ABSTRACTS July 2024

Boosting treatment outcomes via the patient-practitioner relationship, treatment-beliefs or therapeutic setting. A systematic review with meta-analysis of contextual effects in chronic musculoskeletal pain

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Abstract

Objective: To ascertain whether manipulating contextual effects (e.g. interaction with patients, or beliefs about treatments) boosted the outcomes of non-pharmacological and non-surgicaltreatments for chronic primary musculoskeletal pain.
Design: Systematic review of randomized controlled trials.
Data source: We searched for trials in six databases, citation tracking, and clinical trials registers. We included trials that compared treatments with enhanced contextual effects with the same treatments without enhancement in adults with chronic primary musculoskeletal pain.
Data Synthesis: The outcomes of interest were pain intensity, physical functioning, global ratings of improvement, quality of life, depression, anxiety, and sleep. We evaluated risk of bias and certainty of the evidence using Cochrane Risk of Bias tool 2.0 and the GRADE approach, respectively.
Results: Of 17637 records, we included 10 trials with 990 participants and identified 5 ongoing trials. The treatments were acupuncture, education, exercise training, and physical therapy. The contextual effects that were improved in the enhanced treatments were patient-practitioner relationship, patient beliefs and characteristics, therapeutic setting/environment, and treatment characteristics. Our analysis showed that improving contextual effects in non-pharmacological and non-surgical treatments may not make much difference on pain intensity (mean difference [MD] : -1.77, 95%-CI: [-8.71; 5.16], k = 7 trials, N = 719 participants, Scale: 0-100, GRADE: Low)) or physical functioning (MD: -0.27, 95%-CI: [-1.02; 0.49], 95%-PI: [-2.04; 1.51], k = 6 , N = 567, Scale: 0-10,

GRADE: Low) in the short-term and at later follow-ups. Sensitivity analyses revealed similar findings.
Conclusion: Whilst evidence gaps exist, per current evidence it may not be possible to achieve meaningful benefit for patients with chronic musculoskeletal pain by manipulating the context of non-pharmacological and non-surgical treatments.

Will you get what you want? Treatment goals and expectations of patients with femoroacetabular impingement syndrome regarding physiotherapist-led treatment

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Abstract:

Objective: To (i) investigate the goals and expectations of participants enrolled in a clinical trial of physiotherapist-led treatment for femoroacetabular impingement (FAI) syndrome and (ii) explore associations between their expectations and self-reported hip burden and kinesiophobia.
Method: Data from 150 participants with FAI syndrome who participated in a clinical trial were analysed. Participants described their most important treatment goal and the expectation of achieving this goal throughout physiotherapy treatment. The International Hip Outcome Tool (iHOT-33) subscales were used to assess self-reported hip burden. The Tampa Scale for Kinesiophobia was used to assess kinesiophobia. Participants goals were qualitatively analysed using content analysis. Linear regression was used to explore associations between patient expectations and iHOT and Tampa Scale for Kinesiophobia scores.
Results: Participants with FAI syndrome reported goals relating to exercise (52%), improving activities of daily living quality (23%), improving physical function (15%), and reducing pain (10%). Negative expectations regarding physiotherapist-led treatment were reported by 68% of participants. Those with negative expectations reported worse scores for the iHOT-Total score (mean difference = 12 points, 95%CI = [4 to 19]), and iHOT-Symptoms (14 points, [7 to 21]) and iHOT-Social (11 points, [2 to 21]) subscales compared to those with positive expectations. Treatment expectations were not

associated with iHOT-Sport, iHOT-Job, and Tampa Scale for Kinesiophobia scores ($p > 0.05$).
Conclusion: Patients with FAI syndrome had a generally negative expectation of physiotherapist-led treatment. There was a mismatch between patients' goals and current treatment approaches. Participants with FAI syndrome and negative expectations reported worse quality of life, symptoms, and social concerns than those with positive expectations.

Reflections on 50 years of IFOMPT

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Abstract:
2024 marks the 50th anniversary of the International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT). IFOMPT became the first subgroup of World Physiotherapy. IFOMPT aims and works for global promotion of excellence and unity in clinical and academic standards for manual/musculoskeletal physiotherapists. This dissertation reflects on some of IFOMPT's initiatives and achievements as an international organisation in its first 50 years as well as challenges for next 50 years. IFOMPT has achieved in several initiatives. These include the development of an international educational curriculum in manipulative/musculoskeletal physiotherapy which underpins education standards for membership. Educational standards for membership is a relatively unique requirement of a professional organisation. IFOMPT has achieved in developing several initiatives to disseminate knowledge for best standards of practice for its members and the wider community. The pinnacle is its four yearly international scientific conferences where the latest issues in both research and practice are presented and discussed. IFOMPT has also developed frameworks to guide clinical practice in key areas for safe practice - vascular pathologies of the neck, a clinical reasoning pathway to identify 'red flags', and the use of spinal manipulation in paediatrics. Other resources include on-line lectures, podcasts and research reviews. IFOMPT has challenges for the future. These include increasing the number of member countries and further establishing its profile and position of leadership in manual/musculoskeletal physiotherapy in the international context, particularly with decision makers in world health.

