

FUELLING ACTIVE KIDS



Junior Athlete

A GUIDE FOR PARENTS, COACHES AND TEAM MANAGERS

JUNIOR ATHLETE



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“Encourage junior Athletes to eat and drink well to feel great and perform at their best”

This booklet offers guidance for meeting the nutritional needs of children aged 5 -11 who participate in athletic activities including cross country running, track and field events. Whilst most of the information in this booklet is also appropriate for older children, more specific nutrition information for adolescents is available at www.sportsdietitians.com.au

Parents and coaches frequently ask “What are the best foods and drinks for kids to have to boost athletic performance?” Just as often, in conversations between parents at sporting events, quite different opinions are expressed about what is best practice in feeding and hydrating our athletics stars of tomorrow.

Whilst the nutrition needs of children are individual and vary throughout their development, there are some important guidelines that are applicable to all juniors participating in athletics.

The foods and fluids consumed by Athletes of any age can have a big impact on their ability to train, compete and recover well. Food provides fuel to exercising muscles and nutrients for growth, recovery, cognition (ability to think well) and the immune system. It makes sense then that choosing foods and fluids that provide the optimal amounts of nutrients, can help ensure a fit, strong and healthy young Athlete.

Sports Dietitians know how challenging it can be to juggle the demands of family, work and sport, and have aimed to provide information that not only helps optimise the performance of the junior participating in athletics, but is easily incorporated into the overall active family’s lifestyle.

Establishing high performance eating habits early in life will help set junior Athletes up for a long, healthy life in their chosen sports. It’s also an approach to eating that has health benefits the whole active family will benefit from.



This booklet provides information based on recent scientific research, and has been extensively reviewed by accredited sports dietitians working with Australian sports people and athletes.

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GETTING READY...

It is important for the junior Athlete to eat well every day – not just on the day of the event. The foods they eat on a day to day basis help develop the ability to store glycogen in their muscles, maximise their growth and development and prepare them for performing at their best on competition day.

Active children need constant refuelling and hydrating. Their nutrition needs are particularly important as they must meet requirements for not only their physical activity, but also their growth and development as well as overall health and wellbeing.

The junior Athlete will perform better, over more events and recover quicker from training and competition when they are well fuelled. An Athlete who is not giving adequate consideration to their diet when choosing meals and snacks may become tired, irritable and lethargic, and may even struggle to maintain interest and enjoyment in sport.



Carbohydrate for Energy

Ensure children have frequent opportunities to eat foods rich in carbohydrate such as bread and other cereal products, pasta, rice, fruit, starchy vegetables and calcium rich dairy foods.

Carbohydrate rich energy foods (see examples below) need to be eaten at frequent intervals each day as they provide the fuel for exercise along with key nutrients for overall health. Carbohydrates keep blood sugar levels consistent, helping concentration during the day and helping keep children alert at school. Because the body can only store a limited amount of carbohydrate it is important to have nutritious, carbohydrate rich foods at each meal and snack to top up fuel supplies. An increased intake around training and competition can help maximise the muscle's uptake of this fuel, and requirements will vary as training loads change over the season, and according to the type of events. Heavier training loads should be balanced with higher carbohydrate intakes. Competitions are usually held on the weekend; after a busy week of training. This can be a time of low energy reserves if your child has not been eating well after each training session.

The majority of carbohydrate should come from nutrient rich foods such as grains, wholegrain cereals and breads, legumes, fruit, vegetables and dairy products as these provide the fuel for exercise but also key nutrients for overall health.

Carbohydrate rich fuel foods

Cereals and Grains

Wholegrain breakfast cereals: rolled oats and other grains (barley, quinoa), served hot or cold

Bread & bread rolls: pita, Turkish and mountain breads, wraps, tortillas, tacos, lavash, crackers and crisp breads, rice cakes, corn thins, crumpets, fruit bread
Rice, pasta, noodles, couscous, quinoa

Dairy & alternatives

Plain and flavoured milks, yoghurt, custard, milk desserts

Non-dairy alternatives such as calcium fortified soy yoghurt and soy milk

Fruit

All fresh, canned or dried fruits, fruit and grain bars, fruit straps, 100% fruit juices

Vegetables & legumes (pulses)

Potato, sweet corn, sweet potato, baked beans, lentils, chickpeas, soy beans, bean mixes

Extras - carbohydrate snacks

Low fat fruit and grain bars, fruit buns, fruit loaf, fruit scones, pikelets, pancakes, frozen yoghurt, smoothies, fruit muffins, banana/carrot cake, oat biscuits

Many kids love sweet foods, however an excessive intake of high sugar foods can replace more nutritious carbohydrate foods that growing athletes need. After long, hard training sessions is the preferred time to offer an occasional small serve of a "sweet treat" to top up energy levels. These may include home prepared muffins and slices or an ice-cream or ice block in the warmer weather to cool and refuel.



