

THE 11+ PREVENTION PROGRAM

Bizzini M, Junge A, Dvorak J

*FIFA Medical Assessment & Research Centre (F-MARC),
Schulthess Klinik Zürich, CH*



Introduction

Football is the most popular sport in the world, played by approximately 200,000 professional and 240 million amateur players. Comparing the exposure-related incidence of injury in different team sports, ice hockey, handball, basketball, football and rugby are clearly types of sport with a relatively high risk of injury.

The incidence of football injury has been investigated in several studies and varies substantially depending on the definition of injury, the characteristics of the investigated players and the research design. The majority of studies focus on adult male professional players.

Epidemiological information on injuries in female and youth football players is limited. From the data presented, it is estimated that on average every elite male football player incurs approximately one performance-limiting injury a year.

Prevention of football injuries

Several authors have described risk factors for football injuries, and discussed possibilities for prevention such as: warm-up (with more emphasis on stretching), regular cool-down, adequate rehabilitation with sufficient recovery time, proprioceptive training, protective equipment, good playing field conditions, and adherence to the existing rules. However, only few authors have reported results of preventive interventions in football players. Some studies have focused on the prevention of injuries in general, and others have evaluated the prevention of specific types of injury, namely ankle sprains, severe injuries of the knee and hamstring strains.

Summarising the results of these studies, there is some evidence that multi-modal intervention programmes result in a reduction of injuries in general. Proprioceptive or neuromuscular training seems to prevent severe knee injuries and recurrent ankle sprains. The use of semi-rigid orthosis should be recommended for players with previous ankle sprains. The eccentric strength training of hamstrings has recently been shown to be effective in reducing hamstring strains. However, football injuries can be prevented only partly by improved physical condition of players. Knowing that a substantial amount of football injuries are caused by foul play, the observance of the laws of the game and especially the regard to Fair Play is an essential aspect in the prevention of injury. Recently, the effectiveness of specific exercise-based prevention programs in football has been examined.

Prevention programs

Research in amateur football has shown that specific programs were successfully implemented as "standard warm up" prior to the "routine" training (1, 2). F-MARC developed in cooperation with the Oslo Sports Trauma & Research Center and the Santa Monica Orthopaedics & Sports Medicine Center "The 11+" injury prevention program.

The preventive exercises focus on core stabilisation, eccentric strength, neuromuscular control, agility and plyometrics. Good body control, and proper technique while performing the exercises are the key to enhance sensorimotor awareness and performance.

The "11+" program represents an advanced version of the "11", and is the result of a teamwork within the above mentioned research centers. In a recent published RCT study, Soligard et al showed that this program was effective in reducing the incidence of injuries by 1/3 in young female football players.

The risk of severe injuries, overuse injuries, and injuries overall was significantly reduced. Another interesting finding in the study was that the results showed a trend toward a lower risk of injury among the most complaint players, which underlies the importance of compliance within the implementation of prevention programs. The teams in the intervention group performed regularly the "11+" as a routine warm-up, prior to the technical training. The program consists of three parts: a running part in the beginning and at the end to warm up, and six set of exercises focusing on core and legs strength, balance, plyometrics and agility (each exercises set with 3 levels of increasing difficulty). The "11+" should be performed at least two to three times a week, and takes about 20 minutes to be completed.

References

1. Junge A, Dvorak J. Soccer Injuries. A Review on Incidence and Prevention. Sports Med 2004; 34: 929-938
2. Soligard T et al. Comprehensive warm-up programme to prevent injuries in young female footballers: cluster randomized controlled trial. BMJ 2008 Dec 9;337: a2469