

A factor involved in painful joint wear and tear discovered

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Inflammatory joint disease (arthritis) is affecting more and more, and especially older, people. In a recent survey by Statistik Austria, 39 per cent of people over the age of 60 stated that they have a form of arthritis. One particular form of the condition is osteoarthritis, which is wear and tear on the joints. A team of researchers at the University Department of Orthopaedics at the MedUni, led by Stefan Tögel, is focusing on glycobiology in orthopaedics and has now discovered a factor that plays an important role in the development of osteoarthritis.

The scientists at the MedUni are in the process of investigating the function of glycobiology in orthopaedic diseases. "Glycobiology is largely un-researched in our specialty, so we at the MedUni Vienna are the first in the world to be doing this on a systematic level," says Tögel. Glycobiology investigates the biological significance of sugar chains for all kinds of cells in the human body.

The cause of osteoarthritis – other than known risk factors such as age or earlier injury – is not yet known. The researchers at the MedUni Vienna have discovered, however, that certain proteins known as lectins, and in particular galectins, have a role to play in the painful wear and tear of the joints.

"The more badly worn the cartilage of a joint is, the higher the production of galectins," says Tögel, summarising the results of the team's findings. "Galectins set off degenerative and [inflammatory processes](#) in [cartilage cells](#)." In [glycobiology](#), the lectins "translate" the so-

called sugar code by docking to [sugar chains](#) on the cell surface and triggering a [cellular signal](#). In this case, they cause the unwanted reactions.

These new findings, according to the vision of the MedUni Vienna researchers, could lead to galectins in future being used both in the treatment and, as bio-markers, in the disease prediction of osteoarthritis.

Provided by Medical University of Vienna

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