

Fuelling & cooling the junior athlete

The nutrition needs of athletic children are of great importance to their overall health, growth, development and consequently to their sporting performance. The well-nourished junior athlete will be able to play better and for longer, stay mentally alert, and recover quicker from training and competition. The active child who is not getting enough total energy may be tired and lethargic, struggling to maintain their enjoyment in sport. Young athletes who eat too little (often to lose weight) risk mild under-nutrition and may suffer from poor bone growth and delayed maturation.

How much food is enough?

Although it will vary from child to child, below is a general guide to minimum amounts of food for children aged 5 – 12 years (Table 1). The best indication of adequate nutrition will be seen in the child's development, growth, well being and performance achievements. If extra food needs to be eaten by the very active child, choose from the carbohydrate-rich food groups indicated with a * as they will provide extra 'go' for the active child.

Eating on the run

Kids constantly on the go need to eat 'little and often' to keep 'topping up'. Nourishing carbohydrate foods should provide the bulk of extra energy required by active kids. Eating enough can be difficult if they become too busy or too tired to eat much. This is often the case in the evening, so the afternoon tea snack becomes very important, especially after a hectic day of school and sport. The solution is to have a selection of healthy foods available fast!

Cooling active kids

Children are not able to regulate their body temperature as well as adults. In addition, younger athletes don't stop for fluids as frequently as adults and often wait until they are thirsty before they start to look for a drink. By this time they will already be starting to dehydrate. For this reason special attention needs to be paid to keeping active kids adequately hydrated.

Table 1 **Healthy Eating Guide for Children**

| Food Group | Recommended serves daily | Sample serve size |
|-------------------------------------|--------------------------|---|
| Bread/Cereal/Pasta/Rice/Noodles | 3 – 9+ * | 2 slices bread 1 cup cooked rice / pasta / noodles |
| Vegetables/legumes | 2 – 5+ | 1 small potato 1 cup salad 1 cup vegetables ½ cup baked beans |
| Fruit | 1 – 2+ * | 1 medium piece of fruit ½ cup juice 1 cup canned fruit 2 small fruit |
| Milk/Yoghurt/Cheese | 2 – 3 | 1 cup milk 200g yoghurt 2 slices cheese 1 cup custard |
| Meat/Fish/Poultry/Eggs/Nuts/Legumes | 1 | 65-100g meat, chicken 2 eggs ½ cup nuts ½ cup legumes 80-120g fish ½ cup seeds |
| Extra foods | 1 – 2 | 1 Tab oil/margarine 50g cake 40g lollies 50g icecream 4 plain biscuits |

Source: Adapted from the Australian Guide to Healthy Eating, Commonwealth of Australia 1998
Note: A modest consumption of margarines and oils is expected over and above the extra foods as listed.



| | |
|----------------------------|---|
| Pikelets/scones/muffins | Flavoured dairy foods (yoghurt/milk) |
| Muesli/cereal bars | Smoothies/milk shakes |
| Fruit - canned/fresh/dried | Baked bean snack paks |
| Jellied fruit packs | Canned noodles/spaghetti |
| Fruit juice | Dairy desserts |
| Fruit buns/fruit loaf | Boiled potato/sweet corn cobs |
| Breakfast cereal | Honey/jam/cheese sandwich |
| Bread/rolls/crumpets | Cracker biscuits with cheese and spread |

Which drink is best?

Water is a good choice of fluid, however do not overlook the potential use and benefits of other fluids such as sports drinks, cordial, fruit juice, soft drinks and milk drinks. Water and sports drinks are the best choice just before, and during, sport. Sports drinks will provide carbohydrates for muscle energy.

Dental hygiene is always important. To ensure a child's teeth are healthy do not encourage excessive use of acidic drinks like soft drinks, sports drinks or cordial. Instead use these drinks for situations explained in this fact sheet. Saliva helps to protect teeth from acid attacks. In sport, dehydration reduces saliva production, which means there is less protection from sports drinks. Ensure children stay hydrated during activity to help minimise the effect of food acids on teeth during and after sport.

During and after exercise junior athletes will drink more if the fluid is flavoured and cooled, so provide a variety of drinks flavoured to their preference (within reason!). The best tip for young athletes is to drink frequently 'until you're not thirsty any more, and then have another few gulps'. The use of both water and flavoured drinks is likely to be the best way to keep them well hydrated.