IFOMPT Conference Basel 2024

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The International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT) conference was held in Basel, Switzerland in July 2024 and celebrated 50 years of IFOMPT. The theme for the conference was "crossing bridges" - between research, clinical practice, education, patient's perspectives and the needs of society. The conference brought together some of the best hearts and minds of the international manual and musculoskeletal community to indeed cross the bridges. The abstracts of the scientific programme including the symposiums are presented in this issue of Musculoskeletal Science and Practice. They reflect the advances that have and are continually occurring within the profession and the remarkable evolution in both the science and practice of manual and musculoskeletal physiotherapy. This growth reflects not only advances in our understanding of the musculoskeletal system but also the understanding of the person with musculoskeletal pain with a paradigm shift towards a more holistic and personalised approach to care. Indeed, the practice of orthopaedic manipulative therapy over the 50 years has evolved into a specialty of comprehensive practice for persons with musculoskeletal disorders.

The integration of evidence-informed practice principles has propelled the growth of musculoskeletal physiotherapy. Clinicians are increasingly using high-quality research evidence to inform their clinical decision-making and optimise treatment outcomes for patients. This evidence-informed approach ensures that interventions are grounded in scientific rigor and tailored to the individual needs and preferences of each patient, thereby maximizing the effectiveness and efficiency of care delivery. An overview of the conference abstracts confirms this sentiment as they reveal that the scope of the research currently being undertaken in the field is appropriately broad and comprehensive so that bridges can be crossed. The reported research ranges from 'benchtop to bedside', through basic science research, applied clinical qualitative and quantitative research in examination and management, to service de□livery models – and much in between! The health of musculoskeletal physiotherapy research and research informed practice internationally is also in evidence with conference presentations from researchers and clinicians from every continent of the world.

To also mark this anniversary, the conference proceedings include a

manuscript reflecting on the 50 years of IFOMPT written by two life members. It considers some of the initiatives of the IFOMPT Founders and subsequent progress and achievements in, for example, the development of the international educational curriculum in manual/musculoskeletal physiotherapy. It also considers the future challenges of ensuring growth in the number of member countries and further establishing the profile and position of IFOMPT in the international context, particularly with decision makers in world health.
This record of the scientific proceedings of the 12th IFOMPT conference in Basel Switzerland is a lasting record which builds upon the proceedings of the previous eleven, four yearly conferences. The first conference was held in Vail, Colorado, USA in 1974. The collection of conference proceedings provides an important historical record, showcasing the development of the science, scope and capabilities of manual and musculoskeletal physiotherapy practice in an everchanging environment of healthcare internationally.

Symposium extended abstracts from IFOMPT 24, the 12th world conference of musculoskeletal and manual physical therapy. Celebrating 50 years. Basel, Switzerland 4th-6th July

Musculoskeletal Science and Practice 72 (2024) 103128
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Abstract: Complexity in musculoskeletal pain: making sense of subgrouping and individualised person-centred care
Darren Beales, Martin Rabey, Alice Kongsted, Jonathan Hill, Peter O'Sullivan

1. Sub-grouping and individualised person-centred care are teammates, not competitors.
Care-pathways and care-frameworks have emerged that champion the ideals and processes of sub-grouping to inform individualised person-centred care (Beales et al. , 2020; Hill et al. , 2022; Hill et al. , 2011; Kent et al. , 2023; Mitchell et al. , 2017; Nicholas et al. , 2019; O'Sullivan et al. , 2018; Rebbeck et al. , 2023; Rebbeck et al. , 2021). Subgrouping cannot easily account for the complexity that exists in people and in musculoskeletal pain presentations. But this complexity can be difficult for clinicians to navigate. Using sub-grouping as an early step to inform individualised person-centred care might leverage the benefits of both approaches (Kongsted et al. , 2020). Sub-grouping, if used wisely, can be a tool to help clinicians and people with pain make sense of their

presentation and assist in providing individualised person-centred, evidence-informed care.

2. Clinicians need certain competencies to navigate complexity inherent in musculoskeletal disorders

To manage people with musculoskeletal pain, clinicians need high levels of competency in performing a comprehensive assessment to screen for serious pathology and explore potential biopsychosocial drivers of the person's pain and disability. This demands high level clinical interview, physical examination and clinical reasoning skills, the use of a wide range of evidence-informed treatment options, and advanced communication and shared decision-making skills. In reality, there are many barriers for clinicians to be able to practice at a level concordant with more complex musculoskeletal pain presentations (Ng et al. , 2021). These barriers exist at the clinician-client level, and also at organisational and societal levels. Sub-grouping has long been proposed to help clinicians manage patient complexity and assist getting the 'right treatment to the right people at the right time'.

It is worth noting that review of clinician's own thoughts on dealing with complexity highlight many issues. Clear challenges for clinicians are identifying complexity, lack of confidence in managing complexity and feeling unprepared to do so (Beales et al. , 2016; Hill et al. , 2010; Synnott et al. , 2015). Clinicians want guidance on how to navigate these issues. Sub-grouping can have a role in assisting clinicians to do this and build competency in dealing with complexity in musculoskeletal pain presentations.

