1.27, I2 = 33%, GRADE = very low), while trivial and insignificant at long-term (MD = -1.48, CI: -7.19;4.23, I2 = 0%, GRADE = very low). For functional limitations, effects were small at end-of-treatment (MD = -5.37, CI: -8.87;-1.87, I2 = 61%, GRADE = low), while small and insignificant at medium-term (MD = -5.51, CI: -15.84;4.82, I2 = 87%, GRADE = very low), and trivial and insignificant at long-term (MD = -2.62, CI:-6.35;1.11, I2 = 5%, GRADE = very low). For HRQoL, effects were small at

end-of-treatment (MD = -7.81, CI: -10.94;-4.69, I2 = 58%, GRADE = very low), but no RCTs reported effects at 'medium-term' or 'long-term' on health-related quality of life nor on psychological functioning. Adverse events were reported in four RCTs, with five non-serious events reported, while none in the control (RR = 2.36, CI: -0.41;-13.73, I2 = 0%, GRADE = very low).
Conclusions: We found very low to low certainty evidence that GSE provides trivial to small effects and appears to be safe. People with CPLBP can engage in GSE if they enjoy the exercise type since the effects are positive, albeit the improvement is probably lower than what is perceived as clinically meaningful.

Are beliefs about low back pain associated with central sensitization inventory in patients with low back pain? A cross-sectional study

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Physiotherapy. 2025 May 22:129:101803.
doi: 10.1016/j.physio.2025.101803.

Abstract:

Background: The Central Sensitization Inventory is a tool used to identify patients with central sensitization (CS) symptoms. The Central Sensitization Inventory has shown to be associated with psychosocial and cognitive factors commonly thought to contribute to and sustain the mechanism of central sensitization. Another potential factor that might play a role in central sensitization is beliefs about low back pain (LBP).
Objectives: To investigate whether beliefs about LBP are associated with Central Sensitization Inventory in patients with chronic LBP.
Design: A cross-sectional study.
Participants: 119 patients with nonspecific chronic LBP seeking physical therapy care in outpatient clinics.
Main outcome measures: Demographic data and clinical characteristics such as pain intensity, disability, back pain beliefs (i.e., measured with Back Beliefs Questionnaire) and CS-related symptoms (i.e., measured with Central Sensitization Inventory) were collected. Multivariable linear regression analysis was used in the analysis.

Results: Most participants (60%) were classified as having subclinical or mild severity levels according to the Central Sensitization Inventory. Multivariable regression analysis showed that LBP beliefs not aligned with the current evidence were associated with higher scores of Central Sensitization Inventory, after controlling for sex, pain intensity and disability.
Conclusions: Patients with LBP beliefs not aligned with the current evidence were more likely to present with higher scores on the Central Sensitization Inventory.

Cervical range of motion in individuals with and without chronic subacromial pain syndrome: a cross-sectional study

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Musculoskelet Sci Pract. 2025 Aug:78:103341.
doi: 10.1016/j.msksp.2025.103341.

Abstract:

Objective: To compare cervical range of motion (ROM) between asymptomatic individuals and those with subacromial pain syndrome (SAPS), and to investigate its relationship with shoulder pain, disability, and other clinical factors.
Methods: A cross-sectional study was conducted with 50 individuals with SAPS and 50 asymptomatic controls (both sexes, aged 32-66). The Shoulder Pain and Disability Index (SPADI) assessed shoulder disability, and cervical ROM was measured using a cervical range of motion (CROM) device.
Results: Individuals with SAPS had significantly reduced cervical ROM compared to controls, confirmed by Student's t-test or Mann-Whitney test. Large effect sizes were observed (Cohen's d = 1.08 and 1.65 for right bending and extension; Mann-Whitney effect size = -0.44 to -0.56 for other movements). Pearson correlations revealed a significant inverse relationship between cervical ROM and SPADI scores (r = -0.42 to -0.61). Chi-square analysis indicated that shoulder pain was associated with cervical ROM deficits (X^2 = 6.83 to 27.75), with prevalence ratios ranging from 1.5 (flexion) to 4.25 (left rotation) higher in individuals with SAPS. These deficits were also associated with longer duration of shoulder pain, higher neck pain intensity, and older age.

Conclusion: Individuals with SAPS have reduced cervical mobility compared to asymptomatic individuals, especially for cervical rotation. Cervical ROM deficits were more prevalent in individuals with SAPS and correlated with greater shoulder disability. Clinical factors such as duration of shoulder pain, neck pain intensity, and age contribute to these deficits. These findings highlight the need to assess cervical mobility in patients with SAPS.

