

# Becoming more sensitive to pain increases the risk of knee pain not going away

October 30 2018

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Becoming more sensitive to pain, or pain sensitization, is an important risk factor for developing persistent knee pain in osteoarthritis, according to a new study by researchers at Université de Montréal and its affiliated Maisonneuve Rosemont Hospital Research Centre (CRHMR), in collaboration with researchers at Boston University. Their findings

were published Oct. 11 in the journal *Arthritis & Rheumatology*.

Osteoarthritis (OA) is a common cause of pain and altered joint function, affecting 302 million adults worldwide. It can lead to chronic disability, frequently in the [knee](#) joint. Past research suggests that a number of factors outside of structural pathology may contribute to pain in patients with OA.

"Understanding the factors that contribute to the development of persistent pain is critical to improving our ability to prevent its onset and the transition to more [persistent pain](#)," said lead author Lisa Carlesso, an assistant professor at UdeM's School of Rehabilitation and a scientist at CRHMR, part of the CIUSSS de l'Est-de-l'Île-de-Montréal.

She and her team analyzed data from a multicentre OA study that followed 852 adults (ages 50-79) with or at risk of knee OA but who were free of persistent knee pain at the beginning of the study. Sociodemographic data, pain sensitization measurements, as well as risk factors traditionally associated with knee pain such as psychological factors, widespread pain and poor sleep were collected on the participants, who then were followed for development of persistent knee pain over two years.

The researchers used the risk factors and pain sensitization data to identify four distinct subgroups called pain susceptibility phenotypes (PSPs). They found these PSPs were primarily characterized by varying degrees of pain sensitization. The PSP with the highest degree of sensitization had the highest risk of developing persistent knee pain. Female gender, non-Caucasian race and age 65+ were significant sociodemographic predictors of being a member of the PSP with the highest degree of sensitization.

The researchers believe identifying these PSPs is an important step in

understanding the complex pathology of knee osteoarthritis. "Our findings suggest that therapy aimed at prevention or improvement of pain [sensitization](#) may be a novel approach to preventing persistent knee pain," said co-author Tuhina Neogi, a professor of medicine and epidemiology at Boston University's School of Medicine and School of Public Health. "Preventing [pain](#) is crucial to improving quality of life and function in patients who suffer from OA."

**More information:** Lisa C. Carlesso et al, Pain Susceptibility Phenotypes in Those Free of Knee Pain with or at Risk of Knee Osteoarthritis: The Multicenter Osteoarthritis Study, *Arthritis & Rheumatology* (2018). [DOI: 10.1002/art.40752](https://doi.org/10.1002/art.40752)

Provided by University of Montreal

Citation: Becoming more sensitive to pain increases the risk of knee pain not going away (2018, October 30) retrieved 4 May 2024 from <https://medicalxpress.com/news/2018-10-sensitive-pain-knee.html>

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