

## **THE HANDBALL REFEREE AT TOP EVENTS**

Handball referees have a lot of responsibility. They are not only responsible for conducting matches in accordance with the Rules of the Game but also play a major part in the game themselves. Their integrity, prudence, composure and, last but not least, good physical fitness may determine the outcome of a game.

A referee's performance depends not only on his knowledge of the Rules but, most importantly, also on his mental and physical capabilities. Concentration and responsiveness, but also his "appearance" are critically influenced by his physical and mental condition. Referees – as important actors on the playing court – therefore have to prepare just as thoroughly for their assignments as the players.

Handball has changed significantly in recent years. Matches have become faster, more dynamic, more attractive, but also more risky. This has prompted not only a change in the philosophy of the game but also a different approach to the players' physical conditioning. Today, the main focus is on developing strength, speed, speed endurance, and aerobic endurance. These, in combination with technique and tactics, are the prerequisites for a dynamic and attractive game.

The referees have to adapt to these changes as well and pay more attention than ever to their physical fitness. Speed, endurance, but also strength (a key factor in any assignment) must be developed in the most effective manner, last but not least because referees – unlike players – cannot be exchanged against substitutes and therefore cannot take a rest during a match.

Preparation for the match, conduct during the match and, above all – particularly in tournaments – post-match activities are of key importance. Against this backdrop, the following recommendations are given on how to plan a "match day".

Assumption: European Championship, match starts at 6 p.m.

## EVENING BEFORE THE DAY OF THE MATCH

Proper preparation for a match starts as early as the evening before – at dinner. Dinner should be a light meal (low in fat and protein), rich in carbohydrates. Potato dishes, pasta, pizza, but also sweet dishes (such as pancake-type dishes) are excellent choices. It is also important to ingest sufficient fluid, preferably water or fruit juices. Alcohol should be avoided.

Getting to bed early is advisable. An athlete needs a minimum of eight hours' sleep. It is important to have the first deep-sleep phase before midnight.

## DAY OF THE MATCH – MORNING

Get up sufficiently early and take your time at breakfast. Breakfast should again consist mostly of carbohydrates. This may include muesli, bread, croissants, etc. Ham and cheese plus some tomatoes, etc. are also okay. With scrambled eggs or omelettes make sure they are not prepared with too much fat. As regards beverages, choose what you usually have in the morning.

After breakfast, a brief walk (about 20 min) is a good thing.

## DAY OF THE MATCH – MORNING

The late morning should be used for some brief activation in the regenerative range. It is recommended to do some light gymnastics combined with about 20-30 min of low-intensity endurance training (running without getting out of breath). If possible, these training sessions should take place outdoors. Alternatively, use the hotel's gym, if available.

## DAY OF THE MATCH – LUNCHTIME

Have a timely lunch. Lunch is your last chance for eating adequate quantities of carbohydrates (the main suppliers of energy during a match). Again, lunch should consist mostly of pasta, potatoes, rice, etc.. Meat or fish should be regarded as side-dishes and therefore account for only a small part of the meal. You may choose your starters, soup, salad, and dessert according to your individual preferences provided you stick again to the rule “high in carbohydrates, low in fat”. Drinking sufficient fluid is important. Your fluid balance has to be geared optimally to the match. Again, water, mineral water, and fruit juices are the best choices. The ingestion of isotonic or other “sport drinks” is not necessary, as a rule.

After lunch, another brief walk is advisable.

## DAY OF THE MATCH – AFTERNOON

A brief nap in the afternoon has proved beneficial. Such naps should not exceed half an hour, however. Studies have shown that short, intensive phases of sleep have a highly positive effect on subsequent performance.

## DAY OF THE MATCH – BEFORE THE MATCH

Make sure you arrive at the playing hall sufficiently early to have enough time to get ready for the match.