Protein for growth & development

As well as eating and enjoying a wide variety of carbohydrate rich foods, it is important to make sure that junior Athletes have enough protein in their diet to optimise growth and development.

There is probably no other nutrient that has captured the attention of athletes more than protein. While junior Athletes have protein needs higher than their sedentary counterparts, most will easily meet their needs each day through their normal eating habits. Junior Athletes should focus on a wider distribution of protein over the day, instead of large serves at 1-2 meals. Encourage them to include protein rich foods for growth and repair (see examples below) at snacks and meals throughout the day

will provide essential amino acids to growing muscles.

Having a small amount of protein after strenuous exercise has been shown to be beneficial in adults, for faster muscle recovery. Whilst there has been little research done in this area, on active children, it makes sense to include foods rich in both protein and carbohydrate as recovery snacks after heavy training sessions and competition.

Growth foods

Meat, seafood and eggs

Lean beef, veal, lamb, pork, turkey, chicken
Fish - fresh, canned or frozen; other seafood
Eggs

Dairy & alternatives

Plain and flavoured milks, yoghurt, custard, milk desserts

Non-dairy alternatives such as calcium fortified soy yoghurt and soy milk

Legumes, nuts and seeds*

Baked beans, meat analogues (vegetarian foods), tofu, seed beans, nuts e.g almonds, pecans, cashews, peanuts and peanut butter, seeds e.g. pumpkin, sunflower



*Vegetarian junior athletes should be encouraged to see a Sports Dietitian to ensure their nutritional needs are met.

Some facts about fats

All children require a small amount of fat (3 - 4 teaspoons) in their daily food intake for normal growth and development. It is recommended that all Australians, including children, limit their intake of saturated fats (mainly from animal fats). For proper growth and development however, children, should include healthier unsaturated fats found in foods like fish, nuts, seeds and avocados.

Children under the age of two should be eating full cream dairy foods to meet their nutritional and energy needs. However, children over two years of age can be offered reduced fat dairy products such as low fat milk, cheese and yoghurt. Some active, growing children, who find it challenging to eat enough food each day, may benefit from having full cream dairy products to help meet high energy needs.



Staying hydrated

Managing fluid intake is just as important as food intake for the health and performance of junior Athletes. Children can overheat and dehydrate quickly as they are not able to regulate their body temperature as well as adults. Getting young people into the habit of drinking fluid regularly can help them develop good skills in staying hydrated throughout their sporting career.

Individual fluid needs vary significantly and are largely dependent on the type and amount of exercise (including both structured activities but also general play), and environmental conditions. Hot and humid conditions can lead to increased fluid losses through sweat, which in turn increases the amount of fluid a junior Athlete needs to drink. Children are generally not very motivated to follow good hydration strategies, therefore it becomes the responsibility of parents and coaches to help them stay well hydrated during training and competition.

Young Athletes may need to be reminded often to drink, particularly when the weather is warm, or if they have a history of not drinking enough fluid before, during or after exercise. During the winter months, you might expect fluid losses to lower but it is important to remind young Athletes to drink, as they often won't feel as thirsty as they may on a hot, dry day.

Individual fluid needs

- Fluid loss will vary from one day to the next depending on many factors. Be prepared to compensate for extra losses if your child is sweating more than usual (due to a greater volume or intensity of exercise, or environmental conditions, or if they are naturally a heavy sweater).
- Beware of hot, humid conditions, especially during competitions in summer.

- A quick guide to hydration is the colour of your child's urine. If their urine is a darker colour than usual, it is a fair indicator of dehydration – extra fluids should be taken. (NOTE if a child is taking a recommended vitamin/mineral supplement, this can sometimes alter urine colour)

Can you drink too much?

It is possible to drink too much fluid and develop a condition called hyponatremia. However this condition is generally seen in sports where excessive fluid is consumed over several hours (e.g. ultraendurance events), and is extremely rare in athletics and junior athletics in particular. If your child is continually going to the toilet and has clear urine they may need to reduce fluid intake, particularly close to bedtime to avoid interrupted sleep.



