



## The Rehabilitation of Sports Muscle and Tendon Injuries

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### **MUSCLE TENDON INJURIES IN PROFESSIONAL FOOTBALL. RESULTS OF THE UEFA INJURY STUDY IN EUROPE**

*Ekstrand J*

*UEFA and Linköping University, Sweden*

With the aim to increase the safety in professional football, UEFA started an injury study in the 2001-02 season with an in-depth analysis of injury patterns at eleven major clubs: Arsenal FC and Manchester United FC from England; Paris Saint-Germain FC, Stade Rennais and RC Lens from France; AC Milan, FC Internazionale and Juventus from Italy; AFC Ajax and PSV Eindhoven from the Netherlands; and Real Madrid CF from Spain. In a pilot study from January to June 2001, we also followed eight teams from the Danish Super league and the results from these teams are included in this review.

#### **The risk of injury**

Injury was defined according to the "time-lost concept" (an injury sustained in any football-related activity that caused the player to be absent from training or from a match). Injuries were classified into four categories of severity according to the length of absence from training and matches. In total, the 454 players involved in the study incurred 1053 injuries.

The mean injury risk for the 19 teams was 12 injuries per 1,000 hours of total exposure. Interestingly, the mean was 9 injuries per 1,000 hours of exposure for the 11 selected teams versus 14 for the Danish teams in the pilot study

As a rough figure, a team level can expect 55 injuries that cause absence from training and/or matches during any given season. Of these 55 injuries, 19 are slight (causing absence less than 3 days), 15 are minor (absence 3-7 days), 14 are moderate (8-28 days) and 7 are major (>28 days). Statistically an individual player sustains two minor injuries each season and a major injury every third season.

#### **Muscle Injuries - the most common at top level?**

Strains constituted 26% of all injuries. The risk of strains was 2.9/1,000 hours of exposure and was similar in all countries. The mean absence was 19 days and the recurrence rate was 9%.

The thigh was the most frequent site of muscle injury, comprising two-thirds of all strains. Muscle injury to the thigh region was the single most common injury sub-type.

#### **Rehabilitation - better safe than quick?**

The percentage of re-injuries (defined as an identical injury within two months of the final rehabilitation day of the initial injury) varied. The Danish teams had an average of 30% re-injuries; the teams from Spain, England and Holland 19%; and the teams from France and Italy 11%. Controlled rehabilitation including tests and rules for return to team training and matches might help to reduce the risk of re-injuries.

#### **Conclusion**

Thigh strain is the single most common injury sub-type in modern professional football. The risk for strains is similar in different countries. One-tenth of all strains are re-injuries indicating a need for controlled rehabilitation and tests and rules for return to football after an injury. Some teams had successful strategies how to avoid strains and re-injuries and these strategies will be presented.

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