COACH EDUCATION PROGRAM

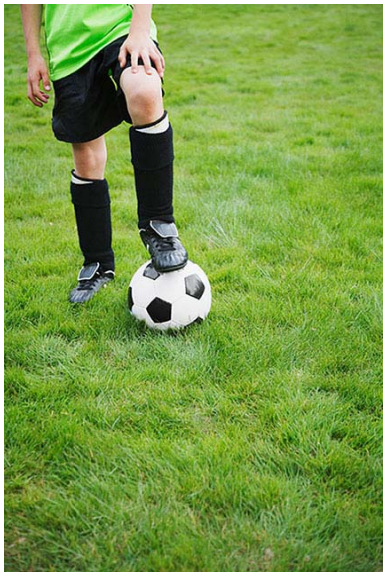
FOOTBALL FEDERATION AUSTRALIA

COMMUNITY COACHING PATHWAY

JUNIOR LICENCE
SPORTS MEDICINE

Better Coaches, Better Football

Contents



Introduction

Sports Medicine involves a wide range of professionals committed to the:

- Prevention of sport injury
- Effective management of sport injuries
- Enhancement of sporting performance
- Increased participation in both sporting and recreational activities

A physiotherapist is part of a large team working in the sports medicine field. Other people/professions involved, include:

Doctor

Orthopaedic Surgeon

Podiatrist

Radiologist

Exercise Physiologist

Nutritionist

Dietitian

Biomechanist

Optometrist

Masseur

Sports Trainer

Sports Psychologist

..to name a few.

This booklet will focus on the sports medicine side of football. It will cover:

- Injury and prevention of injury
- First Aid
- Acute management of soft tissue injuries

Injury Prevention

Prevention of injury is better than cure. Probably one of the most important roles of the coach is to provide an environment that does not predispose the athlete to unnecessary injury.

Injuries are frustrating, costly and can have permanent detrimental effects.

Warm up, Stretching and Cool down

Warm up

Warm up should involve about ten (10) minutes of continuous light activity before you start stretching. A good indication of a sound warm up is a light sweat.

Provide a football specific functional warm up:

I.e. Forward, backwards, side to side jogging interspersed with some small jumps, high knee lifts towards the chest and heels kicking towards the buttocks.

Warming up results in improved flexibility and prepares the mind, heart, muscles and joints for the activity ahead.

Stretching

Without stretching, muscle loses their flexibility and may fail to respond effectively during the sporting activity. There are several rules to ensure safe effective stretching.

Do not bounce the stretch. Sustain the stretch for twenty seconds to thirty seconds and let your muscle slowly stretch out.

Other points to remember:

- Warm up prior to stretching.
- Always stretch before and after exercise.
- Stretch to the point of strain not pain.
- Do not hold your breath when stretching.
- Keep the players away from the balls, until fully warmed and stretched up.

For the lower limb, stretching must at least cover the five major muscle groups, these being the:

- Quadriceps
- Hamstrings
- Hip Flexors
- Adductors
- Soleus and gastrocnemius components of the calf muscles.

Stretch each muscle group at least twice on each side, which means at least ten minutes of stretching. Other stretches, including those for the buttocks, lateral thigh muscle and lower back can also be very useful.

For goalkeepers, specific upper limb and upper back stretches are necessary.

All of the above stretches are static stretches. More advanced stretches such as Proprioceptive Neuromuscular Facilitation (PNF) and ballistic stretches will be presented on the Youth Football Certificate course.

Cool Down

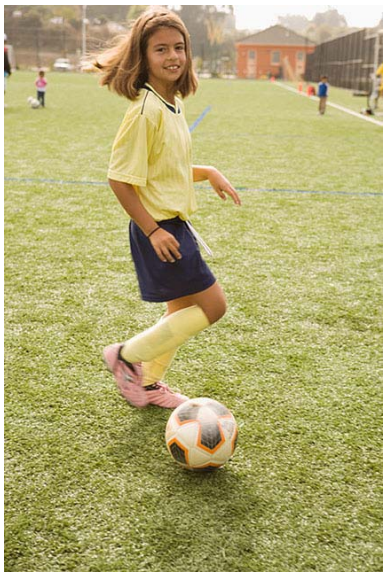
Following exercise, cooling down and stretching improves the recovery of the muscles, heart and other tissues through the removal of waste products.

However, probably the most important factor in a cool down is that stretching now picks up those injuries that are felt or are " carried" through a game.

An effective cool down consists of a gradual reduction in activity levels for five to ten minutes, followed by stretching:

i.e. Jog three or four times across the pitch, walk inside and then stretch for ten minutes.