3. The traditional what's and why's of sub-grouping

Sub-grouping has been proposed as a way of assisting clinicians navigate the complexity that exists in people presenting with pain disorders. Sub-grouping (alternatively known as stratifying, phenotyping or classifying) remains a topical consideration in musculoskeletal pain disorders (Corp et al. , 2021; Gerard et al. , 2024; Herman et al. , 2022; Keter et al. , 2024; Nijs et al. , 2024; Steinmetz, 2022). Sub-grouping refers to the practice of placing individuals into categories by identifying common yet distinct clinical features and specific clinical patterns. Broadly speaking, sub-grouping might be based on immediate patient characteristics, mechanistic factors underlying the condition, patient prognostic risk factors, and/or responses to treatments. Sub-grouping systems may be unidimensional, multidimension and/or related to all parts of the clinician-patient encounter. We have included a nonexclusive timeline of some systems by way of an example to understand the breadth of sub-grouping options that have been offered to

clinicians over time. The ultimate ideal behind sub-grouping is that it may assist in targeting management through improved treatment matching and reducing unwanted variability in clinical decision-making. At the individual level the intension of sub-grouping is to assist clinicians to improve the selection of the most suitable treatment approach for the individual patient, with the aim of improving outcomes. At the organisational level sub-grouping has been used to inform care-pathway utilisation to manage people's journey through health-care systems more effectively and efficiently, and ensure they see the person with the most suitable skills to manage them and that they not being over-/undertreated. Sub-grouping helps direct the pathway, but within each pathway higher degrees of individualisation takes over. At a societal level, sub-grouping might for example help identify portions of a population to target with public health initiatives. At the individual, organisational and societal levels sub-grouping may assist in the distribution of finite health resources (Foster et al., 2018).

4. Sub-grouping has not emerged as a panacea

While sub-grouping approaches show promise, no system has emerged as a definitive solution. Outcomes from trials engaging sub□grouping are mixed (Boyle et al. , 2021; Foster et al. , 2023; Hee et al. , 2021; Saragiotto et al. , 2016). Questions have been raised about the fidelity and transferability of both the tools used for sub-grouping and the ascribed, matched interventions (Beales et al. , 2021; Foster et al. , 2023; Herman et al. , 2022; Karran et al. , 2017). Where there has been successful implementation of sub-grouping based interventions and care-pathways, transference to different settings has been challenging (Boyle et al. , 2021), not surprising given the number of considerations required in implementation efforts (Nilsen, 2015). Further, while it is possible to broadly sub-group across a single domain (for example see (Rabey et al. , 2015; Rabey et al. , 2016; 2017)), sub-grouping across multiple domains becomes unworkable due to individual patient complexity (for example see (Rabey et al. , 2019)). Sub-grouping alone will unlikely be able to account for the complexity in individual presentations (Cholewicki et al. , 2019; Rabey et al. , 2019), where each patient presents with a unique set of contributing factors, which inevitability leads to the need for individualised care. This demonstrates one of challenges before us. Patients need individualised care and whilst subgrouping might help with pattern recognition and with clinical reasoning, it will only take the clinician so far. We still need evidence to demonstrate that sub-grouping (of any kind) leads clinicians to choose a

wider range of treatment options that better match to a patient's needs.

5. How can sub-grouping help clinicians deal with patient complexity to provide individualised person-centred care?

Delivery of low-value care is an ongoing issue in the management of musculoskeletal disorders (Hartvigsen et al. , 2022). People with musculoskeletal pain have different treatment needs and preferences. Care decisions should not rely on the clinician's small list of 'favourite treatments'. Despite the problems with sub-grouping outlined above, it may be argued that by familiarising themselves with different sub-grouping approaches, clinicians can improve their clinical reasoning (Figure 1) and grow competencies (Figure 2) in navigating patient complexity such that there is a reduction in inconsistencies in their decision-making. This, however, is only likely where their exposure to sub-grouping approaches broadens an understanding of when (and how) to use a wider range of evidence-informed treatment options to address complex patient needs. In the first instance of clinical decision making, sub-grouping may alert to broad priorities. In the next steps, when deciding about each specific element of management, the focus will shift from the sub-group a patient was allocated to, to considering individual factors that can guide individual person-centred care priorities. This process would ideally lead people to interventions based on need, rather than clinician preference. When equally efficient treatments are relevant, people should be supported to make an informed choice between these.

6. Conclusion, with a challenge to educators

No sub-grouping system will pick up everything needed to provide a high-quality, individualised person-centred care. However, subgrouping does have the potential to guide the clinician in identifying important contributing factors at the individual level, refine treatment needs, facilitate clinical communication, and develop clinical reasoning skill for understanding and managing complexity in patient presentations (Figure 1). Ongoing research into the implementation of carepathways and care-frameworks might focus on these elements of implementation.

