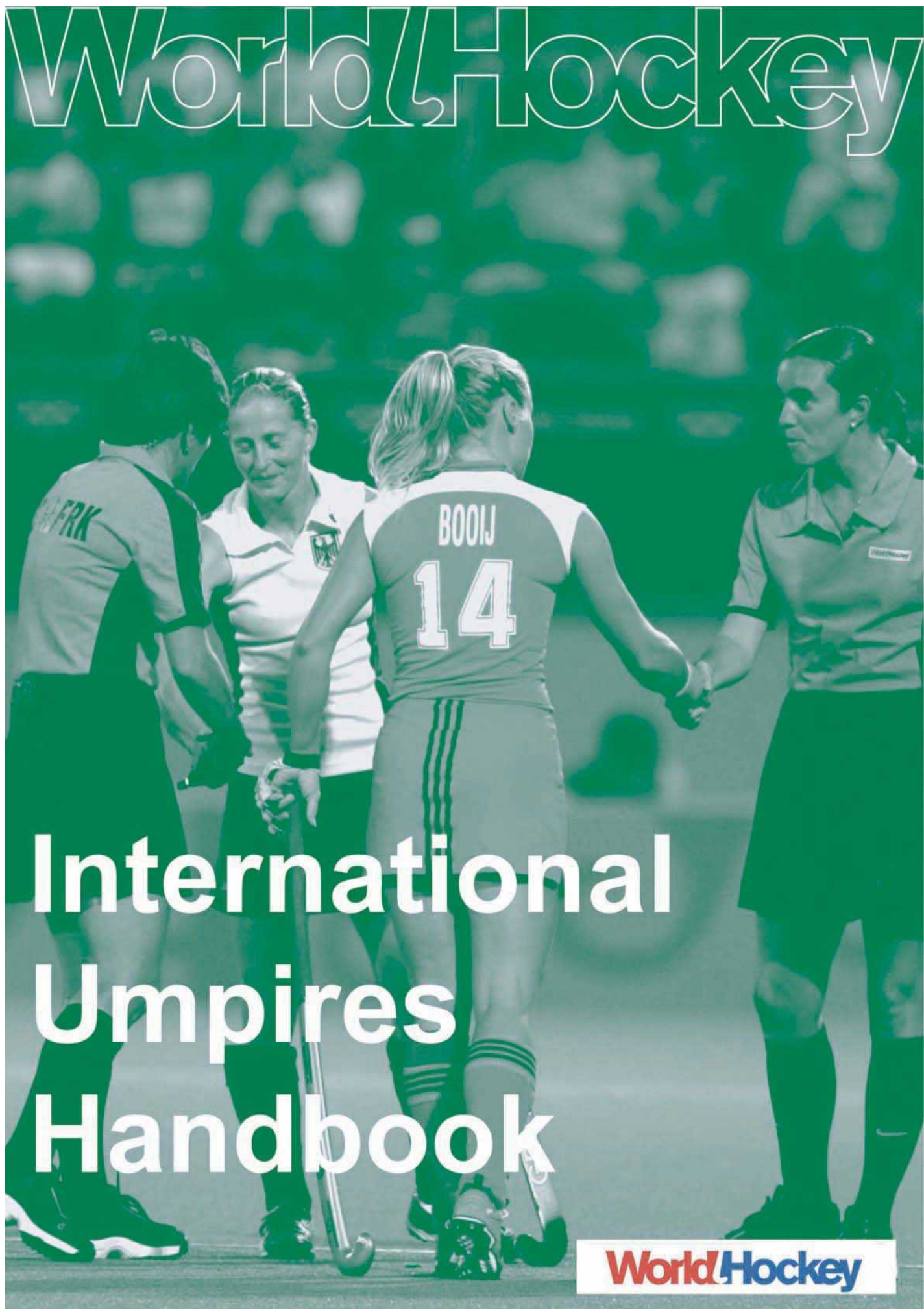


WorldHockey



International Umpires Handbook

WorldHockey

Contents

1.	Introduction	page 3
2.	Responsibilities and Information	page 4
3.	Travel Hints	page 6
4.	Check List for Tournament Preparation	page 7
5.	Check List for Mental Skills	page 8
6.	Fitness	page 9
7.	Medical	page 11
8.	Check List for Nutrition and Diet	page 12
9.	Conclusion	page 13

Appendices

1.	Mental Preparation	page 14
2.	Handling Pressure	page 17
3.	Fitness Programme	page 24
4.	Nutrition & Diet	page 36

©2005 International Hockey Federation

FIH, Residence Le Parc, Rue du Valentin 61, 1004 Lausanne, Switzerland
Tel: + 41 21 641 0606 Fax: +41 21 641 607
E-mail: info@WorldHockey.org – Website: www.WorldHockey.org

1. Introduction

This handbook was first published by the FIH Umpiring Committee in 2001 to assist umpires to prepare properly for their tournaments and to give an idea of what is expected of them as an 'International Umpire'.

This is the first update of the Handbook since then. We hope that the information contained continues to be of particular assistance to umpires new to International hockey, while at the same time enabling the more experienced umpires to refresh their knowledge.

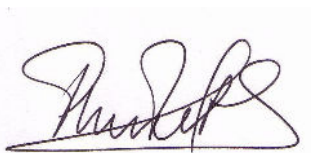
Modern hockey is increasingly demanding on the umpire. Players are fitter, faster and developing new skills and tactics all the time. It is essential that umpires adopt the same thorough preparation as the players, as well as keeping fully up to date with the way that the game is constantly developing.

The contents of this handbook can only provide an introduction to some of the areas you need to be aware of and work at to become a good international umpire. Please also refer to the information provided on the FIH website. Your National Association should also be able to assist you in your preparations and by providing any further information which you require.

The pages which follow this Introduction are the 'basics', which we feel are essential reading. For those of you who wish to go more deeply into some of the covered topics, we hope that you will find the Appendices on Mental Preparation, Handling Pressure, Fitness Programme and Nutrition & Diet to be of interest.

The FIH Umpiring Committee hopes that you will find this Handbook valuable in assisting you to be prepared for your international role. We hope you have a long and successful career.

Enjoy your umpiring.



Peter von Reth
Chairman
FIH Umpiring Committee
February 2005

2. Responsibilities and Information

With any new position comes responsibility, and becoming an international umpire is no exception. Some of the responsibilities are listed below:

1. To prepare properly for each and every match and tournament, ensuring that you are fully fit to carry out your umpiring duties. Be aware of the requirement to prepare differently for unfamiliar climates.
2. To be aware of the current Rules and their interpretations.
3. To respond promptly to any communications you receive either concerning an appointment to a tournament or from an appointed Tournament Director, Umpire Manager or Organising Committee. Failure to comply will lead to your nomination being withdrawn.
4. To ensure that your travel arrangements enable you to arrive at a tournament on time, to be present at all briefings and to be available to umpire the last match if required. Never finalise your travel arrangements, including any payment, unless instructed to do so by the Organising Committee of the event (or your National Association, if appointed by them). You run the risk of not being reimbursed if you do not have the necessary authorisation.
5. To be part of the 'Umpires Team' at a tournament. Teamwork amongst the umpires, both on and off the pitch, cannot be over emphasised.
6. To be smartly dressed in the approved kit (while umpiring), which is:

Women:

Black skirts
Black socks
Black footwear
Shirts in cerise, turquoise and yellow

Men:

Black trousers
Black footwear
Shirts in cerise, turquoise and yellow

Sponsor logos are not permitted on any umpiring equipment, including caps, unless provided either by FIH or the Tournament Organisers. National Associations are entitled to choose their own colours for umpiring shirts for use in domestic competitions.

7. It is not recommended that you take your partner to an event. Experience shows that this can distract you from being focused on your performance and affect your membership of the umpiring team. Organising Committees have no obligation to provide accommodation, meals, transport, admission to the event or social functions for your partner.
8. Accommodation is normally in twin rooms and you will share with one of your umpiring colleagues.
9. Food or a meal allowance will be provided at a tournament depending upon either what has been decided by the Tournament Organisers or been agreed with the FIH. However, always take some local currency as on occasions meal allowances are not paid until two or three days after you have arrived.

