ABSTRACTS FEBRUAR 2024

Acromioclavicular joint dislocation Rockwood type III and V show no difference in functional outcome and 91% recovered well without the need for surgery

Kristine B. Haugaard, Klaus Bak, Dorthe Ryberg,
Omar Muharemovic, Per Hölmich, Kristoffer W. Barfod
Knee Surg Sports Traumatol Arthrosc. 2024 Feb 19. doi:10.1002/ksa.12070.

Abstract
Purpose: Acromioclavicular (AC) joint dislocations are common injuries, but
the indication for and timing of surgery is debated. The objective of the study
was to evaluate the results after acute AC joint dislocations Rockwood type III and V treated nonsurgically with the option of delayed surgical intervention.
Methods: This is a prospective cohort study with clinical, radiological and patient-reported outcome assessment at baseline, 6 weeks, 3 months, 6 months and 1 year after acute AC joint dislocation. Patients aged 18–60 with acute AC joint dislocation and a baseline panorama (Zanca) radiograph with an increase in the coracoclavicular distance of >25% compared to the uninjured side were eligible for inclusion. All patients were treated nonsurgically with 3 months of home-based training and with the option of delayed surgical intervention. The primary outcome was the Western Ontario Shoulder Instability Index (WOSI). Secondary outcomes were surgery yes/no and the Shoulder Pain and Disability Index (SPADI).
Results: Ninety-five patients were included. Fifty-seven patients were Rockwood type III and 38 patients were type V. There were no statistically significant differences in WOSI and SPADI between patients with type III and V injuries at any time point. Nine patients (9.5%) were referred for surgery; seven type III and two type V (ns).
Conclusion: Ninety-one percent of patients with acute AC joint dislocation Rockwood type III and V recovered without surgery and there were no differences in outcome scores between type III and V at any time point.

Where is Your Pain? Achilles Tendinopathy Pain Location on Loading Is Different to Palpation, Imaging and Recall Location

Ebonie K Rio, Chantel L Rabusin, Shannon E Munteanu, Sean I Docking, Marg Perrott, Jamon Couch, Myles C Murphy, Michael Girdwood
J Orthop Sports Phys Ther. 2024 Jan;54(1):1-9.
doi:10.2519/jospt. 2023.12131

Abstract:
Objective: To describe and compare pain maps reported during Achilles tendon loading exercises with recall pain location, in people with pain on palpation in their Achilles tendon and tendon pathology on imaging.
Design: Cross-sectional analysis of baseline RCT.
Method: Participants were recruited from a larger Achilles tendinopathy clinical trial. Inclusion criteria were at least 2-month self-reported history of Achilles tendinopathy, midtendon palpation pain, and pathology on ultrasound tissue characterization. Participants were asked to identify their Achilles tendon pain location on a pain map with 8 prespecified locations while at rest prior to loading (recall pain), and subsequently during tendon loading exercises (loading pain). Participants could select multiple locations or select "other" if the locations did not represent their pain.
Results: Ninety-three participants were included (93% of participants from a clinical trial). The locations of pain on loading were diverse; all 8 pain locations (and an "other" option) were represented within this sample. Twenty-five percent of participants did not report pain with loading (n = 23 of 93). Of the 70 participants with loading pain, recall pain location differed to loading pain location in 40% (n = 28 of 70) of the participants.
Conclusion: Palpation pain location, recall pain location, or location of pathology on imaging were not valid proxies for load-related pain in the Achilles tendon. How different pain locations respond to treatment is unknown. Some pathologies (eg, plantaris) have clear pain locations (eg, medial tendon), and assessing pain location may assist differential diagnosis.

Contextual effects: how to, and how not to quantify them.

Tobias Saueressig, Hugo Pedder, Patrick J. Owen4 and Daniel L. Belavy
BMC Medical Research Methodology February 13, 2024
Doi: https://doi.org/10.1186/s12874-024-02152-2

Abstract:

The importance of contextual effects and their roles in clinical care controversial. A Cochrane review published in 2010 concluded that placebo interventions lack important clinical effects overall, but that placebo interventions can influence patient-reported outcomes such as pain and nausea. However, systematic reviews published after 2010 estimated greater contextual effects than the Cochrane review, which stems from the inappropriate methods employed to quantify contextual effects. The effects of medical interventions (i.e., the total treatment effect) can be divided into three components: specific, contextual, and non-specific. We propose that the most effective method for quantifying the magnitude of contextual effects is to calculate the difference in outcome measures between a group treated with placebo and a non-treated control group. Here, we show that other methods, such as solely using the placebo control arm or calculation of a 'proportional contextual effect,' are limited and should not be applied. The aim of this study is to provide clear guidance on best practices for estimating contextual effects in clinical research.

Comment on 'The importance of context (placebo effects) in conservative interventions for musculoskeletal pain: A systematic review and meta- analysis of randomized controlled trials' by Saueressig et.al.