Efficacy of cognitive functional therapy for pain intensity and disability in patients with non-specific chronic low back pain: a randomised sham-controlled trial

Mariana Romano de Lira, Ney Meziat-Filho, Gabriela Zuelli Martins Silva, Julia Castro, Jessica Fernandez, Rinaldo Roberto de Jesus Guirro, Roger Berg, Thais Cristina Chaves
Br J Sports Med. 2025 Jun 18;59(13):912-920.
doi: 10.1136/bjsports-2024-109012.

Abstract:

Objective: This study investigated the efficacy of cognitive functional therapy (CFT) versus a sham procedure for pain intensity and disability for patients with non-specific chronic low back pain (CLBP).
Methods: This is a randomised sham-controlled trial conducted in a primary care public health service. A total of 152 participants were randomly assigned to the CFT group (n=76) and the sham group (n=76). The CFT group received six 1 hour individualised sessions; the sham procedure group received six individual sessions of neutral talking+detuned photobiomodulation (low-level laser therapy) equipment. Both groups received an education booklet with information on strategies for CLBP self-management. Primary outcomes were pain intensity and disability at 6 weeks. Participants were assessed preintervention, postintervention (at 6 weeks), and 3 and 6 months after randomisation.
Results: We obtained primary outcome data from 97.4% (n=74) of participants in the CFT group and 98.7% (n=75) from the sham group. The CFT group showed greater effects in pain intensity (mean difference (MD)=-1.8; 95% CI -2.5 to -1.1) and disability (MD=-9.9; 95% CI -13.2 to -6.5) postintervention compared with the sham group. The effect remained at the 3-month and 6-month follow-ups.

Conclusions: CFT showed sustained clinical efficacy compared with a sham procedure for treating pain intensity and disability in patients with CLBP.

Cost-effectiveness of Risk Stratified Care Versus Usual Care for Low Back Pain in the Military Health System

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Spine. 2025 Jul 15;50(14):E270-E277.
doi: 10.1097/BRS.0000000000005145.

Abstract:

Study design: Cost-effectiveness of two trial interventions for low back pain.
Objective: To investigate the incremental cost-effectiveness between risk-stratified and usual care for low back pain.
Summary of background data: A recent trial compared risk-stratified care to usual care for patients with low back pain (LBP) in the US Military Health System. While the outcomes were no different between groups, risk-stratified care is purported to use fewer resources and therefore could be a more cost-effective intervention. Risk-stratified care matches treatment based on low, medium, or high risk for poor prognosis.
Methods: The cost-effectiveness of usual care versus risk-stratified care for low back pain was assessed, using the health care perspective. Patients were recruited from primary care. The main outcome indicated incremental cost-effectiveness between two alternative treatments. Acceptability curves of bootstrapped incremental cost-effectiveness ratios (ICER) were used to identify the proportion of ICERs under the specific willingness-to-pay (WTP) level ($50,000 to $100,000). Health system costs (total and back-related) and health-related quality-of-life (HRQoL) based on quality-adjusted life-years (QALYs) were obtained.
Results: Two hundred seventy-one participants (33.6% female), mean age 34.3 +/-8.7 were randomized 1:1 and followed for one year. Mean back-related medical costs were not significantly different (mean difference $95; 95% CI: -$398, $407; P =0.982), nor were total medical costs (mean difference $827, 95% CI: -$1748, $3403; P =0.529). The mean difference in QALYs was not significantly different between groups (0.009; 95% CI: -0.014, 0.032; P =0.459). The incremental net monetary benefit (NMB) at the willingness to pay (WTP) threshold of $100,000 was $792 for back-related costs, with the lower bound CI negative at all WTP levels.

Conclusions: Risk-stratified care was not cost-effective for medium-risk and low-risk individuals compared with usual care. Further research is needed to assess whether there is value for high-risk individuals or for other risk-stratification approaches.

Diagnostic domains, differential diagnosis and conditions requiring further medical attention that are considered important in the assessment for Achilles tendinopathy: a Delphi consensus study

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Br J Sports Med. 2025 Jun 18;59(13):891-901.
doi: 10.1136/bjsports-2024-109185.

Abstract:

The absence of agreed methods to diagnose Achilles tendinopathy impedes research and clinical practice. This gap results in heterogeneous and/or poorly described study samples, making it challenging to apply findings in clinical practice. The aim of this Delphi study was to define consensus on (1) diagnostic domains; (2) differential diagnoses; and (3) conditions requiring further medical attention, when assessing for Achilles tendinopathy.We conducted a sequential three-stage process which included: (1) identifying diagnostic domains, differential diagnoses and conditions requiring further medical attention based on existing scoping reviews and clinical practice guidelines; (2) developing Delphi survey questions; and (3) administering a five-round Delphi online survey. Consensus was defined as ≥70% agreement.52 participants completed the surveys. Four diagnostic domains were deemed essential and reached

