

PMSIG Research: Abstracts, Articles and Reviews

Every other month, the Pain Special Interest Group will be providing with some updates on new topics, new information and research related topics. Please feel free to submit a topic, research question to dana-dailey@uiowa.edu. If you would like to help in preparing the information, please let me know as well.

November 2019 Topic: Pain Sensitivity and Physical Activity

Bibliography

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3. Merriwether EN, Frey-Law LA, Rakel BA, et al. Physical activity is related to function and fatigue but not pain in women with fibromyalgia: baseline analyses from the Fibromyalgia Activity Study with TENS (FAST). *Arthritis Res Ther*. 2018;20(1):199.
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6. Trolle N, Maribo T, Jensen LD, Christiansen DH. Task-Specific Sensitivity in Physical Function Testing Predicts Outcome in Patients With Low Back Pain. *J Orthop Sports Phys Ther*. 2019:1-25.
7. Woznowski-Vu A, Uddin Z, Flegg D, et al. Comparing Novel and Existing Measures of Sensitivity to Physical Activity Among People With Chronic Musculoskeletal Pain: The Importance of Tailoring Activity to Pain. *Clin J Pain*. 2019;35(8):656-667.

Hansen S, Vaegter HB, Petersen KK. Pre-treatment Exercise-induced Hypoalgesia is Associated with Change in Pain and Function after Standardized Exercise Therapy in Painful Knee Osteoarthritis. (Hansen 2019)¹

Summary: In people with knee osteoarthritis, a subgroup of participants who exhibited pretreatment exercise induced hypoalgesia was shown to be associated with greater improvements in pain after 12 sessions of standard neuromuscular exercise. Outcome measures included 6MWT, self report of pain, KOOS-4, PainDetect Questionnaire, PPT's and temporal summation.

Long-term, health-enhancing physical activity is associated with reduction of pain but not pain sensitivity or improved exercise-induced hypoalgesia in persons with rheumatoid arthritis. (Lofgren 2018)²

Summary: In people with Rheumatoid Arthritis, long term participation in health enhancing physical activity (HEPA) demonstrated changes in global pain but not in measures of pain sensitivity at 1 year and 2 year timepoints. Outcome measures included in the study were measures of global pain, pressure pain sensitivity, and exercise-induced segmental and plurisegmental hypoalgesia.

Physical activity is related to function and fatigue but not pain in women with fibromyalgia: baseline analyses from the Fibromyalgia Activity Study with TENS (FAST). (Merriwether 2018)³

Summary: In women with fibromyalgia lower levels of lifestyle physical activity had poorer functional outcomes and greater fatigue than those with higher physical activity participation. Outcome measures in the study included questionnaires, quantitative sensory testing, accelerometry, 6WMT and FTSTS. Analysis did not find a relationship between lifestyle physical activity and pain, pain sensitivity, or pain-related psychological constructs.

Sensitivity to Physical Activity Predicts Daily Activity Among Pain-Free Older Adults. (Miller 2018)⁴

Summary: In older adults with knee osteoarthritis, sensitivity to physical activity was associated with decreased average steps per day and higher ratings of movement evoked pain and the temporal summation of pain and pain related fear of movement predicted sensitivity to physical activity during the walking task. Outcome measures included age, BMI, 6MWT TSK, Quality of Well-Being Scale, SF 36 Physical Function scale, accelerometry, temporal summation of heat pain.

Physical activity behavior predicts endogenous pain modulation in older adults. (Naugle 2017)⁵

Summary: In healthy older adults, sedentary time and lifestyle physical activity (LPA) predicted pain inhibitory function on the CPM test, with less sedentary time and greater daily LPA associated with greater pain inhibitory capacity and moderate-vigorous physical activity predicted pain facilitation on the TS test, with greater MVPA associated with less TS of pain. Outcome measures included PCS, STAI-T, accelerometry, quantitative sensory testing (PPT's and TS of heat)

Specific Sensitivity in Physical Function Testing Predicts Outcome in Patients With Low Back Pain. (Trolle 2019)⁶

Summary: In participants with low back pain, pain intensity was measured before and after a battery of physical function tests and categorized into four groups. Task-specific sensitivity was predictive of pain intensity after 3 months in patients with LBP. Outcome measures included NRS, Roland-Morris Disability Questionnaire, single leg stand, endurance of the trunk extensor muscle, abdominal endurance and Astrad Cycle Ergometer Test.

Comparing Novel and Existing Measures of Sensitivity to Physical Activity Among People With Chronic Musculoskeletal Pain: The Importance of Tailoring Activity to Pain. (Woznowski-Vu 2019)⁷

Summary: In people with chronic musculoskeletal pain, clinical measures for sensitivity to physical activity were associated with temporal summation of pain and was a predictor of

pain and pain related interference. Outcome measures include the questionnaires, BPI, PCS, PPT, TS with pin prick, physical activity of self-paced walk, standardized lift and tailored lift.

Abbreviations:

BPI: Brief Pain Inventory

FTSTS: Five time sit to stand,

KOOS: Knee injury and Osteoarthritis Outcome Score

LBP: Low back pain

LPA: Lifestyle Physical Activity

PPT: Pressure Pain Threshold

SF36: Short Form Survey

6MWT: Six minute walk test

STAI-T: State-Trait Anxiety Inventory–Trait

TS: Temporal Summation

TSK: Tampa Scale of Kinesiophobia