

## PRESENTATION OF THE AREA

In modern football, top referees have to perform at a high level. To be physically prepared for these demands, your body has to be free of any possible hindrance that could potentially limit your tasks on the field. To be ready for officiating a game means, that you should be completely free of any physical problems. In other words, not only the fitness training, but also the respect of signs and symptoms coming from your body (joints, ligaments, muscles, tendons) are important. If an injury (even a "small" one) occurs during training or match, you should take care of this situation with an appropriate injury management. Physical complaints (low back pain, as an example) should be taken seriously, and you should dedicate time to their treatment. A specific rehabilitation of any of your injuries and physical complaints should be a must in your training regimen. Moreover, the prevention of these injuries and complaints is the key to avoid or to minimize such physical problems!

In an ongoing research project, F-MARC was able to document injuries and physical complaints in all the referees pre-selected for the 2006 FIFA World Cup in Germany, and during the end-stage of this tournament. In recent years, scientific research has shown the efficacy of prevention programs in different sports (football is one of the most studied sports) and for various sports injuries (as an example: ankle sprains, hamstring strains). These findings helped us for developing a targeted injury prevention program for the football referee.

The way you eat and drink, the use or non-use of supplements play also an important role in your preparation regimen, and may influence positively or negatively your overall performance. As an example, fluids intake during training and match is of crucial importance for your body functions. Specific knowledge on nutrition and doping in sports should therefore be relevant for your preparation. Under the lead of F-MARC, researchers have summarized the scientific data on these topics, and specific guidelines for football players (and referees!) have been published.

You'll find in this medical area the most important information on the above mentioned topics: this should increase your awareness of the prevention and rehabilitation of injuries and physical complaints, as well of nutritional and doping related issues.

## GENERAL OBJECTIVES OF THE AREA

The main objectives/goals of this area are:

1) The referee should develop theoretical and practical knowledge in the following topics:

- a) Injuries and complaints related to refereeing
- b) Basic management and rehabilitation of injuries
- c) Injury prevention issues
- d) Nutrition issues
- e) Doping issues
- f) Heat and exercise

2) The referee should contact/should be aware of the possibility to contact the medical area for any kind of medical question

## CONTENTS

Subject 1	Injuries/complaints of the referee
Subject 2	Basic management of injuries
Subject 3	The need of injury prevention
Subject 4	Nutrition
Subject 5	Doping
Subject 6	Heat and exercise

### SUBJECT 1. Injuries/Complaints of the Referee

Do referees and assistant referees suffer from injuries and/or musculoskeletal complaints? Yes, of course (even if the referees don't play the ball, and have no contact with other football players).

The physical (and related psychological, mental) demands of modern football refereeing are high, and therefore also the officials are exposed to a certain risk of injury. Because of the lack of scientific data, the FIFA Medical Assessment and Research Centre (F-MARC) has conducted several research studies on this topic.

In this chapter/subject the main findings of the study concerning the referees and assistant referees of the selection for the 2006 FIFA World Cup™ in Germany will be presented.

The contents of the subject are the following:

1. Why we performed the study?
2. What was the aim of the study?
3. What we did?

4. What we found?
5. Some discussion points
6. What can we conclude from this study?

#### SUBJECT 2. Basic Management of Injuries

I pulled my left hamstring during my sprint training... I twisted my right ankle while I was jogging in the wood... What shall I do best?  
Independently of your possibility to have direct medical care access, there are some important steps in the self-management of acute injuries.  
With appropriate interventions you can promote healing and facilitate the rehabilitation process. Some key principles of the acute care for the main injuries (that incur in referees) and physical problems will be presented here.

The contents of the subject are the following:

1. Overview of important principles
2. Hamstring strain
3. Ankle sprain
4. Calf strain/Achilles tendon problems
5. Knee sprain
6. Groin/adductor problems

#### SUBJECT 3. The Need of Injury Prevention

The F-MARC studies on injuries/complaints in football referees and assistant referees showed there is indeed a need for injury prevention programs.  
There is evidence in the literature (last 10 years) that specific preventive intervention can significantly reduce the incidence of injuries and musculoskeletal complaints. As an example, balance and proprioceptive exercise help in the reduction of ankle sprains among football players. There is an increasing number of scientific work focusing in these area, and targeted prevention programs are becoming a standard component of any structured fitness training.  
In this chapter/subject the rationale behind the proposed "RAP basic injury prevention program", which is presented in detail in the PHYSICAL AREA, will be discussed.

The contents of the subject are the following:

1. Typical injuries/complaints/physical problems
2. General injury prevention measures
3. Preventing hamstring strains
4. Preventing ankle sprains
5. Preventing knee sprains
6. The core and its role in preventing lower extremity injuries

#### SUBJECT 4. Nutrition

F-MARC organized in September 2005 a consensus meeting with the world best experts in this area. Several scientific publications and educational brochures came out of this symposium.

Here a citation of a paper on the football referees: "As high standards of fitness and decision making are expected of international referees, there are nutritional consequences associated with the training regimen they adopt".

At every level of competition, training regimens and nutritional strategies, including fluid intake during the game, should be similar to those followed by the football players.

Nutritional and other related issues will be presented here.

The contents of the subject are the following:

1. Physiological demands of refereeing
2. Nutritional guidelines
3. Fluids
4. Supplements
5. Fatigue related issues
6. Alcohol related issues

#### SUBJECT 5. Doping

FIFA actively acknowledges its responsibility in the fight against doping by stringent doping control regulations, data collection of positive samples, and active support of research in the field, complemented by large scale prevention promoted by F-MARC.

A special issue of the British Journal of Sports Medicine (July 2006), under the lead of F-MARC, focused on the FIFA's fight against doping in football.

The FIFA's anti-doping strategy relies on education and prevention.

From the scientific data, the incidence of doping in football seems to be low. The vast majority of positive samples are due to recreational drugs: these findings support the FIFA's strategy of education and prevention.

In this subject/chapter basic information is provided.

The contents of the subject are the following:

1. Overview of doping in football
2. Cannabis and sport
3. Central nervous system stimulants and sports
4. Anabolic steroids and sport
5. Human growth hormone
6. Therapeutic use exemption

## SUBJECT 6. Heat and Exercise

This topic was also part of the F-MARC consensus meeting on Nutrition and Football (Zürich, September 2005).

Heat, cold, high altitude, and travel across time zones (i.e. leading to jet lag) act as stressors that alter normal physiological functions, homeostasis, metabolism, and whole-body nutrient balance. Rather than accepting performance decrements as inevitable, well-informed coaches and referees should plan strategies for training and competition that offsets environmental challenges.

In all stressful environments, football players and referees will find these interventions useful: a high intake of carbohydrates, fluid-electrolyte replacement of sweat losses, and creatine. In hot environments, it is important to replace water and sodium deficits.

The contents of the subject are the following:

1. Background
2. Dehydration
3. Heat exposure
4. Different environments
5. Jet lag
6. Other related issues

## **DIDACTIC STRATEGIES**

- 1) Individual feedback/ personal contact
- 2) Forum / chat

## **DIDACTIC COMPLEMENTARY MATERIAL**

Official F-MARC educational material:

- F-MARC Football Medicine Manual (2005)
- F-MARC Supplement on Doping (2006)
- F-MARC Supplement on Nutrition (2006)

Selected scientific publications/abstracts

(Pictures, video-clips for selected topics)

## EVALUATION

Multiple choice questions after each subject