

New ACL Functional Capacity Exam effective in determining safe return to sport

There have been many advances in anterior cruciate ligament (ACL) reconstruction surgery and rehabilitation; however, the main question of “When can I return to play” continues. Until recently, the answer has been primarily time dependent. A research review reported that out of 264 studies, 40 percent failed to provide any criteria for return to play (RTP) after surgery. Of those that utilized criteria for RTP, decision making used only 13 percent of objective responses, and only four percent used a functional test.

Re-injury rates following ACL reconstruction vary and have been stressing the significance and the importance of RTP decision making. There has been more emphasis on utilizing criteria to confirm these athletes have the appropriate strength and function before returning them to high level activities. At the forefront of this issue, Dr. Steven Chudik, orthopaedic surgeon, sports medicine physician and president and founder of the Orthopaedic Surgery & Sports Medicine Teaching & Research Foundation (OTRF), has been using a combination of subjective, foundational and functional testing in the decision making process for predicting safe RTP. Dr. Chudik has seen the need and developed his own RTP testing for patients following ACL reconstruction. The test is built in a stepwise manner and consists of three separate components (Figure 1):

- Patient self-reported outcomes
- Objective foundational measures
- Qualitative and quantitative functional measures

The patient self-report outcomes are obtained through the use of validated questionnaires that help reveal the patient’s determination of their own function and recovery objectives. Foundational measures include quantitative assessment of swelling, range of motion of the knee and strength of the muscles involved with knee function. If the patient passes the foundational portion, then he/she can proceed to perform the functional tests. Hop testing, jump landing, shuttle run and vertical jump tests are quantitatively measured while form and mechanics are qualitatively assessed simultaneously. Knowing that each individual is different, we utilize the athlete’s healthy limb as the control for many of the tests. If they fail any portion of the test, instruction is provided and

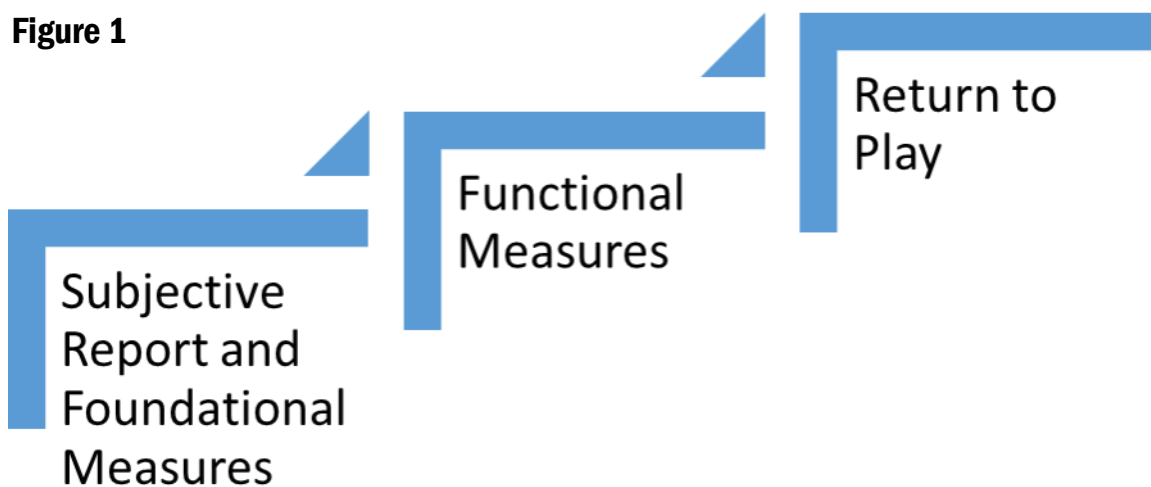


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further training is prescribed to help correct remaining deficits or errors in movement patterns, all with the goal to help the athlete pass the test and return to play safely.

One of the most unique, but critical, aspects of Dr. Chudik's ACL RTP program is that it not only measures knee function/athlete performance quantitatively, but also qualitatively. An athlete may



Step wise progression of return to play clinical decision making.

possess good knee strength and can jump high, but it is more important that he/she jump, land and cut with good form and proper mechanics. ACL literature clearly illustrates that errors in mechanics or movement patterns can increase the risk for ACL injury or re-injury. Observing how an athlete jumps, lands and cuts is much more important than how high or how fast when it comes to preventing injury.

Dr. Chudik's test ensures athletes are cutting, jumping and landing properly to "pass" before he/she is released back to sport. If an athlete "fails," the test determines why and helps us incorporate future training to correct the problem.

"Our early research findings are very exciting and demonstrate that the test works as a 'pass' and equates to a decreased rate in re-injury and injury to the opposite knee after ACL reconstruction and return to play," explained Dr. Chudik