Warm-up before the match is important. It helps the entire body to get used to the stresses and strains to which it will be exposed. For warm-up, there are no fixed rules and no fixed schedules. Therefore, every referee should prepare a “warm-up routine” as part of his “normal” training.

Warm-up should always include jogging, various forms of running (forwards, backwards, sideways), brief acceleration, gymnastics, some light jumping, etc. Stretching before the match is not recommended. The muscles have to develop a certain tone to be in the best possible condition for action

During warm-up, drink repeatedly small quantities. In the last half-hour before the match up to half a litre.

After warm-up, get dressed again to keep the muscles “warm”.

## DAY OF THE MATCH – THE MATCH

During the match, the referee has hardly any chance to take active measures for recovery. Nonetheless, he should use the few breaks (time-out) to drink some fluid and ease any muscular problems (loosen tensions, etc.) that may occur. This may be done by some light “shaking”, perhaps also some light self-massage.

Usually, the first systematic action can only be taken in the break. After drinking, which has already been mentioned repeatedly, it would now be advisable to ingest some carbohydrates, perhaps in the form of carbohydrate-enriched beverages combined with carbohydrate bars (polysaccharides). (Ripe!!) bananas have proved to be a good choice for this purpose as well.

During the break, do some light gymnastics and massage your muscles to counter fatigue. Just a few minutes may produce very good results. Before the 2<sup>nd</sup> half of the match, do a few exercises (light jumps) to increase muscle tone.

## DAY OF THE MATCH – AFTER THE MATCH

The most important recovery phase starts immediately after the match, preferably during the first 2 hours. During this period it is important to take systematic action to promote recovery.

This may include

- **Running** Whenever possible, one should try to chill down sufficiently. This may be done by jogging (can also be done in place in the changing room), some light gymnastics and stretching. The aim is to maintain good blood flow in the muscles and to loosen muscular tone (tensions). Self-massage is also very helpful. Take your time. Proper active recovery takes about 20 – 30 min (!).  
If active recovery activities are not possible in the playing hall, they should be done later at the hotel. Everything that is done in the first 2 hours after the match is effective.
- **Showering** The best temperature would be the “body core temperature” (about 38 degrees). Take your time when showering and “massage” tense muscles with the water jet coming from the shower head.
- **Contrast showers** This is a very efficient recovery measure provided it is used properly. Recommendation: 1-2 min hot water alternating with 10-30 sec cold water. Repeat 3 to 5 times.
- **Sauna** Regenerative saunas (up to a maximum of 70 degrees). No water vaporisation!  
Enter the sauna dry and leave the sauna when you start sweating. Repeat 2 or 3 times.
- **Bathing** Hot water pool, temperature at “body core temperature”;  
Stay there for about 10 – 20 min, combine perhaps with some light water gymnastics.

“Psychological” recovery activities also produce good results. This includes, most importantly, listening to music.

It is recommended to take a brief “music break”. The music should have a relaxing effect. With the equipment available today (iPods, etc.), everyone can easily put together some relaxing music.

Using methods for mental relaxation would also be a good idea, provided one has learnt such a relaxation method properly. The method best known and most popular in sports is the Jacobson method.

The best natural method of mental relaxation is sleep, of course. Especially after a match one should try to go to bed early and, if possible, sleep longer than usual.

The rule for the post-match dinner is:

#### REPLENISH WHAT YOU LOST IN THE MATCH

Therefore, the main focus is again on the adequate ingestion of fluids and carbohydrates. The body usually signals that it craves carbohydrates. Nonetheless, taking in protein (e.g. fish) is also beneficial. There are no objections against finishing off with a beer provided one has quenched one’s thirst already by drinking other beverages.

#### SUMMARY

The aim of the recommendations listed above is to provide some guidance and to help referees in designing “their” best routine. Some of the activities suggested may appear very simple but have nonetheless proved highly useful in high-performance sports.

Good luck!

Prof. Hans Holdhaus  
IMSB-Austria