10. At a tournament the Tournament Director is responsible for appointing umpires to matches, and this will normally be done in liaison with the Umpires' Manager if one has been appointed. Either the Tournament Director or the Umpires Manager will give you detailed information as to how the formalities at a tournament are to be handled.
11. The role of the Umpires' Manager (there is one appointed when there are more than four teams at a tournament) is to help you improve your performance through coaching, and to ensure that other arrangements with hotel, transport etc. go smoothly. They work closely with the Tournament Director, Organising Committee and other technical officials to help develop the umpiring team.
12. Increasingly, video is being used to analyse an umpire's performance, and you should be prepared to be involved in such a review session following your matches.
13. At the end of a tournament, you should have a review meeting with the Tournament Director and Umpires' Manager. You will receive at the end of the event, a written feedback report, which should cover those matters discussed with you.
14. The Tournament Director is responsible for marking your umpiring performance. The Umpires' Manager also submits a report on the overall operation of the tournament from an umpire's perspective. The FIH Umpiring Committee is responsible for decisions on your grading and future progress, based upon the received marks and reported performances.

The Rules Governing the Grading of International Umpires are available on the FIH website, and are normally updated on a yearly basis.

15. As part of the award of 'International Umpire' status you will receive a badge, small silver coloured whistle as a lapel badge and an ID card with photograph. Since 1998 being a holder of this ID card no longer entitles you to free admission to any event.

A lapel gold coloured whistle is awarded to all those who achieve 100 official Senior Inter-Nations matches.

16. Ensure you notify the FIH promptly of any change in your contact details. E-mail should be used wherever possible.
17. Allowable matches in relation to International Umpire 'Caps':
 - (i) Any Senior/U-21 Outdoor Inter-Nations matches played in a tournament approved by the FIH and controlled by a Tournament Director.
 - (ii) Any Senior/U-21 Outdoor single Inter-Nations match for which the FIH has received an 'A' Team Result Match Form.
 - (iii) Any match that is not registered as described above will not count as far as an umpiring "cap" is concerned. It is important therefore that where ever possible National Associations are encouraged to register a match. There are no longer any fees applicable for such match registrations.

3. Travel Hints

1. Check well in advance of your travel whether or not you need a visa and/or any medical injections. It is your personal responsibility to obtain these, although your National Association may be able to assist.
2. Prepare yourself by gathering information about the country you are visiting; for example about food, local culture and customs, currency and weather conditions.
3. Carry some local currency in case of unforeseen expenses.
4. Carry in your hand luggage your hotel details, a copy of your invitation and other essential tournament paperwork and information. Also carry any other personal items that would be a problem if your other luggage is either delayed or lost.
5. Take with you any medications or toiletries, since these may be difficult to acquire.
6. Check that you are fully insured. You are generally covered by the FIH Insurance Policy in the case of an FIH appointment. This should be notified to you at the time of your appointment, but even then ensure that the cover provided is enough for your personal needs.
7. Always take dress suitable for a formal occasion. Most tournaments usually have at least one official function.
8. If you are travelling across several time zones, try and get your body used to local time as soon as possible. If you have had a long flight, do not go straight to bed unless local time is night.

In-flight

Wear loose fitting clothing and footwear

Take books, personal stereo

Drink plenty of fluids, water, fruit juices or cordials. Avoid too much alcohol and drinks containing caffeine such as tea and coffee.

Do regular stretching exercises and walk up and down the cabin aisle.

On arrival

Take some light exercise e.g. walking or stretching

Drink extra fluids, again water or fruit juices

Undertake light training only.

4. Check List for Tournament Preparation

1. Start your fitness programme early and build up to the tournament. You need to be confident in your ability to pass a fitness test
2. Discuss with senior umpires / national team coaches playing styles that you may experience. Where possible, use videos of international hockey to get an impression of what to expect. This is very important for your preparation as some of the games are often far quicker than national hockey.
3. Be aware that your training should be appropriate to the weather conditions in the country you are visiting, and make any necessary adjustments accordingly.
4. Make sure you are match fit by regularly umpiring appropriate standard matches in the weeks leading up to your event.
5. To improve your understanding of playing styles and techniques as well as improving your understanding of tactics, it is recommended that where possible you attend national team training sessions or top club training sessions. You will also find this will help you to develop your management skills and rapport with the players.
6. Make sure you re-read the current International Rules book, are aware of current interpretations and have read any relevant Tournament Regulations.

7. Role of Neutral Umpire or experienced umpire

- (i) At events where there is no UM appointed the TD may ask you to take on the role of 'Umpires' Team Captain'. The TD should announce this to the umpires group and will explain what they wish you to do. This will normally involve acting as a link between the TD and other umpires and possibly some 'coaching' of the less experienced umpires. Be aware that this role is not an obligation, and that it should not be allowed to adversely affect your own umpiring performance.

Even if the TD does not ask you to become 'Team Captain' as the Neutral Umpire you may well find that the less experienced umpires look to you for practical advice.

- (ii) At smaller events you may find that the TD decides to give fewer appointments to you and more to less experienced umpires. The TD will normally explain this to you. This is a good way of providing development opportunities for new umpires.

These are just some of the responsibilities that come with being a 'neutral' or an experienced umpire. Remember the kind of help that you would have liked at your first Tournaments!

5. Check List for Mental Skills

Pre- Match / Tournament

- Relaxation
- General Preparation - am I fully prepared?
- Personal checklist of things to 'do'
- Positive mental rehearsal - past games, upcoming games, pressure situations, stadium, crowd, player's etc.
- Check rules / tournament regulations
- Positive self reassurance
- Stretching
- Hydration & Diet
- Establish a 'Plan B' if something goes wrong
- Pre-match discussion - where umpiring with an unknown colleague a short check list may help communication.

During the match

- Concentration - use visual, verbal cues to refocus
- Momentary relaxation during appropriate breaks in play - deep breaths
- Problems and emotions - gain 'time' to manage the situation
- Enjoy the game - use your refocusing skills to focus on players / fun
- Personal injury - have the courage to go off - develop a strategy for the right time to call for a replacement

Post Match / Tournament

- Self analysis
- Feedback – umpires' manager / players/ coaches - develop a feel for who you can trust to the objective
- Checkout more than one source of feedback
- Critical assessment / Positive assessment
- Cut - off assessment and analysis stops and looks forward to next game
- Visualise game
- Video

6. Fitness

General

All Umpires attending Tournaments will be expected to be both match and tournament fit. They will also be expected to achieve the 'International' standard at a fitness test, if one is conducted. Be aware that a fitness test may be conducted at any tournament, and will certainly be conducted at all major events.

Today's hockey puts ever-increasing demands upon umpires, both physically and mentally. Due to the development of the game itself and the increase in the standards of teams and players preparations and performances there is an absolute requirement for umpires to respond.

Coaches, players and umpires need to constantly re-think their approach in all areas, to develop new strategies and new courses of action.

The decisions of the umpires are often measured to be key to the result of the game. Due to these increasing demands, the responsibility of the umpire has increased. There is now an even greater need for the umpire to be up to game speed, both physically and mentally.

A fit umpire will not guarantee a better standard of decision making. However a good level of fitness will certainly allow a better opportunity of being in the right place to make the correct decision, and also assist in maintaining their concentration for the full seventy minutes.

The Progressive Shuttle-Run Test

It is mandatory to stage a fitness test at: -

- All Senior and U-21 Inter Nation Tournaments with 6 or more teams participating
- At all World Cups, Olympic Games and their Qualifiers
- At Continental Qualifying Nations events or Continental Championships

It is advised to stage a fitness test at: -

- All other events, including Club Tournaments, where an Umpires Manager has been appointed and the Tournament schedule allows time for proper testing. It is recommended that the testing should be conducted on the artificial playing pitch, in order to reduce the risk of injuries etc.

The test, often referred to as the 'Beep Test', will be the one used by your Umpires Manager to test your fitness. The date of the test is decisive for the required level, according to your age.

