FACT SHEET
Adolescent Athletes

SPORTS DIETITIANS AUSTRALIA

Nutrition for Adolescent Athletes

This fact sheet is targeted at athletes aged 12-18 years who participate in organised training and competition. Elite adolescent athletes are advised to receive individualised support from an Accredited Sports Dietitian (click here to find one near you).

Energy Intake

Adolescents have increased energy needs to support growth and development, whilst catering for training and competition demands. Markers of growth and health can help determine if total energy intake is adequate.

Athletes are encouraged to adjust eating patterns to reflect daily exercise. Therefore, larger meals and / or extra snacks are required on training days. Heavier training days require more food.

Carbohydrate, Protein & Fat

Carbohydrates – adjust intake to match daily energy needs. Higher training volume = higher carbohydrate intake. Consider the duration and intensity of the exercise sessions to help guide intake.

Protein – aim for 1.3-1.8g per kg each day. E.g. A 50kg athlete should aim for 65-90g protein each day. Athletes should adopt eating patterns that provide a regular spread of high-quality protein sources over the day.

Both protein and carbohydrate are important for recovery after exercise. Nutritious recovery options may include:

- milk or soy based drinks
- yoghurt with fruit / muesli
- homemade smoothies
- lean meat and salad roll
- cottage cheese pancakes
- egg and veggie frittatas
- tuna and crackers

In some cases, sports foods such as Sustagen Sport may be used after exercise to help meet the high energy needs of the athlete in a convenient form. Please see 'Recovery Nutrition' fact sheet for more information.

Fat - should contribute 20-35% of total energy intake, with no more than 10% coming from saturated and trans fats (e.g. fat in meats, dairy, fried foods and processed products such as biscuits). If an athlete is finding it difficult to meet their energy needs, increasing the unsaturated fat content of the diet can help address this issue due to its energy density (e.g. olive oil, avocado, nuts, seeds, peanut butter and salmon).

Key Nutrients

Adolescents have an elevated risk of deficiency of the following nutrients.

HOW MUCH?	FOOD SOURCES	REASON
IRON *Boys:* 8mg/d (9-13 yrs) 11mg/d (14-18 yrs) *Girls:* 8mg/d (9-13 yrs) 15mg/d (14-18 yrs)	Red meat, chicken liver, lentils, beans, tofu, seafood, eggs, nuts, green leafy vegetables, reduced sugar Milo and fortified cereals. *** Iron supplementation should only be considered if medically warranted.** *** Vegan athletes require higher iron intakes and are advised to consult an Accredited Sports Dietitian.**	Oxygen transport, red blood cell production and immune function.
CALCIUM 1300mg per day OR 3½ serves dairy (or alternatives) per day	Milk, yoghurt, cheese, calcium-fortified soy products and breakfast cereals, tofu (calcium-set), sardines / salmon with edible bones * 1 serve = 250ml milk, 200g yoghurt, 40g tasty cheese, 120g ricotta	Significant time of bone growth.
VITAMIN D 5 µg per day OR A few minutes of sunlight per day in non peak UV times.	Mostly obtained through sunlight rather than dietary sources. *Darker skinned, veiled / covered or indoor athletes are a greater risk.	Absorption on calcium, helps maintain immune function and muscle strength.

Fluid and Preventing Heat-Illness

There is an increased prevalence of heat-illness associated with sport in younger athletes. This may be associated with poor hydration, undue physical exertion, insufficient cooling between exercise bouts and inappropriate clothing.
Adolescent athletes should strive to be well-hydrated prior to commencing exercise. Encourage carrying a drink bottle during the day and consuming small frequent amounts. Cold fluids should be supplied in sufficient quantities before, during and after sport. In hot environments, allow for adequate rest, shade, fans, ice towels, iced drinks or any other cooling strategies.

Large variability in sweat rates exist amongst adolescents. Monitoring changes in body mass during exercise (i.e. comparing body mass pre- and post-exercise) provides a guide to fluid lost through sweat. If this deficit seems excessive (>2% body weight) of if fluids are over-consumed (weight gain), the athlete should adjust drinking rates accordingly. Only weigh athletes in a private setting and be sure to place focus on the change in weight rather than the weight itself.

For further reading, please see 'Fluids in Sport' fact sheet.

What to drink?

Water should be the chosen fluid on the sports field in most cases. Sports drinks during exercise or as a general beverage is not necessary (young athletes generally have lower sweat sodium losses) and may lead to excessive caloric consumption.

For athletes with high training volumes, consuming sports drinks during prolonged vigorous exercise, or milk as recovery or between events, can be beneficial by providing carbohydrate, fluid, electrolytes and protein (in the case of milk). Adolescent athletes should NOT be encouraged to consume caffeinated energy drinks around sporting events.

Do Adolescents need supplements?

No is the simple answer. The use of dietary supplements, with the exclusive intention to enhance exercise performance, is unwarranted and hazardous at this age. Younger athletes have the potential for greater performance gains through maturation and experience in their sport, along with adherence to proper training, recovery and nutrition regimes. A 'food first' approach is best. This may include learning to use sports foods and drinks (e.g. Sustagen Sport or Gatorade) appropriately.

Clinical use of dietary supplements (e.g. calcium or iron) may be required under the guidance of a qualified medical practitioner or a sports dietitian.

Body Image

Sport can play an important role in developing healthy self-esteem. However, an emphasis on leanness for optimal performance may lead to increased rates of disturbed eating attitudes and behaviours. Avoid dietary and training strategies that are exclusively designed to manipulate an athletes physique. Rather focus on performance indicators such as improving strength, power, flexibility, agility, technical skills, etc.

Parents, carers and coaches should support nutrition practices that reinforce long-term health, positive body image and a healthy relationship with food.

Seek professional advice if an athlete displays obsessive or irrational body image attitudes or behaviours – early intervention is key.