A clear challenge is to find ways for clinicians to grow in their confidence of treating complexity when (1) the robustness of individual subgrouping approaches may not be readily apparent, and (2) different subgrouping approaches appear to conflict with each other and cause confusion or uncertainty. The responsibility of educators, to teach different sub-grouping approaches with clarity in ways that build clinician confidence and clinical reasoning, is substantial. Too often

educators themselves are tribal and advocates for certain approaches, which is clearly unhelpful. As a starting point educational institutions could (read that as should) update foundational education to help those with entry level qualifications (1) understand what a robust subgrouping process is and what is not, and (2) use sub-grouping in the manner described above to deliver targeted care (Figure 1). In addition, health organisations and systems should have strategies to support cli□nicians to do this. Hybrid care-pathways that implement sub-grouping with individualised care are emerging, can assist (Kent et al. , 2023; Nicholas et al. , 2019), but require more development. There are finite health resources for managing the burden of musculoskeletal pain in health systems (Foster et al. , 2018), and the use of low value care options remains high. We are working in a rapidly changing landscape where digital health technologies are exploding. Many use sub-grouping tools as part of their algorithms. We risk clinicians being taken out of the decision-making process if we do not improve.

Conference abstracts from IFOMPT 24, the 12th world conference of musculoskeletal and manual physical therapy. Celebrating 50 years. Basel, Switzerland 4th–6th July.

Annina Schmid
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Abstract: Entrapment neuropathies and neuropathic pain: crossing bridges between pain neurosciences and clinical practice
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Neuropathic pain is caused by a lesion or disease of the somatosensory nervous system. It affects around 9% of the general population and has a higher health impact than non-neuropathic pain. Understanding the mechanisms, assessment and effective management of neuropathic pain is therefore a global priority. We have made substantial advances over the past decade in our understanding of the neurobiological processes underlying neuropathic pain. Concerted efforts between preclinical studies (e.g., using animal models) and humanised model systems (e.g., culturing human sensory neurons in a dish) have facilitated the discovery of implicated pathways and promising treatment targets.
Excitingly, the availability of novel methodologies (e.g., -omics approaches) and their application to human bio-samples (e.g., nerves,

dorsal root ganglia) and integration with clinical pain phenotypes (e.g., sensory profiles, pain profiles) have provided us with novel neurobiological insights into human neuropathic pain.

One of many neurobiological processes that have emerged in the context of neuropathic pain is a dysregulated neuro-immune interaction. While activation of immune and stromal cells can be found in the acute stage after injury, it is perhaps more surprising that low grade neuroinflammation persists well into the chronic stages after nerve injury. For instance, we have shown that patients with chronic Morton's neuroma have low grade intraneural immune activation which remains apparent many years after initial symptom onset. While acute inflammation may be protective, chronic non-resolving low grade neuroinflammation is thought to maintain many chronic neuropathic conditions, including entrapment neuropathies. The resulting effects on axons including sensitisation or degeneration may explain the presence of neuropathic pain in the innervation territory of the affected nerves. However, preclinical evidence convincingly shows, that such neuroinflammation expands well beyond the injury site, affecting different locations along the neuraxis including the dorsal root ganglia, spinal cord, and higher pain centres. Intriguingly, such remote and even systemically detectable low grade inflammatory changes have recently been linked with spread of symptoms beyond the affected nerve territory in patients, a feature that is commonly observed yet poorly understood in entrapment neuropathies.One of the research priorities remains to understand how exactly immune cells talk to injured and non-injured neurones and how these talk back to immune cells. These insights are hoped to shed more light on promising treatment avenues, with a potential focus away from anti-inflammation towards pro-resolution strategies that may be more promising in chronic low-grade inflammation.

While these discoveries are encouraging, their translation into tangible progress in the management for people with neuropathic pain will take time. Unfortunately, this means that clinicians and patients are left with current treatment options that have at best modest effects. Using the example of spine related leg pain (i.e., radicular pain and painful radiculopathy), oral pharmacology including anti-inflammatory medication seems no better than placebo pills;and combination therapies have at best small effects on pain or disability.And even though physiotherapy is the first line intervention for spine-related leg pain, our recent systematic review suggests that physiotherapy interventions also have low effectiveness.However, many clinical trials in the field suffer from high patient heterogeneity and unclear inclusion

criteria. For instance, our recent data indicates that a substantial proportion of pharmacology trials investigating the effectiveness of neuropathic pain medications for patients with low back pain and spine related leg pain either excluded patients with neuropathic pain, or did not determine whether their patient population in fact had neuropathic pain (manuscript under review). Thus, a potential dilution of results by subgroups of patients who may react differentially may in part be responsible for the low effectiveness of studied interventions. It therefore seems premature to downrightly discard these treatment options before we have answered the question whether these are effective in more carefully phenotyped patient populations.

While we are designing and awaiting the results of sound clinical trials investigating the benefit of stratifying treatments to well defined patient phenotypes (e.g, those with 'true' neuropathic pain), existing neurobiological knowledge may inform potentially promising avenues for the management of people with peripheral neuropathic pain. Excitingly, there is growing evidence for the ability of non-pharmacological interventions to modulate low grade neuroinflammation. For instance, preclinical evidence suggests that exercise, and in particular aerobic exercise, has antinociceptive effects which seem to be mediated by modulation of the dysregulated neuro-immune response. There is also a growing body of preclinical evidence that neurodynamic treat□ments facilitate nerve regeneration and remyelination while resolving local and remote neuroinflammation. Further efforts are underway to study the anti-inflammatory and pro-regenerative effects of nutrition, however the bulk of literature currently covers musculoskel□etal rather than neuropathic pain.

