

New research sheds light on symptoms of understudied spine disease

May 17 2023, by Crystal Mackay

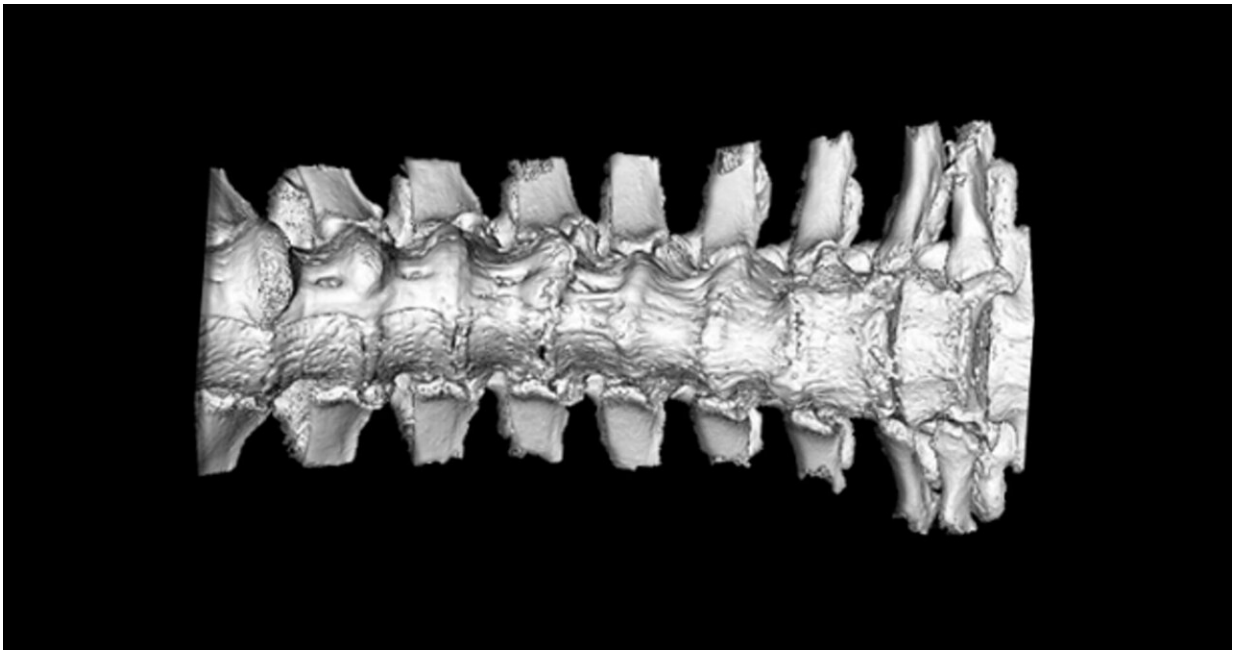


Image of a spine. Credit: Séguin Lab / University of Western Ontario

After hearing firsthand from patients about how the disease impacted their lives, a team of researchers and graduate students at University of Western Ontario were inspired to investigate the symptoms associated with an understudied spine disease called diffuse idiopathic skeletal hyperostosis (DISH).

Prior studies suggest DISH affects up to a third of men over the age of

50. This non-inflammatory type of [arthritis](#) is characterized by the progressive [calcification](#) of spinal tissues that eventually leads to the fusion of the vertebrae within the spine. However, whether this calcification causes [pain](#), especially in the early stages of the disease, isn't well understood or well documented.

"We were hearing from patients that they were increasingly frustrated by descriptions of the disease as asymptomatic, when that wasn't at all their lived experience," said Cheryle Séguin, Western University Schulich School of Medicine & Dentistry professor and lead author on the study.

"We wanted to see, using the tools in our lab, if we could better understand how pain and physical disability are associated with the progressive spine calcification that happens in this disease," she explained.

Using a mouse model, the team demonstrated in a study recently published in the journal *Arthritis Research & Therapy* that even in the early stages of the disease, there was evidence of back stiffness and pain.

These results are the first evidence of impaired physical function, axial stiffness and pain associated with spine calcification in mice. The researchers say it underscores the need for pain to be evaluated in people living with DISH through the progression of spine calcification, with emphasis on the early stages of the disease.

"What we hope is that it inspires other researchers to ask similar questions in patients, which we think is really important," said Séguin, a member of Western's Bone and Joint Institute.

Despite the prevalence of DISH and the fact that it has been shown in the literature as an incidental finding on X-rays for close to 100 years, there are currently no disease-modifying treatments for it, and very little

research to help characterize the disease or to inform treatment.

To complicate matters further, the [spine](#) calcification associated with DISH occurs progressively over an extended period of time, often beginning decades before a person is diagnosed.

When Séguin and her team first began studying DISH, they heard from patient groups who were desperate for answers. These patients worked with Ph.D. students Dale Fournier and Matthew Veras in Séguin's lab to inform the study design and shape the research question.

"Having those face-to-face interactions helped us better understand the impact of this disease on people's lives," said Fournier, a Ph.D. candidate in Health Sciences and co-author on the study. "They told us firsthand what their experience was like and pain was largely a driving factor."

Now that the team has been able to demonstrate the association between DISH and pain, they are hoping these findings can be translated to or motivate human studies that would ultimately help people with DISH.

"We hope that this study opens the door for therapeutics companies to test their compounds in this mouse model with the ultimate goal of bringing therapies to DISH patients in need," said Veras.

More information: Dale E. Fournier et al, Stiffness and axial pain are associated with the progression of calcification in a mouse model of diffuse idiopathic skeletal hyperostosis, *Arthritis Research & Therapy* (2023). [DOI: 10.1186/s13075-023-03053-3](https://doi.org/10.1186/s13075-023-03053-3)

Provided by University of Western Ontario

Citation: New research sheds light on symptoms of understudied spine disease (2023, May 17)
retrieved 3 May 2024 from

<https://medicalxpress.com/news/2023-05-symptoms-understudied-spine-disease.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.