Hydration Guidelines

Before

- It is important that active children start drinking well before they get to training or their event. Preparation needs to begin in the hours prior, by sipping 'mouthfuls often' throughout the day at school and home. School aged children should be reminded to take adequate water with them each day to ensure they are well hydrated for after school training sessions or competitions.
- Junior Athletes should be encouraged to drink fluid with meals and snacks on training days and before competition. This takes advantage of the electrolytes in food to ensure the water is better retained by the body, promoting optimal hydration.
- The volume of fluid a child needs to drink is very individual. As a rough guide the child should drink periodically until not thirsty and their urine output is regular and light straw in colour.

During

- Children should always have their own water bottle handy to sip from, and drink breaks should be scheduled during training and competition to allow for regular access to fluid. Most children will maintain their hydration if allowed to drink according to their thirst.
- Practicing regular intake of small volumes frequently during training assists children to feel more comfortable drinking during competition.
- Remind children not to wait until they are very thirsty before they start to drink. By then they may already be starting to dehydrate and be experiencing a decline in performance.
- Fluids should be kept cool to encourage greater intake and can actually help the

body stay cooler. In summer, aim to have drink bottles in a cooler bag, or try freezing a bottle overnight as it will thaw quickly on a hot day. It is a good idea for coaches to have a cooler bag available at trainings and competition - all the drink bottles are kept in one place making for easier drink breaks.

- A big concern for some Athletes is getting a 'stitch'. Sports scientists are still unclear as to why this happens but it is thought that it may be due to the stomach wall becoming distended from food or fluid consumption immediately before or during exercise and this irritating nerves and muscles in the abdominal area during exercise. Current advice is to drink small amounts frequently, in advance of competition time, and avoid highly concentrated sugary or carbonated fluids pre event, to reduce distension of the stomach. Dehydration may also increase the risk of experiencing a stitch.
- Remind them that professional Athletes drink frequently during training and competition to perform at their best.

After

- After exercise, encourage kids to rest and have a larger drink, followed by fluid intake as desired during the hours post-exercise, along with appropriate food intake.
- Suitable fluids for recovery include water, plain and flavoured milk, liquid meal supplements or soup to provide fluid with electrolytes, carbohydrate and protein.
- Discourage junior athletes from having carbonated drinks (including soft drinks) before, during and immediately after exercise as they can upset the stomach and reduce their desire to drink. It is also not suitable for active children to be drinking cola, coffee, tea and "energy drinks" as these contain large amounts of caffeine.

Sodium

Sodium is found in many of the foods we eat and is the main electrolyte added to sports drinks. It contributes to hydration in a number of ways:

- Stimulates thirst, promoting increased fluid intake
- Enhances fluid absorption and retention
- Replaces sodium lost in sweat

However most children consume more than enough sodium as part of salt in foods, and when combined with adequate fluid, this is usually enough to assist with hydration.

Sports drinks

Water is the fluid of choice for most training sessions. There are some situations however when additional carbohydrate and electrolytes may be beneficial. These may include when physical demands are very high, or in very hot and humid conditions, or during carnivals when several events are completed in close succession over a day, making it more difficult to eat sufficient carbohydrate between games.

Sports drinks provide small amounts of carbohydrate and electrolytes that provide a boost to energy and performance, and may encourage greater fluid intake, and faster absorption. This makes them useful during extended training sessions and competitions.

'Water, water, water! You only need to drink sports drink if you are actually exercising a lot'. - Nick Riewoldt, St Kilda Football Club Captain



Signs of heat exposure

Know the warning signs for dehydration. If a child shows any of the following signs it is recommended that they are taken away from the competition area and encouraged to rest in the shade and sip cool fluids:

- Dizziness and light-headedness
- Muscle cramps
- Nausea and headache.

After exercise you will know a child has not drunk enough if any of these signs are noticed:

- Dark urine and infrequent urination
- Dry mouth and throat
- A feeling of extreme heat which remains after a cool down time.



Oral Hygiene

- Harmful bacteria are readily transferred through sharing drink bottles so it is recommended that children get into the habit of taking their own bottle to training and competition. If they are required to share at any time remind them not to allow their lips to touch any part of a shared bottle, and teach them how to squirt or use a chin sipper bottle to get the water into their mouth.
- Ensure water bottles are thoroughly cleaned in soapy hot water, and if they are used over a long period of time they should be sterilised at regular intervals.

