Injuries:
Cause and Prevention

Introduction

The Increase in the number of injuries to the 2A referees last season (2011-12) lead to a presentation at the annual PGMOL conference on injury prevention through a structured training program. This presentation was further presented to the 2B referees this season at the Birmingham FA (19th November), Lancaster FA (22nd November) and at Wembley Stadium (29th November). This document will address the following questions;

- **Who** is most likely to get injured?
- **Where** are the most common sites of injury?
- **Why** do these injuries occur?
- **What** can be done to limit/prevent injuries?

As the vast majority of Match officials have a number of commitments outside of the game it is impossible to address each person individually and as such it is the view of the sports science department that each official is responsible for their own training, the recording of ced training. It is strongly suggested that each official is aware of the commitments required of them in the PGMOL guidelines.

In short 'You are Adults and are expected to be able to organise yourself'

Who is most likely to get injured?

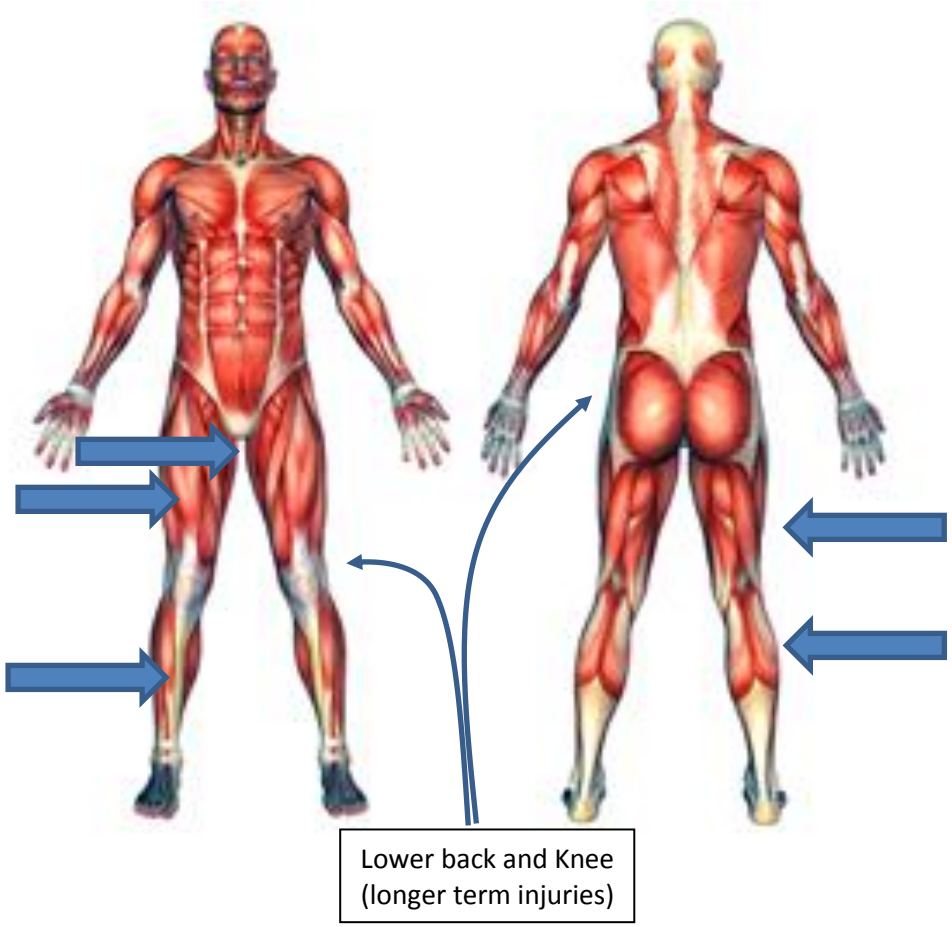
There have been a couple of research studies done that have looked at the site of injury and the rate at which these occur. Both have been done by Bizzini out of the FIFA Medical Assessment and Research Centre. In 2009 they looked at injuries and musculoskeletal complaints in referees in the 2 top divisions of the Swiss football league. They showed that almost half of referees (44%) reported injuries during the career and at least 2 weeks of absence from sport and 90% of the referees reported musculoskeletal complaints caused by refereeing during the preceding 12 months.