consensus (pain location (93%); pain during activity (97%); tests that provoke pain (87%); palpation to assess pain (83%)). 15 differential diagnoses reached consensus: 2 for both midportion and insertional (partial tear (80%); posterior ankle impingement (78%)), 6 for midportion (plantaris tendinopathy (84%); tibialis posterior or flexor hallucis longus tendinopathy/tenosynovitis (72%); flexor digitorum longus tendinopathy (77%); accessory soleus muscle (74%); paratendinopathy (86%); sural nerve neuropathy (81%)) and 7 for insertional (superficial (88%) and retrocalcaneal bursitis (86%); Haglund's/calcaneal exostosis (80%), intratendinous calcifications (73%); Sever's disease (78%); calcaneal stress reaction/fracture (80%); subtalar/ankle pain (71%)). Six conditions requiring further medical attention reached consensus: (Achilles tendon rupture (83%); systemic inflammatory joint disease (86%); metabolic syndrome (75%); familial hypercholesterolaemia (77%); endocrine and hormonal disorders (80%); drug reactions (77%)).This consensus identified essential diagnostic domains, differential diagnoses and conditions requiring further medical attention that should be considered when assessing for Achilles tendinopathy.

Diagnosis and management of shoulder pain by New Zealand physiotherapists: a national survey

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Physiotherapy. 2025 May 22:129:101807.
doi: 10.1016/j.physio.2025.101807.

Abstract:

Background: Physiotherapists commonly manage patients with shoulder disorders. The primary aims of this study were to (1) determine current assessment and management of patients with shoulder disorders by physiotherapists in New Zealand and compare it to evidence-based recommendations; and (2) assess their confidence in making a diagnosis.
Methods: We performed a cross-sectional online survey of New Zealand registered physiotherapists who self-report that they treat patients with shoulder disorders. The survey was distributed electronically via professional physiotherapy networks and social media. Physiotherapists were asked about four common shoulder disorders (rotator cuff tendinopathy, acute rotator cuff tear, early and later presentation of adhesive capsulitis) presented as vignettes.

Results: 234 physiotherapists completed the survey. Most (78%) work in private practice and 73% have a shoulder caseload of ≥5 patients per week. Participants commonly included physical examination of shoulder and cervical joints. Investigations and referral to other healthcare professionals varied between vignettes. Advice, education about exercise, manual therapy and activity/work modification were the most prevalent interventions. Electrotherapy was a common intervention for rotator cuff tendinopathy. Most physiotherapists were moderately or extremely confident in their diagnosis across all vignettes. There was no difference in correct diagnosis between physiotherapists with a high versus low shoulder caseload for 3 vignettes, with a slight difference favouring those with a high shoulder caseload for acute rotator cuff tear (90% vs 80%, Fisher's p = 0.047).
Conclusions: Physiotherapists self-reported management of patients with shoulder disorders partially accord with evidence-based recommendations. They have confidence in their diagnoses which are mostly correct.

Effectiveness of Quadriceps Strength Training in Adults With Knee Osteoarthritis: A Systematized Review

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J Pain. 2025 Jun 23:105475.
doi: 10.1016/j.jpain.2025.105475.

Abstract:

Background: Knee osteoarthritis (KOA) is a common degenerative condition causing pain, affecting mobility, and quality of life. As muscle weakness worsens in KOA, this review evaluates the effectiveness of quadriceps strengthening exercises in managing pain.
Methods: This review used the PubMed database to identify free full-text randomized controlled trials from the past 5 years, limited to English-language human studies, guided by the PICO framework. The Joanna Briggs Institute Critical Appraisal Tool was used to assess study quality; RCTs scoring ≥ 80% were included. Data were analysed descriptively, and effect sizes were calculated using G*Power software.
Results: Nine RCTs showed that quadriceps strengthening significantly reduced pain and improved function in KOA. Effective exercises included straight leg raises, terminal knee extensions, and open/closed chain movements over 8-12 weeks.

Conclusion: Quadriceps strengthening as a part of lower extremity strengthening is effective in reducing pain in KOA and should be prioritised in patient-specific programs.

Effectiveness of reducing tendon compression in the rehabilitation of insertional Achilles tendinopathy: a randomised clinical trial

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Br J Sports Med. 2025 Apr 24;59(9):640-650.
doi: 10.1136/bjsports-2024-109138.