	Men	Women
Under 30 years	Minimum of level 10	Minimum of level 9
30 to 40 years	Minimum of level 9	Minimum of level 8
40 years and over	Minimum of level 8	Minimum of level 7

The Beep Test requires either a cd or cassette and the appropriate player. Your National Association should be able to obtain a cd or cassette and instruction book for you, as it is widely available from national sports/coaching councils. When undertaking the test, it is essential that the distance between the markers is accurately measured (20m).

The principle is straightforward: the person being tested runs to and from (a shuttle run) along a measured track, keeping up with a series of bleeps on the cassette. The timing bleeps start off very slowly, but get progressively faster, so that it becomes harder and harder to keep up the required speed. The runner stops when he or she can no longer maintain the set pace, which is indicated by being late at the turning point on two occasions.

In order for this test to work properly, you have to push yourself to your limit. If you are suffering from any injury or illness, or if you have any reason to think you may not be in a good general state of health, you should consult your doctor before doing this test.

When using this test you will find you get much better results and find it more enjoyable if you train with other people.

Note:

When running the beep test, you must not keep going until you collapse. You should stop once it becomes very difficult, but push yourself until that stage is reached.

If you would like to practise the beep test and encounter difficulty in trying to purchase a tape, you can contact either:

Australian Sports Commission
Coaching & Officiating Unit
PO Box 176
Belconnen ACT 2616
Australia
Tel: + 61.2.6214.1879
Fax: +61.2.6214.1200
E-Mail: NCAS@ausport.gov.au or NOAS@ausport.gov.au

or

SportsCoachUK
114 Cardigan Road
Headingley
Leeds LS6 3BJ
England
Tel: + 44.113.274.4802
Fax: + 44.113.275.5019

7. Medical

It is recommended that at least once **every two years** that you have:



1. A full medical check up including EKG (ECG) cardiovascular status
2. Blood Analysis
3. Urine Analysis

It is further recommended that at least once **every year** you have:

1. An eye sight test
2. A hearing examination

Your National Association should be able to arrange / facilitate these tests / examinations for you. It is nevertheless still your personal responsibility to take care of your health and arrange for the necessary tests / examinations.

8. Check List for Nutrition & Diet

It is important to follow a nutritious and well balanced diet.

Fuelling your body

- Enables you to remain healthy and in good shape
- Assists in recovery between training sessions
- Enables you to train and prepare properly
- Pay particular attention during the important build up period to Tournaments

Recovery

- Allow your body time to recover from training sessions
- Rest days are important to recharge the batteries

Hydration

- Always remain well hydrated
- On hot and humid days you will need to increase your fluid intake
- If you are going to a warmer and more humid climate, drink plenty of fluid in the acclimatisation period leading up to your matches/tournament

Pre-Match

- Eat 2-3 hours before the start of your match
- Eat familiar foods
- Include plenty of fluid so that you start the match well hydrated

During the Match

- Continue your fluid intake during the match
- Take a water bottle onto the pitch with you, leave it at the side of the pitch and drink when the opportunity arises
- Do not wait to drink until you are thirsty

After the Match

- Continue to re-hydrate
- Start the recovery process straight away with appropriate snack food
- Remember alcohol is dehydrating!

9. Conclusion

In this handbook we have attempted to give you information which should assist you to properly prepare for your tournaments, and help you to deliver good umpiring performances.

It is vital for you to develop a good understanding, both verbal and written, of English. All of the FIH Briefings and discussions are given in English. The higher up the umpiring ladder you rise, the more important it is that fully understand the language of Hockey. A lack of proper understanding may hinder your umpiring development, or certainly make your career progress more difficult than it might otherwise have been.

Please note that the section on Technical Skills, which was included in the last version of the International Umpires Handbook, since 2004 has effectively been covered in the Umpiring section of the Rules of Hockey booklets. This should be read as if it is still part of this Handbook.

Peter von Reth
Chairman
FIH Umpiring Committee
E-mail: vonreth@iae.nl

Acknowledgements, based upon the original 2001 version: Jane Nockolds, Jackie Dabinett, Chris Harwood, Dennis Meredith, Corinne Pritchard, Hamish Jamson, Dave Clark and Loughborough University.

Appendix 1. Mental Preparation

A strong relationship exists between the psychological skills and the physical performance of umpires. Indeed, the success or failure of an umpire depends on his or her physical ability (i.e. conditioning for the demands of hockey, techniques, visual skills) **and** mental ability (i.e. confidence, concentration, emotional control).

Just as physical skills can be learned, so can psychological skills. Effective umpires are not born with a complete set of psychological skills. Their ability to concentrate, relax under pressure, maintain confidence and relate to players and officials is systematically and repeatedly practised.

In order to develop psychological skills (become better mentally prepared) a number of key elements need to be considered:

- Communication
- Confidence
- Concentration
- Motivation
- Relaxation
- Mental Imagery.

1. Communication

An umpire who has a pleasant style, quick smile and calm demeanour creates a more soothing effect on players and coaches. Communication is a two-way business; keep the lines of communication open and you will be more likely to have constructive and enjoyable relationships with players, coaches and spectators.

2. Confidence

Research indicates that confidence is the one factor that separates highly successful umpires from less successful umpires. Confident umpires believe in themselves and their ability to meet the challenges and decisions they face during a match. They have a high expectancy of success. However, it is worth noting that regrettably, many umpires are either over-confident or under-confident. It should be noted that confidence alone does not overcome incompetence.

3. Concentration

Although it would seem relatively easy to focus on the action in the game, inevitably a wide variety of irrelevant interruptions compete for an umpire's attention. These may include a hostile group of spectators, poor weather conditions, a particularly vociferous coach, etc.

Umpires are advised to try to keep the mind free of the distractions around them and focus their attention on the action. In preparing to concentrate they must learn:

- to cope effectively with pressure and anxiety;
- to selectively attend to relevant areas while ignoring irrelevant areas (distraction).
- to rapidly re-focus attention on the immediate task if distracted.

- to properly apply the Rules, mechanics and positioning in order to umpire effectively.

4. Motivation

Staying motivated is not always easy. Today's hockey umpire is exposed to increasing pressure. We umpires therefore need to sustain our motivation.

One effective way to do this is through **goal-setting**. When correctly set, goals can be tremendously effective tools for increasing motivation and improving performance. All goals should be within the control of the umpire and reflect improvements based on personal standards of excellence.

In addition to goals, such things as finding inspiration in role models, rewarding yourself, and maintaining your personal love of the sport and umpiring will help an umpire maintain his or her commitment.

5. Relaxation

There are a variety of relaxation techniques that can assist umpires.

Physical techniques include:

- **progressive relaxation** (tense all muscles and progressively relax them gradually).
- **breath control** (breathe out strongly attempting to exhale all the air from the lungs, then breathe in and hold the breath for a count of 8. Exhale the air gently. Wait for a count of 5 and check to see if the finger-tips tingle slightly. This indicates that oxygen is circulating in the blood-stream. At this point the umpire should begin to feel relaxed and alert).

Other mental relaxation techniques include:

- **self-talk** (talking and thinking objectively and very positively).
- **thought stopping** (stopping negative thoughts before they have an adverse effect on performance). Thought stopping involves concentrating on the undesired thought briefly and then using a cue or trigger to stop the thought and clear the mind.

6. Mental Imagery

Imagery refers to re-living or creating an experience in the mind. Thus, even when the umpire is not actually umpiring a match, imagery enables him or her to experience it vividly in their mind. Most umpires use imagery without making a systematic effort to do so. For example, when they have watched other umpires and tried to imitate their performance in the mind.

Similarly, the mind can create or picture new events that have not yet occurred. For example, perhaps an umpire has had difficulty in the past when dealing with certain argumentative players and as a result, visualises him/herself acting in a calm yet firm manner in future similar situations. As these effective 'performances' go through the

mind, the umpire notices that he or she is feeling more confident about decisions during the match or future matches.

Strategies and Guidelines to Assist Good Mental Preparation

The key to good mental preparation is to be thoroughly prepared. The preparation process includes physical ability (fitness), Rules knowledge and skill development. You also need to think through the standard and importance of the tournament you are officiating at. This may well effect the intensity of play and the level of demands made on your performance.

For an umpire to have confidence in his or her performance, particularly when pressures increase, it is useful to refer to basics. Having clear and specific objectives and priorities before the match can assist in the psychological preparation. Making these objectives and priorities as simple as possible can help prepare for what is essentially a complex situation to manage.

