INNOVATION PARTNERSHIPS
UNIVERSITY OF MICHIGAN

ACL TEAR-ER-IZER

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Category
Research Tools and Reagents
Life Sciences

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OVERVIEW

Noninvasive tool that mimics anterior curciate ligament (ACL) tears in rodents

- Existing ACL models are inaccurate since the injury is surgically induced
- This tool models the natural injury.

BACKGROUND

Anterior cruciate ligament (ACL) tear is one of the most common knee injuries in humans. A third of the injuries develop post-traumatic osteoarthritis (PTOA), a form of chronic inflammation and pain around the damaged joint. Animal models are crucial for studying ACL injury repair and PTOA. Current animal models replicating ACL injuries are not accurate representations of the injury in humans. This is due to the invasive and non-physiological mediation of the injury which masks native biological responses and recovery. Currently there are no standardized methods to reproducibly simulate in vivo ACL injury for research studies.

INNOVATION

The proposed technology provides a standardized noninvasive tool for mimicking ACL injury in rodents, offering a reproducible animal model for ACL injury studies. This technology provides a noninvasive load bearing compression to a rodent knee, mimicking a physiological ACL injury. The pressure and compression rate could be easily modulated using the provided software

module.