Development of Skills and Techniques



Studies have shown that the higher the level of skill the lower the rate of injury. Therefore importance should be placed on the development of skills and technique for juniors to prevent injury now and while playing the sport in later life.

For example: Heading technique
Tackling, for a 50/50 ball

Fitness

A high level of fitness for football is of the utmost importance.

While injuries can occur at any time, they are more likely to occur at either:

a) Towards the end of the activity, when the athletes may be tired and unable to cope with the demands on their body.

b) At the beginning of a match if the players have not correctly warmed up/ stretched.

Obey the Rules

Rules are made for the protection of players. All players should learn and apply both the written and unwritten rules of the sport.

Coaches should develop clear rules for training and general conduct and always discourage violence or dangerous techniques.

Players must wear shinguards.

Do not allow players to “muck around: at training”. Hanging from crossbars can be dangerous and by not taking any action to stop this, you may be in a legally unsound position also.

Playing Areas and Facilities

It is important that playing areas are level and firm, and free from obstructions such as exposed sprinkler heads or stones. Spectators should be kept away from the playing area. Football balls need to be free of loose coverings. Cones need to be of the flat flexible variety to prevent ankle and other lower limb injuries. Lighting needs to be adequate to help prevent collisions and unnecessary falls.

Use common sense. If a ground is unfit for training, plan for indoor sessions, go for a run or go to the pool.

Environment

Cold

Cold weather conditions can have life threatening consequences, however in Australia; the biggest problem the cold causes is cooling of warm muscles, predisposing them to injury.

Coaches should plan training sessions to avoid long breaks and another warm up period may be needed if long rest periods cannot be avoided.

All players on the bench, either waiting to come on or who have been on must have at least tracksuit pants on.

Sunshine

Apply sunscreen. Your players can get sunburnt and heat stroke very quickly. This can exacerbate other medical conditions or cause severe illness itself. Goalkeepers can obviously wear caps.

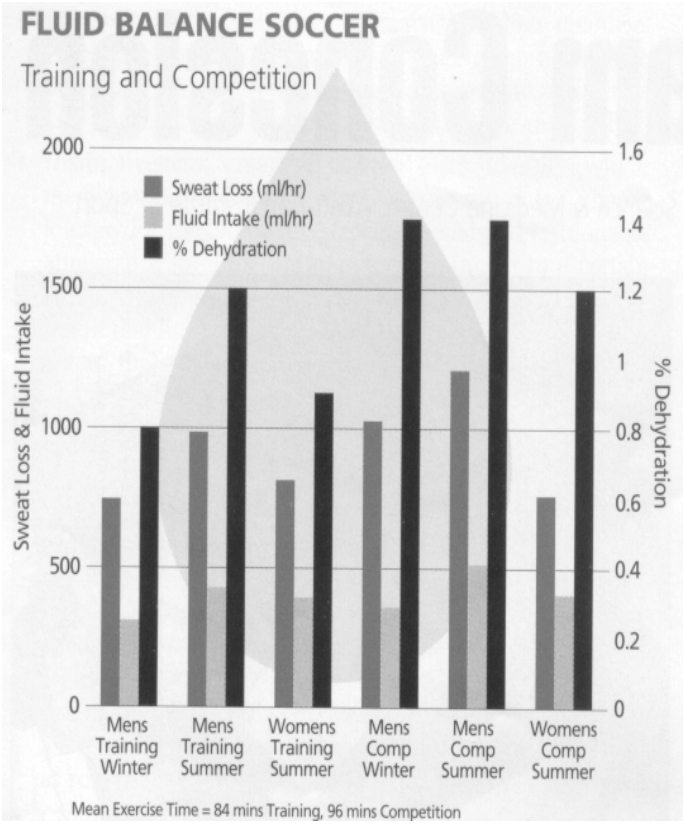
Fluids

Fluids are extremely important. Your body is 60% water and if this level drops, you become dehydrated and performance drops off. Severe dehydration can lead to heat illness and death.

Drink before you feel thirsty. By the time you are thirsty, you are already partly dehydrated.

Drink at frequent intervals during the game or days prior to training or competition. Drink mainly water.

“Broad” (Sports coach – Summer 1996) looked at general fluid intakes during training and competition in winter and summer of Australian Institute of Sport Football Athletes.



They recommended:

a) General fluid intake goals during training and competition are 800 – 1200 ML/hour for men and 600 – 1000 ML/hour for women.

b) Due to impracticality of regularly taking on fluids during a game, that it may be more realistic to drink regularly before the game, consuming 500ml in the 30 minutes just prior to the game. Then at half time, drink at least 400ml and actively re-hydrate after the game

Interesting to note that the percentage of dehydration was the same in men’s winter matches as men’s summer matches.

