

MyJoint

Empowering athletes to push beyond their boundaries and thrive safely through proactive and personalised care

In a nutshell

In the competitive world of sports, an injury can make or break an athlete or team's success. In a sport like football, high-speed change of direction is a key to performance. This movement relies on the Anterior Cruciate Ligament (ACL) – the most important stabilizer ligament in the knee. Unfortunately, this important band of connective tissue, located on the inside of the joint, is prone to tearing. Athletes with ACL injury face potential surgery and up to a year of rehabilitation. While most athletes do return to sport after this type of injury, only 65% of players return to pre-injury levels of physical fitness and 30% sustain a second ACL injury after they return. An 11-year study of UEFA proved a strong negative correlation between team performance and injury. An average English Premier League football team loses four times more than the salary paid to injured players (\$9m) due to underachievement due to injured players. MyJoint have developed a wearable technology which can predict ACL injury risk and provide personalised recommendations and care.

Why is our technology important?

When it comes to ACL injuries, no one player is the same. The impact of known risk factors depends on a player's unique physiology, and general preventive measures do not work for everyone (max success rate 70%). There is also a risk that extra preventive measures (e.g., strength training, additional training etc) may cause fatigue and actually increase the risk of injury. Traditional methods of assuring injury risk do not account for individual differences or for the strain put on joints in real-world dynamic situations (such as playing or training). MyJoint uses wearable technology and biomechanical modelling backed up by AI analysis to deliver a personalised recommendation based on the different risk factors for each player in a team. Our portable technology estimates dynamic knee valgus loading on the field - a specific parameter responsible for up to 82% of recorded ACL injuries in football and basketball - and identifies the source of increased risk. It then uses AI and comprehensive data from the sports team (such as sleep quality, mental health, and training load) to provide a personalized regime for each player. .

The benefits of our solution

- On-field analysis: MyJoint's wearable technology allows assessments to be carried out while players are on the field or training. This is very important because in-lab assessment underestimates the risk, and simulating fatigue conditions in the lab is entirely different from the real world. Furthermore, the terrain is very important. Jumping mechanics over a hard surface like force plates in the lab are different from jumping with football shoes in the grass.
- Personalised recommendations: the ability to provide the right support to the right players, reducing costs and improving outcomes.
- Improved performance on-field: coaches are able to identify the strengths of their players and are able to get the best out of them, while still keeping them injury-free.

Keywords

Sports injury | ACL injury | Multifactorial risk analysis | Injury prevention, Personalised training | Performance-boosting

Founding Team

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