Coping with carnivals

Kids competing at sports carnivals are often very excited and 'busy' which leaves little time to think about eating and drinking. Parents and coaches need to be responsible for monitoring and encouraging a sensible intake of food and fluids at these times. Here are some tips for sports carnivals:

- Take a cooler of food and drinks to give the junior athlete their best chance to eat and drink well. Don't rely on the local canteen for all supplies.
- Include two water bottles per person, one each for water and a flavoured drink e.g. sports drink/sports cordial/juice. Encourage children to continually sip at their drink bottles (1-2 mouthfuls every 15 mins) during any breaks in play. Take a large container of cooled water for 'top ups'.
- If it is hot, include frozen juice poppers as well as foods that don't require refrigeration, such as food bars and canned foods. Pull top cans are easiest to manage.
- If there is less than one hour before or between events, priority is for carbohydrate-rich fluids to boost energy levels as well as water. Jelly confectionery for quick energy boosts can also be helpful.
- If there is 1 - 2 hrs between events, have fluids and a light snack e.g. energy bars, cereal bars, fruit bars, fresh or canned fruit, bread

| Age | Time | Volume |
|---------------|----------------------------|--------------|
| Approx 10 yrs | 45 mins before sport | 150 - 200 mL |
| | Every 20 mins during sport | 75 - 100 mL |
| | After sport | 500+ mL |
| Approx 15 yrs | 45 mins before sport | 300 - 400 mL |
| | Every 20 mins during sport | 150 - 200 mL |
| | After sport | 1000+ mL |

NOTE: In hot, humid environments fluid intake will need to be more frequent.
Source: Sports Medicine Australia 1997

with honey/jam, low fat flavoured dairy product, or a small amount of jelly lollies.

- If there is longer than 2 hrs between events, offer sandwiches, bread rolls, toast, crumpets and honey, baked beans, spaghetti, noodles, cereal and milk, creamy rice and fruit, or pancakes. Filled sandwiches, rolls or pita pockets can include lean ham, meat, egg, canned fish, salad or a variety of spreads. Keep them cool to keep them 'safe'. If nerves are a problem try a liquid meal like a smoothie instead of solid foods.
- If the break is longer than 3 hrs, then use this time to consume a larger meal.
- Always remember to keep up the fluids during longer breaks in activity as dehydration continues without activity especially in hot, humid environments.
- Don't forget to also pop in some sunscreen and shade protection!

Eating for recovery

Coping with tired, hungry children at the end of a hectic day can be challenging and you might be tempted to stop at a fast food outlet. Try to think before you leave home about a quick and easy meal for tea. Having something organised helps everyone to cope and ensures your children replace the energy used during an active day, especially if they have to perform again over several days. Simple meals can include healthy convenience foods from the supermarket to supplement fresh foods. Canned, frozen and packet products offer an excellent choice and opportunity to make healthy meals quickly. Ideally, choose a high carbohydrate meal with lots of fluids, topped off with a low fat dessert e.g. a pasta or rice based meal with lean meat, vegetables and canned fruit with ice cream. If you do stop to eat, try a family-style restaurant with a salad bar. Whatever you do, favour high carbohydrate, low fat options.

After sport meals

In the 2-3 hrs after exercise, encourage children to drink lots of fluids and eat plenty of carbohydrate rich foods e.g. fruit or juice, dairy foods, crackers with cheese, toast/bread/crumpets, muffins, fruit bread, home made pizza, low fat hot dogs with buns, pasta with sauce and cheese, rice or noodles with stir fry meat and vegies, burritos with lean mince/ canned beans and salad, potatoes stuffed with tuna and salad, salmon patties with mashed potato and salad.

Summary points

- To ensure an adequate intake of all the essential nutrients, encourage active kids to eat a wide variety of nutritious foods.
- Low fat, high carbohydrate snacks are the best choice for active children.
- Take nutritious snacks to sporting events. Self-catering is wiser than relying on local canteens.
- Children can overheat and dehydrate quickly. Offer plenty of fluids before, during and after sport.
- If parents or coaches are concerned about their child's nutrition, seek professional advice from a sports dietitian and/or sports doctor.