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## O73

### The effectiveness of interventions targeting physical activity and sedentary behaviour in people with persistent musculoskeletal pain: Systematic review and meta-analysis

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**Keywords**: Physical activity, Musculoskeletal pain, Sedentary behaviour

**Purpose**: Persistent musculoskeletal pain (PMP) is highly prevalent across Europe, ranging from 21.09% to 40% and can affect a person's function, quality of life and physical activity (PA) levels. For people with PMP, PA can improve pain, function, quality of life, and can reduce the effects of common co-morbidities, such as anxiety. PA promotion is recommended in NICE guidelines for OA and low back pain and sciatica. National public health campaigns recommend reducing sedentary behaviour (SB) in the management of long-term conditions such as PMP. This systematic review and meta-analysis investigated the effectiveness of PA and SB interventions on PA and SB levels in people with PMP. This study also explored the potential effectiveness of behaviour change techniques (BCTs) used in the interventions. Lastly, it explored the use of theory in intervention design.

**Methods**: Eligible studies were randomised controlled trials (RCT) of PA or SB interventions with adults with PMP. The outcomes of interest were PA/SB levels. Rheumatological conditions were excluded. Databases were searched from inception until May 2020. Risk-of-bias was assessed using the Cochrane risk-of-bias tool version 2. Random-effects meta-analysis was used to calculate the effect size immediately post-intervention and at longest follow-up for PA and SB. The GRADE criteria were used to assess the quality of evidence. The BCTs used in the interventions were identified using the BCT Taxonomy version 1 (BCTTv1). Effectiveness percentages were calculated to estimate potential effectiveness of BCTs. Narrative synthesis was used to describe the use of behaviour change theory in intervention design.

**Results**: Nineteen studies including 3096 participants were included. There were 19 PA interventions and one SB intervention. Studies included participants with PLBP, lower limb OA and unspecified 'chronic musculoskeletal pain'. Objective measures were reported in six studies; 13 reported self-report measures only. Post-intervention PA demonstrated a small effect (Hedge's $g = 0.338$, CI 0.122 to 0.555, $p = 0.002$) from very low-quality evidence. Longest follow-up PA demonstrated a small effect (Hedge's $g = 0.218$, CI 0.054 to 0.381, $p = 0.009$) from low quality evidence. There was no effect for SB at either measurement point, from very low quality evidence. Heterogeneity was considerable. Risk-of-bias was generally low. Four promising BCTs were identified: 'goal setting (outcome), 'action planning', 'prompts/cues' and 'adding objects to the environment'. Theory was used in 10 studies; none built or created theory.

**Conclusion(s)**: There is evidence for a modest benefit of interventions on PA levels but no evidence for SB levels. Higher quality studies of theoretically-based PA and SB interventions that use objective measures are needed. This study identified four BCTs that may be useful in clinical practice to facilitate changing PA behaviour.

**Impact**: This study highlights that PA interventions can benefit PA levels in those with PMP. It highlights a need for higher quality interventions to be developed, particularly SB interventions. BCTs such as setting goals related to the outcomes of PA, making clear actions plans, identifying appropriate prompts or cues and adding objects to their environment may be helpful BCTs for affecting behaviour change.

**Funding acknowledgements**: Gregory Booth completed this work during an ICA Pre-doctoral Clinical Academic Fellowship supported by Health Education England and the National Institute for Health Research [Grant number: NIHR300342]. The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the National Institute for Health Research or the Department of Health and Social Care.

https://doi.org/10.1016/j.physio.2021.12.313

## O74

### The prevalence, location and severity of musculoskeletal pain following COVID-19

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**Keywords**: COVID-19, Musculoskeletal, Rehabilitation

**Purpose**: Post infection the symptoms of the SARS-COVID-2 virus (COVID-19) are varied and extend beyond the respiratory system. Widespread muscle and joint pain is amongst the most common symptoms of COVID-19. Prior to COVID-19 the national prevalence of chronic pain was 34%. Understanding the prevalence and location of pain post discharge is important for treatment and rehabilitation. In addition, understanding the nature of pain would allow appropriate support and management.