Dental hygiene

- Remember to encourage healthy dental hygiene habits to minimise the risk of tooth decay if consuming carbohydrate rich foods or fluids.
- Rinsing the mouth with water after consuming sports drink is advisable, so encourage Athletes to bring two drink bottles if having sports drink, including one with plain water.
- Dental products such as tooth mousse can help to protect teeth and foods rich in calcium and phosphate (like milk, cheese and yoghurt) can help to remineralise the tooth surface.
- Regular brushing and flossing is critical, but brushing teeth should be delayed for at least 30 minutes after consuming a sports drink or post-exercise recovery to enable the tooth surface to re-harden.



GETTING SET...

The day before competition

The day before a big sporting event requires extra effort to ensure adequate carbohydrate is eaten and fluid intake has been sufficient to ensure a good state of hydration. The focus for meals and snacks over the day should be 'fuel foods' and fluids, with a reduction in filling high fat foods during this period. The meal eaten in the evening should have a carbohydrate base such as pasta, rice, noodles or quinoa, with a small serve of a lean protein food. This meal can be kept simple and may be a good time for a family favourite pasta dish, (preferably with a non creamy sauce) or a casserole with rice or a simple stir fry with noodles. Lean burgers with wholemeal buns and salad are also a quick, simple yet nutritious choice. Remember to provide plenty of water to drink at this time, and encourage the kids to find out what healthy foods their favourite sports stars eat the night before a big competition.

High performance meals

LASAGNE – include lots of pasta sheets with lean beef, pork or chicken, tomatoes, spinach and reduced fat cheese and a crunchy side salad or vegetables.

PASTA - your favourite pasta shape with tomato based sauce, vegetables and cheese (chicken, tuna or lean beef is another great addition to this dish).

MEATBALLS – lean beef with grated carrot and zucchini, tasty sauce, served with a rice or pasta.

CURRY – lean chicken or vegetarian with chickpeas, extra veggies and steamed rice.

HOMEMADE STEAK BURGERS – grill, small quick steaks and top with sauce, beetroot, and lots of salad on a multigrain roll.

Dessert and Extras

Pancakes or waffles
Creamed rice with fruit
Fruit Platter
Canned or poached fruit

Drinks

Water, mineral water
Fresh fruit and yoghurt smoothies
Milk, hot chocolate

CHICKEN WRAPS - tortillas filled with roast chicken, salad and light sour cream or a dollop of low fat natural yoghurt.

HEARTY MINESTRONE SOUP - a meal in a bowl rich with vegetables, beans and rice. Serve with a crusty bread roll.

PIZZA - use a pre prepared thick base topped with cherry tomatoes, basil, lean ham and mozzarella.

STIR-FRY - toss lean chicken or pork with plenty of vegetables in a sweet chilli and soy sauce, and serve with thick noodles or rice.



High performance snacks

- Bread, crumpets or English muffins with jam, honey or vegemite
- Fresh fruit or a snack pack of canned fruit
- Sandwich with cheese, peanut butter, honey or jam
- Vegetable pieces or crackers with low fat dip
- Breakfast cereal with milk
- Yoghurt, custard, rice pudding, creamed rice
- Fruit and grain bars
- Pita chips, pretzels or crackers
- Fruit bun or raisin toast with jam
- Corn and rice crackers, corn thins or rice cakes
- Scones, pikelets, pancakes
- Milk based smoothie with fruit
- Quick cook noodles
- Milkshakes
- Fresh Sushi rolls
- Home made popcorn (minus the salt and the butter)
- Trail mix with nuts, seeds, dried fruit
- Canned spaghetti or baked beans



"Eating the wrong food before a marathon can make or break your performance as a marathon is 42.2km which is a long way without a motor car! Three days out from the marathon my focus shifts to high carbohydrate foods. I eat bigger servings of carbohydrates (pasta, rice, multi-grain bread and potatoes) than I would normally eat at each meal and snack on bananas, sultanas and low fat fruit buns throughout the day"

Lisa Weightman,
Olympic marathon runner.