Abstract:

Objective: To assess the effectiveness of low tendon compression rehabilitation (LTCR) versus high tendon compression rehabilitation (HTCR) for treating patients with insertional Achilles tendinopathy.
Methods: In an investigator-blinded, stratified randomised trial, 42 sport-active patients (30 males and 12 females; age 45.8±8.2 years) with chronic (> 3 months) insertional Achilles tendinopathy were allocated in a 1:1 ratio to receive LTCR or HTCR. Both rehabilitation protocols consisted of a progressive 4-stage tendon-loading programme, including isometric, isotonic, energy-storage and release and sport-specific exercises. The LTCR programme was designed to control Achilles tendon compression by limiting ankle dorsiflexion during exercise, eliminating calf stretching and incorporating heel lifts. The primary outcome was the Victorian Institute of Sports Assessment-Achilles (VISA-A) score at 12 and 24 weeks, which measures tendon pain and function and was analysed on an intention-to-treat basis using a linear mixed model. Significance was accepted when $p<0.05$.
Results: 20 patients were randomised to the LTCR group and 22 to the HTCR group. Improvement in VISA-A score was significantly greater for LTCR compared with HTCR after 12 weeks (LTCR=24.4; HTCR=12.2; mean between-group difference=12.9 (95% CI: 6.2 to 19.6); $p<0.001$) and after 24 weeks (LTCR=29.0; HTCR=19.3; mean between-group difference=10.4 (95% CI: 3.7 to 17.1); $p<0.001$). These differences exceeded the minimal clinically important difference of 10.
Conclusions: In sport-active patients with insertional Achilles tendinopathy, LTCR was more effective than HTCR in improving tendon pain and function at 12 and 24 weeks. Consequently, LTCR should be considered in the treatment of insertional Achilles tendinopathy.

Exploring the Quality of Physical Therapy in Patients With Hip or Knee Osteoarthritis in Germany: A Cross-Sectional, Vignette-Based Study

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Phys Ther. 2025 Aug 5;105(8):pzaf083.
doi: 10.1093/ptj/pzaf083.

Abstract:

Importance: Conservative, non-pharmacological interventions are the recommended first-line treatment for hip and knee osteoarthritis (OA). Clinical practice guidelines (CPGs), such as those from the Osteoarthritis Research Society International (OARSI), guide evidence-based care by physical therapists. However, no studies in Germany have examined physical therapists' treatment choices across patient cases and compared them with the latest evidence.
Objective: The objective of this study was to investigate to what extent physical therapists meet the latest evidence when treating different types of people with hip or knee OA.
Design and setting: A cross-sectional vignette-based online survey was conducted among physical therapists working in outpatient practices.
Participants: Eligible participants had adequate German language skills, internet access, and recent experience treating patients with hip or knee OA.
Measures: The survey included 4 case vignettes of hip or knee OA, with and without comorbidities, and a list of treatment modalities from the OARSI guideline. Correct selections matched high-evidence recommendations. Descriptive statistics analyzed demographics and treatment choices; linear regression assessed the influence of professional degree and work experience on meeting the latest evidence.
Results: Of 612 eligible therapists, 335 (54.7%) completed the survey (mean age 35.9+/-11.9 years; 60% female). Only 22% selected all recommended modalities across vignettes. Structured exercise (96%) and arthritis education (95%) were the most frequently chosen. However, many therapists also selected interventions with limited or conflicting evidence, such as massage and taping. Both professional degree and work experience significantly influenced the extent to which the latest evidence was met. Additionally, 49% were aware of at least 1 OA guideline.

Conclusions and relevance: While many physical therapists aligned with evidence-based practices, inappropriate modality selection remained common. De-implementation is needed where evidence suggests a lack of benefit or potential safety concerns. Translating and implementing the OARSI guideline into various languages, specifically for physical therapists, is recommended to close knowledge gaps.
Impact: The study's findings underscore the importance of understanding the treatment modalities used by physical therapists in managing hip or knee OA worldwide. This insight is crucial for addressing the evidence-to-practice gap and ensuring the effective implementation of high-quality physical therapy, a need that is equally relevant in other countries. Additionally, this knowledge is vital for developing targeted strategies, such as the creation and integration of (de-)implementation protocols into the education and ongoing professional development of physical therapists globally.

Feasibility of Physical Exam and Performance-Based Tests in Individuals With Chronic Low Back Pain: A Descriptive Study

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JOR Spine. 2025 Aug 12;8(3):e70096.
doi: 10.1002/jsp2.70096.

Abstract:

Background: Despite the wide utilization of physical tests and pain assessments to evaluate individuals with chronic low back pain (cLBP), there is limited information about their feasibility in terms of test duration, the ability of individuals with cLBP to perform these tests, and associated adverse events. The literature also lacks reports on comprehensive characterization of physical tests to serve as a reference for clinicians and researchers. The objectives of the present work are to assess the feasibility of a comprehensive battery of physical tests and pain assessments germane to individuals with cLBP and characterize the tests' values in the context of a large cohort.
Methods: This cross-sectional analysis uses enrollment data from a large observational study conducted by the University of Pittsburgh Mechanistic Research Center-"Low Back Pain: Biological, Biomechanical, Behavioral

Phenotypes (LB^3P)." LB^3P is part of the National Institutes of Health's Helping to End Addiction Long-term Initiative. Individuals with cLBP were screened by trained clinicians who assessed their safety to partake in up to 37 physical tests based on pre-existing medical conditions. Testers could elect not to administer tests based on their clinical judgment and participants could refuse to partake in tests. The reasons for not performing tests were recorded. The feasibility of the tests was assessed by the time to complete each test, percentages and reasons for tests not done, and adverse events related to test performance. Descriptive statistics for the physical tests were computed for the sample overall, and for the subgroups (male/female and age < 60/≥ 60) to serve as reference values for individuals with cLBP.

