

# The Journal of Pain

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Volume 22, Number 9, September 2021

### FOCUS ARTICLE

#### **Non-Surgical Interventions for Lumbar Spinal Stenosis Leading To Neurogenic Claudication: A Clinical Practice Guideline**

André Bussi eres, Carolina Cancelliere, Carlo Ammendolia, Christine M. Comer, Fadi Al Zoubi, Claude-Edouard Ch atillon, Greg Chernish, James M Cox, Jordan A Gliedt, Danielle Haskett, Rikke Kr uger Jensen, Andr ee-Anne Marchand, Christy Tomkins-Lane, Julie O'Shaughnessy, Steven Passmore, Michael J. Schneider, Peter Shipka, Gregory Stewart, Kent Stuber, Albert Yee, and Joseph Ornelas, In collaboration with the Canadian Chiropractic Guideline Initiative in collaboration and Bone and Joint Canada

Lumbar spinal stenosis (LSS) causing neurogenic claudication (NC) is increasingly common with an aging population and can be associated with significant symptoms and functional limitations. This guideline was developed to present evidence and provide clinical recommendations on non-surgical management of patients with LSS causing NC. Using the GRADE approach, a multidisciplinary guidelines panel presents recommendations. These are based on evidence from a systematic review of randomized controlled trials and systematic reviews published through June 2019. Safe and effective non-surgical management of lumbar spine stenosis should be on the basis of a plan of care tailored to the individual and the type of treatment involved, and multimodal care is recommended in most situations. Specific recommendations are presented.

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#### ON THE COVER

Adverse life events (ALEs) are a risk factor for chronic pain; however, mechanisms underlying this association are not understood. This study examined whether cumulative ALE exposure impairs endogenous inhibition of pain and spinal nociception in healthy, pain-free Native Americans and non-Hispanic Whites during a conditioned pain modulation task. This study found that ALEs were associated with impaired descending inhibition of spinal nociception in a sample of Native Americans and non-Hispanic Whites. These findings expand on previous research linking adversity to chronic pain risk by identifying a proximate physiological mechanism for this association. See Kell, et al, Page 1097.

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## ORIGINAL REPORTS

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### **Tetrahydrocannabinol (THC) Exacerbates Inflammatory Bowel Disease in Adolescent and Adult Female Rats**

Jeremy Dunford, Andrea T. Lee, and Michael M. Morgan

Inflammatory Bowel Disease (IBD) is a life-long disorder that often begins between the ages of 15 and 30. Anecdotal reports suggest cannabinoids may be an effective treatment. Using Sprague-Dawley rats, this research sought to determine whether home cage wheel running is an effective method to assess IBD, and whether THC, the primary psychoactive compound in cannabis, can restore wheel running depressed by IBD. The findings conclude that: 1) Home cage wheel running is a new and sensitive tool to assess the behavioral consequences of IBD in adolescent and adult rats; and 2) Administration of the cannabinoid THC exacerbates the negative behavioral effects of IBD.

1048

### **Gender Biases in Estimation of Others' Pain**

Lanlan Zhang, Elizabeth A. Reynolds Losin, Yoni K. Ashar, Leonie Koban, and Tor D. Wager

Caregiving and other interpersonal interactions often require accurate perception of others' pain from nonverbal cues, but perceivers may be subject to systematic biases based on gender, race, and other contextual factors. Such biases could contribute to systematic under-recognition and under-treatment of pain. In two experiments, the authors studied the impact of perceived patient sex on lay perceivers' pain estimates and treatment recommendations. These results identify a bias towards underestimation of pain in female patients, which is related to gender stereotypes. The findings suggest caregivers' or even clinicians' pain stereotypes are a potential target for intervention.

1060

### **Patient Perceptions of Physician Burden in the Treatment of Chronic Pain**

Raymond C. Tait, John T. Chibnall, and Donna Kalauokalani

While patient perceptions of burden to caregivers is of recognized clinical significance among people with chronic pain, perceived burden to treating physicians has not been studied. This study examined how people with chronic pain perceived levels of medical evidence (low vs high) and pain severity to influence physician burden, and how burden then mediated expected clinical judgments. The study concludes that people with chronic pain expect physicians to view the care of patients (without supporting medical evidence) as burdensome. Higher burden is associated with less symptom credibility, more psychosocial dysfunction, and less treatment benefit. Perceived physician burden appears to impact how patients approach treatment, with potentially adverse implications for clinical practice.

**1072 Are You Listening? Facilitation of the Auditory Blink Response in People with Fibromyalgia**

Carolyn Berryman, Sarah B Wallwork,  
Alberto Marcos Heredia-Rizo, Emma Knight, Danny Camfferman,  
Leslie Russek, and G. Lorimer Moseley

The study aimed to determine whether auditory prepulse inhibition and/or prepulse facilitation were altered in people with fibromyalgia (FM) when compared with healthy controls. Using a linear mixed model, the authors found that there is evidence of preservation of neural circuitry that underpins response suppression and evidence of neural circuit disturbance mediated by autonomic drive in people with FM. These results are important because intact circuitry underpins the effectiveness of therapies and may be harnessed and rebalancing autonomic drive may be indicated.

**1084 Prospective Association between Dysmenorrhea and Chronic Pain Development in Community-Dwelling Women**

Rui Li, Donna A. Kreher, Todd A. Jusko, Benjamin P. Chapman,  
Adrienne D. Bonham, and Christopher L. Seplaki

Despite emerging evidence of associations between dysmenorrhea, enhanced pain sensitivity, and functional neuroimaging patterns consistent with chronic pain, it is unknown whether dysmenorrhea is prospectively associated with chronic pain development. Using data from the national Midlife in the United States cohort, the authors examined the prospective association between dysmenorrhea and chronic pain development during a 10-year period. Findings support the temporality of dysmenorrhea and chronic pain development in a national female sample. Dysmenorrhea was also associated with developing more widespread and disabling pain among women who were still menstruating. Early management may reduce the development and severity of chronic pain in women, although further research is necessary.

**1097 The Relationship Between Adverse Life Events and Endogenous Inhibition of Pain and Spinal Nociception: Findings From the Oklahoma Study of Native American Pain Risk (OK-SNAP)**

Parker A. Kell, Natalie Hellman, Felicitas A. Huber,  
Edward W. Lannon, Bethany L. Kuhn, Cassandra A. Sturycz,  
Tyler A. Toledo, Mara J. Demuth, Burkhardt J. Hahn,  
Joanna O. Shadlow, and Jamie L. Rhudy

Adverse life events (ALEs) are a risk factor for chronic pain; however, mechanisms underlying this association are not understood. This study examined whether cumulative ALE exposure impairs endogenous inhibition of pain and spinal nociception in healthy, pain-free Native Americans and non-Hispanic Whites during a conditioned pain modulation task. This study found that ALEs were associated with impaired descending inhibition of spinal nociception in a sample of Native Americans and non-Hispanic Whites. These findings expand on previous research linking adversity to chronic pain risk by identifying a proximate physiological mechanism for this association.

**Patients Describe their Lived Experiences of Battling to Live with Complex Regional Pain Syndrome**

Colleen Johnston-Devin, Florin Oprescu, Marion Gray, and Marianne Wallis

Complex Regional Pain Syndrome (CRPS) has never comprehensively been examined from a lived experience perspective. Patients generally have a poorer quality of life than people with other chronic pain conditions. This study aimed to understand the essence of living with CRPS. Data were collected from patients via in-depth interviews, along with discussions among health care professionals. CRPS is seen as a war-like experience and several themes were identified within the battle. This information and the model generated by this research may assist patient/clinician interactions and guide therapeutic discussions.