Some umpires have their own routines prior to matches and these assist them in removing anxiety. These routines need to be individually developed and flexible. Becoming too reliant on a very specific routine is not recommended, as unforeseen interruption to it, may cause a change in confidence and increase anxiety.

A key objective for hockey umpires is to work with each other to manage a safe environment in which two teams can play and enjoy their hockey.

In addition to objectives and priorities such as these, there are the other options as mentioned earlier. They include the relaxation techniques involving controlling your breathing process, and visualisation where you imagine yourself with the teams at the event making positive decisions. These practises assist you in the building of confidence and the removal of anxiety.



*To assist you in understanding and developing psychological skills pertinent to officiating, you are recommended to read the following book **“Psychology of Officiating”** by Robert S. Weinberg, Peggy A. Richardson.*

Appendix 2. Handling Pressure

Umpiring top level hockey can be a stressful experience. Umpires feel strong emotions during a game, such as nervousness, anger or delight after playing that perfect advantage. To umpire consistently well, it is vital to control and channel these emotions either consciously or sub-consciously. This article provides a brief insight into the most common emotions and how, by mental training, to manage these toward optimal performance.

Mental Qualities and Performance

The world's best umpires perform well at the highest level under the maximum pressure because they have developed the four main mental qualities required for success. They

- show great **control** of their emotions
- are **committed** to their sport and train both mentally and physically before tournaments
- can maintain **concentration**, ignoring distractions such as a noisy crowd
- openly display **confidence**, even if within they lack it due to poor form

Whilst these four mental qualities are vital to good umpiring, it is also important to understand the relationship between activation, stress, anxiety and good performance.

Activation

Activation refers to an umpire's mental and physical state as a total system. The mind, like the body, needs brief rest periods to perform at a high level over a long period. Hockey umpiring tends to be more mentally rather than physically demanding because mental activation states are always high. Hence it is important, when a suitable break comes along (such as an injury requiring treatment), to relax and refocus on the match in progress.

Ideal activation states are highly individual - some umpires perform best when highly activated, others more efficiently at lower levels of activation. Using mental techniques, it is possible to create an **Ideal Performance State** that umpires are able to find, regain and maintain whatever the action occurring in front of them.

Stress

The body feels stress when an internal or external stimulus (stressors) is interpreted by the brain as a potential threat. The most common umpiring stressors occur when:

- Umpiring at an important event for the first time
- Umpiring in front of a large crowd
- Umpiring in a particularly important match
- Arriving late and not having enough time to prepare mentally and physically for the match.

Very few umpires do not perceive these stressors as a threat and feel that they have adequate skills to deal with the situation; this can lead to over-confidence. More commonly, the stressor is

perceived as a threat, resulting in symptoms such as butterflies in the stomach. Now the umpire is under stress and this commonly leads to anxiety.

Anxiety

Mental anxiety is characterised by fear of failure and self-doubt. Physical anxiety is characterised by negatively perceiving common symptoms such as nervousness, nausea, butterflies and going to toilet frequently! How an umpire mentally tackles anxiety can have a huge effect on performance.

Performance

Increased levels of stress and anxiety may for some umpires raise their level of activation towards and individual's **Ideal Performance State (IPS)**; Such umpires often perform best when under maximum pressure. Others, who perform best at lower levels of activation, may be over activated under such pressure and need to employ mental relaxation methods to approach their IPS.

To achieve optimal performance, umpires should focus on:

- Identification of their own optimum activation or Ideal Performance State
- Learning techniques which will allow them to achieve, control or regain such activation, whatever the pressure or importance of the match

Techniques to Handle Pressure and Improve Mental Qualities

Four different techniques to improve mental qualities are presented in this section: relaxation techniques, thought restructuring, attitude management and activation increase. They cover the stress and anxiety felt by umpires during tournament hockey and should help every umpire achieve their own Ideal Performance State before and during matches. Like any techniques, they should be learnt, practised, used regularly and integrated into tournament preparation to be most effective.

Mental relaxation Techniques

Mental relaxation techniques (using the mind to calm the body) are used to reduce symptoms of anxiety and are particularly useful before and during a match. Two such techniques are *image-based relaxation* and *meditative relaxation*.

Image based relaxation

The fundamental of image based relaxation is the formation of calming, controlled images in the mind that involve all the five senses (sight, sound, touch, taste and smell) detaching the individual from negative anxiety. This technique is ideal at calming nerves the night before a big game or during early pre-match preparation and is an excellent starting point to practice on.

Example of Image Based Relaxation:

- 1) Lie down somewhere quiet, close your eyes and relax your entire body. If you hear noises, don't try to block them out, just concentrate on your breathing - breathing in and out slowly.
- 2) Once you have established a comfortable breathing pattern, focus your attention on an image or situation that you find beautifully tranquil - maybe a gentle waterfall or a sunny beach. Try to create a vivid image, see the colours and textures in as much detail as possible.
- 3) Now imagine the sounds - perhaps water, birds or voices, again in as much detail as possible.
- 4) Now imagine the taste and smell of the air in your image before imagining its feel touch - maybe the sand running through your fingers.
- 5) Don't worry if you wander from one image to another, eventually you will find the image that provides the most relaxed response.
- 6) Continue this exercise until you can hold images effortlessly for a long time.
- 7) To return back to consciousness count back from ten to one on each exhalation, gradually experiencing greater alertness and awareness of the actual environment. When you reach one, you should feel fully relaxed and refreshed. Slowly stretch, inhale and open your eyes before you sit up.

This relaxation technique is successful, and with practice, is useful in a matter of seconds, since it directs the umpires' attention away from the negative thoughts leading to anxiety, encouraging positive images.

Image based relaxation is also extremely useful to focus the mind before a match. Positive thoughts, associated with the upcoming match, such as spotting/dealing with a difficult off-the-ball incident or giving a great advantage, should be used. This method will also act to increase an umpires' confidence.

Meditative relaxation

Another method to reduce anxiety is meditative relaxation. This is essentially a deep concentration exercise allowing individuals the ability to focus the mind on a cue word.

Relaxation can be :

Deep - ideal the night before a big match

Control - ideal for focusing the mind prior to umpiring

Composure - used to refocus attention during the match

Example of Meditative Relaxation:

- 1) Ensure the environment is quiet.
- 2) Assume a comfortable position and adopt an "open" mind (let things happen as opposed to forcing them to happen)
- 3) Repeat an individual key word (such as deep, control or composure depending on the circumstances)
- 4) Allow the key word to let the mind drift into the required state.

Again, practice makes this technique successful. Used well, it will act to reduce anxiety (deep/control) and achieve Ideal Performance State (control/composure).

Physical relaxation techniques

Physical relaxation techniques (using the body to calm the mind), such as rhythmic breathing and centring are best used immediately before the start of a match or during a break in a play to quickly and efficiently reduce anxiety. A further technique, progressive muscular relaxation, works best to induce sleep before a big match and reducing physical anxiety (butterflies, feeling sick)

Rhythmic breathing

Breathing plays an important role in dealing with pressure situations. Normally, when individuals are stressed, their breathing becomes laboured, short and shallow. Conversely, a calm individual has deep, smooth and rhythmic breathing, increasing the oxygen to flow to muscles and helping to reduce muscle tension. The art of rhythmic breathing is to recognise stressed breathing and force the body in a calm and rhythmic manner.

Example of Rhythmic Breathing:

- 1) Check your pulse (count for 15 seconds and multiply by four). Place your hands on your rib cage (diaphragm); breathe in deeply to a count of three, feeling the rib cage expand. Hold for a count of three and then breathe out.
- 2) Repeat a number of times and then recheck your pulse. You should find that your heart rate has decreased and you should feel more calm and focused on the match in progress.

Centring

Centring is about gathering yourself together, refocusing maybe after a bad decision or a controversial moment. The requirement is for an individual to change their centre of consciousness away from the head to a point in the middle of the stomach. This lowering of the centre of consciousness induces a feeling of stability and balance.

