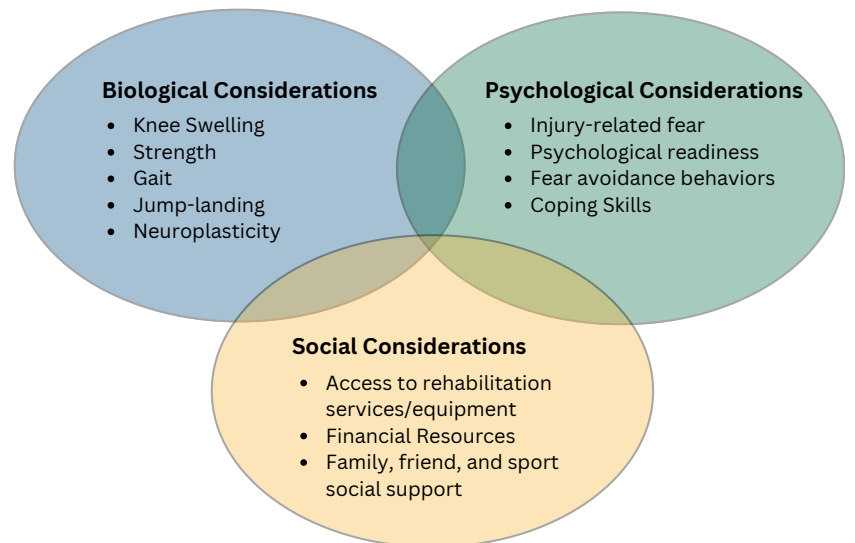


ACL & RETURN TO PLAY

Successful return to sport following ACL Reconstruction is dependent on a myriad of factors. A holistic approach with considerations around an individual's experiences, including access to health care and socioeconomic status can impact recovery and improved outcomes necessary for safe return to sport. Patients expect to return to pre-injury levels of activity or competition,¹ but there are alarming rates of failure to return to sport, secondary ACL injury,² and poor patient outcomes.

Rates of secondary ACL injuries can be as high as 35% in adolescent athletes returning to sports after ACLR.³ Return to activity assessments (quadriceps strength, functional hop tests) often use limb symmetry thresholds (>85-90%) to determine return to sport readiness but lack of symmetry does not accurately identify athletes at increased risk for ACL injury after ACLR and RTS.⁴ A potential missing element in standard return to activity assessment is the biopsychosocial model of care that may provide a more holistic picture of individual readiness and improve outcomes after RTS.⁵



from RECENT ARTICLES & ABSTRACTS

BIOLOGICAL CONSIDERATIONS

"Action-Observation Brain Activity Associate with Kinesiophobia after Anterior Cruciate Ligament Reconstruction" *Kim HW et al, 2022*. Elevated kinesiophobia (TSK-17) in individuals with ACLR was associated with increased activity in cerebellar areas responsible for cognitive and sensorimotor processing and the amygdala responsible for fear and pain processing. This may indicate a potential neural mechanism for pain memory or fear to disrupt neuromuscular control.

"ACL reconstruction rehabilitation: clinical data, biologic healing, and criterion-based milestones to inform a return-to-sport guideline" *Brinlee AW et al, 2022*. A combination of both biologic healing timelines and successful completion of criterion-based milestones are critical to inform RTS decision making and to reduce the incidence of re-tear. This review provides return to competition progressions and clinical milestones.

"Preliminary Report on the Train the Brain Project, Part I: Sensorimotor Neural Correlates of Anterior Cruciate Ligament Injury Risk Biomechanics" *Grooms DR et al, 2022*. Neural activity profiles differed between individuals with high-risk and low-risk biomechanics. The neural activity profile in the high injury-risk group may manifest as a breakdown in neuromuscular coordination.

PSYCHOLOGICAL CONSIDERATIONS

"The Effect of Time and Sex on Post-Anterior Cruciate Ligament Reconstruction Psychological Patient Reported Outcome Measure Scores" *Barth T et al, 2023*. Males report higher psychological readiness (ACL-RSI) during acute rehabilitation (<5 months). Both males and females have similar scores at times associated with return to play after ACLR.

"Kinesiophobia is Associated with Peak Knee Abduction Angle during Jump Landing after ACL Reconstruction" *Baez SE et al, 2023*. Higher kinesiophobia was related to greater amounts of peak knee abduction angle during landing in individuals 5-12 months post-ACLR. Knee abduction angle has been associated with primary and secondary ACL injury.

SOCIAL CONSIDERATIONS

"Social determinants of health influence access to care and outcomes in patients undergoing anterior cruciate ligament reconstruction: a systematic review" *Ziedas A et al, 2022*. Black and Hispanic patients, patients with public health insurance, and patients in lower income categories experience longer delays between ACL injury, initial presentation, diagnosis, and ACLR. Social determinants of health contribute to a delay in access to care, which may result in worse outcomes.

"The Validation of a Focused History Script for the Social Determinants of Health in Secondary School Athletic Training" *Giorgi et al, 2022. 5-25*. Incorporation of this focused history script into regular clinical practice helps guide ATs through a conversation regarding SDOH.

RESOURCES

OrthoTool Kit: large collection of patient-reported outcome measures and calculators

- [Tampa Scale of Kinesiophobia \(TSK-11\)](#)
- [Knee Injury and Osteoarthritis Outcome Score \(KOOS - available in Spanish\)](#)
- [ACL Return to Sport after Injury \(ACL-RSI\)](#)

ACL Dashboard: Users can enter patient data into this form to compare data entered to a large sample of patients of similar age, sex, and graft source.

ACL Reasons survey: Identifies barriers to physical activity engagement after ACL injury

Podcasts: [JAT Chat](#) episodes on ACL injury and return to activity.



References

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