Whereas these non-pharmacological treatments seem promising in targeting dominant mechanisms of neuropathic pain, there is still a dearth of human studies investigating their effectiveness in people with neuropathic pain. For instance, most studies to date using neurodynamic interventions were performed in patient populations with heightened nerve mechanosensitivity upon neurodynamic testing. Yet most studies either excluded patients with probable or definite neuropathic pain (e.g,. those with neurological deficits) or did not even determine the presence of neuropathic pain in their study population. It therefore remains unclear whether neurodynamic interventions are equally beneficial if applied to patients with probable or definite neuropathic pain. Recent guidelines on how to identify neuropathic pain at bedside should not only help clinicians to diagnose neuropathic pain with confidence, but should also facilitate research endeavours in

better phenotyped and selected patient populations.
In summary, the field of neuropathic pain has made significant strides in advancing the understanding of the underlying neurobiology. Moving forward, the integration of preclinical, translational and clinical findings as well as the conduct of high-quality methodological studies in carefully phenotyped patient populations will likely be key to make a step change in developing more effective treatments for this debilitating condition. Until solid translation into effective treatments is available, clinicians will find themselves in a delicate balancing act, weighing the theoretical neurobiological understanding against the lack of concrete clinical evidence supporting therapeutic interventions. This necessitates a nuanced approach that incorporates both scientific knowledge and clinical judgement, while prioritising shared-decision making tailored to the unique circumstances and preferences of each patient.

Clinical relevance of combined treatment with exercise in patients with chronic low back pain: a randomized controlled trial

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Abstract:

Low back pain is a widespread public health concern owing to its high prevalence rates according to the Global Burden of Diseases. This study aimed to investigate the effect of exercise alone or in combination with manual therapy and kinesiotherapy on pain sensitivity, disability, kinesiophobia, self-efficacy, and catastrophizing in patients with chronic low back pain (CLBP). A total of 55 participants were enrolled and randomly allocated to one of three groups: (1) exercise alone group (ET; n= 19), (2) exercise +manual therapy group (ETManual therapy; n= 18), and (3) exercise + kinesio tape group (ETkinesiotape; n= 18). The interventions consisted of core stabilization exercises (ET group), prior spinal manipulation with core exercises (ETManual therapy group), and combined application of kinesiotape plus core stabilization exercises (ETkinesiotape group). The primary outcome was disability. The secondary outcomes were pain sensitization, kinesiophobia, catastrophizing, and self-efficacy. Assessments were performed at baseline and at weeks 3, 6, and 12. All therapies applied achieved significant improvements over time after 12 weeks in all parameters analyzed. ETmanualtherapy showed the greatest

changes in all variables, with signifcant diferences from the rest of the interventions in Oswestry (ODI) (3 and 6 weeks, respectively). A clinically signifcant cutof point was achieved for the ETmanualtherapy group in the ODI parameter (−54.71%, −63.16% and −87.70% at 3, 6, and 12 weeks, respectively). Manual therapy prior to the core exercise technique was the most efective approach to improve health-related functionality compared with exercise alone or exercise combined with kinesiotape in patients with CLBP.

Characteristics and outcomes of patients with low back pain with and without radiating leg pain following the GLA:D back program

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Abstract:

Background: Some patients with low back pain (LBP) also report radiating leg pain which is a prognostic factor for poorer clinical outcomes. We aimed: 1) to compare the baseline characteristics of patients with LBP with - (LBP + leg pain) and without radiating leg pain (LBP - alone); 2) to investigate whether patients with LBP + leg pain show similar post-treatment outcomes as compared to LBP - alone, after participation in an exercise and patient education program, i.e. the GLA:D Back program.
Methods: The patient sample included 3508 patients in the GLA:D Back program between March 2018 and August 2022. The outcomes were mean changes in LBP intensity, back-related activity limitation, self-efficacy and fear of movement measured from baseline to 3, 6 and 12 months. Baseline characteristics were compared with descriptive statistics, and linear mixed models were used to estimate group differences in changes from baseline to 3-, 6- and 12 months.
Results: 1915 (55%) of the patients were in the group LBP- alone and 1593 (45%) in the LBP + leg pain. The LBP + leg pain group displayed higher STarT back classification (greater risk of chronicity) compared to the LBP-alone. The LBP + leg pain group showed almost similar improvements in all outcomes compared to LBP - alone after the GLA:D Back program.
Conclusion: In long-lasting (chronic) LBP patients, the LBP + leg pain group improved to the same extent as LBP - alone regarding LBP intensity, disability, and fear of movement following an exercise and patient education program, GLA:D Back

An exploration of footwear preferences, attitudes and beliefs in people with knee osteoarthritis: A qualitative study

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Abstract:

