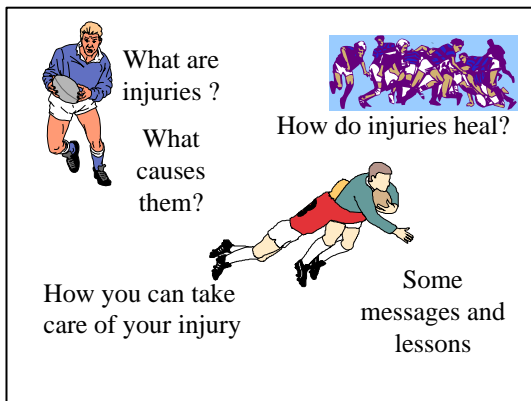


# Maximise your potential

Understand sports injury.

To maximise your potential as a referee you will want to avoid injuries that may prevent you from refereeing or shorten your career. Some injuries are avoidable, and those that are unavoidable will cause less time off sport if you care for them properly.



This introduction to sports injuries aims to outline

- the patterns and causes of injury,
- what happens when you get an injury,
- how injuries heal,
- how you can look after your injury
- some messages and lessons learnt

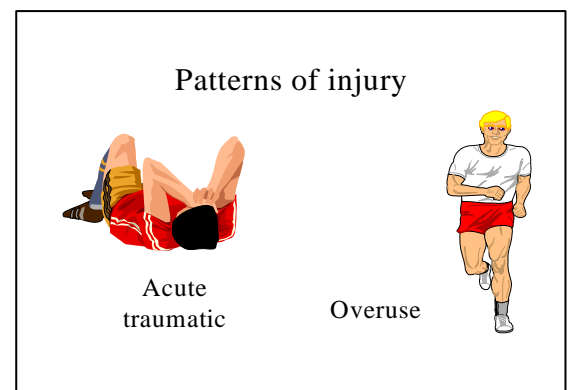
from advising the National Panel of Referees

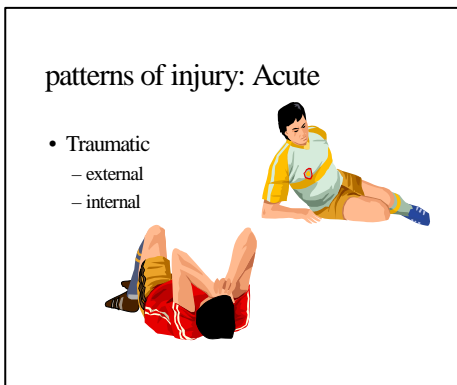
This booklet can only give general advice. You should always base treatment on your specific circumstances. The commonest problems are failure to establish a definite diagnosis and/or failure to consider how or why the injuries occurred, and so plan to prevent recurrence. So, if you want to maximise your potential as a referee it is in your interest to understand why sports injuries happen so you can avoid them, and to do as much as possible to promote a rapid recovery and return to refereeing if you do suffer an injury.

### ***Patterns and causes of injury.***

Sports injuries usually affect “soft tissues”, that is the muscles, ligaments, tendons etc. Muscle injury accounts for about a third of sports injuries

Generally soft tissue damage is caused by an acute or sudden injury or the repetitive minor damage of overuse injuries which causes a more gradual onset of symptoms.





Acute traumatic injuries may be

External Such as a direct blow or kick, or a fall onto the shoulder causes a dislocation or sprain.

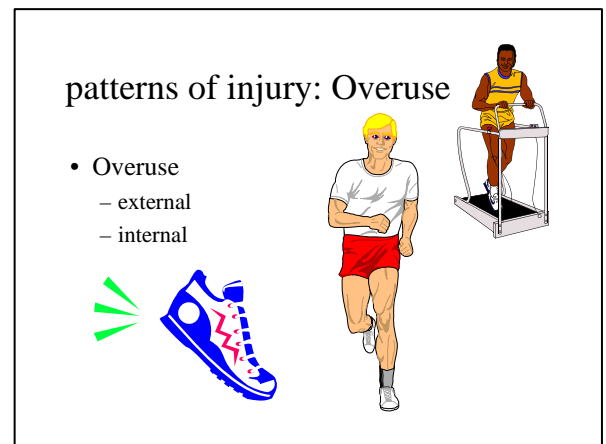
*Or*

Internal Acute muscle pull e.g. hamstrings - perhaps due to muscle strength imbalance, lack of flexibility, fatigue and /or lack of co-ordination.

Remember that lack of basic stamina can lead to loss of co-ordination or concentration resulting in injury. This may be a factor when you return to training and refereeing after illness, holiday or injury.