It could be argued that this is not representative of the English game however a similar examination was performed looking at Injuries and musculoskeletal complaints in referees and assistant referees selected for the 2006 FIFA World Cup they found that the figures were similar with more than 40% of the referees reported having incurred an injury and more than 60% having had musculoskeletal complaints during their career. About 20% (1 in 5) of the group reported having suffered from musculoskeletal complaints in the last match!

In the tournament itself, 14 referees (22%) incurred an injury and more than 30% had musculoskeletal complaints. All of this information points to the conclusion that no matter what the level of the competition there is a major issue with injuries and the physical preparation of all referees and assistant referees

Where is the most common sites of injury?

The studies by Bizzini, and anecdotal evidence, show that the most common sites of injury are to the lower body. Specifically musculoskeletal (muscle pulls) to the groin, thigh, shins, hamstrings and calf which tend to be shorter duration injuries, although in some cases these can last for a number of weeks and can have the tendency to reoccur. The lower back and the knee have a tendency to be longer term injuries and tend to be more serious and hence limit availability for games



Why do these injuries occur?

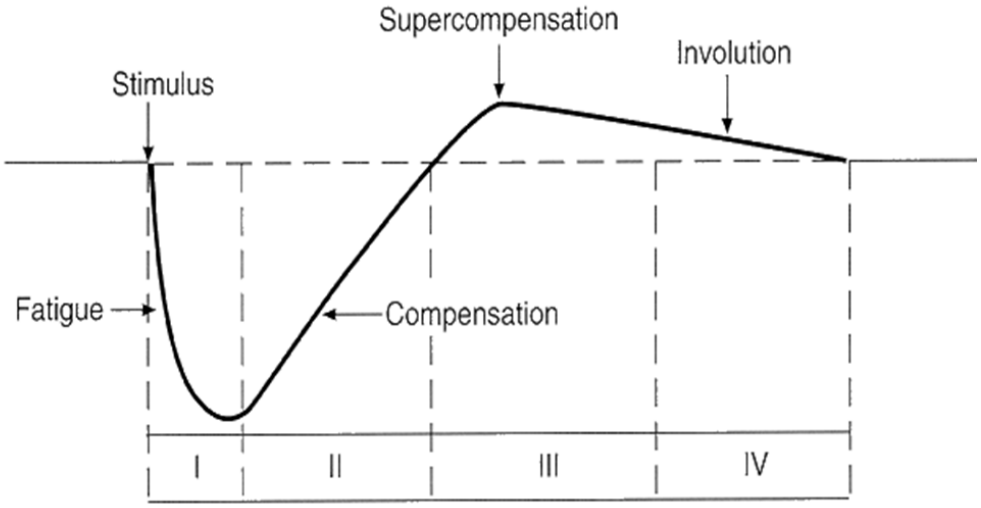
In attempting to understand why injuries occur we need to examine a couple of basic training components; **Volume and intensity.**

Volume and can be considered the **amount** of games or training that takes place, irrespective of the speed that it is run. For example a session that is 100m repeated 10 times (100 x 10 = 1000) is half of the volume of a session that is 100m run 20 times (100 x 20 = 2000) or 200m run 10 times (200 x 10 = 2000). Intensity is **how hard** (or fast) the repetitions are run, for example 100m run in 20 seconds is not as intense as running 100m in 15 seconds.

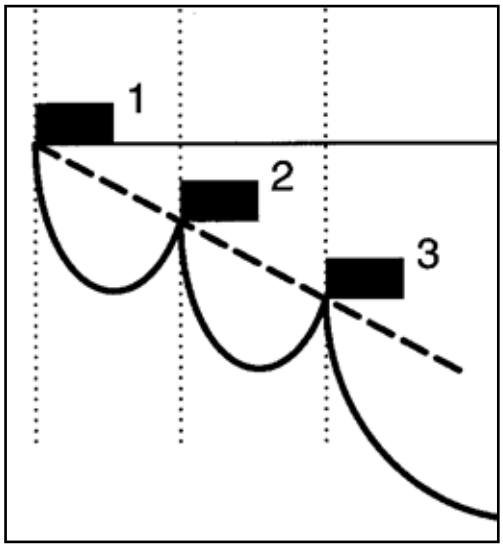
Remember that these two concepts will be individualised to each match official (i.e. what's easy for you may be difficult for you training partner) which needs to be remembered when training with others.