Background: Although footwear can improve pain and function in individuals with knee osteoarthritis (OA), perspectives about footwear in this population have not been explored.
Objectives: This qualitative study explored preferences, attitudes and beliefs about footwear in adults with knee OA.
Methods: Twenty individuals with a clinical diagnosis of knee OA (aged 45-79 years, 65% women) participated in semi-structured interviews about factors which influence footwear selection, the effect of footwear on knee symptoms, and footwear modifications. Data were analysed thematically.
Results: Four themes, with sub-themes, were identified: i) there are specific footwear characteristics people look for, with comfort as their top priority; ii) shoe appearance is important; iii) footwear can aggravate or ease symptoms; and iv) people with knee OA find footwear in a variety of ways. Participants related built-in arch support, a cushioned insole and low/no heel, without addition of foot orthoses, to comfort, and were willing to pay more for comfort and quality. Appearance was also a consideration, and participants indicated they would tolerate short periods of symptom aggravation for aesthetic shoes. Participants felt that footwear choice affected their knee symptoms and risk of slipping/twisting. Participants reported that their footwear choices were determined through trial-and-error, and sometimes on advice from health professionals or shoe store salespersons.
Conclusions: There are specific footwear features important to individuals with knee OA. Knowledge of these features can be used by health professionals to inform footwear discussions with knee OA patients and serve as considerations when developing footwear targeted for this population.

Clinimetrics: Douleur Neuropathique en 4 Questions (DN4)

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Description: The Douleur Neuropathique en 4 Questions (DN4) is a screening questionnaire designed to identify possible neuropathic pain in complex neurological conditions (eg, diabetes, stroke, spinal cord injury) or mixed pain syndromes (eg, low back and neck pain, cancer, post-surgical pain).It was developed as a French language questionnaire in a prospective cohort of 160 patients with pain arising from a definite neurological or somatic lesion in 14 French multidisciplinary pain centres. The 2023 European Academy of Neurology, European Pain Federation and Neuropathic Pain Special Interest Group of the International Association for the Study of Pain (IASP) joint guidelines on neuropathic pain assessment strongly recommend use of DN4 in the diagnostic pathway for patients with suspected neuropathic pain.

The DN4 is a clinician-administered questionnaire that assesses 10 items through four questions. Questions 1 and 2 (items 1 to 7), administered via patient interview, assess pain characteristics (burning, painful cold, electric shocks) and associated symptoms (tingling, pins and needles, numbness, itching). Questions 3 and 4 (items 8 to 10) involve clinical tests to evaluate pain characteristics (hypoesthesia to touch, hypoesthesia to pinprick) and evoked pain (brushing). Items are scored 1 (positive) or 0 (negative). A total score is calculated as the sum of the 10 items. Scores 4 out of 10 indicate that neuropathic pain is likely. A self-report version of items 1 to 7 (cut-off 3 out of 7) is also available.The DN4 is free for clinical use (https://eprovide.mapi-trust.org/instruments/neuropathic-pain-4-questions) and can be administered in, 5 minutes by health professionals without the need for special training or tools.

The DN4 has been found to have high test-retest reliability (ICC. 0.8),5–11 and ‘almost perfect’ inter-rater reliability (Cohen’s kappa. 0.8),7 although moderate scores (0.4 to 0.6) have been reported for individual items.12,13 Internal consistency has been found to be limited for Arabic, Greek and Dutch versions (Cronbach’s alpha, 0.7)7,8 and ‘acceptable’ (0.70 to 0.90) for Nepalese, Spanish, Portuguese and Mandarin Chinese,6,7,14 and redundancy of some items was identified for the Turkish version (. 0.9).7

Data on construct validity are limited, with low-level evidence showing satisfactory hypothesis testing for French, English and Italian versions, and satisfactory structural validity for the Portuguese version.15 High face validity has been demonstrated for French, Arabic and Nepalese versions.1,6,16 Cross-cultural validity has been found to be low for most translated versions.7,15 Predictive validity of the DN4 has been supported by a meta-analysis of 27 studies, demonstrating high sensitivity (0.89, 95% CI 0.86 to 0.92) and specificity (0.88, 95% CI 0.83 to 0.92) using the recommended cut-off of 4 out of 10 (low certainty evidence).3 Positive and negative predictive values have been estimated at 62% (95% CI 59 to 65) and 97% (95% CI 96 to 97), respectively.

How do people with chronic low back pain pick a pencil off the floor?

Michelle Kendell, Anne Smith, Peter O'Sullivan, Darren Beales, Jonathan Chan, Kun Man Li, Matthew McMullan, Kelby Smith & Martin Rabey
Physiotherapy Theorie and Practice. 2024 Mar 3;40(3):576-593. doi: 10.1080/09593985.2022.2120374. Epub 2022 Sep 6.

Abstract:

Background: Picking objects off the floor is provocative for people with chronic low back pain (CLBP). There are no clinically applicable methods evaluating movement strategies for this task. The relationship between strategy and multidimensional profiles is unknown.
Objective: Develop a movement evaluation tool (MET) to examine movement strategies in people with CLBP (n = 289) picking a pencil off the floor. Describe those movement strategies, and determine reliability of the MET. Explore differences across multidimensional profiles and movement strategies.
Methods: An MET was developed using literature and iterative processes, and its inter-rater agreement determined. Latent class analysis (LCA) derived classes demonstrating different strategies using six movement parameters as indicator variables. Differences between classes across multidimensional profiles were investigated using analysis of variance, Kruskal-Wallis, or chisquared tests.
Results: Six movement parameters were evaluated. There was substantial inter-rater agreement (Cohen's Kappa = 0.39–0.79) across parameters. LCA derived three classes with different strategies: Class 1 (71.8%) intermediate trunk inclination/knee flexion; Class 2 (24.5%) greater forward trunk inclination, lower knee flexion; Class 3 (3.7%) lower forward trunk inclination, greater knee flexion.