On competition day

The aim of breakfast on the day of competition is to provide some carbohydrate and fluid to top up stores, after what is often 12 hours without food, and to prevent hunger before and during events. For mid-morning starts, breakfast should be eaten around two hours prior to keep your child feeling satisfied and well fuelled. However, if they become hungry again up to one hour before starting exercise, provide a small low-fat snack to top up.

See below for nutritious pre-exercise meal ideas. For afternoon competition, include a larger breakfast and a 'pre-exercise' lunch around two hours before competition begins. Evening training sessions and competitions can be a particular challenge as they are often scheduled over dinner time. Depending on the timing, a larger afternoon snack could provide the pre-exercise meal, or if later in the evening, a snack or small carbohydrate-rich dinner may be suitable a couple of hours before the event (don't forget recovery foods and fluids afterwards too, even if it is a late finish).

There will be times where the exact start time for events may not be known ahead of time. In this case it is important to ensure a nutritious breakfast, plus a range of carbohydrate rich snacks to be consumed throughout the day. Small portions consumed frequently may be the best option if you don't know the exact time

you will be competing, for example a sandwich could be eaten a quarter at a time, spread over the day and combined with other small snacks, rather than eating a big sandwich all at once.

If you have to travel long distances or need to make an early start before competition, pack some breakfast-on-the-run foods including flavoured milk drinks; low fat, high fibre cereal bars; bread rolls with spread; flavoured yoghurt or creamed rice; fruit bars; fresh fruit or a plain fruit bun.

The best foods to serve pre-exercise are those your children are familiar with, and are quick and easy to prepare and eat – this will minimise fuss and ensure maximum stomach comfort. Low fibre foods, like smoothies can be a good choice if your child gets an upset tummy due to "nerves" before competition.



Pre exercise meal ideas

- Porridge (oats or quinoa) with apple and cinnamon
- Spaghetti on toast with a fruit smoothie
- Cereal with milk, fruit and yoghurt with a small glass of juice or piece of fresh fruit
- Toast with avocado, tomato and cheese (or a little fetta), with a glass of milk
- Fruit salad with yoghurt and chopped nuts
- Scrambled egg with cheese and tomato, toast and a piece of fruit
- Peanut butter on toast, topped with sliced banana and a glass of milk
- Baked beans on toast with fruit and a glass of milk
- Fruit toast or English muffins with honey or jam and a fruit smoothie
- Pancakes with fresh fruit and yoghurt
- Crumpets with honey and a tub of yoghurt
- Creamed rice with stewed apples and cinnamon



Remember to encourage your child to drink fluids at this time. The best pre-competition drink is water but small amounts of milk or juice may be okay, particularly if your child's food intake is low on competition day.

Your junior Athlete should be well hydrated from the previous day's drinking, so the aim before the competition is to simply top up fluid levels, according to thirst.

GO! At the track, oval or stadium

It is a good idea not to rely on the canteen at the venue or nearest shops to supply foods and drinks over the day, as healthy choices are not always available.

Be prepared by packing your own supplies of food and drinks in an esky or cooler bag.

Carbohydrate-rich snacks will help boost energy levels and prevent hunger for junior Athletes. The list of Energy Boosters below provide some suitable snack ideas competition days. It's always good to encourage some food with fluids, if time permits, between competitions.

When time is short, nutritious drinks like fruit smoothies, liquid meal supplements and flavoured milks may be particularly valuable.

As discussed under 'Staying hydrated', in addition to having water with the pre-event meal in the lead up to the competition, athletes should continue to sip on water according to thirst. Drinking too much fluid before an event will merely increase the potential for a stitch and making your child uncomfortable.

During the carnival

The priority during carnivals is keeping junior Athletes well hydrated and fuelled.

When junior Athletes are involved in carnivals that involve several events over a day, remember to encourage fluid intake during breaks. Aim to get kids drinking at least a 100-200mls from their drink bottle after each event, prior to the next one. Some of these athletes will be working hard on carnival days, not only in their events, but also from racing around and being generally excited.

Encourage junior Athletes to rest in a quiet area where they can top up with food and fluids to keep performing at their best. Those who are not so actively involved will not require as



much, so be aware of the potential for these children to overeat and over-drink.

What about sprints vs distance vs field events? Often at this age, junior Athletes will find they are competing in a range of events throughout the day. The important thing to remember is to encourage regular fluid intake with small snacks when time permits, but discourage eating within 20 to 30 minutes of events. Even when running in a distance event at an athletics carnival, children will generally only race for a short period of time, so their need for energy is not great. Even so, it is important to regularly top up their blood sugar levels. Those competing primarily in field events also need adequate carbohydrate to assist with energy levels and concentration while competing over an extended period of time, even though their energy use may be quite small. In summary, similar principles apply to all junior Athletes no matter what their favoured event is.



