TEAM PHYSICIAN XS & OS

The Role of Functional Sports Assessment in the Return to Sport After ACL Reconstruction

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While anterior cruciate ligament (ACL) reconstruction in injured athletes who desire a return to cutting and pivoting sports has become the standard of care, consensus regarding criteria for return to play is unfortunately lacking. The criteria for return to play is heavily debated and not as simple as following a timeline after surgery. An athlete's safe return requires sophisticated assessment of strength, endurance, and neuromuscular control.

Neuromuscular deficits are common to those athletes who sustain an ACL injury and undergo ACL reconstruction. Data from the MOON ACL study group suggests that ACL failure rates of the contralateral and reconstructed knees are both 3 percent at 2 years after surgery.[1] In a systematic review with a minimum of 5-year follow-up after reconstruction, this risk increases to 11.8 percent for the contralateral knee and 5.8 percent for the reconstructed knee.[2] As one would expect, the outcomes after a second ACL injury and subsequent ligament reconstruction are far less favorable,[3] therefore, re-injury prevention by minimizing neuromuscular discrepancies should be the priority of the rehabilitation course.

The pressures that an athlete might experience from coaches, parents, and/or teammates can further complicate the ideal timing of return to sport. It is noteworthy to physicians and therapists that research indicates that only half of the athletes who undergo reconstruction return to athletics within the first year of surgery.[4] Sharing this information and managing realistic expectations with all stakeholders will reduce "return-to-play stress" and decrease the chance of re-injury.

Criteria for return to sport is complex and therefore no single test can determine an athlete's readiness to return. Our current practice is to include a battery of clinical measures that include: pain level, patient's confidence with their knee, range of motion, core and lower extremity strength and endurance, and patient-reported outcome scores.

In addition to these measurements, assessment of neuromuscular control is essential to determine an athlete's preparedness to return to sport. This can be evaluated with a specialized Functional Sports Assessment that requires the athlete to perform real game-like activities that measure agility, endurance, strength, and stability. Specific tests include: hop tests, box jumps, as well as maneuvers requiring lateral movement, acceleration, and deceleration. This assessment is videotaped and analyzed for ideal form and deviations in lower extremity alignment. Any deficiencies are then corrected with guided rehabilitation prior to return to play. When used in conjunction with objective measures, we feel that the Functional Sports Assessment helps the physician and the therapist determine the patient's progress and provides the athlete with safest return to play following ACL reconstruction.

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References

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