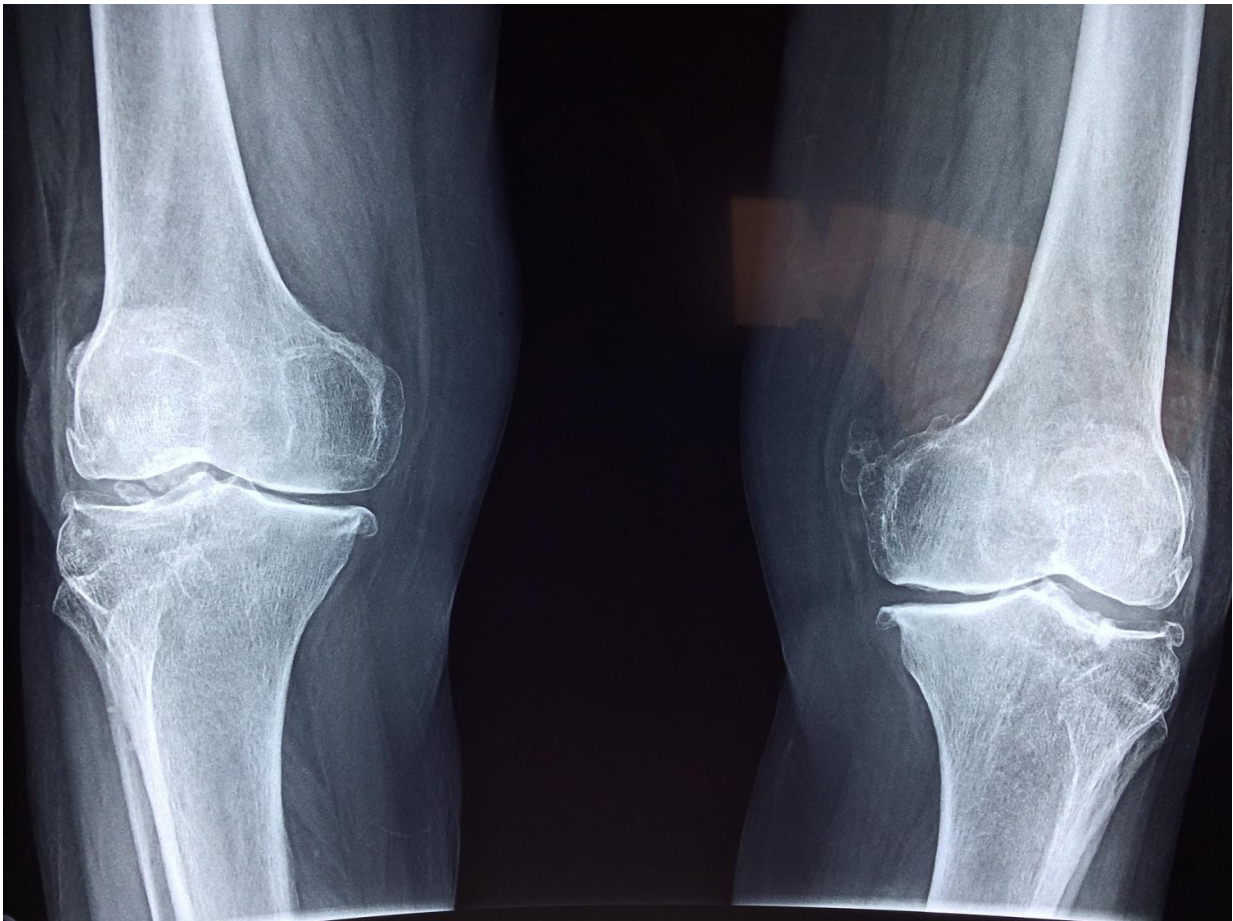


Researchers develop MRI definition for knee osteoarthritis (OA)

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Knee osteoarthritis (OA) also known as degenerative joint disease of the

knee is typically the result of progressive loss of cartilage and low grade inflammation. This common condition impacts approximately 500 million adults worldwide and is a leading cause of pain and disability. Despite this tremendous public health burden, there are no effective approved treatments that can prevent worsening or progression of OA and x-rays, the most common tool used to diagnose the condition, don't easily pick it up.

Although [magnetic resonance](#) imaging (MRIs) are better at picking up these changes, there has not been a consensus definition of OA using MRIs for use in research.

To address this, researchers from Boston University Chobanian & Avedisian School of Medicine have created and tested MRI definitions for OA using different combinations of features of knee OA that can be seen on MRI.

"Developing a definition of knee OA using MRI will lead to improved studies of potential treatments," said first author Jean Liew, MD, MS, assistant professor of medicine at the School.

Using data from a group of older adults, the researchers created candidate (potential) MRI definitions using different combinations of features of knee OA that can be seen on MRI. They then tested how these MRI definitions performed for detecting the disease.

An MRI OA definition requiring cartilage damage and a small osteophyte (abnormal extra bone that forms in the [knee](#) joint) was the most accurate and simplest marker for identifying OA.

According to the researchers, the main goal in OA research is designing studies of potential treatments in hopes that they will be able to identify successful treatments. "Due to its higher sensitivity for detecting joint

tissue changes associated with OA, an MRI-based definition of structural disease would permit accurate characterization of those eligible for trials testing OA treatments and allow inclusion of joints with earlier disease than those based on X-ray alone," added corresponding author David T. Felson, MD, MPH, professor of medicine.

The researchers stress that their study is focused on the use of MRI to define/detect OA in research only and does not look into the use of MRI to diagnose OA in a [clinical setting](#) or meant to advise patients or clinicians in this way.

These findings appear online in the journal *Arthritis & Rheumatology*.

More information: Jean W. Liew et al, Development of an MRI-based definition of knee osteoarthritis: Data from the Multicenter Osteoarthritis Study, *Arthritis & Rheumatology* (2023). [DOI: 10.1002/art.42454](#)

Provided by Boston University School of Medicine

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