Energy boosters

- A snack pack of canned fruit with fruit yoghurt
- Bread roll with banana
- Jam or honey sandwich with a juice popper
- Rice crackers with vegetable dip
- Frozen yoghurt
- Sushi hand rolls
- Wholegrain fruit bar with a flavoured milk
- Watermelon slices
- Fruit bun with honey/jam
- A small box of sultanas
- Pikelets with jam or honey plus a snack pack canned fruit
- Flavoured milk or liquid meal tetrapak



'Depending what time I am jumping during the day I ensure I have a light breakfast and will consume 1 or 2 energy bars throughout the day. Sometimes it may only be breakfast if early comp. I am continually consuming water throughout my day and I always ensure I have a drink bottle with me at all times. During competition I don't like too much sitting in my stomach, so I will take little sips of water after each jump just to settle me and keep a routine going.'

- Ashleigh Reid, elite high-jumper

After the event

Recovery after each day's competition or training session is essential to maintain your child's fuel stores, and therefore perform at their best. This is particularly true when they are required to train or compete over consecutive days.

Combinations of foods that provide valuable amounts of carbohydrate and protein include yoghurt with fruit, smoothies, cheese sandwich or cheese on toast, baked beans on toast with a glass of milk, cereal with milk, or fruit & grain bars with a milk drink. If you have a long drive home after training or competition make sure that you pack a healthy recovery snack as it can be difficult to find appropriate options in transit. See 'the night after competition' for more on recovery.

Recovery snacks and fluids should be:

- Started within 30-60 minutes of finishing exercise
- High in carbohydrate with a little protein
- Quick and easy to prepare and eat
- Available at the venue if it takes a long time to get home.

Recovery snacks

- Low fat fruit smoothies
- Low fat fruit yoghurt and a handful of dried fruit/nuts
- Soup with a cheese sandwich
- Sushi handrolls
- Sandwich, roll or wrap with protein filling eg. chicken, tuna, cheese or egg with salad
- Glass of milk and a piece of fruit
- Liquid meal supplement
- Small tin of tuna with dry biscuits
- Chicken and pasta salad



'I sometimes need to give my body an hour or so to settle down before hunger comes straight back and I'm ready to consume anything in sight! If I know I am going to have big session, I make sure I prepare a meal before the session so I don't eat the wrong thing. These meals will normally be made up of a protein (tuna), veggies (salad) and a carbohydrate (brown rice, quinoa or a wrap).'- Ashleigh Reid, elite high-jumper

The night after competition

Coping with tired, hungry junior Athletes at the end of a long day can be challenging for any parent. The temptation to line up at a fast food outlet can be great and pressure from the children can make it even harder to resist.

Of course, takeaway foods can be enjoyed as an occasional treat but generally try to limit to the occasional rather than every weekend! If you do eat out, choose a venue where your child can have a carbohydrate rich meal such as pasta, pizza with a low fat topping, or a noodle/rice dish.

One solution is to have food prepared in the fridge or freezer that only needs reheating while showers happen.

Being prepared with a casserole or easy pasta dish at home will save the family time, money

and improve the nutritional value of the meal.

Spaghetti bolognaise, chicken or seafood risotto, burritos, baked potatoes with tuna/salmon, noodles with stir fry chicken and vegetables, quinoa and roast vegetables all make good recovery meals.

Ensure your young athletics champion keeps drinking plenty of fluid until they are well hydrated again, and then off to bed for a good sleep to allow tired muscles to recover (and parents/coaches to relax!).



OTHER THINGS YOU SHOULD KNOW

A healthy weight

Just like adults, children come in many shapes and sizes, and very often grow and develop at different rates to each other. There are always going to be some junior Athletes who are prone to problems with weight (or body fat) control while in contrast, there are also lightly built athletes who struggle to eat enough food and require constant encouragement with food and fluid intake to maintain adequate energy for their sport.

Assessing weight (both over and underweight) in active children is quite complicated and it is a good idea to seek professional advice if you have concerns about your child. You can find an Accredited Sports Dietitian in your area by visiting Sports Dietitians Australia's website at www.sportsdietitians.com.au.

