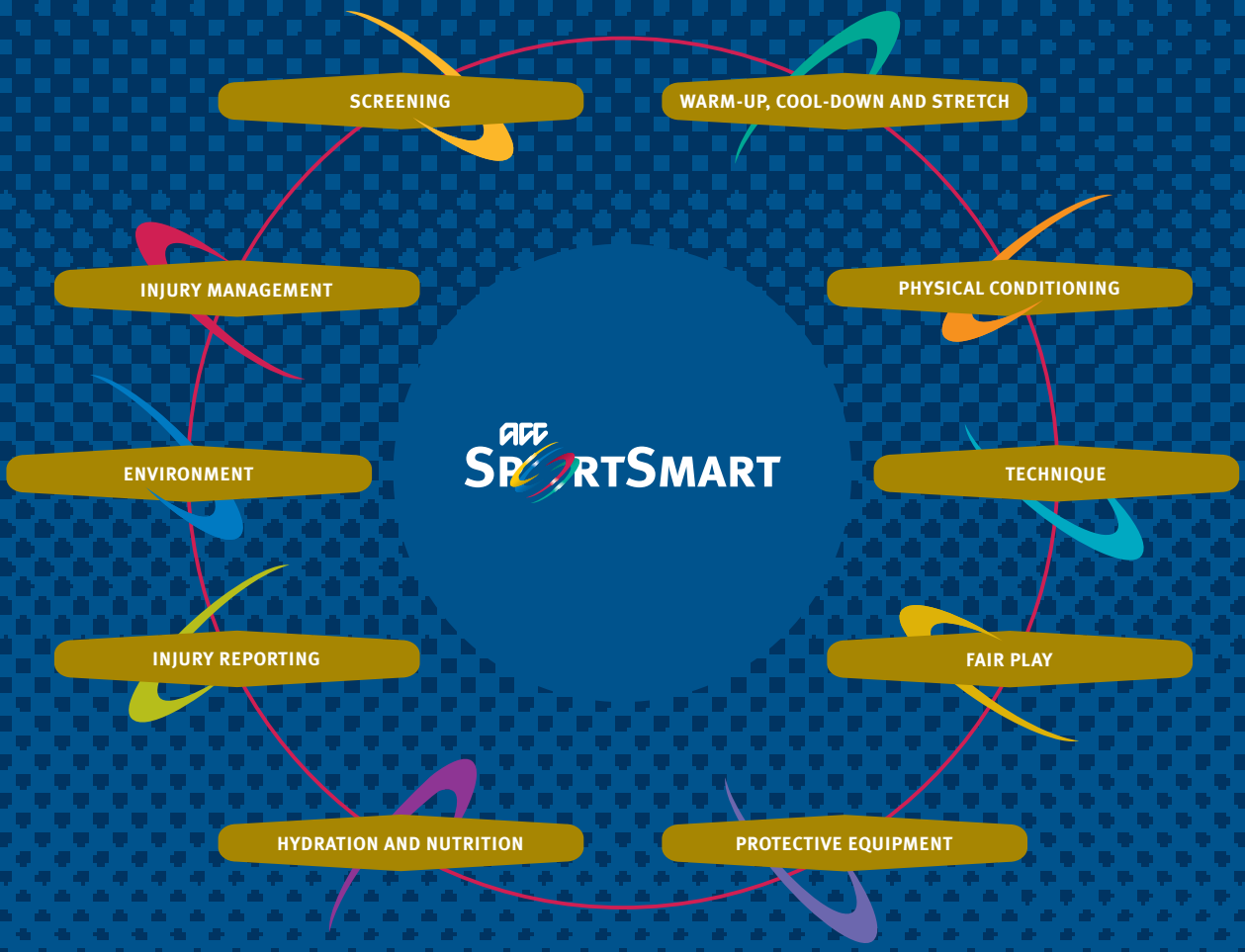
ACC SportSmart: Coaches' Kit

THE 10–POINT ACTION PLAN FOR SPORTS INJURY PREVENTION



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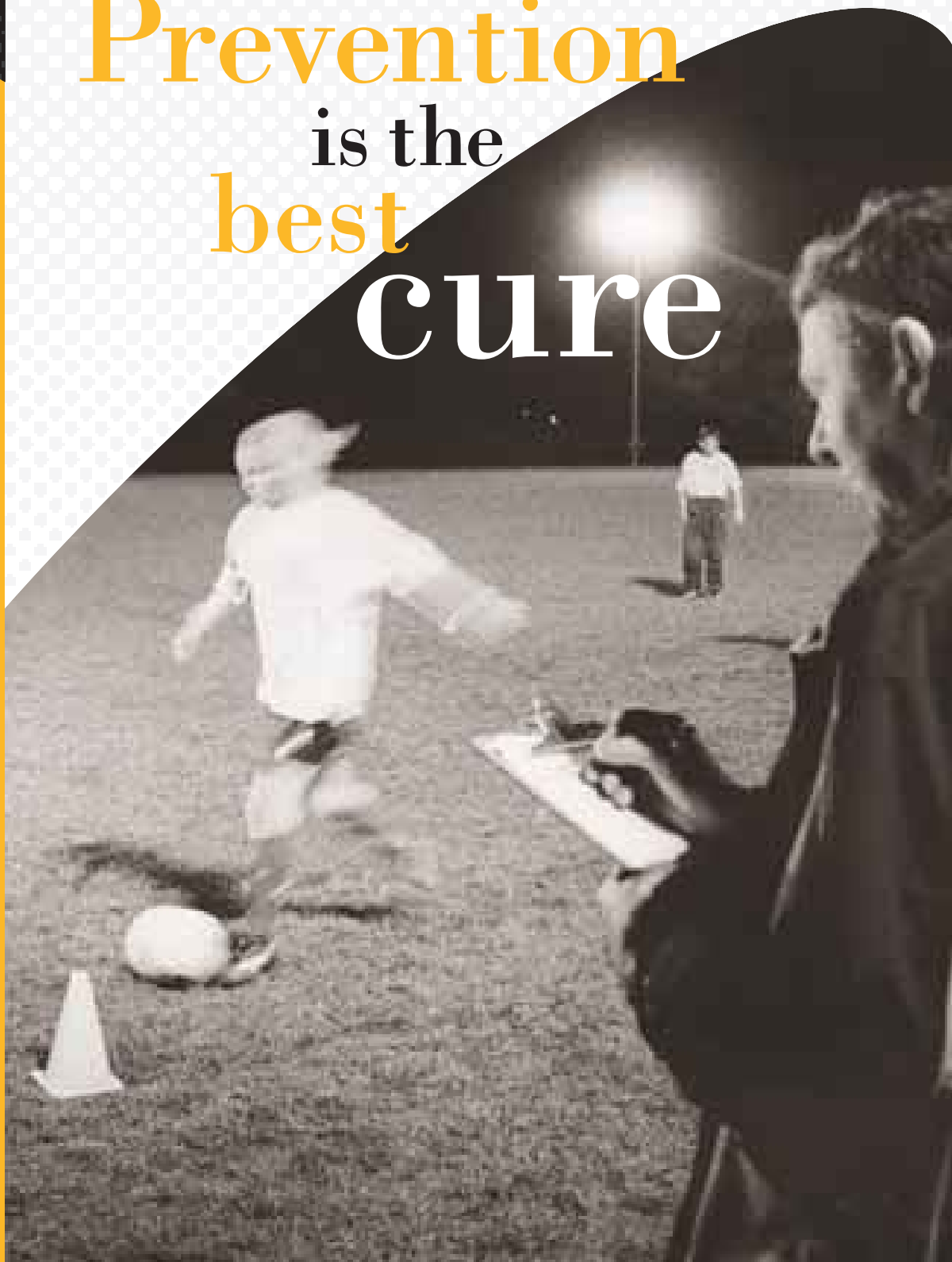
SCREENING

SCREENING

Playing sport means preparing well before the sporting season starts. Before pre-season training, every player should be screened to check their health, lifestyle and physical condition. Injuries from the previous season should be assessed to ensure full fitness for return to play. If a player is injured during the season, they should be re-screened to assess whether they are fit to return to play.

Prevention is the best cure



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To help you with screening, this leaflet includes a sample screening questionnaire – you may find it useful as a guide.

Screening – what does it do?

1. It identifies players at risk of injury.
2. It helps match players to the position and/or grade most suited to them.
3. It identifies factors that may make players prone to injury.
4. It provides ways to measure fitness.
5. It assesses the effectiveness of a rehabilitation programme.
6. It assesses factors that may be affecting players' performance.
7. It reduces the potential for injury.

Providing useful information

The information you gather from the screening questionnaire has many long-term uses and helps you:

- Prepare emergency plans in advance
- Develop conditioning programmes targeted at individual weaknesses
- Measure the effectiveness of training programmes
- Advise on lifestyle changes
- Find out when a player is 90% to 100% fit and ready to return to play after an injury
- Identify and manage psychological factors such as a player's tendency to take risks, their level of confidence and attitudes towards opponents.

Keys to a successful screening programme

- Tailor screening programmes to each player's needs.
- Include coaches, medical professionals, players and parents in the planning process.
- Confidentiality is important – seek the player's permission to share personal details with other support people and consider confidentiality when deciding how to store the information.
- Balance the need for secure storage with the need for quick access to the information in the event of an injury. It is worth planning how you will access records at games and training, while ensuring they are kept secure.
- Remember, the goal of the screening programme is to help prevent future injuries.

DEVELOPING YOUR SCREENING PROGRAMME – AND MAKING IT WORK

(SEE EXAMPLE OVER)

1 Create a Health Questionnaire.

- Ask players to list their known medical conditions and how severe they are (for example, they may have severe asthma, diabetes or mild epilepsy).
- Ask players to list their previous injuries, the treatment they received and their treatment provider.
- Ask all players to provide information about drug use.

If possible, have a doctor confirm any undiagnosed medical conditions.

Provide examples of medical conditions and injuries to prompt players' memories.

2 Design a Lifestyle Assessment Questionnaire.

- This questionnaire will help establish the player's job, transport/living arrangements, personal characteristics/behaviours and dietary habits. It will help identify things that, if changed, could help reduce their risk of injury or improve their performance.

A player who works on a construction site for 40 hours a week will need a different fitness programme from someone who works in an office.

3 Do a Physical Assessment.

- A physical assessment by a sports trainer or physiotherapist can identify things that may put players at more risk of musculoskeletal injury.
- The assessment should test for strength, flexibility, balance and anatomical and biomechanical abnormalities. Measuring speed, fitness, agility, body composition, strength and power can also provide helpful information for identifying changes or improvement.

Examples of sport-specific testing procedures can be obtained from the Sport Science New Zealand Field Testing Manual for Sports.

4 Always do Follow-Up Screening.

- Schedule follow-up screening at an appropriate time to make sure players get consistent assessments. If possible, have the same person do all physical assessments. If a thorough pre-season screening is done, a follow-up physical assessment mid-season is appropriate. Remember to record any changes in players' medications.

Compare information collected during follow-up with the baseline results to measure improvement and training effectiveness.

SAMPLE SCREENING QUESTIONNAIRE CONFIDENTIAL

The information you provide in this questionnaire will be used to help plan your training sessions, to assess whether you are at risk of injury, and in case of injury to contact your next of kin. It is confidential and will not be shown to anyone except the team coaching staff.