Yasmin Ezzatvar, David Poulter, Enrique Lluch-Girbés, Lirios Dueñas, Mercè Balasch-Bernat, Giacomo Rossettini
European Journal of Pain January 03, 2024
Doi: https://doi.org/10.1002/ejp.2242

Abstract:

To the editor, we have read with interest the systematic review and meta-analysis of randomized controlled trials by Saueressig et.al. (2023) recently published in the European Journal of Pain. We thank the authors for estimating the magnitude of contextual effects in conservative, non-pharmacological interventions for musculoskeletal pain conditions. Their contribution to the scientific debate on such an important topic and their dedication to advancing the understanding of this field for clinicians are highly commendable. However, we have noticed some methodological issues in their study that seem to weaken both the solidity and certainty of

the results as well as their conclusions, despite the authors' best efforts. Therefore, we would like to
provide a critical analysis and offer potential solutions to what has been presented in that study. The authors' conclusions assert that ‘the contextual effect of non- pharmacological conservative interventions for musculoskeletal conditions is likely to be small’. However, after closely examining the methods, data and analyses, we have identified several reasons why this conclusion may not be fully supported. Firstly, the title may lead to confusion, as the study did not specifically quantify contextual effects. To accurately assess the magnitude of contextual effects, it appears that a more appropriate approach would have been the use of response ratios. In the scientific literature, a metric named proportion attributable to contextual effects (PCE) has been proposed. The PCE is calculated from the effect size of the placebo and intervention groups and allows quantifying the magnitude of contextual effects of the studied interventions. PCE values range from 0 to 1, indicating 0% contribution from contextual effects (PCE = 0) to 100% from contextual effects (PCE = 1) respectively. This metric has been successfully applied in previous meta-analyses examining contextual effects in various clinical conditions such as knee osteoarthritis (Zou et al., 2016) and fibromyalgia (Whiteside et al., 2018), providing valuable insights into its role. Accordingly, authors are encouraged to calculate the PCE as part of their assessment of contextual effects in future studies. Secondly, we have concerns about the discrepancy in the study's aims compared to the methods. The authors affirmed in the introduction, ‘By comparing placebo interventions to no treatment controls; we seek to discern the extent to which contextual effects contribute to treatment outcomes’, yet in the method section, they claimed, ‘We also included trials in which both the placebo group and no-treatment control group received the same basic-treatment’. Hence, regarding the comparators in the methods section, including a ‘control group’ and trials where both the placebo and no-treatment control groups received the same basic treatment raise concerns. If the control group involves any form of treatment, the analysis would essentially compare the effect of an intervention to a placebo. In cases where only wait- and- see groups serve as comparators, the end point may not align with studying contextual effects but instead focuses on exploring the condition's natural history (or the effect of contextual effects excluding natural history). Thus, homogeneity and consistency within the study should be favored to avoid possible mis interpretation by readers. Thirdly, it is also important to note that the authors assume an additive model of effect and thus assume that using a simple subtraction of effects

will lead to a true placebo effect. They quote the older article of Ernst and Resh (1995) that outlines this additive and subtractive method to calculate real placebo and real active treatment effects. This simple additive and subtractive method have been questioned more recently. For example, Bossage and colleagues suggest that from clinical trials, the relationship between effects is not a simple addition or subtraction as the effect interplay to procure larger (super- additive or synergistic), smaller (sub- adaptive or antagonistic) or even reverse effect (qualitative interaction) (Bossage et.al., 2022). Hence, results derived from using a simple subtraction approach should be interpreted with caution. Lastly, another notable observation is the absence of subgroup analyses based on types of pain (e.g. acute vs chronic), musculoskeletal conditions (e.g. on the spine, on the limbs) or placebo (e.g. manual vs. instrumental) applied across different studies. The combined effect sizes for various placebo interventions (e.g. sham Kinesio taping, sham manipulation and detuned electrotherapy de vices) within studies and the pooled effects of 'control groups' adds complexity and heterogeneity to the overall findings. This lack of subgroup analyses challenges the interpretation of authors' results, as everything is pooled together with the risk of comparing apples with oranges, thus not being informative for clinicians (Rossettini et.al., 2023). In summary, we concur with the authors that it is not possible to draw firm conclusions on the magnitude of contextual effects in conservative, non-pharmacological interventions for musculoskeletal pain conditions. The clinical relevance of the topic is worthy of further investigation. We highly appreciate the authors' contribution to this field and await any insights or clarifications they may provide.

Exercise combined with Acceptance and Commitment Therapy for chronic pain: One- year follow- up from a randomized controlled trial.

M. B. Casey, S. Takemasa, T. O'Reilly2 | M. Leamy, E. M.c Kearney. M. Buckley,
K. M. Smart, R. Segurado, D. Lowry, D. Flanagan, H. Gopal, C. Hearty, C. Doody
European Journal of Pain December 12, 2023
Doi: https://doi.org/10.1002/ejp.2229

Abstract:

Background: Acceptance and Commitment Therapy (ACT) is a type of Cognitive Behavioral Therapy, which has demonstrated positive outcomes in individuals with chronic pain. The purpose of this study was to compare

the effect of an 8- week program combining Exercise with Acceptance and Commitment Therapy (ExACT) with a standalone supervised exercise program at 1- year follow- up.

Methods: One hundred and seventy- five people with chronic pain were randomly assigned to ExACT or supervised exercise only. The primary outcome was pain interference measured with the Brief Pain Inventory- Interference Scale. Secondary and treatment process outcomes included pain severity, depression, anxiety, pain catastrophizing, pain self- efficacy, fear avoidance, pain acceptance, committed action, healthcare utilization, patient satisfaction, and global impression of change. Estimates of treatment effects at 1- year follow- up were based on intention- to- treat analyses, implemented using a linear mixed- effects model.

