

NUTRITION FOR SPRINTING

At Olympic-level competition, sprint events include the 100 m, 200 m, 400 m, 4 x 100 m relay and 4 x 400 m relay. The 100 m, and 400 m hurdles can also be considered as sprint events. Sprint and hurdle events rely primarily on the development of power through anaerobic energy.

Training

Elite sprinters train all year round with the base or off-season involving around eleven sessions per week. Off-season training usually involves a considerable commitment to weight training, with about one-third of the total training load being carried out in the gym. In addition, off-season training focuses on refining technique with a combination of sessions on the track and drill work to improve aspects such as leg speed or knee lift. As the competitive season approaches, extra emphasis is placed on high quality track sessions characterized by low to moderate volumes with plenty of recovery between efforts

Competition

Major competitions for elite sprinters are the Olympic Games, World Championships and Grand Prix Circuit. Most Australian sprinters spend the winter months overseas returning to Australia to compete in key selection events during the Australian summer. At junior and recreational levels, competitions are usually held on a weekly basis during the summer months.

Physical Characteristics

Power-to-weight ratio is important for sprinters, therefore maximising strength while maintaining low body fat levels is desirable. Developmental athletes may have periods in which gains in muscle mass are desired to further promote continued strength development but this is less of a priority for mature athletes

Common Nutrition Issues

Training Nutrition

Sprinters need to consume sufficient carbohydrate to fuel training needs, however carbohydrate requirements do not reach the level of endurance-type athletes. Sprinters need to be mindful of maintaining low body fat levels but still need to eat a sufficient variety and quantity of food to meet nutritional requirements and promote recovery between sessions. Diets need to be nutrient-dense. This is best achieved by including a wide variety of nutrient-dense carbohydrate sources such as bread, pasta, rice, cereal, fruit, starchy vegetables and sweetened dairy products in the diet; the amount reflecting daily training loads with more on heavy loading days and less on low volume or training free days. Moderate portions of lean sources of protein such as lean meat, skin-free chicken, eggs, low-fat dairy foods, lentils and tofu should also be on the menu in small amounts throughout the day. Energy-dense foods such as cakes, pastries, lollies, soft drinks, chocolate, alcohol and takeaways should be used sparingly. Appropriate snacks need to be included before and after training to maximise

performance during training and to promote recovery. Snack foods such as yoghurt, fresh fruit, low-fat flavoured milk and sandwiches are all nutritious fuel foods and make good snacks.

Low Body-Fat Levels

Sprinters require low body fat levels whilst being strong and muscular. Low body-fat levels usually occur naturally for male athletes, thanks to the cumulative effect of training on the right genetic stock. However, some male sprinters may need to reduce total body mass leading into the competition phase to further enhance their power-to-weight ratio. Female sprinters often need to manipulate their food intake and training to achieve their desired body fat levels. Sprinters needing to reduce their body fat level should target excess kilojoules in the diet. In particular, excess fat, sugary foods/ drinks and alcohol should be targeted for reduction in the meal plan to assist with weight loss without compromising the nutritional value of the athlete's diet.

Preparation for Competition

Sprint events do not deplete glycogen stores & therefore carbohydrate loading before a competition is not necessary. Rather, the elite athlete should continue to follow a meal plan similar to that used in training but perhaps with a slightly lower total energy intake, recognising that energy needs are not as high as training loads taper off in the days prior to competition. For junior athletes competing in multiple events throughout the day, energy needs can be high, creating a challenging balance between providing adequate fuel and fluid while maintaining intestinal comfort. The support of a dietitian in preparing a competition nutrition plan can be particularly valuable in getting the fuel supply just right.

Competition Day Food and Fluid

On the day of competition, the priority remains with intestinal comfort - avoiding hunger but not risking the discomfort of a full stomach. It makes sense to start the day with a carbohydrate-based meal. The type of meal will depend on the timing of your event and your personal preferences.

The following foods are suitable to eat 3-4 hours before exercise:

- crumpets with jam or honey + flavoured milk
- baked potato + cottage cheese filling + glass of milk
- baked beans on toast
- breakfast cereal with milk
- bread roll with cheese/meat filling + banana
- fruit salad with fruit-flavoured yoghurt
- pasta or rice with a sauce based on low-fat ingredients (e.g. tomato, vegetables, lean meat)

The following foods are suitable to eat 1-2 hours before exercise:

- liquid meal supplement
- milk shake or fruit smoothie
- sports bars (check labels for carbohydrate and protein content)
- breakfast cereal with milk
- cereal bars

- fruit-flavoured yoghurt
- fruit

The following foods are suitable to eat if there is less than 1 hour between events:

- sports drink
- carbohydrate gel
- cordial
- sports bars
- jelly lollies

Suitable choices may not be available at the competition venue. As such, athletes should be encouraged to bring along their own supplies of food & fluid for the day ahead. Experiment in training if an important competition is coming up so that you can be confident of your routine on race day. Take care to drink plenty of fluid when you are competing in hot weather.

For travelling tips see Nutrition tips for travelling Athletes factsheet.

This fact sheet is based on AIS / National team athletes and is therefore specific to these athletes. Written by AIS Sports Nutrition, last updated April 2009 © Australian Sports Commission.