Pain duration differed across all classes (p ≤ .001). Time taken to complete forward bends differed between Class 3 and other classes (p = .024).
Conclusions: Movement strategies can be reliably assessed using the MET. Three strategies for picking lightweight objects off the floor were derived, which differed across pain duration and speed of movement.

How long does tendinopathy last if left untreated? Natural history of the main tendinopathies affecting the upper and lower limb: A systematic review and meta-analysis of randomized controlled trials

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Abstract:

Background: Natural history of disease refers to the progression of a disease process in an individual over time, in the absence of treatment. Understanding natural history of tendinopathies is key for clinicians to make accurate prognostic predictions and design effective intervention studies.
Objective: To quantify the natural history of the main tendinopathies regarding pain and function and to compare outcomes between untreated individuals and those receiving treatment.
Methods: A systematic literature search was conducted until February 2023, across PubMed, Cochrane, Embase and Scopus databases. Selection criteria included randomized controlled trials (RCTs) with a "wait-and-see" group and cohort studies with ≥3 months of follow-up reporting on pain and function-related outcomes. Standardized mean differences (SMDs) of "wait-and-see" groups were pooled using a random-effects inverse-variance model. Risk of bias was assessed using Cochrane Risk-of-Bias (RoB2), and quality of evidence was assessed using the Grading of Recommendations, Assessment, Development, and Evaluation approach.
Results: Six RCTs were included, encompassing 518 subjects with tendinopathy. Pooled results demonstrated significant pain (SMD = 0.30, 95%CI: 0.19-0.41) and physical function improvement (SMD = 0.38, 95%CI: 0.28-0.48). These estimates remained consistent regardless of age or follow-up duration. In rotator cuff tendinopathy, untreated individuals improved but did not fully recover at one year, with similar outcomes to other interventions (e.g., surgery). Subjects with lateral elbow, patellar and

achilles tendinopathies when untreated, did not fully resolve symptoms within 12-16 weeks.
Conclusions: This review provides limited conclusions about natural history of tendinopathies. Future studies should incorporate true no-intervention groups to accurately reflect tendinopathy's natural progression.

Rethinking neck-related arm pain: hypothetical clinical scenarios to differentiate the underlying IASP-defined pain mechanisms

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Journal of Manual and Manipulative Therapy 2024 Aug;32(4):378-389. doi: 10.1080/10669817.2023.2292909.

Abstract:
Neck-related arm pain is frequently encountered in clinical settings, yet its underlying pain mechanisms remain elusive. While such pain radiating from the neck to the arm is often attributed to injuries or diseases of the nervous system (neuropathic pain), it can also arise from nociceptive (referred) or nociplastic sources. Regrettably, patients exhibiting this specific pain distribution are frequently diagnosed with varying terms, including 'cervicobrachialgia', 'cervicobrachial neuralgia', 'cervicobrachial pain syndrome', and 'cervical radiculopathy'. The ambiguity surrounding these diagnostic labels complicates the clinical reasoning process. It is imperative for clinicians to discern and comprehend the dominant pain mechanism. Three distinct hypothetical clinical scenarios depict patients with almost identical pain distribution but divergent dominant pain mechanisms. Within these scenarios, both subjective and objective examinations are employed to elucidate the dominant pain mechanism associated with neck-related arm pain: nociceptive, neuropathic, and nociplastic. Furthermore, clinicians must remain aware that the dominant pain mechanism can evolve over time.

Physical therapy for acute and subacute low back pain: A systematic review and expert consensus

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Abstract:

Objective: To review the effectiveness of different physical therapies for acute and sub-acute low back pain supported by evidence, and create clinical recommendations and expert consensus for physiotherapists on clinical prescriptions.

Data sources: A systematic search was conducted in PubMed and the Cochrane Library for studies published within the previous 15 years.

Review methods: Systematic review and meta-analysis, randomized controlled trials assessing patients with acute and sub-acute low back pain were included. Two reviewers independently screened relevant studies using the same inclusion criteria. The Physiotherapy Evidence Database and the Assessment of Multiple Systematic Reviews tool were used to grade the quality assessment of randomized controlled trials and systematic reviews, respectively. The final recommendation grades were based on the consensus discussion results of the Delphi of 22 international experts.

Results: Twenty-one systematic reviews and 21 randomized controlled trials were included. Spinal manipulative therapy and low-level laser therapy are recommended for acute low back pain. Core stability exercise/ motor control, spinal manipulative therapy, and massage can be used to treat sub-acute low back pain.

Conclusions: The consensus statements provided medical staff with appliable recommendations of physical therapy for acute and sub-acute low back pain. This consensus statement will require regular updates after 5–10 years.