Results: Eighty- three participants (47.4%) returned the outcome measures at 1- year follow- up. No significant difference was observed between the groups for the primary outcome, pain interference. There was a statistically significant difference between the groups, in favor of ExACT for pain catastrophizing. Within group improvements that were observed within both groups at earlier timepoints were maintained at 1- year follow- up for many of the secondary and treatment process outcomes. ExACT group participants reported higher levels of satisfaction with treatment and global perceived change.

Conclusions: The study results showed no significant difference between the two groups for the primary outcome pain interference at 1- year follow-up. Future research could investigate factors that may predict and optimize outcomes from these types of intervention for people living with chronic pain.

Significance: Few previous randomized controlled trials investigating ACT for chronic pain have included long- term follow- up. This study found that exercise
combined with ACT was not superior to supervised exercise alone for reducing pain interference at 1- year follow- up. Further research is necessary to identify key processes of therapeutic change and to explore how interventions may be modified to enhance clinical outcomes for people with chronic pain.

Global, regional, and national burden of neck pain, 1990–2020, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021

March, 2024
Doi: https://doi.org/10.1016/S2665-9913(23)00321-1

Summary:

Background: Neck pain is a highly prevalent condition that leads to considerable pain, disability, and economic cost. We present the most current estimates of neck pain prevalence and years lived with disability (YLDs) from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) by age, sex, and location, with forecasted prevalence to 2050.

Methods: Systematic reviews identified population-representative surveys used to estimate the prevalence of and YLDs from neck pain in 204 countries and territories, spanning from 1990 to 2020, with additional data from opportunistic review. Medical claims data from Taiwan (province of China) were also included. Input data were pooled using DisMod-MR 2.1, a Bayesian meta-regression tool. Prevalence was forecast to 2050 using a mixed-effects model using Socio-demographic Index as a predictor and multiplying by projected population estimates. We present 95% UIs for every metric based on the 2·5th and 97·5th percentiles of 100 draws of the posterior distribution.

Findings: Globally, in 2020, neck pain affected 203 million (95% uncertainty interval [UI] 163–253) people. The global age-standardized prevalence rate of neck pain was estimated to be 2450 (1960–3040) per 100 000 population and global age-standardized YLD rate was estimated to be 244 (165–346) per 100 000. The age-standardized prevalence rate remained stable between 1990 and 2020 (percentage change 0·2% [–1·3 to 1·7]). Globally, females had a higher age-standardized prevalence rate (2890 [2330–3620] per 100 000) than males (2000 [1600–2480] per 100 000), with the prevalence peaking between 45 years and 74 years in male and female sexes. By 2050, the estimated global number of neck pain cases is projected to be 269 million (219–322), with an increase of 32·5% (23·9–42·3) from 2020 to 2050. Decomposition analysis of the projections showed population growth was the primary contributing factor, followed by population ageing.

Interpretation: Although age-standardized rates of neck pain have remained stable over the past three decades, by 2050 the projected case numbers are expected to rise. With the highest prevalence in older adults (higher in females than males), a larger effect expected in low-income and middle-income countries, and a rapidly ageing global population, neck pain continues to pose a challenge in terms of disability burden worldwide. For future planning, it is essential we improve our mechanistic understanding of the different causes and risk factors for neck pain and prioritize the consistent collection of global neck pain data and increase the number of countries with data on neck pain.

Exercise compared to a control condition or other conservative treatment options in patients with Greater Trochanteric Pain Syndrome: a systematic review and meta-analysis of randomized controlled trials.

Troels Kjeldsen, Katrine Jessen Hvidt Bjarne Mygind-Klavse, Martin Lind, Inger Mechlenburg
Physiotherapy January 05, 2024
Doi: https://doi.org/10.1016/j.physio.2024.01.001

Abstract:

Objectives: To estimate the effectiveness of exercise at end of treatment and long-term follow-up compared to a control condition or other conservative treatments in patients with Greater Trochanteric Pain Syndrome (GTPS).

Methods: Databases were searched September 2021 and updated September 2023. Randomized controlled trials (RCT) comparing exercise interventions for patients with GTPS, to a control condition; corticosteroid injection; shock wave therapy; or other types of exercise programs were included. Risk of bias was assessed using the ROB2 tool. Meta-analyses were performed using a random-effects model. The certainty of the evidence was rated by the GRADE approach.

Results: Six RCTs including a total of 733 patients with GTPS were included. Three trials compared exercise to sham exercise or wait-and-see control groups, two trials compared exercise to corticosteroid injection, two trials compared exercise to shockwave therapy, and one trial compared exercise to another type of exercise. Meta-analyses showed that in the long term, exercise slightly reduces hip pain and disease severity, while slightly

improving patient-reported physical function and global rating of change compared to a control condition. No serious adverse events were reported. Compared to corticosteroid injection, exercise improves long-term global rating of change.

Conclusion: The current evidence supports a strong recommendation for exercise as first line treatment in patients clinically diagnosed with GTPS. Compared to corticosteroid injection, exercise is superior in increasing the likelihood that a patient experiences a meaningful global improvement. These results are based on few trials and a moderate number of patients.

