

## Special needs of the female player

### Training and competition issues

The women's game is now more popular than ever, and it is estimated that more women than men will be playing the game by the year 2010. Estimates of work rate and energy demand suggest that women generally cover less distance in training and match play than men, but the relative exercise intensity over the course of a game is about the same, at 70% of maximum oxygen uptake. Typical energy expenditure during a match is about 1,100 kcal for a 60 kg football player.

There have been few studies of the eating habits of female players, but the information we do have suggests that their dietary habits and nutrition concerns are not so different from those of other female athletes.



### General health issues

Players should eat sufficient food to achieve an energy intake that:

- provides sufficient energy for training and competition needs
  - the energy demands of other daily activities
  - allows the player to achieve a body size and composition that meets their health and fitness goals

Some players do not achieve this, and restrict food intake to achieve their desired weight at the expense of both health and performance.

### Losing body fat

There is enormous pressure on many women to achieve an unrealistic body weight and body fat level. This can compromise both short term playing performance and long term health, with the real possibility to harm reproductive health and to bone health. Any player with menstrual irregularities should treat these as a possible warning sign, and seek professional advice.

If there is a need to reduce body fat, this should be done sensibly. Reducing body fat requires a negative energy balance – energy expenditure should be greater than energy intake – and a negative body fat balance. It is a mistake to reduce energy intake – especially protein and carbohydrate intake – too far. This increases fatigue in training and daily life, reducing energy levels and thus limiting weight loss.



### Strategies for reducing body fat

Set realistic targets: this is a medium –term goal rather than something to be achieved by next week. Limit portion sizes at meals rather than skipping meals altogether.

Use well-chosen snacks between meals to maintain fuel levels for training sessions. Save part of a meal for a later snack, rather than eating extra food.

Maintain carbohydrate intake to maintain fuel levels for exercise.

Use low-fat strategies in choosing foods and while cooking or preparing meals.

Limit alcohol intake or cut it out altogether – it is not an essential part of the diet.

Make meals and snacks more "filling" by including plenty of salads and vegetables, by taking the higher-fibre option, and by including low glycaemic forms of carbohydrate-rich foods.

### Calcium

Calcium is important for healthy bones. In some countries, many everyday foods are fortified with calcium (e.g. fruit juice). However, the best sources of calcium are dairy foods, with low fat varieties providing a great way to meet calcium needs within a smaller energy budget.

Each player should aim to include at least 3 servings of dairy foods in their daily eating plans – e.g. 200 ml of low fat milk, 30 g cheese or a 200 ml carton of low fat yoghurt.

Calcium-fortified soy versions of dairy foods are also suitable – e.g. soy milk, soy yoghurt.

An additional one-two daily servings are required during growth spurts in childhood and adolescence, and for pregnancy and when breast feeding.

Fish eaten with bones (e.g. tinned salmon, sardines) and leafy green vegetables (e.g. broccoli, spinach.) provide a useful source of additional dietary calcium.

### Iron

Iron deficiency is a cause of fatigue and reduced performance. Females are particularly at risk because of increased iron requirements due to menstrual blood losses matched against a smaller intake of food. Iron rich eating will help to reduce this risk.

### Iron-rich eating

Consume moderate servings of red meats (well-absorbed iron) in 3-5 meals per week.

Choose iron-fortified cereal products such as breakfast cereals.

Combine plant and non-meat sources of iron (e.g. legumes, cereals, eggs, green leafy vegetables) with food factors that enhance iron absorption. These include vitamin C and a factor found in meat/fish/chicken. Examples of clever matching include fruit juice or fruit with breakfast cereal, or chilli con carne (meat and beans).