Conclusion? Players were not aware of their fluid needs.

Match Conditions

Pre Game

Drink sufficient fluid (water, cordial, sport drinks, etc.) before a game so that you pass clear urine in the hour before the game begins.

During Game

Drink as frequently as possible, taking the largest comfortable quantity. Water, diluted cordial, sport drinks are acceptable.

After Game

Replenish fluid levels (does not include alcohol) so that you pass clear urine within two to three hours after the game.

Managing Existing Injuries Properly

Returning to sport too early after injury can make the athlete susceptible to further injury. The coach should ensure that the risk of recurrence of injury is reduced by requesting that the athlete have a doctor's or physiotherapist's clearance to play.

- Ring the treating physio / doctor to ask about the player if need be.
- Do not take chances, If the player has not been treated by a health professional
- Look at the players run. Can they run / turn / kick without limping
- Feel the injured area. Is it painfree ? Can it be moved through a full range of motion compared with the other side?
- Have a doctor /s or physiotherapist's.
- If there is any doubt, DO NOT TAKE ANY CHANCES, do not let them play.

Illness, Medical Conditions and Participation

Illness

If a player is ill or feverish they should not compete due to the vulnerability of tissues and organs to damage.

Medical Conditions

There are a number of conditions which, when medically supervised, do not permanently preclude a person's involvement in sporting activity. These include:

- Chronic Infections
- Cardiovascular abnormalities
- Musculo – Skeletal problems eg. Arthritis
- Medical conditions e.g. Diabetes, asthma and epilepsy

While these conditions can be controlled through proper management and medication, there are times when the athlete's participation may be limited by unforeseen changes in condition.

Most importantly, you must give a simple medical questionnaire to all your players and make sure you read each one and keep them close at hand in case of emergency. Refer to the one at the back of this booklet.

Balanced Conditions

In order to reduce the risk of injury, it is important to keep competitions balanced. Consideration should be given to the age, size, sex, strength and skill of athletes.

I.e. It may be unsafe / dangerous to play your under 13's against under 15's in a practice match.

Common Sense

Common sense tells us that it is far better to prevent injuries than it is to treat them. Think about how you can make your coaching and players safer.

First Aid

The risk of injury is an inherent part of football. Everyone involved has responsibilities to manage that risk and keep it to a minimum. They also have a responsibility to appropriately manage injuries that do occur to athletes under their supervision.

In managing an injury, the main aim is to do no further damage. Statistics show that 50% of athletes receive inadequate first aid causing unnecessary time off.

It is imperative that someone involved with each team has at least a first aid certificate.

When an injury occurs, there are many decisions to be made. Always err on the side of safety. Allowing the athlete to continue may cause further damage to the injured part.

Check for danger to:

1) You
2) The injured athlete
3) Others

Control the danger by:

1) Preferably removing the dangers
2) Alternatively removing the athlete

i.e. If a player is injured in a crowded penalty box control the danger by stopping the game.

Ask the injured athlete:

1) Can you hear me?
2) Open your eyes
3) What is your name?

If they are unconscious you need a qualified first aider. If conscious, use STOP principles: Stop, Talk, Observe, Prevent further injury.

Stop; Talk; Observe; Prevent further injury

Stop	Talk	Observe	Prevent
Stop the athlete from participating Stop the game if necessary Don't panic Stay cool	Talk to the injured athlete. Can you talk? How did it happen? What did you feel? Where does it hurt? Is the pain sharp, dull, aching or throbbing? Did you hear any sounds Provide a few words of encouragement.	Observe whilst talking Personality: Is it normal? Is the athlete distressed? Injury Site: Is there swelling? Is it red? Is there any difference when compared to the other side of the limb? Is there any deformity? If the answer to any of the above questions is yes, seek trained first aid support.	Prevent further injury Three options: Get Help Riced Regime Play On

Three options:

Severe Injury	Less Sever Injury	Minor Injury
Get Help Get professional help. Don't move the athlete. Keep onlookers away. For suspected spinal injury or broken bone comfort the athlete until professional help arrives.	RICED Regime The first 48 hrs are vital in the effective management of any soft tissue injury Rest Ice Compression Elevation Diagnosis	Play on For Bumps and bruises, a few words of support and encouragement will help. Monitor any such minor injuries.

Acute Management of Soft Tissue Injuries

R.I.C.E.D. is the most important treatment for any soft tissue injury. Prompt, effective action in the first 48 hours will reduce the time spent on the sideline and can mean missing one week instead of six. It is that important.

The regime should be used for all ligament sprains, muscle strains and muscle bruises; in fact any bumps and bruises that occur in sport.