Ready To Play: Hamstring injuries in women's football – a two-season prospective cohort study in the Norwegian women's premier league

R. Amundsen, S. Thorarinsdottir, A. Larmo, R. Pedersen, T.E. Andersen, M. Møller, R. Bahr
Science and Medicine in Football January 19, 2024
Doi: https://doi.org/10.1080/24733938.2024.2305389

Abstract:

In this two-season prospective cohort study (2020–2021), we aimed to describe the characteristics, clinical findings and magnetic resonance imaging (MRI) findings of hamstring injuries in the Norwegian women's premier league. Hamstring injuries were examined by team physiotherapists using a standardized clinical examination and injury form. Injury location and severity (modified Petron's classification) were graded based on MRI by two independent radiologists. Fifty-three hamstring injuries were clinically examined, 31 of these with MRI. Hamstring injuries caused 8 days (median) lost from football (interquartile range: 3–15 days, range: 0–188 days), most were non-contact and occurred during sprinting. Gradual-onset (53%) and sudden-onset injuries (47%) were evenly distributed. The injuries examined with MRI were classified as grade 0 (52%), grade 1 (16%) or grade 2 (29%). One proximal tendinopathy case was not graded. Grade 2 injuries caused more time loss than grade 0 (19 ± 8 vs. 7 ± 7 days, $p = 0.002$). Of injuries with MRI changes, 60% were in the m. biceps femoris, mainly the muscle-tendon junction, and 40% in the m. semimembranosus, most in the proximal tendon. Compared to previous findings from men's football, a higher proportion of hamstring injuries in women's football had a gradual onset and involved the m. semimembranosus, particularly its proximal tendon.

Association between digital health literacy and physical activity levels among individuals with and without long-term health conditions: Data from a cross-sectional survey of 19,231 individuals

Graziella Zangger, Sofie Rath Mortensen, Lars Herman Tang, Søren T. Skou, Lau Caspar Thygesen

Digital Health January 29, 2024

Abstract:

Objectives: This study explored associations between digital health literacy and physical activity levels and assessed potential interactions of long-term health conditions.

Methods: A cross-sectional survey was sent to 34,000 inhabitants in Region Zealand, Denmark. The survey included items on physical activity levels and three electronic Health Literacy Questionnaire (eHLQ) scales (1, 4, and 5). Associations were assessed by logistic regression and adjusted for confounders.

Results: A total of 19,231 participated in the survey. Positive associations were found between higher digital health literacy and being active >30 min./week at moderate-to-vigorous intensity (eHLQ 1: OR 1.24, $p < 0.001$; eHLQ 4: OR 1.13, $p = 0.012$; eHLQ 5: OR 1.25, $p < 0.001$), compliance with the World Health Organization minimum recommendations for physical activity (eHLQ 1: OR 1.33 $p < 0.001$; eHLQ 4: OR 1.08 $p = 0.025$; eHLQ 5: OR 1.32, $p < 0.001$), and self-reported physical active (eHLQ 1: OR 1.50 $p < 0.001$; eHLQ 4: OR 1.24 $p < 0.001$; eHLQ 5: OR 1.54 $p < 0.001$), even when fully adjusted for covariates. No significant interaction was found for long-term health conditions. However, individuals with more long-term health conditions exhibited the lowest digital health literacy scores (9% to 19% scored <2.0).

Conclusion: A higher digital health literacy is positively associated with higher physical activity levels. This highlights the importance of screening and promoting digital health literacy in managing digital health and digital physical activity interventions. Future research should explore strategies and targeted interventions to enhance digital health literacy and improve health outcomes.

How to activate the glutes best? Peak muscle activity of acceleration-specific pre-activation and traditional strength training exercises

Maximilian Goller, Oliver J. Quittmann, Tobias Alt
European Journal of Applied Physiology December 05, 2023
https://doi.org/10.1007/s00421-023-05400-3

Abstract:

Purpose: Isometric training and pre-activation are proven to enhance acceleration performance. However, traditional strength training exercises do not mirror the acceleration-specific activation patterns of the gluteal muscles, characterized by ipsilateral hip extension during contralateral hip flexion. Therefore, the aim of the study was to determine gluteal muscle activity of acceleration-specific exercises compared to traditional strength training exercises.

Methods: In a cross-sectional study design, the peak electromyographic activity of two acceleration-specific exercises was investigated and compared to two traditional strength training exercises each for the gluteus maximus and Medius. Twenty-four participants from various athletic backgrounds (13 males, 11 females, 26 years, 178 cm, 77 kg) performed four gluteus maximus [half-kneeling glute squeeze (HKGS), resisted knee split (RKS), hip thrust (HT), split squat (SS)] and four gluteus Medius [resisted prone hip abduction (RPHA), isometric clam (IC), side-plank with leg abduction (SP), resisted side-stepping (RSS)] exercises in a randomized order.

Results: The RKS ($p = 0.011$, $d = 0.96$) and the HKGS ($p = 0.064$, $d = 0.68$) elicited higher peak gluteus maximus activity than the SS with large and moderate effects, respectively. No significant differences ($p > 0.05$) were found between the HT, RKS and HKGS. The RPHA elicited significantly higher gluteus Medius activity with a large effect compared to RSS ($p < 0.001$, $d = 1.41$) and a moderate effect relative to the SP ($p = 0.002$, $d = 0.78$).