Results: The testing protocol took on average 130 min. In total, 8.9% of tests were not done. About one third of tests not done were screened out due to medical conditions identified during the safety screening, and two-thirds due to the tester's clinical judgment or participant refusal. Only four adverse events occurred, and they resolved without sequelae. The tests most often omitted were those requiring maximal and submaximal physical effort or could elevate blood pressure in those with hypertension, such as muscle strength testing of the hip, abdomen, and thigh, or hand immersion in cold water. From the 1007 participants enrolled in the study, those who did not complete one or more tests tended to be older, obese, less educated, and experienced more disability and back pain for a longer time. The descriptive statistics of the 37 tests are reported stratified by sex and age.

Conclusions: The results support the safety and feasibility of a comprehensive battery of physical tests and pain assessments in individuals with cLBP. This study also provides novel information on the test's performance frequency, reasons for not being completed, duration, and descriptive results in individuals with cLBP. This comprehensive characterization provides reference values for comparison in future research planning and clinical practice.

First-Contact Physical Therapy Compared to Usual Primary Care for Musculoskeletal Disorders: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Bremen Abuhl, Dallas Ehrmantraut, Mitchell Wolden
Phys Ther. 2025 Aug 5;105(8):pzaf080.
doi: 10.1093/ptj/pzaf080.

Abstract:

Importance: This study aims to enhance the care provided for patients with musculoskeletal disorders (MSKDs).
Objective: The objective of this study is to compare first-contact physical therapy (FCPT) and usual primary care (UPC) for societal and clinical outcomes of patients with MSKDs.
Design: The design was a systematic review and meta-analysis of randomized controlled trials.
Setting: The study took a global perspective on FCPT compared to UPC for societal and clinical outcomes of patients with MSKDs.
Participants: The study included patients presenting with MSKDs.
Intervention(s) or exposure(s): FCPT was compared to UPC for patients with MSKDs.
Main outcomes and measures: Societal outcomes including clinical imaging rates, prescription medication rates, cost, and clinical outcomes including pain, disability, and health-related quality of life (HRQoL) were assessed.
Results: Ten randomized controlled trials were included with a sample size of 2081 patients. Very low to moderate quality of evidence showed patients achieved similar to superior societal and clinical outcomes with FCPT compared to UPC. Lower clinical imaging rates (risk ratio [RR] = 0.55; 95% CI, 0.45-0.68) and prescription medication rates (RR = 0.29; 95% CI, 0.16-0.53) were associated with FCPT. All effects favored FCPT, including a small effect for cost (mean difference = -309.79; 95% CI, -678.69 to 59.12), a medium effect for pain (standardized mean difference [SMD] = -0.75; 95% CI, -1.57 to 0.06), and negligible effects for disability (SMD = -0.15; 95% CI, -0.32 to 0.03) and HRQoL (SMD = -0.03; 95% CI, -0.17 to 0.11).
Conclusions: When compared to UPC, FCPT is likely to reduce clinical imaging rates and may result in a reduction of prescription medication rates. FCPT may result in little to no difference in disability and HRQoL. Evidence is very uncertain about the effect of FCPT on pain and cost. All conclusions can be interpreted for the medium term.

Relevance: Health care organizations treating patients with MSKDs should consider integrating FCPTs to support primary care.

A Systematic Review on Health Economic Evaluations of Telerehabilitation for Chronic Spinal Pain

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J Pain Res. 2025 Aug 21:18:4251-4262.
doi: 10.2147/JPR.S533280.