Example of Centring:

- 1) Stand with your feet shoulder width apart
- 2) Relax your neck, arms and shoulders
- 3) Whilst focusing on your stomach muscles, take a deep slow breath (with minimum movement of the chest), feeling the weight of your stomach muscles tighten and then relax.

Progressive Muscular relaxation

This technique helps an individual to gain control over the levels of tension of every muscle group in the body. It works by alternatively tensing and then relaxing each muscle group, whilst focusing on the sensations felt. Remember, this technique is best employed the night before a match to relax enough to enjoy a good night's sleep.

Example of Progressive Muscular Relaxation:

- a) Lie down and relax your entire body. If you hear noises (such as a snoring room mate!) don't block them out, but concentrate on your breathing, in and out slowly. If you want to move slightly, that is fine. Close your eyes and relax.
- b) Tense the muscles in your right lower leg and foot by pointing your toe away yourself; feel the tension in the foot and calf muscles. Hold for five to six seconds and then relax; feel the warmth in the muscles. Repeat this procedure on the right leg and then repeat twice on the left leg.
- c) Now tense and relax the thigh and buttocks region for both legs. Repeat on each leg.
- d) Tense and relax the forearm and hand by making a fist. Do this twice for each arm. Tense and relax the biceps of each arm by bending at the elbow and pretending that you are doing a chin-up. Repeat twice for each arm.
- e) Tense and relax the back muscles by arching your back. Repeat a second time.
- f) Tense and relax the stomach and chest muscles by breathing in and out deeply. Repeat a second time.
- g) Tense and relax the neck and shoulders by shrugging your shoulders (pulling them together). Repeat a second time.
- h) Tense and relax the face and forehead by gritting your teeth and pulling your eyebrows together. Repeat a second time.
- i) Mentally scan your body for any tension and release it by tensing and relaxing. focus on the relaxed feelings in your muscles the calming thoughts in your mind set. Now is a good time to try another image-based relaxation technique.

Thought Restructuring

For umpires who perform better at high levels of activation, those who like to have "the fire burning in their bellies", relaxation techniques to reduce anxiety may not be the best course of

action. Thought restructuring is useful here and involves the umpire actively recognising the stressful situation (a tense match) in a positive manner and using it to spur them on.

Self- Talk is a powerful way through which individuals can reinforce positive feelings and boost self-confidence. *Self-talk* must be positive, so rather than saying " If I don't have a good game, I've blown my chances of the final", an umpire should be saying "So far, so good, stay focused and concentrate even harder for the last five minutes".

Self- talk can also help in anxious situations by viewing the anxiety positively rather than negatively. An umpire who is very anxious before the start of a big match may be thinking "I can't relax, I hate these butterflies in my stomach", but should be self-talking "These feelings that I am mentally charged and physically prepared- I'm going to have my best game."

A further method of thought restructuring is *re-framing*. *Re-framing* is when an individual assesses a stressful situation by turning on its head and viewing it in a different way. So, after having missed a control opportunity during a match, rather than saying "That was bad umpiring, I'm sure to be marked down on that", the thought re-structuring umpire will say " There's still another forty minutes to go, so I'll grab the next opportunity with both hands".

Attitude Management

Attitude Management is about teaching the mind to view the stressful situation, such as pressure match, in a controllable as opposed to an uncontrollable way. If an inexperienced umpire focuses on how difficult the pressure match will be, they will feel anxiety and have viewed the situation in an uncontrollable manner. If, however, they focus on how the match will make them perform to the best their ability, the stressful situation becomes controllable.

Another way to think about this is like this: *thoughts control emotion*. The more an umpire has negative thoughts about his/her performance, the more likely he/she is to umpire badly. Conversely, positive thoughts are likely to lead to positive umpiring. Hence, umpires should focus their attention on controllable performance factors and not uncontrollable outcomes. In other words, keep positive

Activation increase

An umpire's mental and physical activation will determine his/her performance. For some, with a low Ideal Performance State, it is important to use relaxation techniques during and after the game to reach optimal performance (put the fire out), whilst for others, it may be necessary to increase stimulation (fan the flames).

This is also true during a dull match that may be very one-sided. It is crucial that umpires remain focused and increase their activation, just in case something unexpected occurs, such as a fracas between players.

Increasing activation is very personal, but methods include:

- ***Image based activation***
This involves the recreation of images which act to increase emotion and activation. For example, imagining yourself performing brilliantly in a pressure match.
- ***Self-talk***
This is personal encouragement to increase emotion and activation. Lines such as "you've worked hard to get to this tournament, so show them what you can do" or "never umpire at less than 100% during the whole game" can self motivate.
- ***Music*** - Music has a powerful effect on the body as we associate different music with different emotions. By listening to his/her music before a game, an umpire can motivate and focus his/her effectively. Also, by re-playing this music in the mind during the match, an umpire can increase their activation.

SUMMARY

This article has attempted to introduce the causes of anxiety caused by the pressure of umpiring International Hockey and some methods of handling it. Top umpires have learned over the years that not all stressful situations are bad and have developed management strategies to approach tough matches in a calm and controlled manner. To handle top international hockey well, it is important for each individual umpire to strengthen their own mental qualities by selecting and practising the most effective mental techniques to handle pressure, to manage stress and to maintain their ideal performance state.

Appendix 3. Fitness Programme

The Physical Demands of Hockey Umpiring

Umpires cover up an average of 4000 m in 70 minutes during an international hockey match. This comprises of functional running, which is stop-start and is characterised by changes in speed from jogging to sprinting. It is multi-directional, forwards, backwards and sideways, and is interspersed with stationary positions including the lunge and the squat.

The intensity at which this work is performed is determined by the nature of the specific match. On average 50% of all running is performed at moderate intensity, 10% at maximal sprinting intensity. There are indications that the demands for high intensity running are increasing up towards 16% of total match time.

Umpires are not stationary for any significant period of time during a match. This implies that recovery from the moderate and high intensity phases work, occur during low intensity functional running.

Fitness training components for hockey umpires

A fitness-training programme for hockey umpiring must aim to develop:

1. The muscular strength of the lower limb.
2. The speed and agility that is specific to the nature of running that occurs while umpiring.
3. The endurance to be able to perform 4000 m of functional running in 70 minutes, of which approximately 50% or more is at moderate to high intensity.

These components of fitness must be developed in phased manner; muscular strength is introduced and developed prior to speed and agility development, which is followed by endurance training. These components of fitness can be maintained with an emphasis on endurance, during a period of sustained umpiring duty for 2 weeks or more.

TRAINING GUIDELINES

Muscular strength development

Consider the following factors when planning the strength training element of your fitness training programme.

1. Exercise selection - Exercises that develop the muscles of the lower limb including the thighs, hip and legs are most important. Exercises for the upper body are optional as they enhance general fitness.
2. Training frequency - Perform muscular strength training 2- 3 times a week depending on the training phase.
3. Training volume - perform 3-4 sets of between 8-15 repetitions (reps) for each exercise, which is also dependent on whether the training objective is development or maintenance.

4. Training intensity - Choose a training weight at which you can perform the prescribed number of reps to fatigue but not failure. As you become stronger, increase the training weight so that you continue to fatigue at the prescribed number of reps.
5. Training technique - It is extremely important to perform strength training exercises using the correct technique.

A sample strength training programme

	Level 1	Level 2	Level 3
	3 x /wk	2 -3 x /wk	1-2 x /wk
Exercises	Sets & reps	Sets & reps	Sets & reps
DB step - ups	3 x 10	4 x 8	3 x 8
DB lunges	3 x 10	4 x 8	3 x 8
Body weight squat	3 x 15	4 x 8 (with a jump)	3 x 8 (with a jump)
Standing back extensions	3 x 10	3 x 10	3 x 10
Lateral DB flyers *	3 x 12	3 x 10	3 x 8
Front DB raisers*	3 x 12	3 x 10	3 x 8
Flat DB flyers*	3 x 12	3 x 10	3 x 8

DB - dumb bells

* - Upper body exercises are optional and included for general well being

Exercise descriptions

1. DB Step-ups:

Stand facing a step which is no higher than your knee height, step up with one leg follow with the other leg and then down with the first leg and then the second. Repeat this starting with the opposite leg to complete one repetition. Carry a dumbbell in each hand and keep the arms straight through out the exercise.

