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Researchers identity potential biomarker for osteoarthritis

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Henry Ford Hospital researchers have identified for the first time two molecules that hold promise as a biomarker for measuring cartilage damage associated with osteoarthritis.

Researchers say the concentration of two molecules called non-coding RNAs in blood were associated with mild cartilage damage in 30 patients who were one year removed from reconstruction surgery to repair an anterior cruciate ligament, or ACL, injury.

The findings are described as significant in the ongoing and tedious search of biomarkers for osteoarthritis, the most common form of arthritis that afflicts an estimated 27 million Americans aged 25 and older. It is caused by the normal aging process or wear and tear of a joint.

The study is being presented Saturday at the annual Orthopaedic Research Society in San Francisco.

"Our results suggest we have identified a long-awaited biomarker for this leading cause of disability," says Gary Gibson, Ph.D., director of Henry Ford's Bone and Joint Center and the study's lead author.

"For various pathology reasons associated with the variability of the disease and challenging blood biochemistry, developing a biomarker for osteoarthritis has been very elusive. But we believe our work shows great promise. The next step is to expand the number of patients studied and

determine whether the degree in blood concentration can determine if the cartilage damage will worsen over time.

"Our ultimate goal is to develop a biomarker that can be used in the development of future treatments to prevent the progression of the disease," he added.

Provided by Henry Ford Health System