A blood test successfully predicted knee osteoarthritis at least eight years before tell-tale signs of the disease appeared on x-rays, Duke Health researchers report.

In a study appearing April 26 in the journal Science Advances, the researchers validated the accuracy of the blood test that identifies key biomarkers of osteoarthritis. They showed that it predicted development of the disease, as well as its progression, which was demonstrated in their earlier work.

The research advances the utility of a blood test that would be superior to current diagnostic tools that often don't identify the disease until it has caused structural damage to the joint.

Osteoarthritis (OA) is the most common form of arthritis, afflicting an estimated 35 million adults in the U.S. and causing significant economic and societal impacts. While there are currently no cures, the success of potential new therapies could hinge on identifying the disease early and slowing its progression before it becomes debilitating.

Kraus and colleagues have focused on developing molecular biomarkers that can be used for both clinical diagnostic purposes and as a research tool to aid in the development of effective drugs. In previous studies, the blood biomarker test demonstrated 74% accuracy in predicting knee OA progression and 85% accuracy in diagnosing knee OA.