2. DB Lunges:

Stand with your feet together, step forward with your left leg until your right knee touches the ground, then step back with the left leg until your feet are together. Repeat this with the right leg to complete one repetition. Carry a dumbbell in each hand and keep the arms straight throughout the exercise. Maintain a slight forward lean with the trunk.

3. Body weight squat:

Stand upright with your hands behind your head, bend at the knees and the waist until the tops of your thighs are parallel with the ground. Keep your back as straight as possible. From this position straighten up to standing position to complete one repetition. When performing this exercise with a jump, extend explosively from the squat position, jump into the air and land in the starting positions to complete one repetition.

4. Standing back extensions:

Stand upright with your hands behind your head, keeping a hollow lower back and knees slightly bent (fixed), bend at the waist until either, you cannot maintain a hollow

lower back or there is discomfort in your hamstring muscles. This exercise must be performed slowly and must not cause any pain in the lower back.

5. Lateral DB flyers:

In a standing position hold a DB in each hand in front of your lower abdomen with slightly bent elbows. Lift both DB's simultaneously out to the side of your body, up to shoulder height while keeping the back of your hands facing upwards. Return slowly to the start position to complete one repetition. Perform each movement to the count of three.

6. Front DB flyers:

In a standing position hold a DB in each hand in front of your lower abdomen with slightly bent elbows. Lift both DB's simultaneously out to the front of your body, up to shoulder height while keeping the back of your hands facing upwards. Return slowly to the start position to complete one repetition. Perform each movement to the count of three.

7. Flat DB flyers:

Lying flat on a bench with your head, back and buttocks supported, hold a DB in each hand straight above the chest with elbows slightly bent. Take the DB's down to each side of your body simultaneously with arms kept at a fixed length (slightly bent elbows) and perpendicular to the trunk. Stop at a point of discomfort and return to the start position for one rep. Perform each movement to the count of three.

Functional Speed and Agility Development

Speed and agility development requires that each exercise is performed at maximum effort with adequate recovery between sets and reps. The following factors need to be considered when planning the speed and agility element of the programme.

1. Exercise selection - Choose exercises that replicate actions that occur in hockey umpiring and running patterns and modes of running that are specific to umpiring.
2. Training Frequency- Perform speed and agility training once a week
3. Training volume - Perform 3-4 sets of 8 -10 repetitions (reps) for each exercise, depending on whether the training objective is development or maintenance.
4. Training intensity - Speed and agility training should be performed at maximum effort without inducing excessive fatigue. This requires that there is adequate rest between maximal efforts. As you progress in training increase your training level from level 1 at the start of the training to level 3 during maintenance.

Functional Speed and Agility Training Programme

Exercises	Out of Season		Competitive Season
	Level 1	Level 2	Level 3
Standing Jumps	Choose one exercise		Choose one exercise
Tuck jumps	3 x 10	4 x 8	5 x 8
Jump lunges	3 x 10	4 x 8	5 x 8
Bounding	Choose one exercise		Choose one exercise
Double leg bounds	2 x 25 m	3 x 25 m	4 x 25 m
Single leg hopping	1 x 25 m/leg	2 x 25m/leg	4 x 5 m/leg
Functional sprints	Choose one exercise		Choose one exercise
40 m hollow sprints	1 x 10	2 x 10	3 x 8
Functional square sprints	1 x 10	2 x 10	3 x 8
Retreating sprints	1 x 10	2 x 10	3 x 8

Exercise Descriptions

1. Track Jump:

Stand with feet shoulder width apart, blend in a ballistic manner to a squat position followed immediately with a maximal vertical jump, bringing the knees rapidly to the chest and wrapping the arms around the knees for an instant. Straighten and land on the ground in the starting position, while absorbing the landing by bending the knees and hips. Jumps are to be performed for maximal height.

2. Jump lunge:

Stand in front of the lunge position with feet approximately shoulder width apart, perform a maximal vertical jump while cycling the legs through using a scissors action so that you land with the opposite leg position to the start position. Repeat to complete one repetition. Jumps are to be performed for maximal height.

3. Double leg bounds:

Stand with feet shoulder width apart, bend in a ballistic manner and jump forward and upward for distance using the arms for momentum. Land and repeat in a continuous manner until you have covered the prescribed distance (25m). Record the number of bounds (e.g. 7.5 bounds) required to cover the distance. Recover and perform the subsequent set/s attempting to cover the distance in fewer bounds.

4. Single leg hopping:

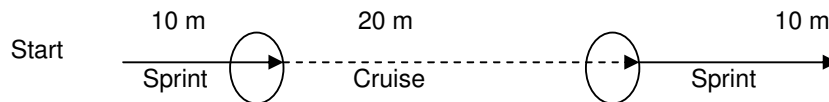
After a 2-3 run up perform continuous single leg hopping for the prescribed distance using the arms and the free leg to generate momentum. Record the number of hops required to cover the distance. Recover and repeat alternate legs and attempting to cover the distance in fewer hops in the subsequent set/s.

5. 40 m Hollow sprints:

From a standing start, sprint for 10m, then de-accelerate and cruise at moderate running speed for 20m, and then accelerate and sprint for 10m. Pay special attention to accelerating and de-accelerating.

Recovery: Perform each repetition every 40 seconds, stand and recover and perform each hollow in the opposite direction.

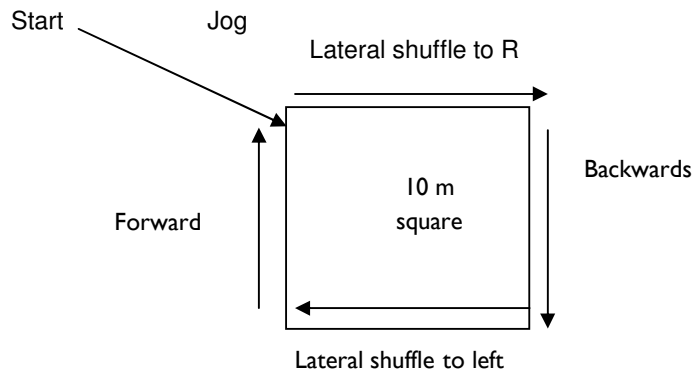
Variation: replace the 20m cruise with sideways shuffle.

**6. Functional square sprints:**

From a standing start, jog to the corner of a 10 m square grid (cones), perform a lateral shuffle leading with the right (R) leg for 10 m, followed by a 10 m back pedalling, 10 m lateral shuffle leading with the left (L) leg, and finish with a 10 m forward sprint. All running to be performed at maximal effort.

Recovery: Standing recovery and perform each repetition every 40 s.

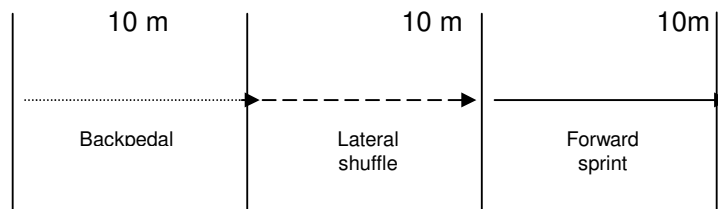
Variation: Perform forwards sprint across all four sides of the grid emphasising the change of direction at the corners.



7. Retreating Sprints:

From a standing start pedal for 10 m at maximal effort, followed by 10 m lateral shuffle as fast as possible and 10 m forward sprint. Alternate the direction of the lateral shuffle for each repetition. Emphasise smooth transitions from back pedalling to lateral shuffle and then to forward sprint.

Recovery: Stationary recovery, perform each rep every 30 seconds.

**The Development of Endurance**

Start by performing 1 endurance session/ week and over a 3-4 week period increase to where you are doing 3 sessions/week. Also start by doing Level 1 endurance training combination and progress as you get fitter to Level 3. As you increase the number of endurance sessions per week reduce the number of muscular strength training sessions/week from 3 to 2 and then to 1/week.

