

New therapy needed for two forms of painful joint condition

April 10 2019, by Simone Hewett



Credit: University of Western Australia

A new collaborative study led by The University of Western Australia has found that a painful joint condition called arthrofibrosis that can result from traumatic injury or surgery may come in two forms which should be treated separately.

The research, published in *Nature*, also involved researchers from Edith Cowan University, China's Wenzhou Medical University and Guangxi Medical University and the Hospital for Special Surgery in New York.

Lead researcher Dr. Kayley Usher, from UWA's School of Biomedical Sciences, said 'stiff knee', 'frozen shoulder' and 'stiff elbow' were all the same painful joint condition often caused by [traumatic injury](#) such as

[anterior cruciate ligament](#) (ACL) or knee replacement surgery.

"This condition, which is known as arthrofibrosis, restricts motion and can destroy careers and cause significant suffering and disability," Dr. Usher said.

"For the first time, we propose that arthrofibrosis may come in two forms – active and residual – and the best treatment option may be different depending on which form it is."

Dr. Usher said although arthrofibrosis was a common disease that affected between five and 15 per cent of people who had suffered joint trauma, awareness of the condition remained poor, even among medical and sporting professionals.

"ACL injuries appear to be particularly prone and it appears that over-aggressive exercise during rehabilitation can cause or even worsen arthrofibrosis, making it a permanent condition."

Dr. Usher said there was an urgent need for biomarkers to identify those at risk of developing arthrofibrosis, as well as new drugs to treat the condition.

"Biomarkers could be used before [surgery](#) takes place to determine who would be at higher risk of developing the condition post-operation and also to determine how well a particular therapy was working," she said.

More information: Kayley M. Usher et al. Pathological mechanisms and therapeutic outlooks for arthrofibrosis, *Bone Research* (2019). [DOI: 10.1038/s41413-019-0047-x](https://doi.org/10.1038/s41413-019-0047-x)

Provided by University of Western Australia

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