Rugby football and anterior cruciate ligament injury

In November 1997 the English National Rugby Union side played an arduous series of back to back matches against the three best sides in the world—namely, New Zealand, South Africa, and Australia. The tourists brought players with an enviable and potent mix of power and skill, as well as a small, but significant, number of anterior cruciate ligament (ACL) deficient knees that had not been reconstructed. The performance of these particular players challenges the current thinking that sportsmen and women with ACL ruptures must undergo reconstruction in order to compete at the highest level of a side-stepping sport such as rugby union, and this series was certainly played at the highest level! Our indications for surgery should be constantly appraised in the light of observing our patients.

An enormous volume of literature has been produced over the past 20 years on injuries to the ACL and their treatment. However, the number of well conducted scientific studies that can be relied upon to guide a clinician in the decision-making process is still small. At the very heart of this process is whether a player with a ruptured ACL should undergo reconstruction before returning to sport. Although evidence is accumulating that a reconstruction of the ACL or a specific hamstring predominant rehabilitation programme could improve the delay in reflex hamstring contraction.

My own observation of the rugby players who are continuing to play on unreconstructed ACL deficient knees is that they are all very muscular, squat players with a high power to weight ratio. Their relatively short lever arms and powerful muscles would favour any muscle driven protective reflex and might be an important part of the jigsaw that makes up the picture of a functionally stable knee. To date, the morphology of athletes with ACL deficiency has not received much attention but may be an important factor in predicting the outcome. A prospective clinical trial to evaluate this may not be possible so reliance on case-control studies will be needed.

The aim when treating athletes with ACL deficiency should be to get them back to their previous level of activity while protecting their knees from further injury, particularly meniscal injury due to subtle instability. At present it is impossible to predict with complete accuracy who will require reconstructive surgery but Daniel and Fithian suggest that the number of hours/year participation in level I/II sport combined with the degree of knee laxity can be helpful. Patients in a high risk group who did not undergo reconstruction were estimated to have a 40% chance of requiring late meniscal or ACL surgery within five years of the original injury. If reconstruction is not advocated you need to be clear that the athlete is not a “knee abuser”, as Frank Noyes termed them, who simply denies episodes of instability but continues to do further damage to his joint every Saturday afternoon. I would suggest that rugby players might fall into this last category more often than not!

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