	Level 1	Level 2	Level 3
Long distance - low intensity			
Track Fartlek	Choose 3 exercises	Choose 1 exercise	Choose 1 exercise
Ten stride field cruises			
Field pyramids			
Medium distance - moderate intensity			
10 x 10 m Zigzag	Choose 2 exercises	Choose 2 exercises	Choose 1 exercise
5 x (2 x 22 m) Functional Shuttle			
Short distance - high intensity			
4 x 40 m Functional squares	0 exercises	Choose 1 exercise	Choose 2 exercises
10 x Jump and 10 m sprint			

Exercise descriptions**1. Track Fartlek:**

On a running tract (400 m) perform 4 laps (1600 m) running according to the following schedule. Cruising is defined running with elongated stride at an intensity at which you cannot

speak while running but is slower than sprinting. Sprinting for this purpose, means running at greater than 90% of maximum effort.

- I. 100 m jog, 100 m cruise (200 m)
- II. 100 m jog, 150 m cruise (450 m)
- III. 100 m jog, 200 m cruise (750 m)
- IV. 100 m jog, 50 m sprint (900 m)
- V. 150 m jog, 50 m sprint (1100 m)
- VI. 200 m jog, 50 m sprint (1350 m)
- VII. 100 m jog, 50 m cruise, 100 m jog (1600 m)

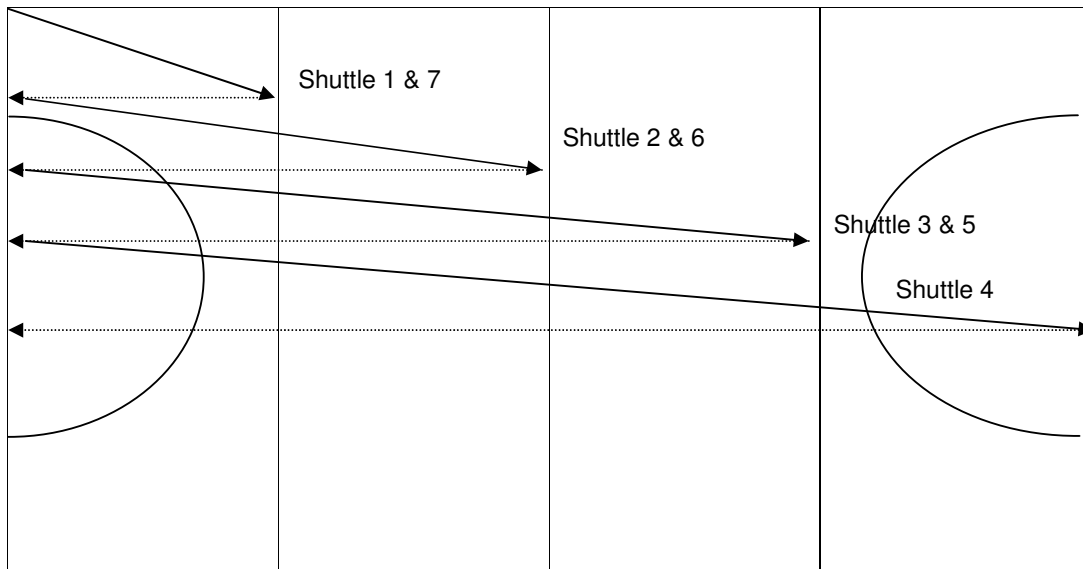
2. 10 x Ten - stride field cruises:

Running across the length of a hockey field perform 10 strides of each of the following running variations in a continuous manner until you cover the length of the pitch. All running variations are to be performed at cruise speed or greater. Recover by jogging slowly back to the end of the pitch that you started at. One session comprises of 10 lengths of 10 stride cruises.

- (i) Forward sprint
- (ii) Lateral shuffle (bounding) to the left and right
- (iii) Back pedal
- (iv) Forwards cruise

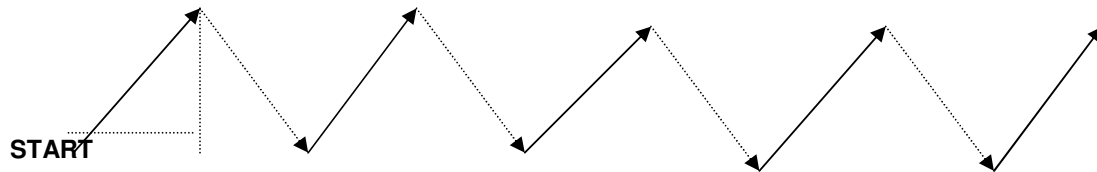
3. Field Pyramids:

Start on the backline and sprint to the 22 m line and jog back. Repeat this to the halfway line, the far 22 m line, the far backline, the far 22 m line, the halfway line and the near 22m line (see diagram). Each shuttle is performed by sprinting out to the designated line and jogging back while recovering.



4. 10 x 10 m Zigzag:

Sprint from the start for 10m, turn and jog forwards for 10 m while recovering and complete 10 (2 x 5) such zigzags according to the diagram for one rep. Recover for three times. The time it takes you to complete the first rep and perform 10 reps/session. A variation would be to replace the forwards jogging with slow lateral shuffle.

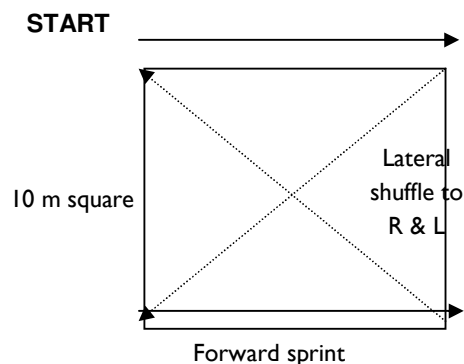
**5. 5x (2x22 m) Functional Shuttle:**

Start on the backline, sprint forward to the 22 m line and perform a variation run back to the backline. Perform this exercise in pairs and recover while your partner runs, or recover for the time it takes you to complete the first shuttle. Repeat 5 times to complete one set and do 3 sets per session with a different variation run in each set

- (i) Set 1 - Sideways shuffle to left
- (ii) Set 2 - Sideways shuffle to right
- (iii) Set 3 - Back pedal

6. 4 x 40m Functional Squares:

According to the diagram, forward sprint down the length of a 10m grid, shuffle laterally across the diagonal, forward sprint along the straight and finish with a lateral shuffle across the diagonal. All this is to be performed at maximal effort. Recover by jogging around the outside of the grid (40 m). Repeat 5 times for one and do 4 sets per session.



7. 10x Jump and 10 m sprint:

Perform 5 reps of a standing jump followed by a forward 10 m sprint. Walk back and repeat 10 times for a session. Alternate between a standing tuck jump and a jump lunge.

Dynamic Warm-up

Use this warm-up before all training sessions and umpiring appointments. Hold each stretch for 25 to 30 seconds in a position that causes slight discomfort. Extend the warm-up if necessary by repeating the last 3 Exercises (Numbers 7-9) and the corresponding stretches.

No	Dynamic Exercise	Static Stretches
1	Jog for 200 m or cycle or row for 10-15 minutes	Hamstrings
		Quadriceps
		Groin
2	Walking lunges for 25 m	Calves
		Hip flexor
3	Walking high knees for 25 m	Gluteus
		Achilles
4	Walking Cariocca (sideways running) for 15 m each way	Hamstrings
		Lower Back
5	Variation run - butt kicks for 25 m	Groin
		Quadriceps
6	Variation run - Sideways bounding for 25 m	Groin
		Calves
7	Strides at 60% of maximum effort for 40 m	Hip flexor
		Gluteus
8	Strides at 75% of maximum effort for 40 m	Achilles
		Hamstring
9	Strides at 85-95% of maximum effort for 40 m	Quadriceps
		Gluteus

Exercise descriptions**1. Hamstrings:**

Lie on your back, straighten one leg up and place one hand behind the thigh and the other behind the calf. Pull the leg gently towards your chest until you feel enough tension in the hamstring and hold. Repeat on the other leg.

2. Quadriceps:

Stand on your right leg, bend the knee of your left leg and take hold of the left foot behind your buttocks. Pull gently upwards on the foot while maintaining a straight body and hold once a suitable tension is achieved. Repeat on the other leg.

3. Groin:

Squatting on your haunches, place your elbows inside your knees and gently press outwards until the desired tension is reached.