**Methods**: This was a prospective observational cohort study of patients discharged from hospital following admission for COVID-19. All patients discharged from the University Hospitals of Leicester (UHL) were eligible for the study. Participants were contacted by telephone following hospital discharge. Participants were excluded if they did not provide consent or if their primary cause for admission was not COVID-19. Participant's medical history was taken from hospital discharge letters and confirmed during the telephone call. During the telephone call participants were asked if they were experiencing any pain. Participants reporting pain were asked to describe their pain and report the location and intensity of their pain. Pain intensity was recorded using a verbal rating scale (VRS) from 0 to 10. Pain location was recorded using a body chart. If participants required a referral to musculoskeletal physiotherapy services this was recorded.

**Results**: 516 patients completed a post discharge telephone call. 338 patients provided consent and were included in the analysis. The mean (SD) time to phone call post discharge was 45 (29) days. Participants were more commonly men (55.4%) with a mean (SD) age of 58 (14) years. The average (SD) length of stay was 9 (13) days with 29 (15.3%) participants requiring mechanical ventilation. 158 (46.7%) patients reported pain, from these patients 94 (59.5%) reported new pain since their COVID-19 admission. There was no significant difference in age, gender or BMI between pain and no pain groups. There was also no significant difference in length of hospital stay or days before telephone contact between groups. Within the pain group 136 (86.1%) reported pain which was considered to be of musculoskeletal origin. The distribution of musculoskeletal pain was; lower limb 29.1%, lumbar spine 17.7%, thoracic 13.3%, upper limb 10.1%, head and neck 7.6%, multi-site pain 7.6% or no location specified 14.6%. The mean (SD) VRS score for the musculoskeletal group was 5.4 (2.7). 6.5% of participants were referred to musculoskeletal physiotherapy services following their telephone call. Patients with and without pain were equally as likely to accept referral to COVID-19 rehabilitation classes.

**Conclusion(s)**: Following discharge for COVID-19 almost half of patients experience continuing pain. 27.8% of patients reported new pain that was not present prior to admission. Musculoskeletal pain is most frequently reported with the lower limbs being most affected. A small number of patients were referred to musculoskeletal physiotherapy services following discharge. Research is required to follow up the impact of pain on COVID-19 recovery and rehabilitation.

**Impact**: The presence and management of pain should be considered following discharge for COVID-19. Patients should be supported in accessing healthcare services to help manage their pain.

**Funding acknowledgements**: This project was completed as part of the service provision and therefore required no additional funding

https://doi.org/10.1016/j.physio.2021.12.314

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## Therapeutic positioning in neurological rehabilitation: A staff evaluation of current practice

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**Keywords**: Positioning, Neurological rehabilitation, Positioning resources

**Purpose**: Neurological conditions frequently result in physical impairments which make it difficult to maintain or change posture. Therapeutic positioning enables an individual to maintain a good postural alignment without excessive muscular activity and is considered important in the management of people with severe neurological impairments. Achieving optimal positioning in lying can be challenging and often external support is provided by the use of practical resources ranging from individual support items to comprehensive positioning systems. Evidence of evaluation of positioning in lying and the use of practical resources is limited and current positioning practice is poorly documented. This study aimed to explore staff views and experiences of current positioning practice on a regional Neurological Rehabilitation Unit (NRU) with a focus on lying.

**Methods**: Face-to-face, semi-structured interviews were completed with a purposive sample of nursing and therapy staff. The interviews were audio recorded, transcribed and then inductive thematic analysis was used to generate themes and sub-themes from the data. Participant cross checking of individual interview summaries and an analysis of one third of the transcripts by a second researcher was utilised to validate the study findings. Trust service evaluation approval and University Health Ethics Review Panel approval was granted and written consent was gained from all participants.

**Results**: Twelve participants took part in an interview with representation from; physiotherapists (3), occupational therapists (2), therapy assistants (2), registered general nurses (2) and health care assistants / assistant practitioners (3).

The analysis identified six key themes: Patient Needs, Role, Communication, Knowledge, Experiences and Practical Resources. Positioning was recognised as integral to the