R.I.C.E.D	How	Why
Rest	Movement of injured part only when pain is absent	Activity would promote bleeding by increasing blood flow.
Ice	The conventional methods are: Crushed ice in a wet towelling bag. Immersion in icy water. Cold water from the tap is better than nothing. Apply for 20 minutes every 2 – 3 hours for the first 48 hours. CAUTION: Do not apply ice directly on the skin as ice burns can occur. Do not apply to people with circulatory problems. Children have a lower tolerance to ice.	Reduces inflammatory responses. Reduces pain. Reduces muscle spasm.
Compression	Apply a firm wide bandage over a large area covering the injured part.	Reduces bleeding and swelling Provides support for the injured area.
Elevation	Raise injured area above the level of the heart at all possible times.	Reduces bleeding and swelling. Reduces Pain.
Diagnosis	Refer to a suitably qualified professional such as a doctor or physiotherapist	To ascertain the extent of the injury. To gain other expert advice on the rehabilitation program required.

You must avoid H.A.R.M factors in the first forty eight (48) hours.

H.A.R.M	Why
Heat	Increases bleeding
Alcohol	Increase swelling
Running	Running or exercise too soon can make the injury worse
Massage	In the first 48 hours increases swelling and bleeding

Nutrition and Food Requirements

In achieving their best on the sporting field, it is extremely important that a player has a balanced diet containing:

- Plenty of Carbohydrates (70% of total energy intake)
- A minimum of fat (15% of energy)
- Adequate protein (15% of energy)
- Plenty of fluid
- Dietary fibre, vitamins and minerals, calcium and iron.
- Carbohydrates are stored as glycogen and when muscle glycogen stores fall, energy levels drop and performance deteriorates. Therefore, the more carbohydrate eaten, the more glycogen stored. After hard training sessions or competitions, extra carbohydrate needs to be consumed to help restore the glycogen used up during the exercise.

There are two types of carbohydrate: Complex and simple.

Players should eat mostly complex carbohydrates such as rice, pasta, bread, toast, muffins, and crumpets, potatoes, breakfast cereals and fruit.

Small amounts of simple (refined) carbohydrates such as sugar, jam, cordial, soft drinks and lollies, can be used in addition to complex carbohydrates.

Fats

Are not good for anyone in general. Players should avoid high fat foods such as chocolate, nuts, butter, margarine, potato chips, hot chips and take away foods in general.

Proteins

If players eat red meat, they will usually be getting enough protein. Eggs and low fat dairy products are other high sources of protein.

What to eat:

Pre game:

The pre-game meal should be high in complex carbohydrate. Players should eat at least 2 – 3 hours before they compete. The meal should be fairly light and easy to digest – but there should be enough of it to satisfy hunger. Players should avoid carbohydrate foods with a low glycogenic index, as these take much longer to store muscle glycemic and have other side effects, like increased flatulence and being heavy on the stomach. I.e. apples, beans, lentils and milk.

During game:

No food is needed, although carbohydrates can be absorbed quickly into thebloodstream after drinking isotonic sport drinks, thus giving some extra Immediate “Energy”.

After game:

The aim is to ensure rapid recovery of muscle glycogen to give plenty of sustained energy for the next training / game.
During the first 2 hours after intensive exercises the rate of muscle carbohydrate rebuilding is up to 50% higher than normal and may be even higher than this in the first 30 minutes after exercise. (P.Reaburn, Sports Coach Summer 1999). Therefore, to take advantage of this, players must start taking in carbohydrate as soon as possible after exercise (within 15 minutes) and they should have 100g of Carbohydrate in the first 2 hours after exercise 100g of carbohydrate is equivalent to 2 cans of soft drink, or 5 glasses of staminade, 6 slices of bread or 4 crumpets. After this players must continue to have their normal high carbohydrate meals.

Sports Medicine Quiz

a) Thirst is a good indicator of how dehydrated someone is?

☐ True
☐ False

b) Name three types of complex carbohydrate, three simple carbohydrates and three foods high in fat.

Complex Carbohydrate

_____

_____

_____

Simple Carbohydrate

_____

_____

_____

High in Fat

_____

_____

_____

c) Stretching only needs to be done before a game or training

☐ True
☐ False

d) 'Bouncing' a stretch is good for the muscle when stretching

☐ True
☐ False

e) Steak and eggs is a good pre-match meal

☐ True
☐ False

f) It is good to rub a 'Corky' out?

☐ True
☐ False

g) What does R.I.C.E.D stand for in full?

R _____

I _____

C _____

E _____

h) How many days after a sprain is it before you could use only heat on it.

☐ one day
☐ two days
☐ three days

i) Players should not drink any fluid in the half hour before the game begins

☐ True
☐ False

Acknowledgement

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