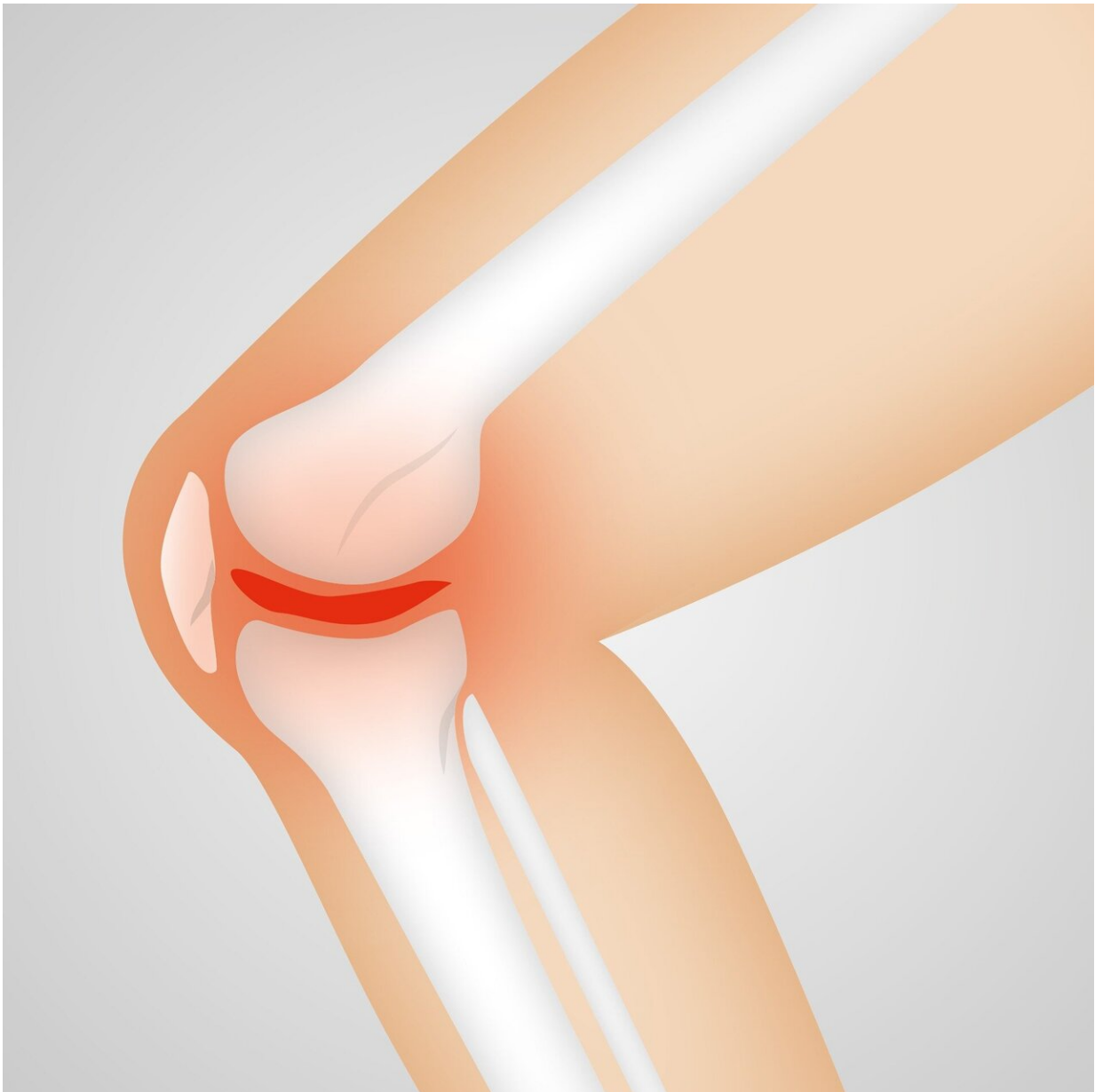


Researchers suggest new approach for testing treatments for osteoarthritis

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Osteoarthritis (OA) is the most common form of arthritis and is among the top 10 conditions contributing to Years Lived with Disability—a measure reflecting the impact an illness has on quality of life before it resolves or leads to death. To date, no treatments are approved that slow disease progression. Treatment development has been frustrating in part because animal models of disease caused by joint trauma poorly reflect human disease which usually occurs over many years and without preceding trauma.

Researchers from Boston University Chobanian & Avedisian School of Medicine now suggest studying persons after they sustain knee trauma such as anterior cruciate ligament tears (ACL).

"Given the repeated, expensive and discouraging past failures in the development of effective treatments for OA, a new approach is needed that focuses research into effective treatment on those with early disease," said corresponding author David T. Felson, MD, MPH, professor of medicine and epidemiology at the School of Medicine and Boston University School of Public Health.

While most patients recover after sustaining a major joint injury like an ACL tear, a few experience [persistent pain](#) and develop OA. Felson suggests that sufficient numbers of such patients exist and could be identified in advance to form a high-risk group in which treatments to prevent disease could be tested.

Current options for treatments that reduce [joint pain](#) such as nonsteroidal anti-inflammatory drugs (NSAIDs) are successful in some patients but their use is limited by their toxicity. Exercise or [weight loss](#)

are effective but long-term adherence is poor. Rates of total knee replacement surgeries are rising rapidly suggesting that nonsurgical treatments have not successfully alleviated patients' [pain](#) and disability.

BU and Cleveland Clinic researchers reviewed the data from the MOON (Multicenter Orthopaedic Outcomes Network) cohort, a group of 2,340 persons undergoing ACL reconstructions (ACLR) after traumatic tears. The MOON investigators reported that 26% of the ACL reconstruction patients who responded had at least moderate knee pain on daily activities, especially stair climbing and walking.

They also found that 16.6% had Knee Injury and Osteoarthritis Outcome Score (KOOS) pain scores of less than 80 (0-100 scale where 100 is no pain) suggesting that mild to moderate pain is not rare after ACLR.

By using the MOON risk factors—incorporating pain and structural changes in all joint tissues, especially cartilage loss—to select persons at high risk of later pain, they could assemble a cohort at high risk of substantial post ACLR pain. "This approach offers the opportunity to prevent disease and is especially valuable in targeting [young adults](#) who, after a [knee injury](#), may have significant joint pain and disability for many years before they become eligible for joint replacement," he adds.

These findings appear online in the *Annals of the Rheumatic Diseases*.

More information: David Felson et al, New approach to testing treatments for osteoarthritis: FastOA, *Annals of the Rheumatic Diseases* (2023). [DOI: 10.1136/ard-2023-224675](https://doi.org/10.1136/ard-2023-224675)

Provided by Boston University School of Medicine

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