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“Reliability of Cartilage Mapping Using Upright Open MRI in Patients with ACL Injuries”

Anterior cruciate ligament (ACL) rupture is a common injury that disrupts the biomechanics of the knee and is associated with the early degeneration of knee cartilage (i.e. knee osteoarthritis). Surgery to reconstruct the torn ACL is supposed to restore normal joint biomechanics. Why then, does it not reduce the risk of future arthritis? To address this question, we will use a new Upright Open MRI that is able to measure cartilage tissue biomechanics in standing, load-bearing positions. If we can prove that this new technology is a reliable ‘functional’ imaging technique for injuries that affect cartilage, we can begin to understand how surgeries designed to restore normal biomechanics might be improved.