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EDITORIAL

Is it possible to prevent ACL injury?

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Anterior cruciate ligament (ACL) injuries commonly occur in team ball-sports.[1] However, it is still unclear how many of these injuries are preventable.

Ideal conditions for healing are mostly non-existent in one of the most common sports-related injury, and it is commonly associated with knee instability and decreased activity often leading to damage in the knee joint and with a six-fold increased risk of future knee osteoarthritis in the first 11 years.[2-4]

Currently, there is no evidence-based argument to recommend surgical reconstruction alone as an optimal option to any patient who has ruptured ACL. Unfortunately, for some patients who return to their previous level of sports, the risk of subsequent ACL injury is 15-fold higher than that in the healthy population.[5]

Due to the dynamic nature of the task, and the consequent neuromuscular demands at the knee, the landing phase of single-leg hop-for landing is known to stress the ACL.[6]

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Approximately 70% of all ACL tears occur with a non-contact mechanism, suggesting that a significant number of these tears can be avoided by intervening with prevention programs.[7,8] Joint laxity, passive knee extension, and anterior-posterior knee laxity seem to be risk factors for the occurrence of a non-contact ACL injury, particularly in women.[9,10]

Several ACL injury prevention programs focusing on the reduction in non-contact ACL injuries have been developed to target high-risk populations, such as female athletes.[11]

Injury prevention is important for reducing long-term health consequences, such as disability, and minimizing the economic burden of treatment.[12] Therefore, research on sports injury prevention strategies has been rapidly increasing.[13]

Exercise training involves some combination strength, proprioceptive, balance, and neuromuscular training that is critical to improve athletic performance and preventing injuries.

In conclusion,

- A strict rehabilitation program for primary injury prevention strategy is necessary which consists of neuromuscular training, balance, landing, and change of direction to enhance dynamic knee motion control.
- There are some indications for non-surgical treatment; the same strict rehabilitation program.
- The strict rehabilitation program is necessary, as well prior to and after ACL reconstruction, to reduce injury recurrence.

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