

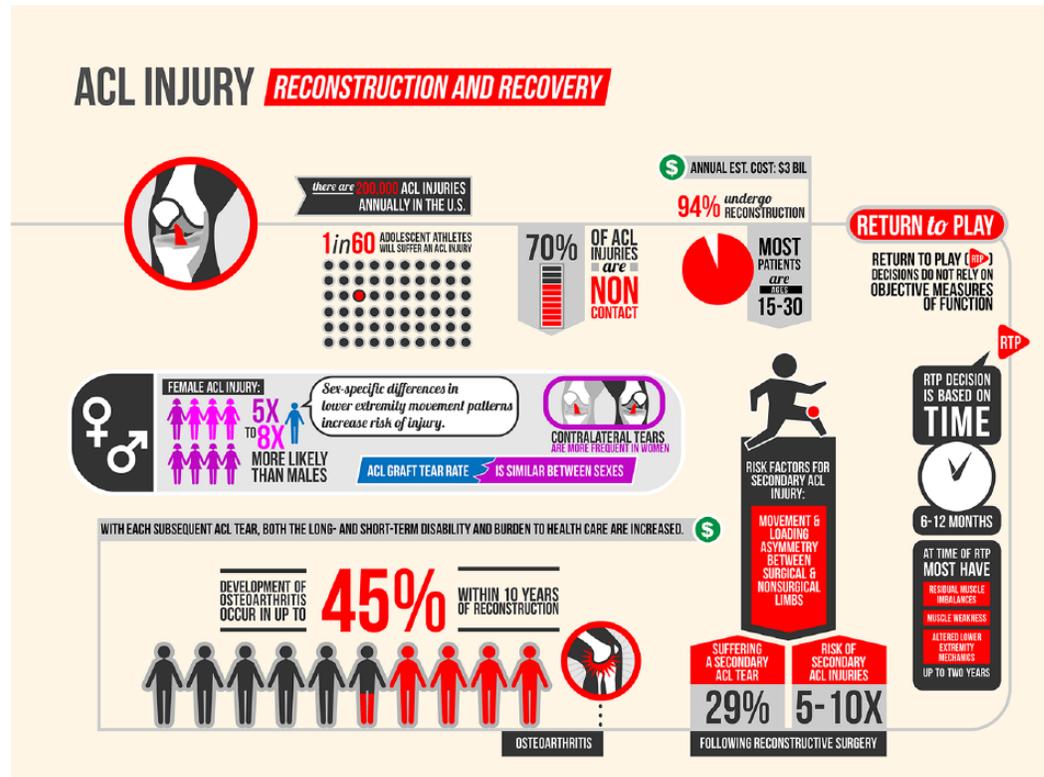


■ INFOGRAPHIC

Infographic: ACL injury reconstruction and recovery

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Anterior cruciate ligament (ACL) injury is a considerable source of morbidity among athletes. Most ACL injuries (70%) are non-contact in nature, with women and patients aged between 15 and 30 years at particularly high risk.^{1,2} The vast majority of patients undergo surgical reconstruction, with annual costs associated with treatment and rehabilitation of ACL injuries estimated at \$3 billion.

While the risk of primary ACL injury has been studied extensively, there is limited understanding of the risk factors for secondary ACL injuries, and how these are related to return-to-play (RTP) assessments. RTP decisions often do not rely on objective measures of function, but are instead based on the time since surgical intervention.^{3,4} However, many athletes have residual muscle imbalances, muscle weakness, and altered lower

extremity mechanics at the time of RTP that may persist for up to two years following ACL reconstruction.^{5,6} With the current return to sport decision metrics, up to 29% of all ACL reconstruction patients will suffer a secondary tear.

The identified risk factors for secondary ACL injury have been focused on deficits in movement mechanics. Specifically, movement and loading asymmetry (knee extension moment asymmetry) between the surgical and non-surgical limbs, as well as an increase in frontal plane range of motion, have been identified as secondary ACL injury risk factors.⁷ Based on the increased risk for secondary ACL tears, and the knowledge that 45% of individuals will develop knee osteoarthritis within ten years of an ACL reconstruction, it is imperative that objective and measurable criteria

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are used when determining readiness to return to sports in order to decrease the risk of a secondary injury.⁸

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Conflicts of Interest Statement

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