Abstract:

Background: Telerehabilitation can improve clinical outcomes by increasing access to and adherence to rehabilitation protocols, leading to favourable benefits in overall quality of life at a reasonable cost. This systematic review aims to conduct a thorough analysis of published health economic evaluations of standalone telerehabilitation interventions for individuals with chronic spinal pain, focusing on reported costs and clinical outcomes.
Methods: An extensive search was conducted in English across four general medical databases and three health economic databases. The studies' quality was evaluated using the updated Consolidated Health Economic Evaluation Reporting Standards (CHEERS) statement.
Results: Five economic evaluations were identified, comprising three high-quality and two medium-quality studies. Among these studies, four indicated that telerehabilitation interventions were more cost-effective than standard treatment and conventional physical therapy from a social and healthcare perspective. The sixth study, which lacked a comparison group, also demonstrated that the use of remote follow-ups and programming for Spinal Cord Stimulation (SCS) devices in chronic spinal pain is cost-effective.
Conclusion: Telerehabilitation, particularly telerehabilitation-based McKenzie therapy (TBMT), may represent the most economically efficient approach compared to conventional treatment interventions for individuals with chronic lumbar spine pain. For a more robust conclusion, it is imperative to conduct comprehensive economic evaluations using larger sample sizes over extended periods across multiple countries.

NICE Standard for low back pain and sciatica needs urgent revision

Crystian B Oliveira, Gustavo C Machado, Martin Underwood, Chris G Maher
Br J Sports Med. 2025 Jun 18;59(13):884-887.
doi: 10.1136/bjsports-2025-109817.

Abstract:

No abstract available

All the right moves: physical activity promotion for people with musculoskeletal pain

Matt Fernandez, Katie de Luca, Robert Stanton, Stephanie Alley, Fabio Serpiello, Corneel Vandelanotte
Br J Sports Med. 2025 May 2;59(10):691-693.
doi: 10.1136/bjsports-2024-108941.

Abstract:

Introduction: The global population is facing a physical inactivity pandemic, with nearly one-third of adults not sufficiently active.1 This increases the risk of chronic disease, morbidity, mortality, healthcare costs and poorer quality of life.2 Furthermore, musculoskeletal conditions are a key disability driver, expected to impact one billion people by 2050.3 Physical inactivity and musculoskeletal conditions often co-occur, which worsens their effects. Yet, physical activity (PA) is widely recognized as a first-line treatment for musculoskeletal pain,4 and healthcare professionals (HCPs) are well positioned to promote PA, given their frequent consultations with patients experiencing musculoskeletal pain. As such, HCPs can simultaneously treat musculoskeletal pain and reduce chronic disease through prescribing PA. Here, we propose strategies for HCPs to enhance PA promotion for patients with musculoskeletal pain.

Are physical activity, sleep, and joint pain associated with physical function and quality of life in individuals with multimorbidity? A cross-sectional analysis of the MOBILIZE trial

Travis Haber, Alessio Bricca, Michelle Hall, Jan Christian Brønd, Lau Thygesen, Søren T Skou

Qual Life Res. 2025 Aug 9.
doi: 10.1007/s11136-025-04044-4. Online ahead of print.

Abstract:

Purpose:
This study investigated the associations between physical activity, sleep, and joint pain intensity with physical function and health-related quality of life (HrQoL) in people with multimorbidity.
Methods:
A pre-specified cross-sectional study using baseline data from participants with multimorbidity in the MOBILZE trial. Outcomes were physical function (6-minute walk test) and HrQoL (EQ-5D-5 L). Exposures were device-measured physical activity (min/week), joint pain intensity (0-100 visual analogue scale), device-measured sleep efficiency (%), and sleep quality (Modified Karolinska Sleep Questionnaire, 0–5 Likert scale). Separate and combined linear regression models were used to assess associations between exposures and outcomes.
Results:
We included data from 227 participants. Physical activity was positively associated with physical function (β = 0.56 m, 95% confidence intervals (CI) 0.39 to 0.73) and HrQoL (β = 0.00046, CI 0.000054 to 0.00087). Joint pain intensity was negatively associated with physical function (β = -0.90 m, CI -1.61 to -0.19), but not quality of life. Poorer sleep quality was negatively associated with HrQoL (β = -0.037, CI -0.060 to -0.013), but not physical function. Sleep efficiency was not associated with either outcome. In the combined model, physical activity was not associated with HrQoL, while joint pain was.
Conclusions:
Our exploratory findings among people with multimorbidity suggest that physical activity and joint pain are potentially clinically meaningful factors relating to physical function, while self-reported sleep quality may meaningfully relate to HrQoL. Clinicians may want to consider supporting patients with multimorbidity in managing their physical activity levels, joint pain, and sleep quality to improve health outcomes. Longitudinal studies and randomised controlled trials are needed to confirm these findings.

Prognostic ability of the sTarT back screening tool for disability and pain intensity outcomes in older adults with low back pain seeking chiropractic care: a multi-national external validation study

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Abstract:

Background: Low back pain (LBP) is common among older adults, and it is a frequent reason for seeking chiropractic care. The STarT Back Screening Tool (SBT) was developed to stratify patients with LBP into low, medium, and high-risk treatment pathways, so that the treatment can be matched to each participant's risk profile. But its prognostic performance varies across settings and populations. No studies have focused on the SBT's utility as a stratified-care tool in older adults with LBP in a chiropractic setting. Therefore, our aim was to evaluate the ability of the SBT to predict three-, six-, and 12-month disability and pain outcomes in older adults (≥55 years) with a new episode of LBP consulting chiropractors in the Netherlands, Sweden, and Australia.

