

MAIL³⁶⁰



We'd like your views – write to: The Editor, *Bone & Joint*³⁶⁰,
22 Buckingham Street, London WC2N 6ET or email editor360@boneandjoint.org.uk

Dear Sir,

Should we measure return-to-play or return-to-performance?

Much discussion has taken place over the last several decades regarding returning an athlete to the field of play. Controversy still reigns with respect to those with a concussion or spinal injury. However, we have great confidence in returning an athlete to play after anterior cruciate ligament (ACL) reconstructive surgery; or do we? The current trend is to push athletes back to play sooner, despite what might be evidence to the contrary.

An ACL tear in an elite athlete was considered a career-threatening injury in the 1960s. In the 1980s arthroscopic techniques appeared to improve outcomes and success was more likely. Then, in the 1990s, the introduction of aggressive rehabilitation after surgery was the next step in improving success. Therefore, over the past two decades surgeons, including myself, would consider returning to play the norm for the majority of athletes after ACL surgery. Not only would we advocate that the athlete could return to play, but at an earlier time than had been previously expected; somewhere between six and 12 months after surgery. This goal is readily achieved for the professional ice hockey player in the National Hockey League (NHL). However, ice hockey is not a high-risk sport for ACL injuries; trauma normally occurs as a result of a contact mechanism. Bracing is also possible and well accepted after surgery.

What about the 16-year-old female soccer player? For several years I have had the opportunity of associating with a highly successful team of teenage soccer players. Of the 18 players on that team six (33%) tore their ACLs over the course of three to four years. All six players returned to play soccer. Whereas this would appear to be a great success story, the fact remains that only two of the six are currently playing soccer at a high level. Two have required revision surgery and three have quit soccer altogether.

Therefore, if we use return-to-play as an outcome measure the success rate in this example is 100%. If we use return-to-performance over time then the success rate is 33%. Well, this is anecdotal evidence at best! So the question remains, what is the evidence for return-to-performance? A recent systematic review¹ stated that only 44% of athletes returned to competitive sport after ACL reconstruction despite the fact that the majority had successful surgery based on knee-related outcomes. This is very sobering evidence and does not even address the concept of return-to-performance. We assume that returning to competitive sport is a proxy for performance. However, we rarely measure performance statistics such as numbers of goals scored after ACL reconstruction, amount of playing time per game, speed, skill, etc.

Over the last 20 years I have measured and observed athletes at all levels following ACL reconstructive surgery. I advise everyone that their performance is likely to be better their second season back to play, rather than their first. This appears to be a very consistent observation. Since an athlete's quality of life is directly related to their performance and indirectly related to a fear of re-injury, we must consider measuring or at least understanding this concept of the difference between return-to-play and return-to-performance.

As surgeons, we should all advise our athlete patients, particularly the younger ones, that the results of ACL reconstruction may not be as good as we think, particularly when it comes to performance.

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REFERENCES

1. *Br J Sports Med* 2011;45:596-606.