Overuse injuries are usually due to external factors like your training regime, the equipment or the environment, or internal factors for example muscle imbalance or anatomical discrepancies e.g. leg length differences.

Internal problems may be revealed by an acute or overuse injury.



#### Causes of overuse injury

- inappropriate training
- activity specific fitness
- warm up
- flexibility
- progression
- biomechanical and anatomical factors
- training or playing surface / environment
- lack of recovery / old injuries

Overuse injuries are usually due to one or more of the factors shown in the slide.

The following slides give some examples of the different causes.

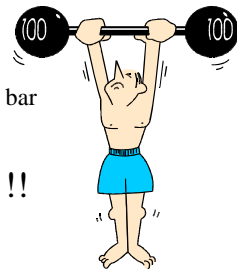
**Inappropriate training** is the wrong type of exercise done in the wrong way, for the wrong duration at the wrong intensity or frequency.

*A referee tried to improve a knee problem by doing full squats, with a heavy bar, performing 30-50 reps per set – and was surprised when his knee didn't get any better!*

### Causes of injury

- inappropriate training
- 2 sets of full squats with bar

30-50 reps per set !!



Make sure you perform exercises correctly, especially with free weights.

**Activity specific** training means train for the actual event or activity. Train for the activities you will have to perform on the pitch especially sudden changes of direction and pace. Avoid injuries from training exercises involving unfamiliar activities – beware of playing when you have been out of the game for a while

### Causes of overuse injury

- activity specific fitness
  - change of direction /pace
- warm up
  - half time / after injury on pitch
- flexibility
  - old injuries



**Warm up.** Always warm up! - A proper warm up before each training session or game will reduce the chance of both acute and overuse injuries. A good warm up includes loosening, general aerobic work, stretching, then increase to match intensity and match specific activities. Warm up should be completed about 10-15 minutes before start of the match. Warm up even closer to the start of the match in cold weather. The warm up makes the tissues more elastic and increases muscle oxygen uptake, this makes the muscles work more efficiently and decreases the chance or injury.

Remember to warm up and stretch again after the half time break and any long break in play.

*On a cold day there was a prolonged break in play for a serious injury. The game restarted. The first time the referee had to sprint he aggravated an old muscle injury. The lesson is to keep warm and keep stretching during long breaks in play.*

## Causes of overuse injury

- Progression
  - sprint training
  - after injury
- biomechanical and anatomical factors
  - recurrent calf pain
- training or playing surface / environment
  - hard grounds and new boots
- lack of recovery / old injuries
  - regain flexibility

**Flexibility.** Increasing the range of movement of a joint increases the mechanical efficiency and has a role in injury prevention. Include specific flexibility work in your training programme. The scars from “healed” injuries tend to be tight and need care. They benefit from warm up regular stretching for at least 6 to 12 months to reduce the chances of re-injury.

**Progression.** Problems often occur after illness or injury, or if you suddenly focus on one aspect of fitness. The rate of increase in volume or intensity of training should be about 10% per week.

*A referee concerned he needed to increase his speed off the mark suddenly undertook 4 sprint-training sessions with plyometric exercises in a week resulting in a back injury.*

**Biomechanical /anatomical factors:** This includes problems like mal-alignments, leg length differences, muscle imbalance (e.g. old knee injury causing decreased thigh muscle strength in one leg), inflexibility, running gait etc. Diagnosis of problems like this usually needs a specialist assessment by a sports medicine team.

You may compensate for this type of problem without realising, only to cause a new problem elsewhere e.g. posture changes to compensate for a knee problem causing back problems.

**Environment and equipment.** A change of running surface e.g. hills, hard grounds or roads, may cause injury. Sudden change to hill running may bring on problems with the calf and Achilles tendon.

*A period of heavy rain produced very soft pitches which made running difficult. Four referees developed calf injuries because they always trained in the gym on treadmills and had not adapted to the change in running surface. Try to make sure some of your training is regularly on grass wearing your boots.*

Another common cause of problems is continuing to wear worn out training shoes that no longer give adequate support, or suddenly changing to new boots or trainers.

***Inadequate Recovery.*** Too little rest between training sessions or matches can cause injury. Remember the body needs time to adapt after the stress of training if you are to get the maximum benefit. Listen to your body. If you feel tired – rest!

You need enough fuel in the body to exercise safely. Inadequate fluids and nutrition during and after training can contribute to injuries.

If you have been ill or injured don't return to training too quickly. Remember to build up your training load safely.