Methods: This was a secondary analysis of the Back Complaints in Older Adults - Chiropractic (BACE-C) cohort. Participants visiting chiropractors with LBP completed baseline questionnaires for demographic and clinical characteristics, including the SBT. Follow-up questionnaires assessed disability (Roland Morris Disability Questionnaire (RMDQ)) and pain intensity (11-point Numerical Rating Scale (NRS)). "No improvement" on disability and pain intensity was defined as less than 30% reduction in baseline scores. We used logistic regression models to estimate discrimination metrics including the area under the receiver operating characteristic curve (AUC). Subgroup analyses were conducted by country, sex, and LBP duration; sensitivity analyses employed alternative "no improvement" definitions and linear regression on continuous outcome scores.

Results: A total of 738 participants were included. The mean age of the study sample was 66.2 ± 7.5 years and 50.9% of the participants were female. The SBT showed poor discrimination for predicting no improvement in disability and pain intensity. All AUC values were below 0.60 regardless of whether SBT risk subgroups (i.e. low/medium/high) or the SBT sum score

were used. Subgroup and sensitivity analyses did not meaningfully improve discrimination.
Conclusion: The SBT presented limited prognostic ability to predict outcomes of disability and pain intensity in older adults with LBP in a chiropractic setting. These findings suggest insufficient evidence for the prognostic ability of the SBT risk stratification tool. Future research should explore reasons behind the limited prognostic accuracy and consider potential modifications or alternative tools.

Cognitive functional therapy with or without movement sensor biofeedback versus usual care for chronic, disabling low back pain (RESTORE): 3-year follow-up of a randomised, controlled trial

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Abstract:

Background: Interventions for low back pain typically produce small and short-term effects. Cognitive functional therapy (CFT) has shown large effects up to 12 months, but long-term effects are unclear. We aimed to compare the long-term (3-year) effectiveness of CFT, delivered with or without movement sensor biofeedback, with usual care for patients with chronic disabling low back pain.
Methods: The RESTORE trial was a randomised, controlled, three-arm parallel group, phase 3, clinical trial that investigated CFT delivered with or without biofeedback compared with usual care for the treatment of chronic low back pain. Treatment was delivered in 20 primary care physiotherapy clinics in Australia. This study is the 3-year follow-up of the RESTORE trial. We recruited adults (aged ≥18 years) with low back pain lasting more than 3 months with at least moderate pain-related physical activity limitation and average back pain of at least 4 on a 0-10 scale. Participants were randomly assigned (1:1:1) via a centralised adaptive schedule to usual care, CFT only, or CFT plus biofeedback. At the 1-year follow-up, all participants were invited to provide consent to be followed up 2 years later-ie, 3 years after randomisation. The primary outcome was pain-related physical activity limitation, self-reported via the Roland Morris Disability Questionnaire (0-24 scale) at 3 years. The secondary outcome was pain intensity at 3 years,

assessed using the numeric pain rating scale. Adverse event data were not collected at the 3-year follow-up. All outcomes were assessed in the intention-to-treat population. Participants in both CFT groups received up to seven treatment sessions over 12 weeks plus a booster session at 26 weeks. Physiotherapists and patients were not masked. People with lived experience of chronic low back pain were involved in the study design and conduct. This trial is registered with the Australian New Zealand Clinical Trials Registry (ACTRN12618001396213).

Findings: Between Oct 23, 2018, and Aug 3, 2020, 1011 people were assessed for eligibility for the RESTORE trial. 492 (49%) were eligible and randomly assigned to one of three treatments; 164 (33%) to CFT only, 163 (33%) to CFT plus biofeedback, and 165 (34%) to usual care. At the 1-year follow-up, 359 (73%) of 492 participants provided consent to be contacted to complete the 3-year questionnaire. 312 (87%) of those 359 participants were successfully followed up at 3 years, with similar proportions across each treatment group; 104 (63%) of 164 in the CFT only group, 106 (65%) of 163 in the CFT plus biofeedback group, and 102 (62%) of 165 in the usual care group. 188 (60%) of 312 participants were female, 124 (40%) were male, and the mean age was 48·1 years (SD 14·6). CFT only (mean difference -3·5 [95% CI -4·9 to -2·0]) and CFT plus biofeedback (-4·1 [-5·6 to -2·6]) were both more effective than usual care in reducing activity limitation at 3 years. Differences between CFT only and CFT plus biofeedback treatments were small and not significant (mean difference -0·6 [95% CI -2·2 to 0·9]). For pain intensity at 3 years, CFT only (-1·0 [-1·6 to -0·5]) and CFT plus biofeedback (-1·5 [-2·1 to -0·9]) were also more effective than usual care, and differences between CFT only and CFT plus biofeedback were small and not significant (-0·5 [-1·1 to 0·1]).