It is the combination and interaction of these two components that will dictate if your training will be too strenuous. If you suddenly start to officiate in two games per week and try and maintain the training that you performed when only doing one game then there is an increase in both the volume and intensity and you will be heading towards an overtraining injury. This was an issue with previous years which saw a large number of match officials unavailable for selection.

A visual concept of this idea is shown below, there is a stimulus (training session) and as a result your body generates fatigue, with a period of time you recover (compensate) and actually get a little fitter, stronger etc (supercompensate). However if you don't train again then any fitness gains will be lost (involution) and you will return to the original level of fitness.



A problem occurs when there is insufficient recovery time between training sessions so that instead of training when recovered the body is already in a state of fatigue and hence the problem is compounded so that a downward spiral occurs leading to injury.



What can be done to limit/prevent injuries?

Following Bizzini's studies he stated that injury prevention programmes should be developed and integrated into the fitness training routine of the referee. These should look o cover the following areas.

- Strength Training
- Landing Mechanics
- Plyometrics
- Recovery Strategies

Strength training

Strength training is when there is a resistance mode applied to the body which slows down or limits the speed at which it can be performed. Whilst most people will automatically think of lifting weights in a gym there are a large number of other options such as:

- Body weight exercises
- Using Elastic bands
- Sand filled Bags
- The list goes on…….

The benefits of this type of training are multifaceted

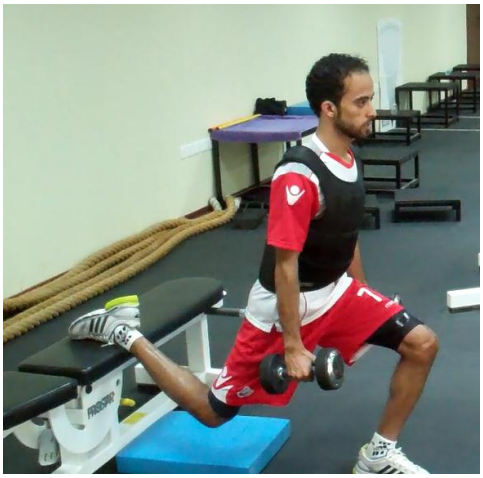
- Fat loss (by using large mult joint exercises, heavy weight and limiting rest periods)
- Posture
- Pre-habilitation (why weight until you get injured)
- Increase in performance (speed and movement efficiency)
- Perception (A massive consideration in the modern game)

A couple of exercises that you should look to incorporate into your training are;

1)Squat and press.



2) Rear foot elevated Split Squat.



Landing Mechanics

Simply put this is how efficiently you can absorb force and has massive implications in injury prevention. It is also linked to power production and can be considered a limitation because if you cannot absorb a force there is no point in generating it. Most people will bend through the knee, placing a large strain on the tendons and ligaments, a better option is to sit back using the large muscles of the upper leg and glutes.

A simple drills is to hop your name on one foot

Plyometrics

A simplistic definition is jump training with a more scientific description being the ability to go from eccentric (downward movement) to concentric (upward movement) quickly which leads to greater muscle contraction and therefore greater speed/height

Plyometrics are extremely intense and as such they need to be kept basic and low volume (3 or 4 sets of 6 for example) a simple exercise is to jump up onto a box concentration on moving as quick as possible and jumping as high as possible.



Recovery Strategies

With the high number of games the ideas below should be embraced to limit the number of days lost to injury

- Progressive off-season training programs
  - Do the wok in the off-season!
- Managed in-season training
  - With the work already done you wont have to play catch up
- Nutrition
  - Be sensible, you know what s good and bad! Eat accordingly
- Recovery sessions
  - Bike/pool/x-trainer the day after a game to promote recovery
- Massage
  - Rollers are a great option for self-massage see the link below
    http://sportsmedicine.about.com/od/flexibilityandstretching/ss/FoamRoller.htm

A few things to think about:

“For changes to be of any true value, they've got to be lasting and consistent.”
(Anthony Robbins)

"If you do what you’ve always done, you’ll get what you always got.”
(Mark Twain)

“Insanity: doing the same thing over and over again and expecting different results.”
(Albert Einstein)