DATE: **NAME:**

ADDRESS:

PHONE NUMBER:

NEXT OF KIN NAME: **NEXT OF KIN PHONE NUMBER:**

NEXT OF KIN ADDRESS:

HEALTH HISTORY

- Do you have any medical conditions/disability? If the answer is "yes", please list the condition and any medication you take for it:

CONDITION *e.g. asthma, heart disease, diabetes, epilepsy, HIV, anaemia, haemophilia, arthritis, viral illness, hepatitis A, B or C*	**MEDICATION** *e.g. tablets, inhalers, creams (give drug names)*

ALLERGIES *e.g. bee stings, medications (give drug names)*

INJURY HISTORY

- List any injuries you have had in the past three years and when they happened (e.g. concussion, fracture, sprains, strains).
- List the treatment you had and who gave you the treatment e.g. doctor, coach, physiotherapist.

WHAT WAS THE INJURY? e.g. sprained left ankle	**WHEN DID IT HAPPEN?** e.g. 11 July 2002	**WHAT TREATMENT DID YOU GET?** e.g. R.I.C.E.D., on crutches for a while and then sessions with physiotherapist	**WHO PROVIDED YOU WITH THE TREATMENT?** e.g. physiotherapist

LIFESTYLE ASSESSMENT

- **WHAT IS YOUR JOB (IF YOU HAVE ONE)?**
- **WHAT ARE YOUR HOURS OF WORK EACH WEEK?**
- **DO YOU HAVE RELIABLE TRANSPORT TO AND FROM TRAINING AND GAMES?** ◯ **YES** ◯ **NO**

PHYSICAL ASSESSMENT (FOR COACH/TRAINER TO COMPLETE)

- **AEROBIC ENDURANCE:** E.G. BEEP TEST SCORE
- **AEROBIC ENDURANCE:** 3KM TIME RUN
- **STRENGTH:** NUMBER OF PRESS-UPS AND CHIN-UPS
- **SPEED:** TIME FOR 50M SPRINT
- **SPEED AND AGILITY:** TIME FOR PROPELLER TEST
- **UPPER BODY STRENGTH:** NUMBER OF PRESS-UPS
- **UPPER BODY STRENGTH:** NUMBER OF CHIN-UPS
- **BODY SIZE:** HEIGHT AND WEIGHT, SUM OF SKINFOLDS

FLEXIBILITY	**GOOD**	**AVERAGE**	**POOR**	**BALANCE**	**LEFT LEG**	**RIGHT LEG**
Hamstrings				Time for single leg balance – eyes open		
Lower back				Time for single leg balance – eyes closed		
Shoulder				Time for single leg balance – eyes closed and head tilted back		

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For more information on screening, contact:
Sport Science New Zealand:
www.sportscience.org.nz

THE 10-POINT ACTION PLAN FOR SPORTS INJURY PREVENTION

1 SCREENING
2 WARM-UP, COOL-DOWN AND STRETCH
3 PHYSICAL CONDITIONING
4 TECHNIQUE
5 FAIR PLAY
6 PROTECTIVE EQUIPMENT
7 HYDRATION AND NUTRITION
8 INJURY REPORTING
9 ENVIRONMENT
10 INJURY MANAGEMENT

www.acc.co.nz/sportsmart

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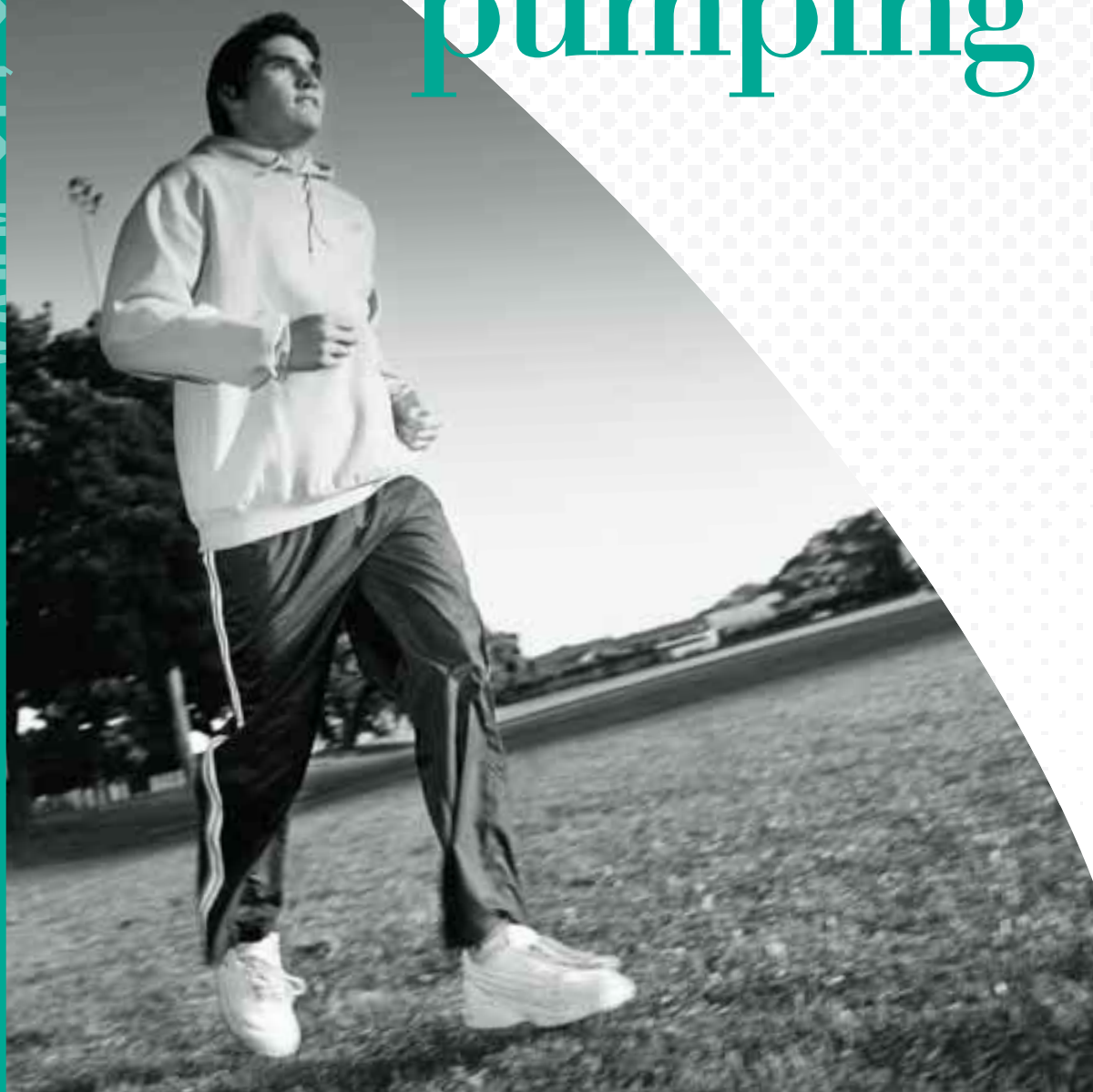
WARM-UP, COOL-DOWN AND STRETCH

WARM-UP, COOL-DOWN AND STRETCH

Warming up before playing sport prepares the mind, heart, muscles and joints for the upcoming event. It improves performance, helps players get mentally prepared and is a great step towards injury prevention. Cooling down is equally important. It helps the body to recover and gradually return to its normal temperature. This is also a good time to work on flexibility.

Get your blood pumping



Warm-up

Warming up prepares the body for physical activity – it prevents a rapid increase in blood pressure, improves blood flow to the heart, increases muscle temperature and makes muscles more pliable. By warming up, players will improve their performance and reduce the risk of injury.

Coaches should focus on the following components of a warm-up.

1. Aerobic exercise

- Do some easy exercise (such as jogging, cycling and skipping) continuously for 5-10 minutes to raise the body temperature so the body is sweating lightly.

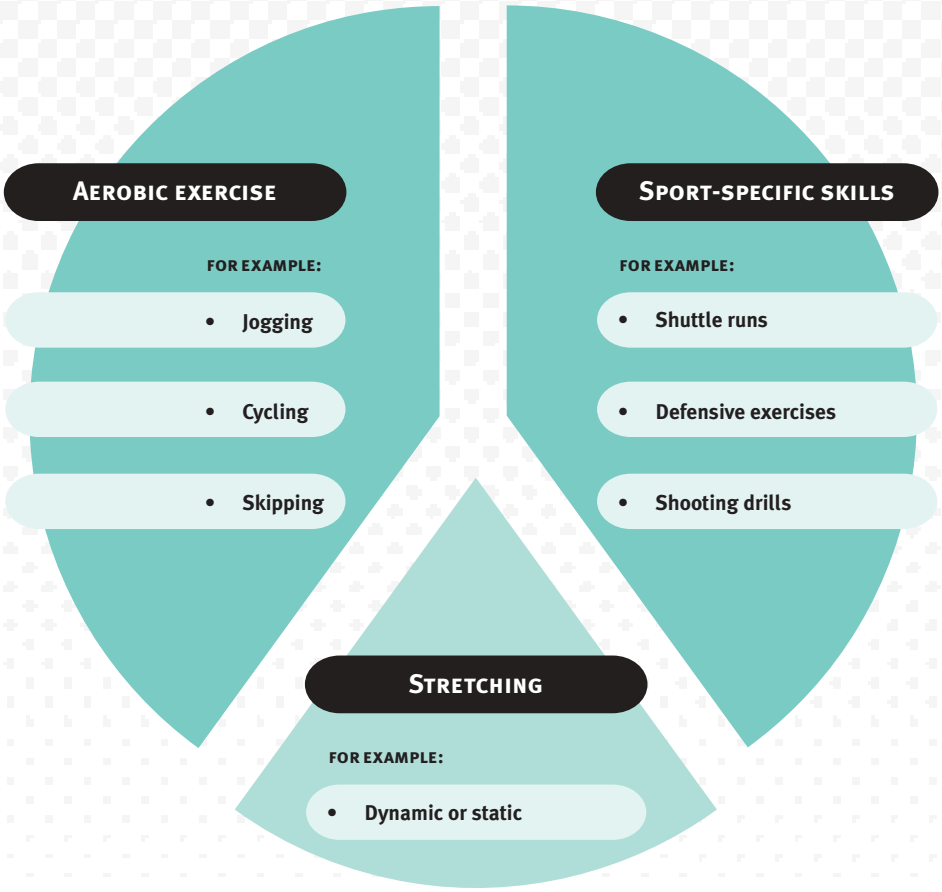
2. Stretching

- Stretch all the major muscle groups used when playing sport.
- Choose "dynamic" or "static" methods.
- Dynamic stretching involves stretching movements performed at gradually increased speed. See www.acc.co.nz/sportsmart for examples.
- Static stretching involves placing a muscle in its most lengthened position and holding for at least 30 seconds.

3. Sport-specific exercises

- Do the sorts of exercises frequently used in your sport, such as short sprints, shuttle runs, changing direction quickly, shooting drills and defensive exercises with a partner.

THE RELATIVE IMPORTANCE OF EACH COMPONENT OF THE WARM-UP



Cool-down and stretch

Cooling down and stretching after playing sport may reduce the risk of injuries happening. It also helps to promote flexibility. This low-intensity exercise should last for 5-15 minutes and include activity such as slow jogging and stretching.

Coaches should focus on the following components of a cool-down.

1. Aerobic exercise

- Slow jogging around the field or court is one of the best ways to cool down.
- Alternatives to jogging include low-intensity cycling and brisk walking.

2. Stretching

- Static stretch for 10 minutes after the light jogging.
- Follow the "keys to effective static stretching" below.
- For greater flexibility, hold the stretches for 60 seconds during the cool-down.

3. Recovery

- After any exercise, make sure players rehydrate.
- Treat any sprains, strains or bruises with the R.I.C.E.D. procedure.