*A referee went to South Africa. He refereed 4 games in eight days plus training sessions, in new boots on very hard grounds. He returned with an Achilles tendon problem that kept him out of the game for two months. – This illustrates poor progression in activity, inadequate rest between games, new equipment and a sudden change in playing surface combining to cause an overuse injury.*

The majority of training and refereeing is running. The commonest factors reported with overuse injuries from running are:

- lack of flexibility
- hard surfaces or always running on one side of the road – the camber puts a repeated strain on one side of the body
- old or inappropriate footwear
- gait problems
- biomechanical imbalance e.g. comparative flexibility between muscle groups, relative strength of muscle groups.

Commonest causes of overuse injury in runners

- lack of flexibility
- biomechanical and anatomical factors
- wrong training or playing surface

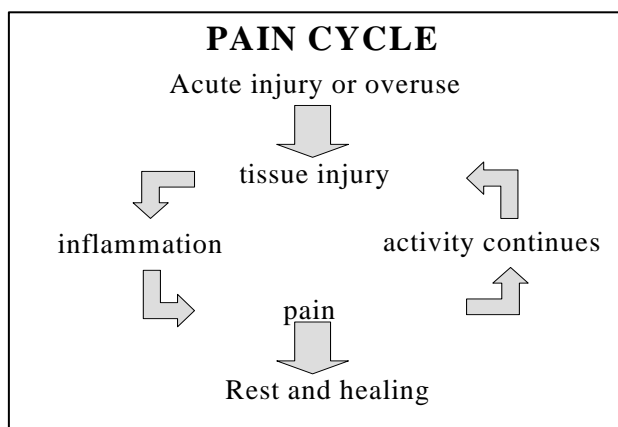
**What happens when you get an injury?**

All injuries result in bleeding and swelling for about 48hours. Repair takes 7-10 days, regeneration of the injured tissues 2-10 weeks and final remodelling of the scar 6-12 months.

With an acute traumatic injury the pattern of bleeding swelling and inflammation followed by repair, regeneration and re-modelling is often very obvious. The pattern with overuse injuries is harder to recognise.

Injuries

- Injury causes
  - damage to the tissues
  - bleeding
  - swelling
  - inflammation
- followed by
  - repair
  - regeneration
  - remodelling



Any injury will cause inflammation and pain. With rest and rehabilitation the injury will usually heal, but if it is ignored – as often happens with overuse injuries - there will be more injury and scarring with more inflammation and pain. This is the pain cycle. Learn to recognise it and avoid it!

Overuse injuries tend to develop slowly over time. Often there is no specific cause for the pain. It often starts as a “niggle”. The slide shows the usual 3 stages of an overuse injury.

If you think you are developing an overuse injury, always consider “What has changed recently?” Think about your training. Has the type or speed of movement changed? What

about the number of reps? The load? Have you tried to progress too quickly? Are you using new equipment? Training in a new environment? - ***Don't just ignore the pain!***

**Overuse injuries**

- pain on starting activity, relieved by warm up
- pain during activity and afterwards
- pain interferes with/ prevents the activity

***How you should look after your injury.***

If you suffer an acute injury the aim is to reduce the pain, bleeding and swelling. The less bleeding and swelling the less scar tissue and the faster recovery. A good approach is to remember NICER

**N**= non steroidal anti-inflammatory drugs for about 3 days; NB care with asthma & “ulcer” problems always check with a pharmacist or your doctor

**I**= ice

**C**= compression

**E**= elevation

**R**= Rest and rehabilitation

**What should you do and why.**


- Rest - minimise injury & tissue damage
- Ice - reduce bleeding
- Compression and Elevation - reduce tissue swelling

**NICER**

If you get an injury stop playing or training. If you carry on you will only make the injury worse. The worse the injury the longer it takes to recover. Don't be tempted to try the injury out in the first 48 hours. No massage or hot baths for 48hours. All of these activities will increase bleeding and swelling. Start movements at around 48 hours, but only within the pain free range of movement

**Rest**

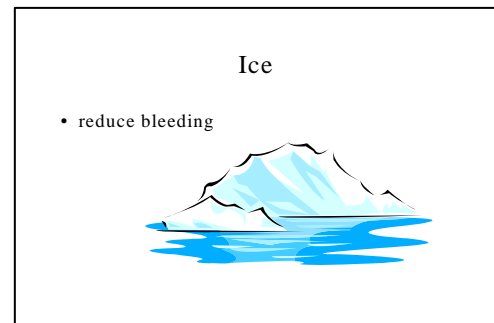
- minimise injury



Why ice? Cooling = ↓ pain ↓ bleeding => ↓ swelling & ↓ scar = faster return to activity.