The 11+ injury prevention programme decreases rate of hamstring strain injuries in male collegiate soccer players

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Abstract:

Objectives: To investigate if the 11+ injury prevention programme decreases the risk of hamstring injury and improves recovery time and determine whether compliance with the 11+ affects hamstring injury risk.
Methods: This study is a secondary analysis from a prospective cluster randomised controlled trial that included 65 National Collegiate Athletic Association (NCAA) division I and II men's soccer teams over the fall 2012 season. Thirty-one teams were randomised to the intervention group that were using the 11+ as their warm-up and 35 teams to the control group that continued to use their traditional warm-up. Each certified athletic trainer (ATC) collected data on demographics, hamstring injury (HSI), mechanism of injury, position, playing surface, time lost due to injury and compliance to the 11+ programme.
Results: The 11+ decreased the risk of HSI by 63% compared with the control group (RR=0.37, 95% CI 0.21 to 0.63). Difference in return to play after HSI between the control (9.4±11.2 days) and intervention groups (10.2±11.3 days) was not significant (p=0.8). High compliance (>2 or more doses on average per week) reduced the risk of HSI by 78% (RR=0.22, 95% CI 0.06 to 0.87) compared with low compliance (<1 dose on average per week), and moderate compliance (1 to <2 doses on average per week) decreased the risk of HSI by 67% (RR=0.33, 95% CI 0.11 to 0.97) compared with low compliance. There was no significant difference between high and moderate compliance.
Conclusion: The 11+ decreased the risk of HSI by 63% but did not improve recovery time. High to moderate compliance is essential and makes the programme more effective at reducing HSI.

Trends in Telerehabilitation Utilization in the United States 2020-2021

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Abstract:

Objective: To examine telerehabilitation utilization in the United States (US) during the first 2 years of the pandemic.
Design: We performed a retrospective analysis of outpatient insurance claims from the IBM MarketScan Commercial Claims and Encounters Database to identify the number and proportion of patients using telerehabilitation from 2020 to 2021. Telerehabilitation was identified based on the presence of specific code modifiers and place of service.
Setting: Retrospective claims analysis.
Participants: Individuals living in the United States with employer-sponsored insurance plans using outpatient physical or occupational therapy (PT/OT) (N=2,007,524).
Interventions: Not applicable.
Main Outcome Measure: Number and proportion of outpatient PT/OT visits completed via telerehabilitation.
Results: We identified 21,026,608 PT/OT visits among 2,007,524 patients. Overall, 49,974 (2.5%) patients received ≥1 telerehabilitation visit uring the specified timeframe. We observed trends in utilization over time, with utilization peaking in April 2020 when 10.9% of all PT/OT visits were conducted by telerehabilitation. We also observed geographic trends with lower rates of utilization identified in rural areas. State-by-state utilization rates ranged from 10.4% (California) to 0.3% (Wyoming).
Conclusion: Telerehabilitation may be underutilized as a means of improving access to PT/OT, especially in rural areas of the country. Furtherresearch is needed to examine contributing factors to low observed utilization rates, such as provider and patient perceptions of telerehabilitation.

Using behavioural economics to improve adherence to home exercise Programs

Gemma Altinger, Chris G Maher, Adrian C Traeger
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No Abstract available

Conclusion:
Behavioural economics has provided evidence that simple strategies can help increase adherence to treatment. Strategies that help patients to identify meaningful goals, co-design their program, plan how they will do the exercises and maintain their streak can help them to adhere to their treatment plans. These techniques have been used to improve a variety of health-related behaviours and habits. Physiotherapists can implement these techniques in their daily practice

The relationship between trust and outcomes during physical therapy care for chronic low back pain

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Abstract:

Introduction: Enhancing the therapeutic alliance has been associated with improved outcomes for patients with chronic low back pain (CLBP). Qualitatively trust has been described to be part of the therapeutic alliance, but it has not been measured quantitatively within the physical therapy literature. Objective: Examine the relationship between trust and outcomes during physical therapy for CLBP.
Methods: Observational study of patients with CLBP being seen for physical therapy were assessed through self-report measures. The Primary Care Assessment Survey (PCAS) trust measurement scale was completed by patients at initial, post-initial, and discharge visit. These measurements were compared for correlations with patient reported outcome measures for pain and function recorded at initial visit and discharge.

Results: A convenience sample of 29 patients (49.3 ± 15 years old) with CLBP were measured. The PCAS showed correlations for changes in trust throughout treatment for improvements in pain and discharge pain rating. Average discharge pain rating correlated to changes in the PCAS ($r_s = -0.692$, $p < .001$), with lower pain ratings relating to higher changes in trust over time. Average change in pain ($r_s = 0.745$, $p < .001$) throughout treatment also correlated with higher changes in trust. Higher trust scores at discharge also correlated with improved Global Rating of Change and Oswestry Disability Index scores at discharge. The linear regression model showed adjusted R^2 values for the trust scores and outcomes varied between 0.247 and 0.642.

Conclusion: Both increases in trust throughout the treatment and end trust scores during physical therapy were related to improved outcomes for patients with CLBP.