If your child is overweight, a healthy diet and activity plan will help

Research suggests that overweight children have a much higher chance of becoming overweight adults, so it is recommended that parents implement positive strategies early, to help overweight children develop long term healthy eating and exercise habits. It is interesting to note that owing to the high risk of overweight adolescents becoming obese adults, the engagement of children and adolescents in physical activity and sport is now considered a fundamental goal of obesity prevention.

Management of overweight children often requires expert help from a Sports Dietitian. Rapid weight loss is never the goal for children, instead aim for a slowing of expected weight gain over time, or maintaining weight steady while height increases. Studies have shown that the best way to help children successfully change behaviours is for the whole family to be involved.



Parents can help by reducing the child's overall energy intake and encouraging more physical activity. Choose lower fat alternatives for meals and snacks, avoid the use of fatty take away and convenience foods and replace high sugar snacks and drinks with water and more nutritious choices like fruit and yoghurt. Eating more fruit and vegetables not only helps appetite control but provides important nutrients for active bodies.

During athletics carnivals, overeating can be an issue for some children if there are large breaks between events. A canteen stocked with high sugar/high fat foods can also prove tempting. Packing nutritious options and keeping children engaged in supporting team mates, or assisting coaches can help alleviate boredom eating.

Healthy eating is the same for overweight and normal weight active children, although the amounts consumed might need to be different. Fatty, salty snacks should be minimised for everyone and replaced by healthier snack options.

Planning and preparation helps children meet high energy demands

Equally important is managing the child who struggles to eat enough for the energy demands of sport, school, play and growing. It is important to help these children plan their food and fluid intake to maximise daily energy intake. At those times when they feel too tired or busy to eat, nutritious drinks including smoothies and milk drinks can help boost intake.

Smoothies and liquid meal supplements are particularly useful for those who can't eat before competition and also after heavy training sessions to help recovery. Eating frequently and including healthy snacks like dried fruit and nuts, yoghurt, fruit bread, and cereal is also important. Some growing junior Athletes can have voracious appetites and preparation is the key, packing snacks and fluids to have after school and after training sessions.

Promoting a healthy body image in active children is vital

Sport is a unique environment that places the physical body on centre stage. Increasingly in the western world, however, we are becoming more concerned with how our bodies' look rather than what they can do. Junior Athletes are not exempt from this, and they (and their parents or coaches) may become concerned about their body weight, particularly during growth phases. Children grow in 'spurts' – usually going out first, followed by an upward growth phase. During this 'out' phase, children often become very aware of their body shape and dislike the associated feeling or appearance of fatness. Coaches and parents need to be aware of their sensitivity to weight related comments and always encourage positive discussions regarding body shape, food and healthy eating behaviours. Pressure from a

young age to conform to unrealistic body 'ideals' can lead to deprivation of food intake resulting in nutritional insufficiency, poor growth and long term problems with disordered eating habits.

Parents, coaches and teachers are important role models for fostering a healthy body image in children and can help in a number of ways including understanding their own body image issues and aiming to develop positive self talk so these messages are sent to children. Celebrating body diversity helps children understand that everyone is beautiful and acceptable, regardless of their shape, weight or size. Within athletics there are many body shapes and sizes that are suitable for various event types. Encouraging children to step outside of their comfort zone by trying new and different activities can also help them understand their potential and build self-confidence and self-worth.

Organising shared meals between junior Athletes when travelling to competition or before or after training, provides an opportunity to promote a positive association with healthy food. Encouraging children to become actively involved with the purchase and preparation of healthy meals and snacks early in life helps to develop a healthy relationship between the athlete, their food and their bodies.

Sometimes, despite everyone's best efforts, things do not go to plan and it is important to know the early warning signs of when a child may be experiencing issues with their self-esteem and body image. For more information visit <http://thebutterflyfoundation.org.au> or speak to an Accredited Sports Dietitian.

Thin doesn't always lead to fast. Many junior distance athletes, both male and female don't consume enough energy to train hard and recover quickly. - Lisa Weightman Australian marathon runner.

Vitamins and minerals

Adequate intake of vitamins and minerals is essential for good health, energy levels and performance for all children, but particularly for those who participate in regular exercise.

Eating a wide variety of foods, including wholegrains, vegetables, fruit, dairy foods and alternatives, lean protein sources and healthy fats will help to ensure that vitamin and mineral needs are met.

