Sports Dietitians AUSTRALIA

FACT SHEET

Hockey

March 2009

About Hockey

Hockey (also known as field hockey internationally) is a team-based sport played in two 35-minute halves with 10 players on the field and one player in the goals at any one time, with a short break at half-time.

The game is played at a fast pace, with short bursts of high intensity sprints along with dribbling, passing, tackling and shooting for goal, which requires a combination of endurance, strength, speed, agility and skill. During a game, energy expenditure can be as high as 60-80kJ/minute, with midfielders at the higher end of the range. High energy requirements, coupled with fluid loss and injuries (from flying balls and/or sticks) makes well-established nutrition and hydration strategies a must for optimal performance.

In terms of training, sessions may range from one session per week to one to two sessions per day, depending on the level of competition. These sessions may cover individual stick and ball skills, weights, running and/or sprint training.

The competitive season usually involves one game per week on the weekend, and at a higher level, there may be tournaments with a series of games played over a short period of time. Travelling interstate and overseas is also a regular occurrence for elite hockey players.

Training diet

Training is physically demanding, which sets up large energy and carbohydrate requirements. A diet rich in carbohydrate foods is important to provide adequate energy to maintain a high standard of play and also assists recovery. Hockey is not a professional sport, and most players have full-time jobs or study to commit to, on top of training and match schedules. This creates a very busy lifestyle, and good nutrition habits can take a back seat, especially if the athlete lacks the skills to shop and cook. Takeaways can be a trap, but learning how to choose better takeaways, reading food labels and learning how to cook and prepare ahead can make a difference both on and off the field by aiding recovery and reduce fatigue.

All hockey players need to focus on eating nutrient-dense carbohydrate meals and snacks such as pasta, rice, bread, cereal, vegetables, fruit and dairy products. Ideally, players should aim to have **50-100 grams of carbohydrate within 30 minutes of finishing training.** Recovery snacks should always be combined with fluids to replace sweat losses that may have occurred during the session.

What does 50 g of carbohydrate look like?

- 800ml sports drink
- 3 medium pieces fruit
- 1 large bread roll or fruit scone
- 2 pancakes with maple syrup
- 2 cereal/muesli bars
- 2 x 200 g cartons yoghurt (not artificially sweetened)
- 4 Weet-bix® with 1 cup low fat milk
- 1½ cups fruit salad with 1 tub of low fat yoghurt
- 250-350ml smoothie
- 3 slices toast with vegemite/honey/jam

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Body fat levels

Low body fat levels are advantageous in hockey, for agility, speed and endurance throughout the game, especially for 'running' players. Body fat levels can creep up due to injury or time off from training, usually due to an energy imbalance (too much food for a reduced physical workload). This can be managed by keeping track of body levels and weight or consulting a sports dietitian.

Fluid needs

The fluid needs of hockey players during training and games are generally high because of the high intensity, "stop and go" style of exercise increases sweat rates. If games are played during hot and humid conditions this will increase fluid needs.

To stay hydrated, drink plenty of fluids before, during and after hockey e.g. sports drink and water.

You can assess how much fluid you have lost by weighing body yourself before and after the training session or game and aim to drink **1.5L of fluid for every kilogram** of weight lost.

Thirst is generally not a good measure of fluid status and a player may be significantly dehydrated before becoming thirsty. Sports drinks can be useful during training and matches as they provide a source of carbohydrate (for fuelling on the field) and small amounts of electrolytes (salts) that may be lost during play.

Dehydration negatively affects exercise ability, skill execution and decision making and thus can significantly affect hockey performance. Producing regular amounts of clear urine is a useful indicator of good hydration status before exercise.

In hot conditions, pay extra attention to fluid needs by having plenty of cool, refreshing fluids on hand, drinking at every opportunity (e.g. during breaks and when coming of the field) and monitoring and replacing losses aggressively after a match/training session.

What should I eat before a game?

The pre-game meal should be eaten **2-3 hours prior to play**. It should be high in carbohydrate and low in fat. To avoid stomach discomfort, foods low in fibre and fat may be preferred. It is important to ensure the meal is well planned and uses familiar foods and fluids. This could look like either of the following…

- Breakfast cereal + low fat milk
- Fresh/dried or canned fruit + yoghurt + low fat milkshake
- English muffins/crumpets/toast/scones with jam or honey
- Pasta + tomato-based sauce or rice dish
- Liquid meal supplement (e.g. Sustagen Sport®)

What should I eat and drink during competition?

Although the half-time break is brief (usually five to ten minutes) it is the best opportunity for nutrition during play, and players should make use of this break to consume fluids such as sports drink and water. Midfielders will benefit from drinking sports drink during the break as they tend to have the greatest requirements for carbohydrate and fluid during a game. Lollies and fruit can be good sources of carbohydrate, but sports drink provides *fluid* along with carbohydrate, which is ideal when rehydration is the main priority at half time.

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What about recovery?

It is important to refuel with carbohydrate-rich foods after training and games in order to begin replenishing muscle glycogen stores for future training/games. This is especially important during tournaments when a number of matches are played within a short time frame, or during weeks of heavy training.

It is also important to include a protein source in recovery for muscle tissue repair and growth, especially after a weight-training session.

As a rule of thumb, aim to **consume a recovery meal or snack within 30 minutes** of finishing a training session or match. This should contain carbohydrates, protein and a source of fluid, e.g. a cheese sandwich with a bottle of sports drink, or a bowl of cereal with fruit and milk.

The meal thereafter should continue in line with usual training eating patterns, and should again contain carbohydrate-rich foods, a source of protein and fluids.

Other nutrition tips

- Supplements are generally not necessary. A balanced healthy diet will usually meet all of the nutritional requirements for tennis
- Be well prepared - don't rely on food being available or suitable at the venue you are playing at
- Liquid meal replacements such as Sustagen Sport® may, however be useful/convenient
- Fluid requirements can be very high where games are played in hot-humid climates early on in the season, or if playing interstate or overseas.
- Alcohol is part of the social culture of many team sports. Ideally, an athlete should rehydrate and refuel before having an alcoholic beverage, if at all.

Case study

Dave is a 16 year old junior hockey player who trains twice weekly for hockey, which is after school for 1½ to 2 hours. He plays one game on weekend. Dave is a 'running player' as he plays on the wing. He runs five mornings a week for 30 minutes and plays soccer and football at school. A sample meal plan for Dave might look like this:

Breakfast: Large bowl cereal + banana + yoghurt + 2pc toast with baked beans

Snack: pc fruit + vegemite sandwich

Lunch: 1 bread roll OR 2 sandwiches with chicken/ham & salad; 1 muffin or scone + 1 fresh fruit &/or yoghurt

Snack: Jacket potato & salsa + cheese OR noodles

Dinner: Spaghetti Bolognese OR grilled steak + jacket potato and corn-on the-cob; salad + fresh bread + yoghurt or custard with fresh or canned fruit

Snack: breakfast cereal & milk or toast and honey

Extras: Sustagen Sport ®, breakfast bar, fruit (post-game and training)

N.B. Energy needs will vary with player position and growth. As Dave is a 'running player' and involved in a lot of sport at school his energy and carbohydrate needs will be high. He will also require extra energy, protein and calcium if he's still growing. Calcium is particularly important just before and during the time bones are growing.

How do I get involved?

Contact Hockey www.hockey.org.au and go to *Hook In2 Hockey* or contact your state hockey centre to find out about hockey clubs or competitions available in your local area.

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