Interpretation: Treatment sessions of CFT produced sustained effects at 3 years for people with chronic disabling low back pain. These long-term effects are novel and provide the opportunity to markedly reduce the effect of chronic back pain if the intervention can be widely implemented. Implementation requires scaling up of clinician training to increase accessibility and replication studies in diverse health-care systems.

Rethinking chronic plantar heel pain management: moving beyond mechanical models

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Abstract:

No abstract available.

Self-management interventions for adults with chronic lumbar radicular pain: A scoping review

Robert Goldsmith, Sarah Rudd, Sam Harding
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Abstract:

Background: Several studies have evaluated physiotherapy treatment and/or post-operative care for chronic lumbar radicular pain (CLRP). The extent, range, and nature of research addressing self-management for CLRP is not clear. This scoping review explores existing research evaluating self-management interventions for CLRP.
Methods: A methodology framework based on Arksey & O'Malley 2005 was followed.
Data sources: Four databases were searched from inception to September 2024.
Selection criteria: We included studies evaluating self-management interventions for adults with CLRP (with or without a control group) and reporting an outcome relevant to self-management. We excluded studies that did not evaluate a self-management intervention, or did not involve a CLRP population.
Results: A total of 7,998 titles and abstracts were screened. Although six full text articles were retained for review, none meet inclusion criteria during full text screening.
Conclusions: This systematic scoping review highlights a lack of research addressing self-management interventions for CLRP.

Spinal movement impairments in people with acute low back pain

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Musculoskelet Sci Pract. 2025 Aug:78:103364.
doi: 10.1016/j.msksp.2025.103364.

Abstract:

Background: Spinal movement impairments have been found to be important in people with chronic low back pain (LBP).
Objectives: Identify whether people with acute LBP display the impairments. Compare the prevalence of impairments in people with acute LBP to that of people with chronic LBP. Examine the effect on symptoms of systematically modifying the impairments.
Design: Secondary analysis METHOD: 183 people with LBP were examined by trained physical therapists using a standardized examination. Participants performed 9 primary tests using their preferred strategy. The clinician determined whether an impairment was present or absent. Participants reported the effect of the primary test on symptoms. If an impairment was present, it was modified to improve the impairment during a secondary test. Participants reported the effect of the secondary test on symptoms relative to symptoms with the primary test. Chi-square tests of independence were used to test for differences in the proportion of impairments between people with acute LBP and people with chronic LBP. A McNemar-Bowker test was used to test whether there was a change in symptoms from the primary test to the secondary test.
Results: People with acute LBP displayed the spinal movement impairments and the prevalence was similar to that of people with chronic LBP for 7 of the 9 primary tests. Most participants with symptomatic impairments reported their symptoms improved when the impairment was modified.
Conclusions: Spinal movement impairments are prevalent in people with acute LBP and may be modified during clinical tests to improve LBP symptoms.

The question of sexual dysfunction during cauda equina screening: A qualitative study exploring the views of advanced practice physiotherapists

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Abstract:

Cauda Equina Syndrome (CES) is a rare but serious spinal condition which can result in permanent impairment of bladder, bowel and sexual dysfunction. Screening for sexual dysfunction in suspected CES is inconsistent, with age, gender and embarrassment inferred as likely reasons for under reporting, limiting potential understanding of the prevalence and prognostic importance of sexual dysfunction pre CES diagnosis. Further training has been suggested to improve screening for sexual dysfunction in CES, but how this should be delivered has not been fully evaluated. This qualitative phenomenological study explores the views of Advanced Practice Physiotherapists (APPs) regarding their current screening practices for sexual dysfunction in suspected CES. Ten APPs were purposively sampled from two NHS Orthopaedic interface services in Northern Ireland. Semi-structured interviews were conducted on-line via MS Teams, video recorded with consent and then coded, transcribed and analysed using a system of reflexive thematic analysis. The following themes and subthemes were identified (1) 'I throw it in at the end' - the tension between knowing and doing. (1a) Understanding the impact of experience. (2) The influence of the clinician's own characteristics and beliefs. (2a) 'I really think the question is easier for a man to answer than a woman'. (3) An effective therapeutic alliance matters. (4) Further training - an interactive approach. These themes offer insight into the complex interplay between knowledge translation, clinicians' beliefs, clinical experience, the therapeutic alliance and reflexivity. Interactive training involving key stakeholders was recommended by participants and implementation should be considered for future research.