Generally, if a child is meeting their energy needs through a healthy diet, they will also meet their vitamin needs. Vitamin D is one possible exception to this. Diet only provides a small amount of daily vitamin D requirements with short and regular periods of exposure to the sun being required for the body to produce its own vitamin D. See Sports Dietitians Australia website www.sportsdietitians.com for more information on vitamin D for active people.

Vitamins with antioxidant activity, such as vitamins A, C and E, play an important role in helping the body's immune system. Including fresh fruit and vegetables, grains, nuts and seeds, each day will help ensure active children meet their requirements of these.

Dietary intakes of some minerals, in particular iron, zinc and calcium, have been reported to be sub optimal in a number of children and adolescents. These nutrients are particularly important for active, growing children.

Iron

This mineral is responsible for carrying oxygen around the body and is essential for maximising energy levels in active children and adults. Low iron levels can cause tiredness and will affect performance at training and during competition.

The best sources of dietary iron include lean red meats, liver and kidney. You should aim to include a small amount of lean red meat in active children's diet around 3-4 times a week.



Other sources of iron are green leafy vegetables, legumes such as lentils and baked beans, eggs and breakfast cereals. It is more difficult for the body to absorb the iron from these sources, so encourage children to eat complementary foods that supply Vitamin C. Adding Vitamin C increases the body's ability to absorb the iron from non-meat sources. For example, put strawberries on their iron-fortified cereal or offer a glass of orange juice with baked beans.



Zinc

Zinc is a mineral involved in many aspects of metabolism, and is important for immune function, wound healing, taste and smell, and normal growth and development during childhood and adolescence. A wide variety of foods contain zinc, and although oysters contain more zinc per serving than any other food, lean red meat and poultry are the main sources in most people's diets. Other good food sources include beans, nuts, certain types of seafood (such as crab and lobster), whole grains, fortified breakfast cereals, and dairy products.

Calcium

Calcium is the mineral responsible for healthy growth and development of bones. It also helps to keep the muscles working properly. A lack of calcium can lead to poor bone development during puberty and a possible increased risk of fractures in later life.

Active children should be encouraged to consume at least 2-3 serves of dairy foods or fortified soy alternatives each day. Examples of one serve include: 1 cup of milk; 1 tub of yoghurt; 2 slices of reduced fat cheese; 1 cup of a calcium enriched soy beverage.



Other good sources of calcium include canned fish with edible bones (such as salmon), green leafy vegetables, nuts and seeds. Children, however, would need to eat quite large amounts of these choices to obtain a sufficient daily intake.

Supplements

Despite what the growing number of supplement manufacturers will try and convince you, there is no magic pill or potion that will substitute for a great training program, well planned eating strategies, and positive sports psychology.

For junior Athletes, there are few supplements that are recommended (or have been tested) in children under 16 years of age, and some have the potential to be detrimental to growth and development. Coaches, parents or junior Athletes wanting to know more about sports nutrition supplements are encouraged to discuss their individual needs with a Sports Dietitian who can provide information on the usefulness and safety of different products.



And remember....

- The whole family may need to get organised for healthy eating – this can offer a great opportunity to encourage good food and fluid intakes for everyone. Remember that the age and activity level of family members will determine the amount of food they need to eat each day.
- Encourage children to recognise treats as occasional, rather than every day. Discourage excess indulgences by explaining that these foods are replacing the high performance foods that they need to train and compete at their best.
- Where appropriate, use favourite athletes as a good example of health and fitness. Professional athletes have access to a Sports Dietitian to help them develop high performance eating strategies.



'My nutrition is a huge focus of my training and is one of the many prime areas where I take extra time to plan, prepare and reflect on how it will enhance my training and competition. The choice you make on your nutrition will be immediately reflected in your training and performance. You want to know you have prepared your body in the best possible way to ensure you will get the most out of it. Seeking professional advice from a Sports Dietitian really helps with setting your nutrition in order and it helps to ensure your coach, parents, partner, roommate etc understand and are supportive of your nutrition plan.' - Ashleigh Reid, elite high-jumper

Further information:

Sports Dietitians Australia – www.sportsdietitians.com.au – to find:

- Fact sheets
- Survival of the Fittest Cookbooks
- Position Statement – Nutrition for Health & Performance – Adolescent Athlete
- An Accredited Sports Dietitian in your local area

The Butterfly Foundation – www.thebutterflyfoundation.org.au