



FACT SHEET

Fuelling and cooling the junior athlete

Maintaining adequate nutrition in athletic children is 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 become tired and lethargic, and even struggle to maintain their enjoyment in sport. Young athletes who eat too little risk mild under-nutrition and may suffer from poor 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 indicators of adequate nutrition are the child's development, growth, well-being and performance achievements. If extra food needs to be eaten by a very active child, choose from the carbohydrate-rich food groups indicated with an * as they will provide the extra 'go' these active children require.

Food Group	Recommended Daily Serves	Sample Serve Size	
Bread/Cereals/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 of vegetable ½ cup baked beans
Fruit	1-2+ *	1 medium piece of fruit ½ cup of juice	1 cup canned fruit 2 small fruit
Milk/Yoghurt/Cheese (reduced fat)	2-3	1 cup milk 200g yoghurt	2 slices cheese 1 cup custard
Meats/Fish/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.

Eating on the run

Children who are constantly 'on the go' need to eat regularly to keep topping up their energy levels. Nourishing carbohydrate foods should provide the bulk of extra energy required by active children. Eating enough can be difficult if they become too busy or too tired to eat regularly. 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!

Pikelets/scones/fruit muffins	Fruit buns/fruit loaf
Fat reduced dairy foods (yoghurt/milk/dairy desserts)	Boiled potato/sweet corn cobs
Fruit and grain/Muesli/cereal bars, nuts	Breakfast cereal
Fruit - fresh/canned/dried	Honey/jam/peanut butter/cheese sandwiches
Baked beans/noodles/spaghetti/pasta snacks	Bread rolls/wraps/crumpets
Fruit smoothies/milkshakes	Cracker biscuits with cheese/spread

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 children adequately hydrated.

Which drink is best?

Water is the best choice for children's 'every day' fluid, however do not overlook the potential use and benefits of other fluids such as milk, sports drinks, and fruit juice. Water and sports drinks are the best choice just before, during and after sport. Sports drinks will provide carbohydrate for energy and the small amount of electrolytes (sodium and potassium) in them will help to replace those lost during strenuous activity. There are sports drinks available for this age group which are a more suitable portion size and concentration. During short bursts of low intensity activity, water is the best fluid for children to drink. Dental hygiene is always important. To ensure a child's teeth are healthy do not encourage excessive use of acidic fluids like soft drinks, sports drinks or cordial. Limit the use of these drinks to appropriate sporting situations as explained above.

Saliva helps to protect teeth from acid attacks. Dehydration reduces saliva production, which means there is less protection from acidic foods and fluids. Ensure children stay hydrated during activity to help minimise the effect of food acids on teeth during and after sport.

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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 fluids is likely to be the best way to keep them well hydrated particularly during prolonged activity. After activity, include water and discourage intake of high sugar, carbonated drinks (e.g. soft drinks). Fluids containing caffeine such as energy drinks are not suitable for children.

Some hydration tips

- Ensure children start exercise hydrated by encouraging them to drink plenty of fluids prior to exercise - especially during the school day if training or playing sport after school.
- Send children to school with a water bottle to remind them to drink during the day.
- When children are well hydrated they should be able to pass a good volume of clear urine regularly during the day.
- During exercise, make sure children take advantage of all breaks in play to drink up.
- Encourage children to start taking fluids early during activity. Don't wait until they are thirsty to start drinking.
- After exercise, children should drink liberally to ensure full re-hydration occurs.

Coping with carnivals

Junior athletes 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 fluids 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 fluid (e.g. sports drink). Encourage children to drink regularly from their drink bottle (if time permits one to two mouthfuls every 15 minutes) during any breaks in play. Take a large container of cooled water for 'top ups'. If using a flavoured fluid always encourage some water to follow to rinse their mouth. Never allow them to rinse their mouth guard with flavoured fluid!
- If it is hot, include frozen juice poppers as well as foods that don't require refrigeration, such as food bars and packaged foods. Plastic tubs are easiest to manage.
- If there is less than one hour before or between events, priority is given to eating carbohydrate-rich fluids to boost energy levels as well as water. A small quantity of jelly confectionery for quick energy boosts may also be helpful.
- If there are one to two hours between events, children should have fluids and a light snack. Some good examples include a cereal bar, fruit bar, fresh fruit, sandwich, and/or fat-reduced dairy products.
- If there is longer than two hours between events, offer sandwiches, bread rolls, muffins, baked beans, spaghetti, noodles, pasta salad, 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 three hours 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 slap on some sunscreen and take shelter under some 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 prepare a quick and easy meal before you leave home which will make it easier and cheaper at the end of the day. 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 repeatedly 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 and vegetables, and fruit with custard). If you do stop to eat, try a family-style restaurant with a salad bar or one of the healthier fast food options now available. Whatever you do, encourage intake of foods rich in carbohydrate and lower in fat, along with a generous fluid intake.

After sport meals

In the two to three hours after exercise, encourage children to drink lots of fluids and eat carbohydrate rich foods

Good foods include: fruit or juice, fat reduced dairy foods, crackers, lasagne, pasta/bread/crumpets, muffins, fruit bread, home-made pizza, low fat hot dogs with buns, pasta with sauce, 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 children to eat a wide variety of nutritious foods.
- Fat reduced, high carbohydrate snacks are the best choice for active children.
- Ensure active children maintain a healthy body weight by balancing their energy intake with expenditure
- Encourage them to eat to their appetite which will vary from day to day.
- 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.

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