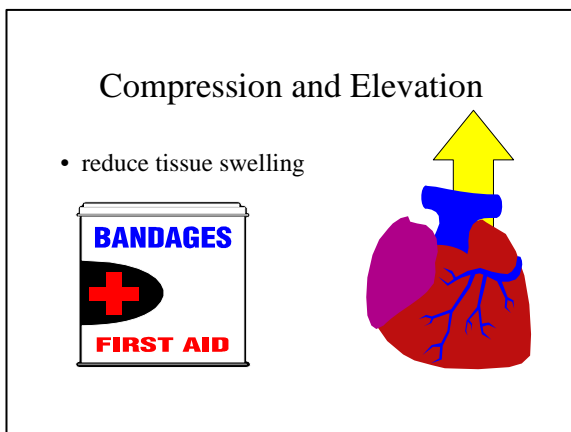
Target: start as soon as possible. Apply ice for about for 2-3 hours; change the ice pack every 30-45 min. Then 30 min in every hour for 3-6 hours, and 30 min every 2 hours up to 48! Always wrap ice packs in a towel to avoid burns.

Why not keep a re-usable ice pack in your kit bag?



*"I pulled a hamstring, but it wasn't too bad so I finished the game. Had a hot bath as soon as I got home to ease the tightness in the muscle" – what would you have done?*

Compression produces pressure to ↓ bleeding and swelling and provides comfort

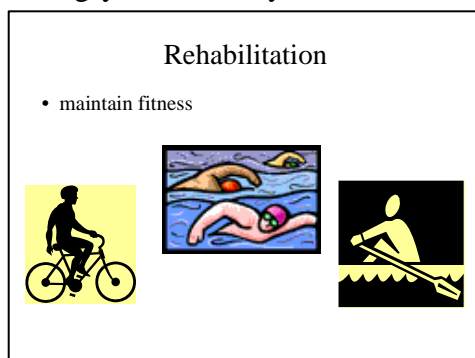


and support. There are various elastic bandages. Keep some in your kit bag. Don't apply the bandage too tightly

Elevation to ↓ blood flow & swelling. Aim to keep the injured part above the heart, e.g. leg at 45 degree when lying down for an ankle injury.

Alcohol is a vasodilator – that means it increases bleeding and swelling, but it may make you feel better about the injury so – your call!

During your recovery aim for active, not complete rest. That means rest the injured



part not the whole body! Use alternative activities to maintain fitness e.g. rowing, cycling and swimming. Tailor the programme to the injury and any underlying problems; e.g. don't swim breaststroke with knee problems.

Plan your return to training and refereeing after injury or illness. The loss of one week of training takes about 2-3 weeks to recover.

Remember sensible progression in the training load; aim for a 10% increase per week.

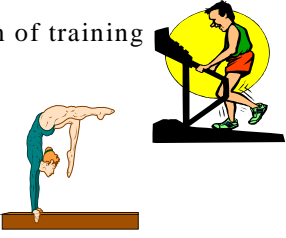
Increase flexibility – why? Injury => scar => loss of flexibility => risk of re-injury.

Therefore re-gaining flexibility is very

important. You can begin gentle stretching about a week after injury. The general approach will be warm up, static stretches, and hold for 20-30s, 2-3 reps. Get advice on a safe and effective stretching programme. Continue it for 6-12 months after injury.

**Rehabilitation**

- planned progression of training - avoid re-injury
- flexibility - avoid re-injury



### ***Some final messages and lessons***

Most injuries get better with rest, treatment and rehabilitation.

You must look for external and internal underlying causes if you want to prevent reoccurrence.

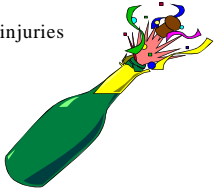
Was this injury avoidable?

Could I prevent the same thing happening in the future?

Don't ignore symptoms – they may be nothing to do with sport!

**Referees with potential**

- reluctant to declare injuries
- delay presentation
- return too early



Younger, “up and coming” referees seem to feel under pressure not to admit to injuries. They wait too long before seeking advice and try to return to training and refereeing before they are fully fit. This risks a poor performance on the field and a shortened career.

Remember you are not invincible! Develop good habits around warm up, flexibility, training, cool down and management of injuries early in your career.

#### Some established referees

- Think they are invincible
- Develop bad habits
- Mistreat injuries



#### Messages

- think about your training to avoid acute and overuse injuries
- recognise injuries early
- think about the immediate care of injuries
- return to training and playing when you are fit, remember progression

Take care of your self and your injuries; it will allow you to maximise your potential as a referee.

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