Conclusion: The acceleration-specific exercises effectively activate the gluteal muscles for pre-activation and strength training purposes and might help improve horizontal acceleration due to their direct coordinative transfer.

Insufficient evidence for load as the primary cause of non-specific (chronic) low back pain. A scoping review.

L.J.E. de Bruin, MSc, M. Hoegh, Spec-PT, PhD, C. Greve, PhD1, M.F. Reneman, PT, PhD

Journal of Orthopedic & Sports Physical Therapy February 29, 2024
Doi: https://www.jospt.org/doi/10.2519/jospt.2024.11314

Abstract:

Objectives: To assess the causal role of the relationship between loading and the onset of nonspecific low back pain (NSLBP) and persistence of NSLBP (chronic low back pain [CLBP]).

Design: Scoping review.

Literature Search: We searched the literature from 2010 until May 2021 using a combination of terms related to (spinal) load and the Bradford-Hill (BH) criteria.

Study Selection Criteria: Operational definitions were developed for every criterion of the BH framework for causality. Study selection was based on the causal role of load in the onset of NSLBP and persistence of chronic low back pain.

Data Synthesis: The BH criteria were operationalized, and causation was considered established when evidence supported the BH criteria *strength*, *temporality*, *biological gradient*, *experiment*, and *biological plausibility*.

Results: Twenty-two studies were included. There was no consistent support for an association between load and the incidence of NSLBP, or that more load increased the risk of NSLBP/CLBP. Half of the studies did not support specific load exposures to increase incidence of or increase pain in NSLBP/CLBP. Half of studies did not support load preceding NSLBP. No study supported plausible biological explanations to influence the relationship between load and NSLBP/CLBP, or that similar causes have similar effects on NSLBP. Nine of 10 experimental studies did not support that load results in NSLBP or that relieving load reduces NSLBP/CLBP.

Conclusion: There was insufficient evidence to support a causal relationship between loading and the onset and persistence of

NSLBP/CLBP based on the BH criteria. These results question the role of load management as the only/primary strategy to prevent onset and persistence of NSLBP/CLBP.

A critical review of the role of manual therapy in the treatment of individuals with low back pain

Jean-Pascal Grenier, Maria Rothmund
Journal of Manual & Manipulative Therapy February 21, 2024
Doi: https://doi.org/10.1080/10669817.2024.2316393

Abstract:

The number of low back pain (LBP) cases is projected to increase to more than 800 million by 2050. To address the substantial burden of disease associated with this rise in prevalence, effective treatments are needed. While clinical practice guidelines (CPG) consistently recommend non-pharmacological therapies as first-line treatments, recommendations regarding manual therapy (MT) in treating low back pain vary. The goal of this narrative review was to critically summarize the available evidence for MT behind these recommendations, to scrutinize its mechanisms of action, and propose some actionable steps for clinicians on how this knowledge can be integrated into a person-centered approach. Despite disparate recommendations from CPG, MT is as effective as other available treatments and may be offered to patients with LBP, especially as part of a treatment package with exercise and education. Most of the effects of MT are not specific to the technique. MT and other interventions share several mechanisms of action that mediate treatment success. These mechanisms can encompass patients' expectations, prior experiences, beliefs and convictions, epistemic trust, and nonspecific contextual effects. Although MT is safer than opioids for patients with LBP, this alone is insufficient. Our goal is to encourage clinicians to shift away from outdated and refuted ideas in MT and embrace a person-centered approach rooted in a comprehensive biopsychosocial framework while incorporating patients' beliefs, addressing illness behaviors, and seeking to understand each patient's journey.

Nociceptive, neuropathic, or nociplastic low back pain? The low back pain phenotyping (BACPAP) consortium's international and multidisciplinary consensus recommendations

Jo Nijs, Eva Kosek, Alessandro Chiarotto, Chad Cook, Lieven A Danneels,

César Fernández-de-las-Peñas, Paul W Hodges, Bart Koes, Adriaan Louw, et.al.
The Lancet February 01, 2024

Abstract:

The potential to classify low back pain as being characterized by dominant nociceptive, neuropathic, or nociplastic mechanisms is a clinically relevant issue. Preliminary evidence suggests that these low back pain phenotypes might respond differently to treatments; however, more research must be done before making specific recommendations. Accordingly, the low back pain phenotyping (BACPAP) consortium was established as a group of 36 clinicians and researchers from 13 countries (five continents) and 29 institutions, to apply a modified Nominal Group Technique methodology to develop international and multidisciplinary consensus recommendations to provide guidance for identifying the dominant pain phenotype in patients with low back pain, and potentially adapt pain management strategies. The BACPAP consortium's recommendations are also intended to provide direction for future clinical research by building on the established clinical criteria for neuropathic and nociplastic pain. The BACPAP consortium's consensus recommendations are a necessary early step in the process to determine if personalized pain medicine based on pain phenotypes is feasible for low back pain management. Therefore, these recommendations are not ready to be implemented in clinical practice until additional evidence is generated that is specific to these low back pain phenotypes.

Recommendations for terminology and the identification of neuropathic pain in people with spine-related leg pain. Outcomes from the NeuPSIG working group.