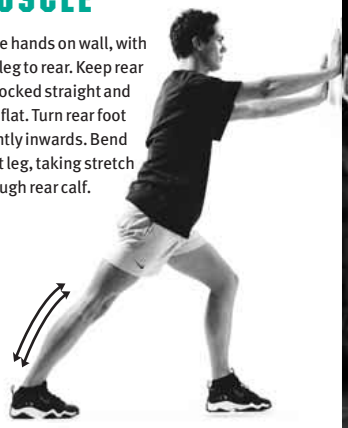
STRETCHING EXERCISES

Movement to get stretch

Area being stretched

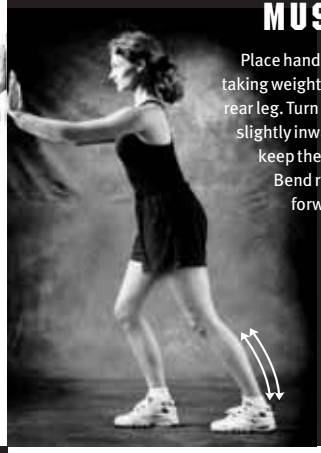
LONG CALF MUSCLE

Place hands on wall, with one leg to rear. Keep rear leg locked straight and foot flat. Turn rear foot slightly inwards. Bend front leg, taking stretch through rear calf.



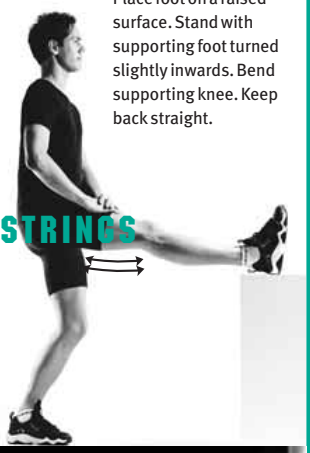
SHORT CALF MUSCLE

Place hands on wall taking weight through rear leg. Turn rear foot slightly inwards and keep the heel flat. Bend rear knee forward over rear foot.



HAMSTRINGS

Place foot on a raised surface. Stand with supporting foot turned slightly inwards. Bend supporting knee. Keep back straight.



FRONT THIGH

Pull heel towards buttock. Keep back straight, knees together and in line.

TRUNK SIDE FLEXORS

Stand with feet comfortably apart. Fold arms above head. Bend to the side slowly. Stretch up with upper elbow.

PECTORALS

Stand side-on to a wall or pole with closest leg forward. Place forearm on wall with shoulder slightly above 90°. Turn upper body away from wall or pole.

TRICEPS STRETCH

Place hand between shoulder blades. Place opposite hand on elbow. Pull elbow towards midline with help from opposite hand.

Kneel on ground with front knee at 90°. With the back straight, tilt the pelvis back by tucking the abdomen up and in and squeezing buttocks. Keep head up.

HIP FLEXOR

SHOULDER CHEST

Stand with head up, chin in, hands clasped behind back. Pull shoulders down and back. Press shoulder blades together and down. Pull the stomach in to prevent arching of the lower back.

LOWER BACK

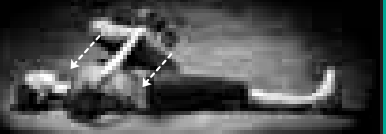
Lie with hands behind head, arms flat. Bend hips and knees to 90°, feet together. Roll knees over to ground. Upper knee should be directly above lower knee.

GROIN

Sit on floor with back straight. Grasp the ankles and draw them towards groin. Use the elbows to apply a gradual downward and outward pressure on the knees.

BUTTOCK

Gluteals – Lie on back with both hands around one knee. Pull knee towards opposite shoulder. Keep head, shoulder and opposite leg relaxed.



Piriformis – Lie on back and hold knee to chest. Pull knee and ankle towards opposite shoulder.

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For more information on warm-up, cool-down and stretch, contact: **the relevant sports organisation or SPARC (Sport and Recreation New Zealand): www.sparc.org.nz**

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2. **WARM-UP, COOL-DOWN AND STRETCH**
3. PHYSICAL CONDITIONING
4. TECHNIQUE
5. FAIR PLAY
6. PROTECTIVE EQUIPMENT
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3

PHYSICAL CONDITIONING

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PHYSICAL CONDITIONING

Being conditioned for sport means greater enjoyment, more participation and better performance. What's more, it reduces the risk of injury – so players can play to their maximum potential.

Keep your engine tuned

SPORTSMART

Remember – training starts before sport even begins

Being conditioned doesn't always mean players need extensive training. Just make sure your programme is right for the style and level of your sport or activity.

What does a conditioning programme involve?

A physical conditioning programme should be balanced and include training exercises for each of the following areas that are relevant to the activity.

Strength

Strength conditioning means players can apply force against resistance.

Strength exercises:

- Body weight strength training or resistance training using stretch bands, free weights or machines.

Speed

Speed conditioning enables players to move the body or parts of the body rapidly.

Speed exercises:

- Fartlek training – short burst of speed integrated into the normal training session.

Power

Power conditioning means players can combine speed and strength to produce explosive force.

Power exercises:

- Hill sprints
- Squat jumps.

Flexibility

Flexibility conditioning will provide a greater range of pain-free motion.

Flexibility exercises:

- Follow the stretches in action point 2 – "Warm-up, Cool-down and Stretch".

Endurance

Endurance conditioning allows players to repeat the same action, or exercise continuously, without getting too tired.

Endurance exercises:

- Stair walking or circuit training
- Brisk walks/jogs/runs each week.

Balance

Balance conditioning reduces the risk of tripping, falling or landing in an awkward position. It also reduces the risk of a player overbalancing on uneven surfaces.

Balance exercises:

- Walking along a straight rope on the ground
- Balancing on one leg with the eyes closed
- Propeller runs.

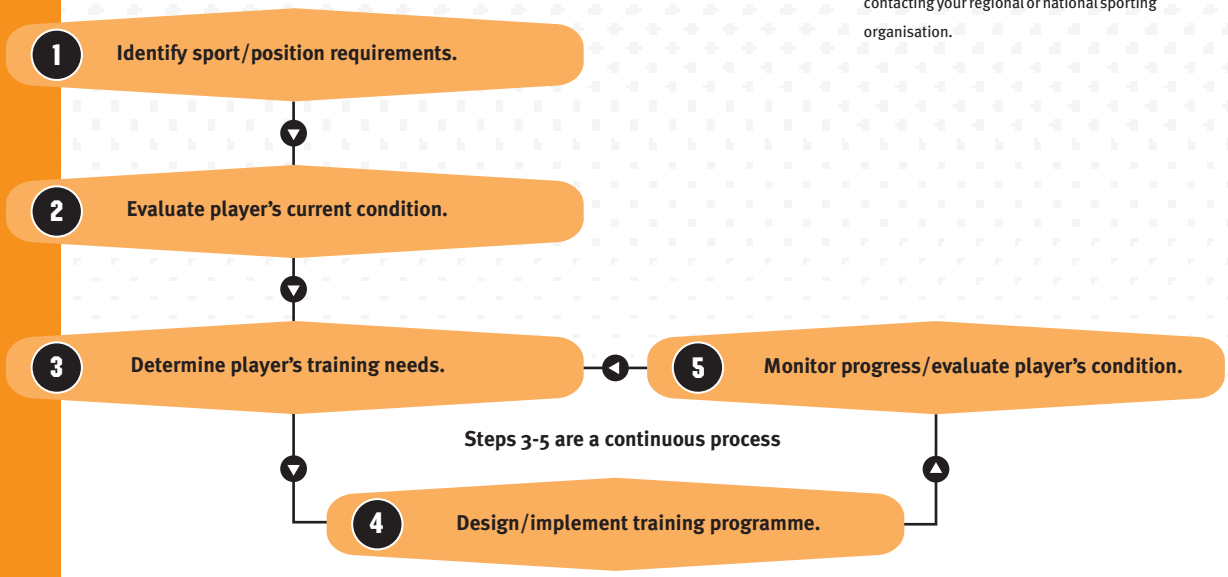
General conditioning principles

1. Make sure training is planned, directed and purposeful.
2. Follow the F.I.T.T.E. (Frequency, Intensity, Time, Type and Enjoyment) principle of training. Each element should be specified in the training programme and developed for each player's needs.
3. Progressively increase the intensity and/or duration of training as players improve their conditioning levels.
4. Make sure the training is specific to the players and the sport or activity.
5. Remember, when players stop training, their physical condition declines. Maintain physical condition with two to three workouts every week.
6. Reduce the amount of training during competition to prevent "burn out" and fatigue.

Note:

This is very general information relating to physical conditioning. Following are further guidelines for aerobic endurance and strength training. To become proficient in a particular sport, more specific information can be obtained by contacting your regional or national sporting organisation.

The conditioning process



Guidelines for aerobic endurance training

Aerobic endurance training may include activities such as walking, running and circuit training.

General guidelines

- Buy good shoes if walking/running is the principal form of aerobic exercise.
- Warm up before training or competition to improve performance and decrease the amount of stress on the heart.
- Follow the F.I.T.T.E. principle to achieve an increase in aerobic endurance:
  - *Frequency:* Three to five times per week
  - *Intensity:* 60-85% of heart rate maximum (HRmax)
  - *Time:* 20-60 minutes per session
  - *Type:* Run, brisk walk, bike, swim, dancing, etc
  - *Enjoyment:* Find an enjoyable activity and increase the likelihood of exercise adherence.
- In relation to the above recommendations apply the following principles depending on the players' health, fitness status, and/or playing levels.

Individualisation:

- Prescribe aerobic endurance exercise based on age, gender and fitness level and encourage more vigorous activity in those who are young and healthy.

Progressive overload:

- Progress from three alternate days to five to six sessions per week*
- Progress from 10-15 minutes to 40-60 minutes*
- Progress from 60% to 80% HRmax.

* This will depend on the player's playing levels.

Specificity:

- Select exercises that train the appropriate musculature i.e. to achieve running fitness (legs) don't go swimming (arms).

Intensity:

- HRmax is usually calculated as 220 minus age
- HRmax for an activity can be determined after two to four minutes of all-out exercise in that activity
- HRmax is significantly lower (10-13 beats per minute) in arm exercise.

Health and safety considerations

- Make sure players have a medical examination before training, which includes measures of blood pressure and resting heart rate (RHR).
- Supervise training programmes if a player has poor health status.
- The following potential hazards are associated with long-distance running in young players: heel cord injuries, growth plate injuries, chronic joint trauma, thermal intolerance and shin splints. Distances less than two kilometres are recommended for players less than 12 years of age.
- Be aware that younger players are more susceptible to thermal stress owing to their inability to sweat.

Guidelines for strength training

Strength training may include activities such as bicep curls and press-ups.

General guidelines

- Begin each session with a warm-up.
- Provide thorough instruction on the exercises. Competent and close supervision is vital in the beginning stages of the programme.
- Avoid single maximal lifts (the load you can lift once, i.e. you can't perform two repetitions of the load in succession), in particular overhead lifts, until the end of adolescence. During adolescence, training should be sub-maximal.
- Avoid explosive lifts (high-velocity, low-load lifts) in early adolescence and introduce them with caution in late adolescence. The same applies to high-intensity plyometric (jump) training.
- Progress exercises from using the body weight with a load of low volume to traditional weightlifting exercises with a load of high volume and/or high intensity in a systematic and safe way.
- Progressively overload the training (e.g. apply more load, more repetitions, etc.) in small increments. A general rule is to increase the training load by **no more** than 10% per week (some individuals may require a slower increase).
- Ensure adequate recovery between training sessions. A beginning training frequency of two to three times per week is desirable.
- Include exercises for all muscle groups and provide balance between opposing muscle groups (e.g. quadriceps and hamstrings).

