



The Importance of Preventing and Managing Anterior Cruciate Ligament Injuries in Female Soccer Players

*Ji-Hoon Cho, *Jae-Young Park*

Department of Sports Medicine, Dongsbin University, Naju, Republic of Korea

***Corresponding Author:** Email: koungjun1@nate.com

(Received 19 May 2024; accepted 27 May 2024)

Dear Editor-in-Chief

Soccer is a high-intensity sport due to the nature of physical contact between players over the 90 minutes of the game, and can be divided into acute damage caused by contact and non-contact, and chronic damage caused by overuse due to repetitive training (1). Soccer injuries are most commonly followed by the ankle joint and knee joint, with 80,000 to 250,000 cases are anterior cruciate ligament (ACL) injuries occurring annually (2, 3). In particular, ACL injuries are mostly non-contact and are reported to be four to eight times more common in female than male in soccer (4). Injury to the ACL of the knee joint is immediately disabling and has serious sequelae (5), and rehabilitation can be time-consuming, resulting in a severe limitation of knee joint function and a decrease in sporting activity.

The rate of ACL surgery in female athletes is reported to be 70%, five times higher than that of male athletes (6). The cost of surgery is also significant, with the cost of surgery and rehabilitation for each ACL injury reaching approximately 25,000 USD per year, and the cost of surgery and rehabilitation for female soccer players alone is reported to be 100 million USD per year (7, 8). This damage can lead to missed games, can be problematic for the maintenance and improvement of an athlete's personal performance, and,

most importantly, can be a major problem for their career.

Therefore, analyzing the differences in the frequency and severity of injuries in female soccer players by position and the degree of physical contact required, as well as the risk factors for injuries due to overuse, is essential to reduce the prevalence of injuries by improving training methods and improving the environment for individual players and the team as a whole. From this perspective, it is expected that analyzing the mechanisms, types of injury, and treatment modalities associated with ACL injury in female soccer players and proposing a prevention program will be of great benefit to the injury management and athletic performance of female soccer players.

Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Lee KT, Song BY, Young KW, Kim NM, Kim CY, Park SR (2000). Analysis of the Injuries in Professional Soccer Player. *The Korean Journal of Sports Science*.



- l of Sports Medicine*,18(2):176-180.
2. Goga IE, Gongal P (2003). Severe soccer injuries in amateurs. *Br J Sports Med*, 37:498-501.
 3. Griffin LY, Albohm MJ, Arendt EA, et al (2006). Understanding and preventing noncontact anterior cruciate ligament injuries: a review of the Hunt Valley II meeting, January 2005. *Am J Sports Med*, 34:1512–1532.
 4. Hewett TE, Ford KR, Hoogenboom BJ, Myer GD (2010). Understanding and preventing ACL injuries: current biomechanical and epidemiologic considerations-update 2010. *N Am J Sports Phys Ther*, 5(4):234-51.
 5. Padua DA, Marshall SW, Boling MC, Thigpen CA, Garrett WE, Beutler AI (2009). The Landing Error Scoring System (LESS) Is a Valid and Reliable Clinical Assessment Tool of Jump-Landing Biomechanics: The JUMP-ACL Study. *Am J Sports Med*, 37(10): 1996-2002.
 6. Chandy TA, Grana WA (1985). Secondary School Athletic Injury In Boys and Girls a Three-year Comparison. *Journal of Pediatrics Orthopaedics*, 5(5):629.
 7. Hewett TE, Lindenfeld TN, Riccobene JV, Noyes FR (1999). The effect of neuromuscular training on the incidence of knee injury in female athletes. A prospective study. *Am J Sports Med*, 27:699–706.
 8. Smith HC, Johnson RJ, Shultz SJ, et al (2012). A Prospective Evaluation of the Landing Error Scoring System (LESS) as a Screening Tool for Anterior Cruciate Ligament Injury Risk. *Am J Sports Med*, 40(3):521-6.