Annina B. Schmid, Brigitte Tampin, Ralf Barone, Nanna B. Finnerup, Per Hansson, Aki Hietaharju, Kika Konstantinoul, Chung-Wei Christine Linn, John Markmanp, Christine Priceq, Blair H. Smithr, Helen Slater
The Journal of the International Association for the Study of Pain Augus 2023
Doi: http://dx.doi.org/10.1097/j.pain.0000000000002919

Abstract:

Pain radiating from the spine into the leg is commonly referred to as "sciatica," "Sciatica" may include various conditions such as radicular pain or painful radiculopathy. It may be associated with significant

consequences for the person living with the condition, imposing a reduced quality of life and substantial direct and indirect costs. The main challenges associated with a diagnosis of “sciatica” include those related to the inconsistent use of terminology for the diagnostic labels and the identification of neuropathic pain. These challenges hinder collective clinical and scientific understanding regarding these conditions. In this position paper, we describe the outcome of a working group commissioned by the Neuropathic Pain Special Interest Group (NeuPSIG) of the International Association for the Study of Pain (IASP) which was tasked with the following objectives: (1) to revise the use of terminology for classifying spine-related leg pain and (2) to propose a way forward on the identification of neuropathic pain in the context of spine-related leg pain. The panel recommended discouraging the term “sciatica” for use in clinical practice and research without further specification of what it entails. The term “spine-related leg pain” is proposed as an umbrella term to include the case definitions of somatic referred pain and radicular pain with and without radiculopathy. The panel proposed an adaptation of the neuropathic pain grading system in the context of spine-related leg pain to facilitate the identification of neuropathic pain and initiation of specific management in this patient population.

Patient-centered consultations for persons with musculoskeletal conditions

Joletta Belton, Hollie Birkinshaw, Tamar Pincus Belton, et.al.
Belton et.al. Chiropractic & Manual Therapies December 09, 2022
https://doi.org/10.1186/s12998-022-00466-w

Abstract:

Consultations between practitioners and patients are more than a hypothesis-chasing exploration, especially when uncertainty about etiology and prognosis are high. In this article we describe a single individual’s account of their lived experience of pain and long journey of consultations. This personal account includes challenges as well as opportunities, and ultimately led to self-awareness, clarity, and living well with pain. We follow each section of this narrative with a short description of the emerging scientific evidence informing on specific aspects of the consultation. Using this novel structure, we portray a framework for understanding consultations for persistent musculoskeletal pain from a position of patient-centered research to inform practice. Keywords: Patient-centered, Reassurance, Validation, Communication.

Pain neuroscience education for patients with chronic pain: A scoping review from teaching–learning strategies, educational level, and cultural perspective

Joaquín Salazar-Mendez, Ivan Cuyul-Vásquez, Felipe Ponce-Fuentes, Eduardo Guzman- Munoz, Rodrigo Núnez-Cortes, Eva Huysmans, Enrique Lluch-Girbes, Nelson Viscay- Sanhuezak, Jorge Fuentes
Patient Education and Counseling February 10, 2024
Doi: https://doi.org/10.1016/j.pec.2024.108201

Abstract:

Objective: To identify the characteristics of PNE programs in terms of teaching-learning strategies, session modality, content delivery format, number of sessions, total minutes and instructional support material used in patients with chronic musculoskeletal pain, (2) to describe PNE adaptations for patients with different educational levels or cultural backgrounds, and (3) to describe the influence of the patient's educational level or cultural background on the effects of PNE.

Methods: The PRISMA guideline for scoping reviews was followed. Nine databases were systematically searched up to July 8, 2023. Articles that examined clinical or psychosocial variables in adults with chronic musculoskeletal pain who received PNE were included.

Results: Seventy-one articles were included. Studies found benefits of PNE through passive/active teaching- learning strategies with group/individual sessions. However, PNE programs presented great heterogeneity and adaptations to PNE were poorly reported. Most studies did not consider educational level and culture in the effects of PNE.

Conclusions: Despite the large number of studies on PNE and increased interest in this intervention, the educational level and culture are poorly reported in the studies. Practical implications: It is recommended to use passive and/or active teaching-learning strategies provided in individual and/or group formats considering the patient's educational level and culture.

Private practice model of physiotherapy: professional challenges identified through an exploratory qualitative study.

Ben Darlow, Gill Stotter, Eileen McKinlay
Journal of Primary Health Care February 16, 2024
Doi: https://doi.org/10.1071/HC23150

Abstract:

Introduction: Community-based primary care physiotherapy has developed through private practice, fee-for-service model in Aotearoa New Zealand where independent businesses operate in competition.

Aim: We aimed to explore how the private practice model of physiotherapy impacts patient care, physiotherapists, and professional behavior.

Methods: Six physiotherapists managing musculoskeletal conditions in a primary care private practice in Aotearoa New Zealand were recruited using maximum variation purposive sampling. In-depth individual face-to-face semi-structured interviews were audio-recorded, transcribed verbatim, and analyzed using Interpretive Description. Inductive data analysis synthesized and contextualized data, creating a thematic framework that developed across interviews.

Results: All physiotherapy participants discussed concerns about culture and professionalism in private practice physiotherapy despite not being asked about these. Three themes were identified. 'Competitive business model and lack of collaboration' – participants thought that competition between practices resulted in a lack of trust, collegiality, and collaboration, and pressure on clinicians to maintain income. '(Un)professional behavior' – participants thought that physiotherapists were defensive and averse to scrutiny, resulting in reluctance to admit when they needed help, or to undertake peer review or seek second opinions. 'Lack of support and mentoring' – the professional culture in private practice was perceived to reduce support and mentoring, with
negative impacts that affected physiotherapists at all stages of career.