Health and safety considerations

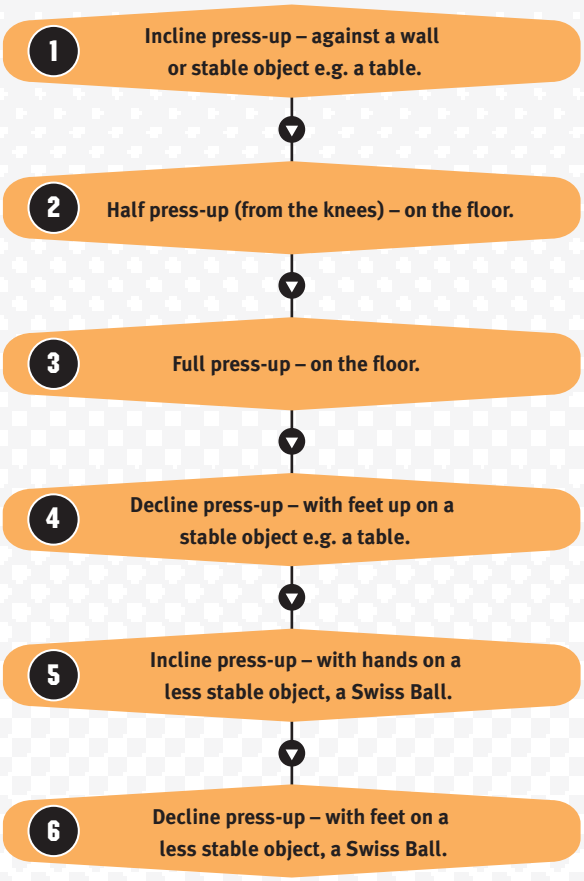
- Make sure players have a medical examination before strength training (e.g. large increases in blood pressure are associated with strength training such as lifting or statically holding large loads).
- Players should be mature enough to be "coachable" and to be able to follow prescribed safety and technique factors.
- Parents, coaches, physicians and players should pay particular attention to exercise-related joint pain.
- Build a preconditioning period into the training programme to reflect the developmental lag of the shoulder, abdominal wall and trunk muscles and their overuse.
- Teach proper breathing. Players should avoid prolonged breath holds during repetitions to avoid blackout or fainting.
- Ensure that players maintain the curvature of the spine during exercise.
- Children should never be encouraged to lift more weight than they can comfortably manage.
- Ensure correct techniques are used and there is appropriate supervision.

Example of progressive overloading

In this example (see opposite) the muscles are progressively overloaded by making the player's base of support less stable or having greater body mass act on the muscles by changing the exercise from an incline press-up to a decline press-up.

Photos of this progression are available on the website www.acc.co.nz/sportsmart.

Progressive overloading



For more information on physical conditioning for your sport, contact: **the relevant sports organisation, your Academy of Sport regional centre: www.sportnz.co.nz or Sport Science New Zealand: www.sportscience.org.nz**

4

TECHNIQUE

TECHNIQUE

Good technique is essential for players to fully participate in and enjoy their sport – safely. Poor technique can expose players to the risk of acute injury e.g. rugby tackling with the head in front of the ball carrier's leg rather than behind it. Poor technique used for a prolonged time can cause persistent injuries such as sore shins, tennis elbow and lower back pain. It also increases the risk of strains and sprains.

Good practice makes perfect

It's important to LEARN the correct techniques, PRACTISE them and USE them during the game. It's also important to learn the techniques early to ensure a long-term involvement in the sport, and to avoid developing bad habits. Keep checking techniques to ensure they are always used and, if necessary, seek expert advice (e.g. a senior coach or perhaps a specialist in biomechanics). Many sports have "risky" elements such as tackling, jumping, landing, stopping and catching. Identify the risky elements in your sport and make sure players learn and use the correct techniques at all times.

Best practice techniques*

Best practice techniques have been developed through coaches' experience and from analysis by sport scientists. They aim to improve performance and reduce the number and severity of injuries in sport.

1. Jumping and landing

Forces as high as six times the body weight are transmitted through the body when jumping or landing from a jump. Having the trunk and legs in alignment and not twisting in landing or during take-off are characteristics of good technique.

Encourage players to:

- Bend and flex the hips, knees and ankles when landing to spread the impact over time and to transfer the impact to the muscles. This will avoid jarring at the joints
- Keep legs aligned, with knees over the toes.

Players should avoid:

- Excessive twisting movements in the upper or lower body while landing
- Turning while landing.

2. Throwing and kicking

Large muscular forces are created in kicking or throwing an object such as a ball. A co-ordinated "step-turn-whip" action is characteristic of good throwing and kicking. This involves a sequence beginning with large muscle groups and finishing with smaller muscles of the limb in contact with the object.

Encourage players to:

- Involve all the body parts to achieve maximum power when the goal is maximum distance
- Move the body parts in sequence – i.e. one after the other starting with the large body parts and ending with the part of the body in contact with the object – to reduce the risk of injury to smaller muscles
- Involve body parts simultaneously in a "push-like" motion when the goal is accuracy.

Players should avoid:

- Throwing with the arm fully extended
- Throwing or kicking without an adequate warm-up.

3. Grip and posture

Holding equipment such as an oar, bat, stick, club or racquet incorrectly may lead to poor performance, tissue damage and the development of overuse injuries. Using mid-range joint positions is characteristic of good gripping technique.

Encourage players to:

- Learn the correct grip as soon as they start playing the sport to reduce the risk of injury
- Use good posture in play and at school or work
- Work at maintaining posture.

Players should avoid:

- Grips that place the joint in a fully flexed or extended position e.g. fully extending the wrist when trapping a hockey ball places the player's wrist and elbow at risk of injury
- Incorrect grip sizes
- Twisting and bending while performing under load or at high speed e.g. a "mixed" delivery stride in fast bowling or excessive twist and bend in tennis serving.

4. Other

a. Catching

Incorrect catching technique results in poor performance and is a frequent cause of injury to the fingers and hands.

Encourage players to:

- Stretch out the arms and pull them back towards the body when catching a ball. This will minimise the risk of injury to the small joints of the fingers, as the larger muscles of the arms can absorb the impact of the ball.

b. Co-ordination

Good skills improve performance and reduce the risk of injury. Skills are easier to teach and learn when players have a good base level of co-ordination.

Encourage players to:

- Develop co-ordination early with practice on the fundamental skills in the sport
- Develop the basic skills first before refining any technical aspects
- Practise the basic skills regularly with variety.

c. Equipment

Using a racquet or bat that is too large or too heavy limits performance and may increase the risk of injury.

Encourage players to:

- Use the appropriate equipment for their age and ability level.

d. Footwear

Slips and falls in many sports such as netball and tennis can be minimised with good footwear.

Encourage players to:

- Use the correct footwear for the sport
- Consider the surface conditions when choosing footwear.

* Use video to record the players' performance when checking techniques.

For more information on technique or video analysis contact:
your Academy of Sport regional centre: www.sportnz.co.nz or Sport Science New Zealand: www.sportscience.org.nz

www.acc.co.nz/sportsmart

5

FAIR PLAY

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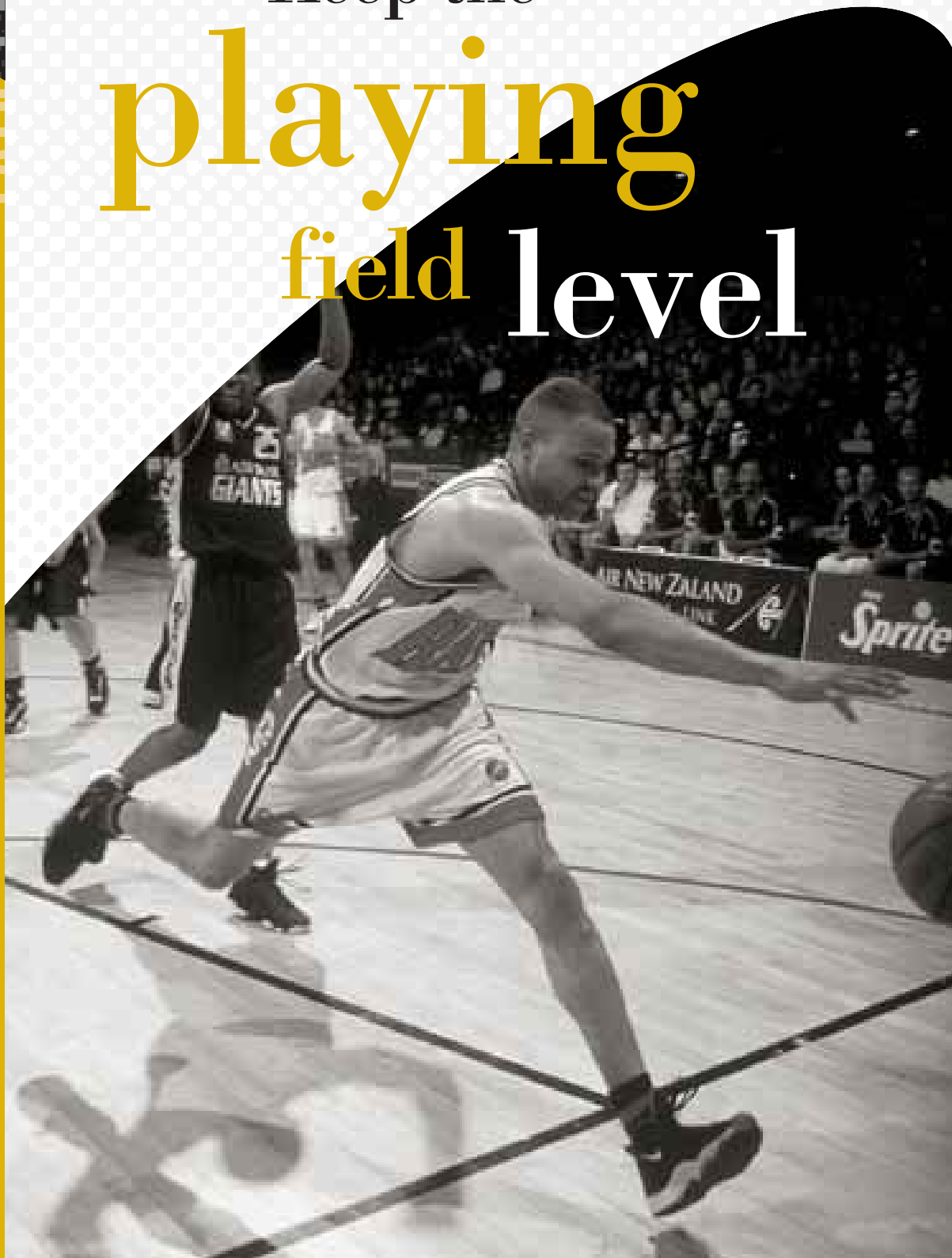
FAIR PLAY

People play to participate and enjoy the game – two considerations that are often more important than winning. Bending the rules and foul play are unsporting and ruin the enjoyment for all involved. Coaches, players, referees and supporters all have a role in upholding the principles of fair play.