4. Calves:

Assume a press-up position up against the wall, place the right foot behind the left off the ground. Keep the left foot flat on the ground and lean the body forward until the ideal tension in the left calf is reached. Repeat on the other leg.

5. Hip flexor:

Assume a front lunge position, keeping the trunk upright, press downwards and forwards until suitable tension is felt in the upper thigh area of the leg outstretched to the back. Repeat on the other leg.

6. Gluteus:

Sitting upright on the floor bend the left leg at the knee and place the left foot on the ground outside (on the right hand side) of the knee of the outstretched right leg. Hug the left knee to the right shoulder until suitable tension in the left buttock is felt. Repeat on the other leg.

7. Achilles:

As with the calf stretch but bend at the knee and feel the tension below the calf in the Achilles tendon.

8. Lower back:

Lie on your back, bring your knees to your chest, then drop the knees to the left. Place your left hand on your right knee and apply pressure until enough tension is generated in the lower back. Repeat to the other side.

Flexibility Development

Maintaining flexibility is an important objective and this is best achieved after training or umpiring when the muscles are warmed up. Repeat the static stretches listed under the dynamic warm-up as a warm-down which is just as important.

Weekly training schedule

You may be called upon to prepare a 'peak' for a specific tournament with short to medium term (4-6 weeks) notice. To improve your specific fitness, follow these guidelines:

- 1. Your current level of fitness:** Start slowly if you are new to any aspect of training and progress from a couple of hours a week to that listed in the guideline.
- 2. Available time:** Assess the time available to you for fitness training and prioritise your training needs when planning your weekly schedule
- 3. Strengths and weakness:** Determine what areas of your fitness need to improve the most and address those to a greater extent than those areas that you feel that you are good at.

Fitness component	Week 1	Week 2	Week 3	Week 4		
Muscular Strength	3 x a week	2 x a week	1 x a week		Recover for three days	Tournament
Speed and Agility		1 x a week	1 x a week			
Endurance	1 x a week	1-2 x a week	2 x a week	3 x a week		
Training Level	Level 1	Level 1-2	Level -3	Level 3		

Recovery

The benefit of any fitness training depends entirely on how effectively you recover from that training prior to performance. High intensity and or high volume training needs more recovery time and intervention to facilitate performance. This means that if you are training more regularly and at moderate to high intensity, then you need to implement certain recovery strategies.

- 1. Rest and relaxation:** Schedule time to rest and learn the necessary skills to relax:

- Meditation
- Listen to Music
- Auto-genic training techniques
- Imagery and visualisation

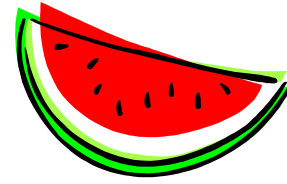
2. Re-hydrate and refuel: Follow good nutritional practices and regarding-hydrate during training, umpiring and recovery periods.

3. Physical therapies:

- I. Shower after all training sessions and use contrasting showers, hot (1-2 minutes at 35-38°C) and cold (10-30 seconds at 10-16°C), spa baths and cold plunge pools
- II. Sports massage on a regular basis increases recovery from training and umpiring.

Appendix 4. Nutrition & Diet

It is important to follow a nutritious and well balanced diet. This will help to ensure that you remain healthy and in good shape, and it will assist with recovery between training sessions.



Fuelling with Carbohydrates

- You must supply the body with sufficient energy in the form of carbohydrate to maintain the stores of energy within your muscles. Carbohydrate is stored in muscles (as well as in your liver) in the form of glycogen. If your glycogen stores become low, training and umpiring become increasingly strenuous and you will suffer from fatigue.
- During tournaments and intense training periods, try to base some of your meals around carbohydrate rich food, including rice, pasta and other grains, breads, breakfast cereals, starchy vegetables, pulses and legumes, fresh fruit, milk and yoghurt.
- As well as eating carbohydrate-rich meals, snack on carbohydrate-rich foods throughout the day. High carbohydrate between meal snacks include fresh, canned or dried fruit, fruit yoghurts, low fat fruit muesli bars, rice cakes topped with banana and honey, muffins, and breads etc.
- Start the day with a high carbohydrate breakfast. This will top up your energy levels, kick start your metabolism and get your day off to a great start. Good breakfast choices include breakfast cereal with low fat milk, fresh or canned fruit, low fat yoghurt, freshly squeezed fruit juice, toast, muffins or crumpets spread with jam or honey, pancakes topped with stewed fruit and/or syrup, or baked beans on toast.
- It is likely that your appetite will increase as the volume and intensity of training increases, so you will need to eat more carbohydrate rich foods.

Recovery

- Your body needs times to recover from training. Rest days are important to refuel your carbohydrate stores.
- Try to eat so that you sufficiently re-fuel between training sessions and matches. Start the recovery process as soon as possible by eating a carbohydrate rich recovery snack straight after training and matches. Examples of recovery snacks include sports drinks, glucose confectionery, fruit, jam, honey or banana sandwiches, rice puddings.

Eat less Fat

Fat is readily stored as body fat and is a poor source of energy. Try to limit your intake of high fat foods for these reasons, as well as to make room for the more important carbohydrate rich foods.

- Limit dietary fat by minimising your use of butter and margarine, and oil in cooking, choose low fat dairy products, choose lean cuts of meat, trim fat from meat and remove skin from poultry, limit cakes, biscuits and take-away foods.
- Use low fat methods of cooking. Try grilling, barbecuing, steaming, stir frying.

Remain well hydrated

- Aim to drink at least 1½ litres of fluid each day. On hot and humid days you will need more.
- Fluids can include water, cordial, fruit juice, milk or sports drink.
- Replace sweat losses associated with training. For every kilogram of weight lost during a training session or match, drink one litre of fluid.
- Remember that tea, coffee and cola drinks are dehydrating, so limit your intake of these, particularly when re-hydrating after training or a match.
- Sports drinks can also be consumed. They are particularly good for re-hydrating you quickly. The carbohydrate and sodium in them helps your body to absorb the fluid quickly.
- If you are going to a warmer and more humid climate, drink plenty of fluids in the days leading up to the match/tournament, while you are acclimating.

MATCH DAY EATING**The Pre-Match Meal**

Your pre-match meal should be eaten 2-3 hours before the start of the match. This allows sufficient time for the meal to digest, so that there will be no competition between your muscles and digestive system for blood supply.

- The meal should be low in fat, as high fat foods take longer to digest.
- The meal should be high in carbohydrate to top up your blood sugar levels.
- The meal should also be light, but satisfying.

Choose something that is familiar for your pre-match meal. Do not experiment with new foods before a match.

Suggested pre-match meals:

- ☺ Breakfast cereal with low fat milk and fresh fruit
- ☺ Toast / muffin / crumpets with jam or honey
- ☺ Low fat yoghurt & fresh fruit
- ☺ Salads rolls or sandwiches (banana sandwich is v. good!)
- ☺ Pasta with a tomato based sauce
- ☺ Steamed rice or noodles with stir-fried vegetables.

If you are feeling nervous before a match to eat, try a liquid meal. A glass of a commercial liquid meal, such as Sustagen Sport or Exceed Sports Meal, may be easier to tolerate. It is essential that you do have something.

Remember to include plenty of fluid at your pre-match, so that you start the match well hydrated.

During the match

Continue to drink plenty of fluid throughout the match. Ideally you should have 1 cup of fluid every 15-20 minutes. Your stomach empties fluid faster when it is full, so it is best to fill it up before the match and continue to top it up throughout. Do not wait until you are already dehydrated before you start drinking. Take a water bottle onto the pitch with you, leave on the side behind you and drink when an opportunity arises.

- A sports drink may be useful to top up your energy levels as well as provide you with essential fluid.

After the Match

At the end of the match you need to continue to re-hydrate. While acknowledging that the weight measuring scales are a good way to determine your existing fluid deficit, you will still need to drink more as you will continue to perspire for some time.

Start the recovery process straight away by consuming a carbohydrate rich snack. Rice, sandwiches, jelly confectionery, fruit and sports drinks are all good choices.

Don't forget that alcohol is dehydrating, so if planning a post-match drink, remember to re-hydrate thoroughly first, and alternate drinks so that you remain well hydrated.