Conclusion: This exploratory qualitative study suggests that competition dominates communication and collaboration in private practice physiotherapy and may have wider implications for professionalism and the quality of patient care. Competitive business models and an aversion to scrutiny may reduce collegial interaction and professional behavior.

Performance of ChatGPT compared to clinical practice guidelines in making informed decisions for Lumbosacral Radicular Pain: A cross sectional study

Silvia Gianola, PhD, MSc, PT, Silvia Bargeri, MSc, PT, Greta Castellini, PhD, MSc, PT, Chad Cook, PhD, PT, Alvisa Palese, PhD, MSc, RN, Paolo Pillastrini, PhD, MSc, PT, Silvia Salvalaggio, PhD, MSc, PT, Andrea Turolla, PhD, MSc, PT,
Giacomo Rossettini, PhD, MSc, PT
Journal of Orthopedic & Sports Physical Therapy February 29, 2024
Doi: https://www.jospt.org/doi/10.2519/jospt.2024.12151

Abstract:

Objective: To compare the accuracy of an artificial intelligence chatbot to clinical practice guidelines (CPGs) recommendations for providing answers to complex clinical questions on lumbosacral radicular pain.

Design: Cross-sectional study.

Methods: We extracted recommendations from recent CPGs for diagnosing and treating lumbosacral radicular pain. Relative clinical questions were developed and queried to Open AI's ChatGPT (GPT 3.5). We compared ChatGPT answers to CPGs recommendations by assessing the (i) internal consistency of ChatGPT answers by measuring the percentage of text wording similarity when a clinical question was posed three times, (ii) reliability between two independent reviewers in grading ChatGPT answers, and (iii) accuracy of ChatGPT answers compared to CPGs recommendations. Reliability was estimated using Fleiss' kappa (κ) coefficients, and accuracy by inter-observer agreement as the frequency of the agreements among all judgements.

Results: We tested nine clinical questions. The internal consistency of text ChatGPT answers was unacceptable across all three trials in all clinical questions (mean percentage of 49%, standard deviation of 15). Intra (reviewer 1: κ=0.90 standard error (SE) =0.09; reviewer 2: κ=0.90 se=0.10) and inter-reliability (κ=0.85 SE=0.15) between the two reviewers was "almost perfect". Accuracy between ChatGPT answers and CPGs recommendations was slight, demonstrating agreement in 33% of recommendations.

Conclusion: ChatGPT performed poorly in internal consistency and accuracy of the indications generated compared to clinical practice guideline recommendations for lumbosacral radicular pain.

Changes in Sleep, Stress, and Fatigue Were Not Prospectively Associated with Running-Related Injuries Among High School Cross Country Runners

Mikel R. Joachim, PhD, Bryan C. Heiderscheit, PT, PhD, FAPTA, Stephanie A. Kliethermes, PhD
Sports Health December 26, 2023
Doi: https://doi.org/10.1177/19417381231217347

Abstract:

Background: Running-related injuries (RRI) are common among adolescent runners; however, our understanding of RRI risk factors in this population is limited. Sleep, stress, and fatigue are risk factors in other youth sports but have not been studied in high school runners. This study prospectively assessed the effect of changes in sleep duration and quality, stress, and fatigue on RRI among high school cross country runners.

Hypothesis: Less and poorer quality sleep and greater stress and fatigue, compared with the previous week, would be associated with RRI.

Study Design: Prospective, observational study.

Level of Evidence: Level 2b.

Methods: Runners completed a preseason demographics and injury history survey and daily surveys regarding sleep duration and quality, stress, fatigue, and current RRI. Values were summed within each week, and change scores were calculated relative to the previous week. Runners completing ≥75% of daily surveys were analyzed; sensitivity analyses for those completing ≥50% and ≥90% were also conducted. Generalized estimating equations assessed the association between change in each predictor, including its interaction with sex, and RRI, controlling for year in school, previous RRI, and repeated observations.

Results: A total of 434 runners enrolled in the study; 161 (37%) completed ≥75% of daily surveys. No associations between change in sleep duration,

sleep quality, or fatigue and RRI were observed (P values ≥0.24). A significant change in stress × sex interaction with RRI was observed (P < 0.01). Associations among boys (P = 0.06) and girls (P = 0.07) were marginally significant. Sensitivity results were similar.

Conclusion: Short-term changes in sleep duration, quality, and fatigue were not associated with RRI, but a significant interaction between change in stress and sex suggests that stress may influence RRI risk in high school cross country runners.

Clinical Relevance: Large changes in stress levels should be monitored throughout the season, as these changes may precede RRI occurrence in this population.

The effect of minimally invasive sacroiliac joint fusion compared to sham operation: a double-blind randomized placebo-controlled trial.

Engelke Marie Randers, Paul Gerdhem, Britt Stuge, Elias Diarbakerli, Lars Nordsletten, Stephan M. Röhrl, Thomas Johan Kibsgård
The Lancet January 31, 2024
Doi: https://doi.org/10.1016/j.eclinm.2024.102438

Abstract:

Background: Minimally invasive fusion of the sacroiliac joint as treatment for low back pain may reduce pain and improve function compared to non-operative treatment, although clear evidence is lacking. The aim of this trial was to evaluate the effect of minimally invasive sacroiliac joint fusion compared to sham surgery on sacroiliac joint pain reduction.