Keep the playing field level



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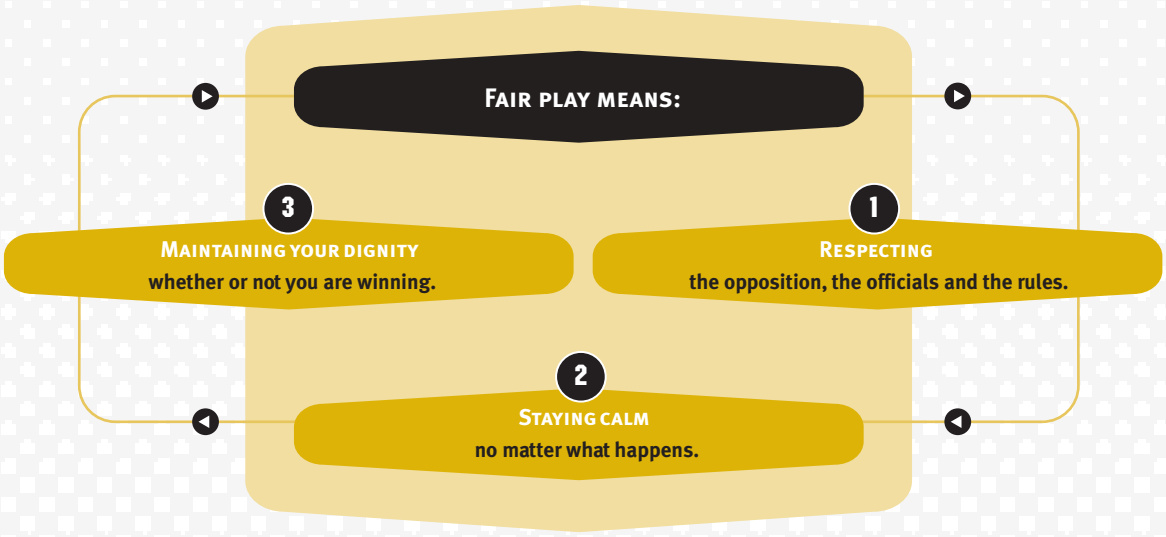

Fair play, a healthy competitive spirit and an injury-free environment are key to participation and enjoyment – and that's why sporting rules and codes have been designed. Before you start playing, make sure you know the rules of the game and are willing to abide by them.

Rules

Some rules are designed and enforced just to reduce or remove the risk of injury. For example:

Hockey players aren't allowed to raise their sticks above shoulder level, spear tackling in rugby is disallowed, and physical contact in non-contact sports is penalised.

Drugs in sport

The misuse of drugs to enhance sports performance is wrong for three important reasons:

1. **It contravenes the code of fair play.**
2. **It is breaking the laws of sport and society.**
3. **It carries the risk of serious health problems and the risk of injury.**

Coaches and players have joint responsibility to keep sport free from drugs.

Everyone has a role

If the game gets out of control, play can become reckless and dangerous – and increase the potential for injury. Play your part – play fair. Remember many referees are volunteers and need your support by respecting their decisions. Bending the rules is cheating.

REFEREES SHOULD:

- Be trained in the game's rules and apply them fairly and consistently
- Encourage fair play
- Always be firm but friendly
- Help players to understand the rules
- Enforce disciplinary action appropriate to the level of misconduct.

Good sport is about positive attitude

PLAYERS SHOULD:

- Understand the rules before starting the game
- Play fair and within the game's rules
- Respect the referee's call by not challenging their decision
- Respect their opponents.

COACHES SHOULD:

- Emphasise the guidelines of fair play to all players
- Make sure all players know the rules
- Accept all calls by the referee and not try to influence them
- Speak out against violence, poor behaviour and cheating
- Respect the officials and their decisions.

PARENTS/SUPPORTERS SHOULD:

- Respect the referees and their decisions
- Encourage the players to play fair
- Support their team positively.

For more information on fair play, contact:
SPARC (Sport and Recreation New Zealand): www.sparc.org.nz

For confidential information on drug use in sport contact:
the New Zealand Sports Drug Agency: www.nzsda.co.nz

6

PROTECTIVE EQUIPMENT

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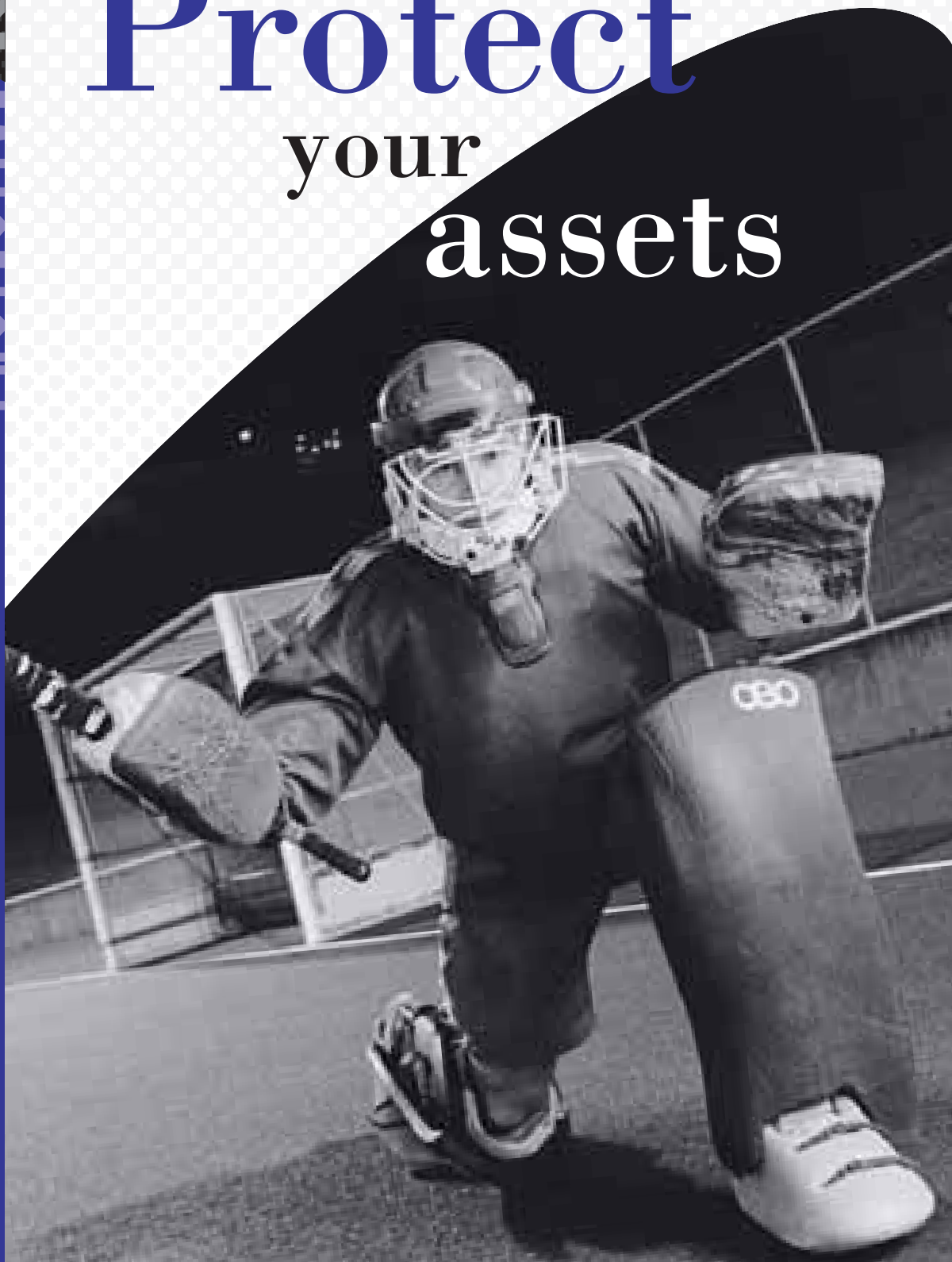
PROTECTIVE EQUIPMENT

Protective equipment is there to protect players against injury and should be used wherever possible. Protective equipment includes personal equipment such as mouthguards and headgear, as well as equipment such as padding around goal posts.

Protect your assets



SPORTSMART

Mouthguards

- Mouthguards reduce cuts to the lip, mouth and tongue, protect teeth and help to prevent jaw injuries.
- Always wear mouthguards in activities with a risk of collision or body contact.

Headgear

Hard helmets such as those worn when cycling or horse riding help to protect the brain from injury in an impact. Soft headgear such as that worn when playing rugby can help to prevent serious cuts to the scalp and ears.

Make sure headgear is approved and appropriate to the sport.

- Headgear must be fitted properly and securely to prevent serious cuts to the scalp and ears.
- Hard helmets must be secure to reduce the risk of concussion and skull fractures.
- Wear hard helmets and face guards in sports involving small, hard balls travelling at high speeds (e.g. hockey, cricket, lacrosse).

Bracing and taping

Bracing and taping can provide some protection against injury to joints.

- Don't use braces and taping to allow an injured player to play while injured.
- If possible, use braces rather than tape, as the effective support provided by taping is generally reduced after 20 minutes of play.
- Braces are reusable, adjustable, and can provide continuous support.

Footwear and eyewear

- Good footwear provides protection from impact and support for the foot and ankle.
- Make sure footwear fits well to provide support, has enough cushioning for absorbing impacts, has a good sole for traction on the surface, and complies with the laws of the game.
- Protective eyewear reduces the impact of fast-moving objects such as balls and racquets.

Padding

Padding absorbs impact, minimising the effect of the impact on the player's body and reducing the risk of injury.

- Always use high-density foam padding around goal posts or other areas of high risk.
- Use padding on areas of the body that are likely to have contact with other players or equipment. Ensure the padding conforms to the rules of the sport.
- Use protective equipment appropriate to the player's gender, for example chest protection for women in contact sports such as rugby, or "boxes" for men in sports such as cricket.

PROTECTIVE EQUIPMENT MUST:

- Be used for the intended purpose
- Fit well
- Be comfortable
- Not restrict movement in the sport
- Be worn at practices and matches.

WHEN BUYING PROTECTIVE EQUIPMENT:

- Buy sport-approved protective equipment
- Replace worn-out, damaged or defective equipment
- Don't alter the equipment, as this will reduce its effectiveness
- Avoid sharing protective equipment between players of different sizes
- Make sure the equipment complies with the laws of the sport
- Make sure equipment isn't a risk to other players.

6

For more information on protective equipment, contact: **the relevant sports organisation: www.sportnz.co.nz**