Methods: In this double-blind randomized sham surgery-controlled trial patients with clinical diagnosis of sacroiliac joint pain confirmed with sacroiliac joint injection were included at two university hospitals in Sweden and Norway. Patients were randomized by the operating surgeon at each site to minimally invasive sacroiliac joint fusion or sham surgery. The primary endpoint was group difference in sacroiliac joint pain on the operated side at six months postoperatively, measured by the Numeric Rating Scale (0–10). Un-blinding and primary analysis were performed when all patients had completed six months follow-up. The trial is closed for new participants and was registered at clinicaltrials.gov: NCT03507049.

Findings: Between September 1st, 2018, and October 22nd, 2021, 63 patients were randomized, 32 to the surgical group, 31 to the sham group. Mean age was 45 years (range 26–63) and 59 of 63 (94%) patients were female. The mean reduction in the operated sacroiliac joint from baseline to six months postoperative was 2.6 Numeric Rating Scale points in the surgical group and 1.7 points in the sham group (mean between groups difference −1.0 points; 95% CI, −2.2 to 0.3; p = 0.13).

Interpretation: This double-blind randomized controlled trial could not prove that minimally invasive fusion of the sacroiliac joint was superior to sham surgery at six months postoperative.

Warming-up for the Latest on Diagnosing and Managing Tendinopathy

Ebonie K. Rio, PT, PhD, Myles C. Murphy, PT, PhD
Journal of Orthopedic & Sports Physical Therapy December 27, 2023
Doi: https://www.jospt.org/doi/10.2519/jospt.2023.12440

Abstract:

Synopsis: JOSPT is starting 2024 on a high, with a tendinopathy-focused edition that showcases more of the high-quality tendinopathy research you know and love in systematic reviews, original research articles, a consensus paper, and editorials. As any athlete knows, a good warm-up is crucial to performing well at the main event. Here, we help you warm up and prime your brain to take on all the content of this tendinopathy-focused issue of the Journal.

The Tendinopathy Game Changers: Five Papers from the Last 5 Years That Might Change How You Manage Tendons

Myles C. Murphy, PT, PhD, Ebonie K. Rio, PT, PhD
Journal of Orthopedic & Sports Physical Therapy December 15, 2023
Doi: https://www.jospt.org/doi/10.2519/jospt.2023.12372

Abstract:

Synopsis: The clinical and scientific understanding of tendinopathy has substantially advanced since the Fifth International Scientific Tendinopathy

Symposium in 2019. This editorial aims to highlight some of the fantastic tendinopathy research from the past 5 years. We have selected what we consider the “best paper” for each year from 2019 to 2023, which might change how you treat tendons. Selecting only 5 papers was not easy. Did your favorite papers make the cut? Or do you think we missed some key studies? We encourage you to tell us what you think using the social media hashtag #JOSPTtendon.

Conditioned Pain Modulation Does Not Differ Between People With Lower-Limb Tendinopathy and Non Tendinopathy Controls: A Systematic Review With Individual Participant Data Meta-analysis

Myles C Murphy, Nonhlanhla Mkumbuzi, Jordan Keightley, William Gibson, Patrick Vallance, Henrik Riel, Melanie Plinsinga, Ebonie K Rio
Journal of Orthopedic & Sports Physical Therapy November 17, 2023
Doi: https://www.jospt.org/doi/10.2519/jospt.2023.11940

Objective: To explore whether people with lower-limb tendinopathy have reduced relative conditioned pain modulation (CPM) when compared to non-tendinopathy controls.

Design: Systematic review with individual participant data (IPD) meta-analysis.

Literature Search: Eight databases were searched until August 29, 2022.

Study Selection Criteria: Cross-sectional studies comparing the magnitude of the CPM effect in people with lower-limb tendinopathy to non-tendinopathy controls in a case-control design.

Data Synthesis: Included studies provided IPD, which was reported using descriptive statistics. Generalized estimating equations (GEEs) determined between-group differences in the relative CPM effect, when adjusting for co-variables. Study quality was assessed using a Joanna Briggs Institute checklist, and certainty of the evidence was assessed using the Grading of Recommendations Assessment, Development, and Evaluations.

Results: Five records were included, IPD were provided for 4 studies (n = 219 with tendinopathy, n = 226 controls). The principal GEE (model 1) found no significant relative CPM effects for tendinopathy versus controls (B = −1.73, P = .481). Sex (B = 4.11, P = .160), age (B = −0.20, P = .109), and body

mass index (B = 0.28, P = .442) did not influence relative CPM effect. The Achilles region had a reduced CPM effect (B = −22.01, P = .009). In model 2 (adjusting for temperature), temperature (B = −2.86, P = .035) and female sex (B = 21.01, P = .047) were associated with the size of the relative CPM effect. All studies were low-quality, and the certainty of the evidence was moderate.

Conclusion: There were no between-group differences in the magnitude of the CPM effect, suggesting clinicians should manage lower-limb tendinopathy using interventions appropriate for peripherally dominant pain (e.g., tendon loading exercises such as heavy slow resistance). Based on the “moderate”-certainty evidence, future studies are unlikely to substantially change these findings.