THE 10-POINT ACTION PLAN FOR SPORTS INJURY PREVENTION

www.acc.co.nz/sportsmart

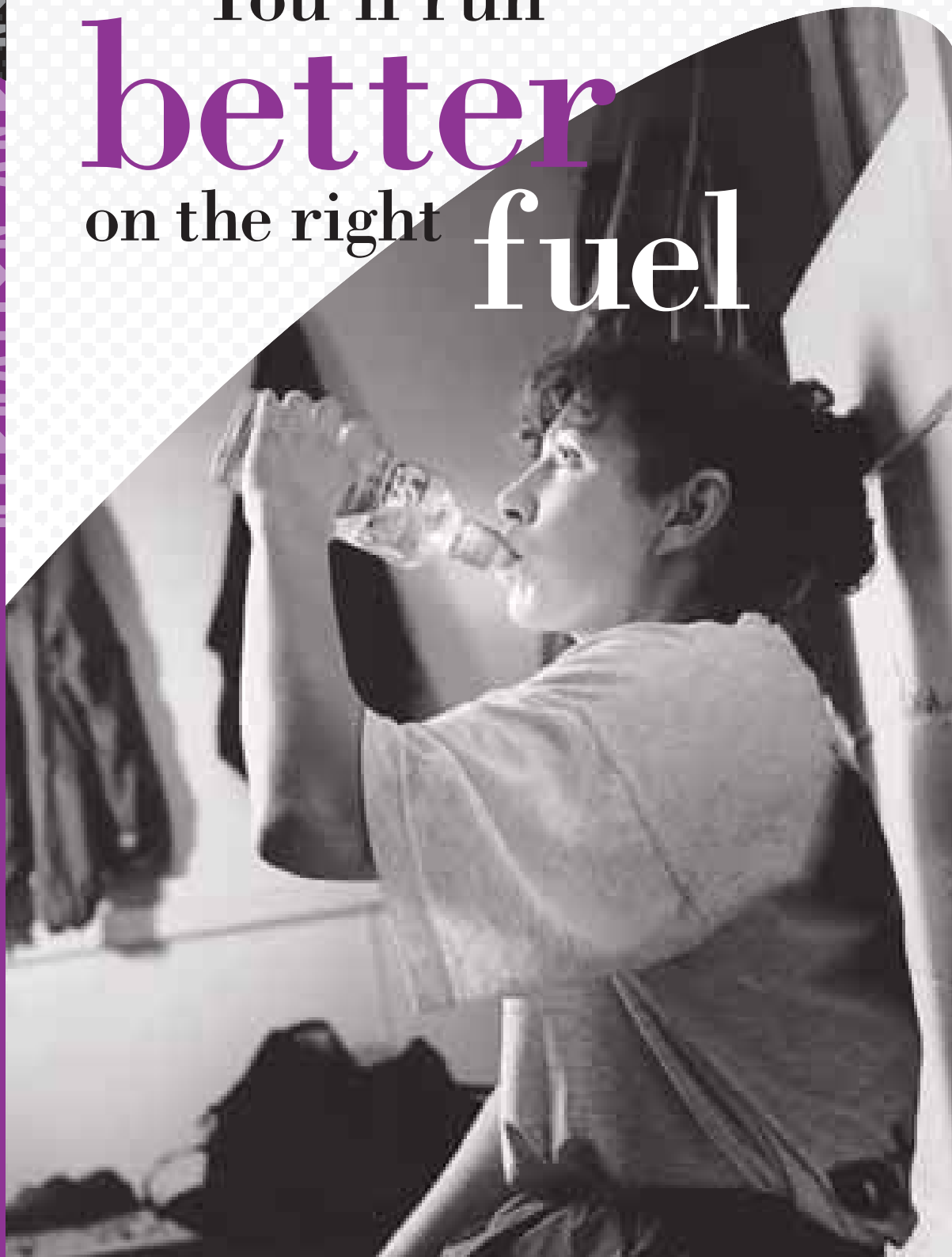
7

HYDRATION AND NUTRITION

HYDRATION AND NUTRITION

Hydration (drinking adequate fluid) and nutrition (the foods you eat) are critical parts of the sporting experience. Hydration replaces fluid lost during sweating and maintains sports performance, while nutrition provides an essential fuel supply for exercise, promotes a nutritional environment that allows players to recover more efficiently between training sessions, and satisfies the basic nutrient requirements of good health and growth and prevention of lifestyle diseases.

You'll run better on the right fuel



SPORTSMART

Maintaining ideal hydration and nutrition levels requires the attention of both coaches and players before, during and after exercise. This includes training as well as competitive games and events.

Fluids and dehydration

Dehydration has a significantly detrimental effect on sports performance. It:

- Decreases concentration levels, leading to increased clumsiness
- Decreases endurance capacity
- Decreases performance levels through increased fatigue and headaches
- Decreases the ability to judge accurately the distance from other players or balls when catching a ball or tackling another player
- Delays recovery.

Good hydration strategies:

- Replace sweat losses and promote recovery
- Reduce the effect of fatigue and allow players to maintain a high level of concentration and therefore performance.

Encourage players to:

- Pre-hydrate! Drink fluids before starting a training session or competition and during the day
- Drink small amounts where possible throughout the game e.g. breaks in play, half-time, time-outs, rests
- Increase fluid intake in hot and humid conditions
- Replace every kilogram lost during exercise with 1.5 litres of fluid
- Drink fluid that is flavoured and cool
- Drink well formulated (4-8% carbohydrate) sports drinks during activity lasting longer than one hour.

Players should avoid:

- Caffeine, energy drinks (e.g. Red Bull, V), smart drinks and alcohol after exercise as these increase fluid losses
- Sharing drink bottles between players so that flu, hepatitis and other infections don't spread between players.

Follow these simple guidelines for adults participating in exercise

500-600ml	Two hours before exercise.
500ml	15 minutes before exercise.
150-350ml per 15-20 minutes	During exercise as tolerated. Use breaks in play as opportunities to take extra fluid. It is especially important to drink enough fluid in endurance and high-intensity exercise.
1-1.5 litres per kg of body weight lost	After exercise drink fluids to rehydrate and produce a clear or pale urine. Drink more than thirst dictates. Sports drinks are suitable.

Note:

- Plain water is appropriate for exercise lasting less than one hour. Drinks containing 4-8% carbohydrate and 0.5-0.7g/litre sodium are recommended for intense exercise lasting longer than one hour.
- As children are less effective at sweating and produce more heat during exercise than adults, hydration and fluid intake are particularly important when exercising in hot/humid climates. Children may need to be encouraged to drink more fluids (flavoured and cool beverages are preferred). Children can use well formulated sports drinks. Sports drinks (e.g. Replace, Powerade) should contain 4-8% carbohydrate and 0.5-0.7g/litre sodium. Sports waters (e.g. Mizone, loaded water) contain little or no carbohydrate (less than 4%) and no sodium – only fluid to rehydrate, flavouring and sometimes added vitamins. Check the labels if you are unsure. Sports waters are not suitable for endurance events as a sole source of nutrition (food must be consumed), but are ideal for workouts at the gym or training lasting around one hour.

Nutrition for exercise

Good nutrition:

- Increases energy levels, leading to more active participation
- Helps in the development of strong bones, which reduces the possibility of fractures
- Helps repair damaged muscle tissue
- Allows the body to recover between physical activity sessions
- Provides for growth.

Poor nutrition:

- Decreases concentration through decreased energy levels
- Causes poorly developed muscles and bones, and may lead to iron deficiency
- Decreases a player's endurance capacity.

High-carbohydrate foods

Carbohydrates are mainly used for energy during moderate to high-intensity exercise. High-carbohydrate foods include bananas, fruit, pasta, bread, rice, potato and breakfast cereals. Make these foods the main part of meals and snacks.

Specialised sports bars, gels and sports drinks containing carbohydrate are available, convenient and easy to transport to training, games and for use in recovery.

Foods containing protein

Protein is essential to build, maintain and repair the body's tissue. Foods high in protein are eggs, chicken, fish, red meat, legumes (such as dried beans) and dairy products (choose lower-fat versions).

Dairy products also provide a valuable source of calcium, while meats provide zinc and iron.

Encourage players to:

- Ensure that over half their food intake comes from carbohydrate-based foods (i.e. eat 6-10g carbohydrate/kg of body weight)
- Increase their intake of carbohydrate foods a few days (two to three) before an endurance event or tournament
- Ensure their diet contains 1.2-1.7g protein/kg body weight
- Eat enough food to provide sufficient energy for training and games
- Maintain a hydrated state.

Players should avoid:

- Foods high in fat and fibre before and during exercise.

Note:

- If players have any doubts about their food intake, are newly vegetarian or have low-energy intakes (for example, to make a weight category or reduce body fat levels) they should talk to a sports dietitian to ensure they are meeting all their energy and nutrient requirements (especially for calcium, iron, carbohydrate and protein).
- The indiscriminate use of vitamin tablets or iron supplements is not recommended without appropriate investigation and medical advice. Excess iron can be dangerous to some people. As supplements may contain banned substances, players are advised to seek professional advice before consuming them.

Foods containing 50g carbohydrate include:

- 2 bananas
- 4-5 weetbix
- 1 cup cooked rice
- 1 1/2 cups cooked pasta
- 1 cup kumara
- 2 1/2 cups porridge or other cereals
- 2 1/2 potatoes
- 2 cups yoghurt
- 3 apples
- 2 muffins
- 2-3 crumpets
- 4-5 slices bread
- 1 large bagel
- 600ml sports drink
- 600ml flavoured milk
- 500ml fruit juice or cordial
- 1 1/2 – 2 gels or carbo shots
- 1 1/2 – 2 muesli bars or sports bars (check the labels)

Protein content of food:

100g lean red meat	27g	1 cup yoghurt	10g
2 slices (30g) ham	3g	30g cheese	8g
1 hamburger	18g	2 slices bread	5g
100g tofu	8g	1 cup rice	5g
100g chicken	33g	1 cup pasta	5g
100g white fish	23g	2 weetbix	8g
100g canned salmon	20g	1 potato	2-3g
12 mussels	20g	1/2 cup baked beans	7g
100g canned tuna	26g	1/2 cup peas	5g
1 egg	6g	1 tbsp peanut butter	5g
1 egg white	3g	2 tbsp milk powder	5-6g
1/2 cup bean salad	9g	2 tbsp protein powders (average values)	5g
1 glass flavoured milk	7g		

Fad diets and programmes promoting a rapid weight loss tend to place the energy intake of active people and athletes at risk and possibly increase the risk of fatigue, increasing the risk of injury. Players wishing to train hard and reduce body fat or weight should seek advice from a sports dietitian or a sports medicine doctor.

A sample day's diet for a player in training or competition

DIARY NOTES

7.30	**Breakfast**
7.45	Fruit juice, cereal or porridge, lower-fat milk, yoghurt,
8.00	fresh or canned fruit, toast, drink (tea, coffee, milo,
8.15	milk or juice and water). Other options include canned
8.30	spaghetti or baked beans and fruit smoothies.
8.45	
9.00	**Snack**
9.15	Fruit or muesli bar/energy bar, drink, bagel, sandwiches,
9.30	rolls, fruit muffins, fruit juice and water.
9.45	
10.00	**Lunch**
10.15	Rolls or sandwiches, sushi, rice dishes, fruit,
10.30	possible muffin/cake/biscuit or other sweet item, pasta dishes
10.45	with lower-fat, tomato-based sauces, drink and water.
11.00	
11.15	**Snack**
11.30	Fruit or muesli bar/energy bar, drink, bagel, sandwiches, rolls, canned rice
11.45	pudding, fruit muffins, fruit juice and water. Eat one–two hours before
12.00	training or workouts.
12.15	
12.30	**Recovery Snack**
12.45	Sports drink, fruit juice, cordial and water with banana,
1.00	muffin, fresh fruit, canned fruit, canned rice pudding,
1.15	jam or honey sandwiches.
1.30	
1.45	**Dinner**
2.00	Large serving of carbohydrate (e.g. potatoes, pasta, rice, couscous,
2.15	taro, kumara) to cover half the plate, lean low-fat meat/chicken/fish
2.30	or other protein-rich food (trim pork, seafood such as mussels, eggs,
2.45	chilli beans, legumes, tofu), two–three other vegetables (at least one
3.00	green and one coloured) or salad, and drink (water, juice, smoothie).
3.15	
3.30	
3.45	
4.00	
4.15	
4.30	
4.45	
5.00	
5.15	
5.30	
5.45	
6.00	
6.15	
6.30	
6.45	
7.00	
7.15	
7.30	
7.45	

Note:

1. Try to eat at least two hours prior to training and three to four hours prior to competition and keep food choices at this time low in fat. Drink plenty of water and sports drinks.
2. Vegetarian athletes are at extra risk of iron deficiency and should have a blood count and ferritin test annually. See your doctor to arrange this.

For more information on hydration and nutrition contact: **a sports dietition.**

8

INJURY REPORTING

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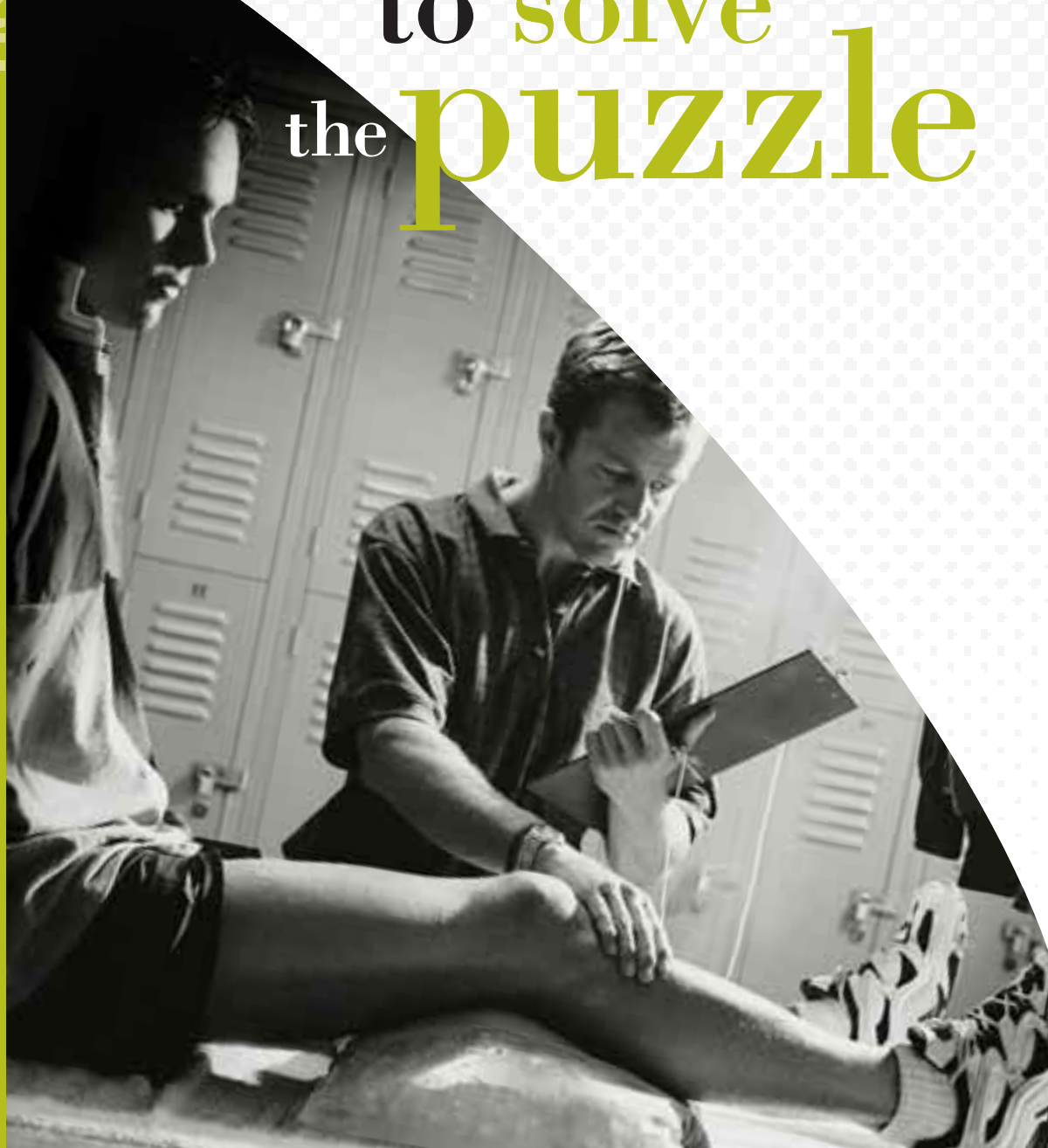
INJURY REPORTING

Injury reporting is all about gathering information on injuries so that we can learn about why and how they happen – and find ways to prevent them happening again. By monitoring injuries and continuing to gather information, sport policies and practices can even be changed to improve the game for all involved. Coaches should get into the habit of recording injuries as they happen. This will enable them to see if a pattern of injury emerges over a season and to assess whether any introduced injury prevention measures make a difference.

Find all the pieces to solve the puzzle



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There are three key aspects to designing a sports injury reporting system:

- Deciding what injuries will be recorded (i.e. inclusion criteria)
- Deciding what information will be collected
- Deciding how the data will be collected, analysed and reported.

1. Inclusion criteria: Which injuries to report?

Deciding what injuries to record will depend on the objectives of the sports organisation. It may, for example, want to collect information on all injuries occurring during scheduled games or practices that require a player to receive treatment, or cause a player to miss part of the practice session or game, or to miss the next practice session or game. On the other hand, it may only be interested in recording the more serious injuries, such as those resulting in permanent disablement or death (e.g. a spinal or head injury).

2. Information set: What information to collect?

Use an Injury Report Form like the one on the back of this sheet to record individual players' injuries – it can be modified to suit your sport. The form provides the minimum information you need for sports injury reporting.

3. Reporting system: What to do with the collected information?

Having decided on the inclusion criteria and the items of information to be recorded, the next task is to decide how the data will be collected, analysed and reported. The reporting system will be influenced by the sports organisation's objectives and the resources (e.g. funds, people, computers) that can be committed to its operation. Issues to be addressed include:

- What is the population from which you are recording information (e.g. elite players only, all grades)?
- During what period is the data to be collected (e.g. club season, whole year)?
- How will the data be collected (e.g. questionnaire completed at time of injury and posted to national office, postal survey at end of season)?
- Who will provide the data (e.g. individual players, referees, team medics)?
- Where will the data be collated and stored (e.g. club, regional organisation, national office)?
- How will the data be analysed (e.g. statistical package, external analyst)?
- How will the findings be disseminated (e.g. annual report to administrators, monthly reports to clubs)?
- How will data confidentiality be protected (e.g. policy on identifying individuals, storage)?

Injury reporting in action

The following are some examples of how injury reporting can be used to reduce injuries. These examples involve reporting systems implemented through a national code, however similar processes can be implemented just as effectively at club level.

Rugby

Two major surveys of rugby players in New Zealand used results from player injury reporting. The surveys aimed to find out:

- What injuries were occurring in rugby
- How many injuries were occurring
- What factors were contributing to the injuries.

Before this time, the rugby community didn't know a lot about the types of injuries that players were sustaining. The first survey found that there were more injuries in higher grades, that most of the injuries occurred in the tackle, that a lot of injuries were caused by foul play, that players with previous injuries were more likely to have another and that training in the off-season reduced the risk of injury during the season. These findings helped to identify the types of injury prevention strategies to put in place – without this information, the rugby community wouldn't have known where to start.

As a result of the survey, new policies have been implemented, including the compulsory wearing of mouthguards by all players and changes to the rules of the game – particularly in relation to engagement at scrum time. There has also been a big focus on teaching correct tackling techniques.

The second survey in 1997 revealed a reduction in rugby injuries. This illustrates why injury reporting is important – to show sports people that the measures put in place to reduce injury actually work.

Hockey

The New Zealand Hockey Federation has worked with ACC to implement an injury reporting system. In 2001, it was shown that of the injuries reported by coaches at the national hockey tournaments, only 33% of players were using protective equipment such as mouthguards and shin pads. This became an area of focus for the 2002 season, with New Zealand Hockey making wearing mouthguards compulsory at national tournaments and actively promoting their use throughout the game for the season.

League

League has been undertaking regular injury reporting via its referees since 1997. Over time, this has enabled league and ACC to see that injury rates have been reducing. In 1998, 53% of league games surveyed had at least one injury. In the 2001 season this had reduced to 42% – the lowest on record. The injury reporting has also been used to monitor how many players are using protective equipment – one of the key strategies for injury prevention (see "Protective Equipment"). Over the seasons of injury reporting there has been a steady increase in the use of protective equipment in league. In particular, the use of mouthguards nearly tripled from 31% in 1997 to 91% for the 2001 season, and the proportion of players wearing headgear has doubled.

SAMPLE INJURY REPORT FORM

This sample injury report form can be modified for your sport.

SPORT/ACTIVITY AT TIME OF INJURY:

NAME (OR OTHER IDENTIFICATION) OF PERSON COMPLETING THIS FORM: e.g. player, coach, GP

DATE OF INJURY: **AGE:** **GENDER:** **ETHNICITY:**

LEVEL OF ACTIVITY AT TIME OF INJURY: e.g. recreational or organised competition, grade, age group etc

PLAYING POSITION AT TIME OF INJURY: **TIME OF INJURY: (HR/MIN)**

NAME OF PLACE WHERE THE INJURY OCCURRED:

TYPE OF PLACE WHERE THE INJURY OCCURRED:
- ◯ Field
- ◯ Gym
- ◯ Stadium
- ◯ Court
- ◯ Changing room
- ◯ Other

1. WHAT WERE YOU DOING WHEN THE INJURY OCCURRED?
- ◯ Training
- ◯ Warming up
- ◯ Competing/playing
- ◯ Cooling down

2. HOW LONG HAD YOU BEEN TRAINING/WARMING UP/COMPETING/COOLING DOWN WHEN THE INJURY OCCURRED (MINUTES)?

3. WHAT SPECIFIC ACTIVITY WERE YOU INVOLVED IN WHEN THE INJURY OCCURRED?
e.g. tackling a player, catching a ball, landing from a jump

4. HOW DO YOU THINK YOUR INJURY HAPPENED? *
- ◯ Landing
- ◯ Running/jogging
- ◯ Colliding with equipment
- ◯ Developed gradually
- ◯ Twisting
- ◯ Over-exertion
- ◯ Catching
- ◯ Landing on another player's foot
- ◯ Pivoting
- ◯ Swinging
- ◯ Stretching
- ◯ Heads clashing in tackle
- ◯ Falling
- ◯ Uncertain
- ◯ Other

5. DESCRIBE EXACTLY HOW THE INJURY OCCURRED:

6. WERE THERE ANY FACTORS THAT CONTRIBUTED TO THE INCIDENT?
e.g. ground conditions, unsafe equipment, foul play, poor concentration, too much training, fatigue

7. WHAT PROTECTIVE EQUIPMENT WAS USED ON THE BODY PART INJURED?
- ◯ Nothing
- ◯ Hand/wrist guards
- ◯ Brace
- ◯ Tape or strapping
- ◯ Headgear
- ◯ Padding
- ◯ Bandage
- ◯ Thermal support
- ◯ Mouthguard
- ◯ Other

8. WHAT WAS THE TYPE OF INJURY?
- ◯ Bruise/contusion
- ◯ Broken bone
- ◯ Concussion
- ◯ Cut/open wound
- ◯ Abrasion/graze
- ◯ Joint dislocation
- ◯ Puncture wound
- ◯ Overuse injury
- ◯ Stress fracture
- ◯ Muscle/tendon strain
- ◯ Ligament/tendon sprain
- ◯ Dental
- ◯ Uncertain
- ◯ Other

9. WHERE ON YOUR BODY WAS THE INJURY?
- ◯ Toes (L/R)
- ◯ Foot (L/R)
- ◯ Ankle (L/R)
- ◯ Shin/calf (L/R)
- ◯ Knee (L/R)
- ◯ Upper leg/thigh (L/R)
- ◯ Hamstrings (L/R)
- ◯ Hands/fingers/thumb (L/R)
- ◯ Forearm (L/R)
- ◯ Elbow (L/R)
- ◯ Upper arm (L/R)
- ◯ Shoulder (L/R)
- ◯ Stomach
- ◯ Chest
- ◯ Back
- ◯ Head
- ◯ Neck
- ◯ Other

10. SEVERITY OF INJURY (MEASURED AS TIME LOST FROM PARTICIPATION):
- ◯ Minor 1-7 days
- ◯ Moderate 8-21 days
- ◯ Major 21 days or more

11. WAS YOUR INJURY TREATED BY ANY OF THE FOLLOWING PEOPLE IMMEDIATELY AFTER IT HAPPENED?
- ◯ Not treated
- ◯ Physiotherapist
- ◯ Parent
- ◯ Doctor
- ◯ Yourself
- ◯ Coach
- ◯ St. Johns
- ◯ Other

12. WHAT INITIAL TREATMENT DID YOU RECEIVE?
- ◯ Manual therapy
- ◯ R.I.C.E.D.
- ◯ Water
- ◯ Sling/splint
- ◯ Massage
- ◯ Strapping/taping
- ◯ Dressing
- ◯ Stretch/exercises
- ◯ Crutches
- ◯ None given (none required)
- ◯ None given (referred elsewhere)

** This may need to be modified depending on the sport.*

For more information on injury reporting, contact:

The Injury Prevention Research Unit, University of Otago: www.otago.ac.nz/ipru/ or Injury Prevention, ACC: www.acc.co.nz.

THE 10-POINT ACTION PLAN FOR SPORTS INJURY PREVENTION

9

ENVIRONMENT

ENVIRONMENT

The sports environment includes not only the weather, but also the facilities, surfaces and equipment that are being played on and with, as well as the "safety culture" in the sports club or organisation. Make sure you assess all these factors before play starts – a safe environment will reduce the number of potential injuries and should allow greater participation and enjoyment.

Test the water before you jump in

SPORTSMART

Indoor and outdoor facilities

Check:

- The facilities are large enough for play
- Perimeter fencing and advertising boards are not too close to the playing area
- Spectators and vehicles are well away from the playing area
- Facilities are clean and hygienic.

Playing surfaces

Check:

- The ground is level
- There are no holes in the ground
- There are no exposed sprinkler heads
- There is no broken glass, rubbish or stones
- Excessively muddy and boggy areas are avoided
- Artificial surfaces are free of surface water and debris such as sand, gravel and leaves
- There are no water spills on the floor
- All playing surfaces have adequate lighting.

Playing equipment

Check:

- Equipment is regularly maintained
- Goal posts are padded
- Nets are attached securely to avoid entanglement
- Corner posts and marker flags will flex on impact and have no sharp edges
- Equipment is stable and will not fall over or collapse
- Equipment is suited to the players' size and ability.

Weather conditions

Players, coaches and referees need to be prepared for the weather conditions and any change that may happen during training or competition. Coaches should also be familiar with the signs of hypothermia and heat stress, especially those coaching children, who are more susceptible to extremes of weather.

In warm weather conditions check:

- Clothing is light-coloured
- Clothing is loose-fitting
- Clothing is lightweight
- Players drink enough fluids
- Players apply sunscreen to all exposed skin
- Players wear hats if appropriate.

In cold weather conditions check:

- Players wear adequate clothing during warm-up and cool-down
- Clothing is not excessively heavy or bulky to restrict movement
- Players wear polypropylene under the team uniform to reduce heat loss
- During wet and/or windy weather players wear waterproof or windproof tracksuits during training sessions and before and after a competition.

Policy and report system

Make sure you have a system of monitoring and reporting potential and current hazards:

- Make individual people responsible for checking areas/equipment regularly
- Develop written policies to deal with issues such as postponement or cancellation appropriately and consistently.

Always have an emergency procedure:

- Ensure a qualified first aider is always at training and competition
- Check all playing fields/stadiums have emergency access and that these are always clear
- Check that a complete and well sign-posted first aid kit is always available
- Check that a phone is always available to contact emergency services
- Make sure coaches know the directions to your nearest Accident and Emergency (A & E) clinic
- Make sure all visiting teams know about the emergency procedures and where to find the first aid kit, phone and nearest A & E.

Symptoms of heat stress

- Heavy sweating.
- Skin flushed or cool and pale.
- Headache.
- Dizziness.
- Muscle cramps.
- Weakness.
- Rapid pulse.
- Loss of consciousness (seek immediate help).

Symptoms of hypothermia

- Shivering (mild to intense).
- Weakness.
- Pale and waxy skin.
- Unco-ordinated movements.
- Confusion/agitation.
- Slow, slurred speech.
- Strange behaviour.
- Refusal of help.
- Slow, shallow breathing.

NOTE: Most basic first aid manuals include information for the treatment of hypothermia and heat stress.

For more information on environment, refer to: **Health and Safety Guidelines in Sport available from SPARC (Sport and Recreation New Zealand): www.sparc.org.nz**

10

INJURY MANAGEMENT

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INJURY MANAGEMENT

Injury management involves identifying, treating and recovering from an injury. It's important that injured players don't suffer unnecessary additional pain and discomfort – and delay recovery from their injury. Remember, the sooner the injury is appropriately managed, the less time the player will be in pain or discomfort and the sooner they will be able to return to their activity.

Get yourself in working order

SPORTSMART

Assessing the injury

Injuries need to be evaluated as soon as possible using D.R.A.B.C. (Danger, Response, Airway, Breathing, Circulation) to determine their severity. If emergency treatment is not needed, T.O.T.A.P.S. is an effective tool for further assessment.

Talk

- Ask the player what happened.
- Where does it hurt?
- What kind of pain is it?

Observe

- Look at the affected area for redness or swelling.
- Is the injured side different from the other side?

Touch

- Touch will indicate warmth for inflammation. Touch also assesses pain.

Active movement

- Ask the injured player to move the injured part without any help.

Passive movement

- If the player can move the injured part, carefully try to move it through its full range of motion.

Skill test

- Did the active and passive movement produce pain?
  If no, can the player stand and demonstrate some of the skills from the game carefully?
- If an injury is identified, remove the player from the activity immediately.

The above guidelines do not apply for assessing head injuries/concussion or suspected spinal injury. For suspected spinal injury, the player must be kept lying flat and immobile until professional help is available. For information on how to assess concussion, refer to the sports injury prevention part of the ACC website (www.acc.co.nz/sportsmart).

Immediate injury treatment

A soft tissue injury such as a sprain, strain or bruise identified using T.O.T.A.P.S should immediately be treated with the R.I.C.E.D. procedure:

Rest

- Rest reduces further damage – stop activity as soon as the injury occurs.
- Avoid as much movement of the injured part as possible to limit further injury.
- Don't put any weight on the injured part.

Ice

- Ice cools the tissue and reduces pain, swelling and bleeding.
- Place ice wrapped in a damp towel onto the injured area – don't put ice directly onto bare skin.
- Hold the ice pack firmly in place with a bandage.
- Keep ice on the injury for 20 minutes every two hours for the first 48 hours.

Compression

- Firm bandaging helps to reduce bleeding and swelling.
- Ensure that bandaging is not so tight that it cuts off circulation or causes tingling or pain past the bandage.
- Bandage the injury between ice treatments.

Elevation

- Elevation helps to stop bleeding and reduce swelling.
- Raise the injured area on a pillow for comfort and support.
- Keep the injured area raised as much as possible.

Diagnosis

- Consult a medical professional* especially if you are worried about the injury, or if the pain or swelling gets worse.
- If the pain or swelling has not gone down significantly within 48 hours, also seek treatment.

*such as a doctor or physiotherapist

Avoid H.A.R.M-ful factors

Avoid the H.A.R.M-ful factors for 72 hours after the injury:

Heat

- Heat increases the bleeding at the injury site.
- Avoid hot baths and showers, saunas, hot water bottles, heat packs and liniments.

Alcohol

- Alcohol increases bleeding and swelling at the injury site, and delays healing.
- It can also mask the pain of the injury and its possible severity, which may result in the player not seeking treatment as early as they should.

Running

- Running or any form of exercise will cause further damage.
- Players should not resume exercise within 72 hours of an injury unless a medical professional says it is all right to exercise.

Massage

- Massage causes an increase in bleeding and swelling, and should be avoided within 72 hours of the injury.
- If the injury is massaged within the first 72 hours, it may take longer to heal.

Rehabilitation

Rehabilitation focuses on restoring the player's full functions and sport-specific abilities to prevent their re-injury and encourage the best possible performance. First, it is important to restore co-ordination, control, strength, flexibility, speed, balance and endurance. Then improve sport-specific skills such as kicking, swinging and throwing.

Rehabilitation and preparation for return to play have three phases (see diagram).

THREE PHASES FOR RETURN TO PLAY

Phase 1: Acute Phase

Control and reduce the symptoms of a soft tissue injury e.g. pain, swelling, bruising by following the R.I.C.E.D. procedure and avoiding any H.A.R.M-ful factors.

Phase 2: Rehabilitation

During the rehabilitation process the player needs to:

- Restore range of motion
- Restore co-ordination and control
- Restore strength and endurance
- Restore balance
- Maintain fitness
- Build confidence

Phase 3: Return to Play

Restore sport-specific skills and techniques e.g. jumping, throwing, kicking. When the sport-specific skills can be done at the same level as they were before the injury, the player can return to the activity.

For free brochures on injury management which can be distributed to players, call 0800 THINKSAFE (0800 844 657).

An example

Ankle sprains are one of the most common sporting injuries. Outlined overleaf, as an example, are guidelines for a rehabilitation process for ankle sprains. These will help you establish when an injured player can return to training.

To assess whether the player can return to play, compare the injured and non-injured legs.

For guidelines on a rehabilitation process for other common sports injuries see www.acc.co.nz/sportsmart.

EXAMPLE OF A RETURN TO PLAY STRATEGY AFTER A MILD ANKLE SPRAIN

NOTE:

This is a guide only. Timeframes for rehabilitation and return to play vary depending on the nature and severity of the injury. Always seek the advice of a medical professional for a rehabilitation programme specific to you and your injury.

Days 1-2

POST-INJURY
Have swelling and pain settled?

NO ▶ CONTINUE R.I.C.E.D. TREATMENT

YES ▼

BEGIN RANGE OF MOTION EXERCISES

- *Point and flex foot.*
- *Turn foot in and out.*

Days 3-4

CAN YOU:
Move your ankle without pain?

NO ▶ *If still unable to walk normally consult a medical professional for further treatment.*

YES ▼

BEGIN STRENGTH EXERCISES

- *Point and flex foot against resistance.*
- *Move foot side to side against resistance.*

BEGIN BALANCE EXERCISES

- *Balance on the injured leg.*
- *Wobbleboard.*
- *Partial to full weight-bearing (walking) as able.*

\+ MAINTAIN FITNESS
Stationary cycling, upper body exercises.

Days 5-9

CAN YOU:

- **Balance on the injured foot for an equal amount of time as the other foot?**
- **Point and raise your toes in equal amounts as the other foot?**
- **Walk on your tip toes?**
- **Walk on your heels?**
- **Walk on the outside edge of the feet?**
- **Move without pain?**

NO ▶ CONTINUE TO IMPROVE STRENGTH AND MOVEMENT

YES ▼

BEGIN FUNCTIONAL EXERCISES
Jumping, hopping, twisting, figure of 8 running.

\+ MAINTAIN FITNESS
Jogging if comfort permits, stationary cycling.

Days 10-12

CAN YOU:

- **Run forwards and backwards?**
- **Slow down and stop suddenly?**
- **Jump and hop?**
- **Run up and down hills?**
- **Cut to the left and right at speed?**
- **Complete all exercises with 100% confidence?**

NO ▶ CONTINUE TO IMPROVE AGILITY AND SPORT-SPECIFIC SKILLS

YES ▼

RETURN TO TRAINING

\+ MAINTAIN
Fitness, range of motion, strength, proprioception.

For more information on injury management, contact:
Sports Medicine New Zealand:
www.sportsmedicine.co.nz
or attend a first aid course.

THE 10-POINT ACTION PLAN FOR SPORTS INJURY PREVENTION

www.acc.co.nz/sportsmart


think safe


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