



Healthy Eating At Various Lifestages

Girls 14-18 years old

This information is based on the *Nutrient Reference Values for Australia and New Zealand Including Recommended Dietary Intakes*, the *Dietary Guidelines for Children and Adolescents*, and the *Australian Guide to Healthy Eating*. These recommendations are for healthy adolescents with standardised weight, height and estimated energy requirements and may not meet the specific nutritional requirements of individuals. Specific advice for individual needs should be sought from a qualified dietitian.

Healthy Eating Guidelines for Girls aged 14-18 years

The Australian Guide to Healthy Eating recommends the following servings per day:

- 5-11 servings from the bread, cereals, rice, pasta, noodles group

An example of one serve is 2 slices of bread; 1 medium bread roll; 1 cup of cooked rice, pasta or noodles; or 1 1/3 cup of breakfast cereal flakes.

There is an allowance of about 30g a day for poly or monounsaturated fats and oils that can be used to spread on breads or rolls or used elsewhere in the diet.

- 4 servings from the vegetables, legumes group

An example of one serve is 75 grams or 1/2 cup cooked vegetables; 1/2 cup cooked dried beans, peas, lentils or canned beans; 1 cup of salad vegetables; or 1 small potato

- 3 servings of fruit

An example of one serve is 1 medium apple; 2 small pieces (150g) of fruit (apricots, kiwi fruit, plums); 1 cup of diced fruit pieces or canned fruit; 1/2 cup of fruit juice; or 1 1/2 tablespoons of sultanas.

- 3 servings from the milk, yoghurt, cheese group

An example of one serve is 250 mls of fresh milk; 250ml of calcium fortified soy beverages; 40 grams (2 slices) of cheese; or 200g (1 small carton of yoghurt).

- 1 serving from the lean meat, fish, poultry, eggs, nuts and legumes group

An example of one serve is 65-100 grams cooked meat or chicken; 2 small chops; 2 slices of roast meat; ½ cup of cooked (dried beans); 80-120 grams of fish fillet; 1/2 cup of peanuts (almonds); or 2 small eggs.

Note: You get plenty of fats and oils from the amount used with cereal foods and from meat, eggs, cheese, peanut butter, margarine etc so fats and oils aren't included separately.

For more information check out the *Australian Guide to Healthy Eating* at: www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-food-resources.htm#consumers

Energy requirements (kilojoules/day)

Energy requirements in an adolescent vary depending on age, gender, body size, activity levels, and whether or not you are pregnant or breast-feeding. For more information on energy requirements and healthy eating see your local dietitian or as a start follow this link to the *Nutrient Reference Values for Australia and New Zealand* and go to page 18: http://www.nhmrc.gov.au/publications/synopses/_files/n35.pdf

Physical Activity

Young people of high school age need to do at least 60 minutes of physical activity everyday. But remember, more is better – even up to several hours! This can be built up throughout the day with a combination of moderate to vigorous activities. Most importantly, young people need the opportunity to participate in a variety of activities that are fun and suit their interests, skills and abilities. Variety will also offer a range of health benefits, experiences and challenges. If they get the chance, young people may often choose surfing the net, watching TV and playing computer games. While these activities can be educational, they involve sitting still, often for long periods of time. Ideally, no more than 2 hours each day should be spent using electronic media for entertainment, particularly at times when more active pursuits could be enjoyed.

Healthy Eating

Food is made up of nutrients (such as carbohydrates, protein, fat, minerals and vitamins). Some of these nutrients contain energy (in the form of kilojoules) that help fuel the body.

Adolescence is a time of rapid growth and maturation when requirements for energy and almost all nutrients are increased. During adolescence eating habits tend to change due to a more independent lifestyle, increased socialisation with peers, part-time work, more risk taking behaviour, and experimentation, for example with alcohol.

Generally, adolescents tend to skip meals more often (especially breakfast), and to eat more meals outside the home. Adolescents often have a diet high in sweets, highly processed foods, fried foods and fast foods, resulting in poor nutrition. The results of the 2007 Australian National Children's Nutrition and Physical Activity Survey indicated that adolescents (14-16 years old) had difficulty meeting the recommendations for specific nutrients, particularly calcium, sodium and magnesium.

The *Dietary Guidelines for Children and Adolescents in Australia* recommend that adolescents:

- **eat a wide variety of nutritious foods**
 - eat plenty of vegetables, legumes and fruits
 - eat plenty of cereals (including breads, rice, pasta and noodles), preferably wholegrain
 - include lean meat, fish, poultry and /or alternatives (eg nuts or legumes).
 - include reduced fat milks, yoghurts, cheeses and or alternatives.
 - choose water as a drink.

Care should be taken to:

- limit saturated fat and moderate total fat intake
- choose foods low in salt.
- consume only moderate amounts of sugars and foods containing added sugars.

For individual nutrient requirements such as those described below, the *Nutrient Reference Values for Australia and New Zealand Including Recommended Dietary Intakes* provides an average requirement for individuals and a value that would meet the needs of most individuals in the population. Because it is difficult to assess an individual's exact requirement for a particular nutrient, you might like to aim for the upper figure to maximise the certainty that a sufficient amount of the nutrient is obtained. For more information go to

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Iron

Iron is important for transporting oxygen around the body and helps to prevent infection. Adolescents who have low intakes of iron are often tired, lack concentration and suffer more from infection. The average requirement for adolescent girls aged 14-18 years is 8 mg/day but because of individual variation some girls will require 15mg/day or more of iron. Adolescent girls need extra iron because of losses in menstruation.

Red meat is the best source of iron as well as also being a good source of protein and zinc. Other meats like chicken and fish also contain iron but not as much as red meat. Iron can also be found in leafy green vegetables, legumes and iron-enriched breakfast cereals but it is not as well absorbed as the iron found in meat.

Adding a glass of fruit juice or other foods rich in vitamin C (such as tomato, broccoli or capsicum) to a meal will increase the amount of iron the body absorbs. Iron absorption

can be impaired by very high fibre diets, alcohol and tannic acid in tea.

For those adolescents who are vegetarian, it is important to plan carefully what you eat in order to prevent vitamin and mineral deficiencies. Vegetarians have a higher risk of nutrient deficiencies in protein, minerals (including iron, calcium and zinc), Vitamin B12 and Vitamin D. For those who do not eat cheese milk or eggs, protein can also be obtained from cereals, tofu, dried peas, beans and lentils.

For those adolescents considering becoming vegetarian it is recommended that you seek advice from a dietitian in order to meet nutrient requirements given your choice in foods will be limited.

Calcium

Calcium is important for the development and maintenance of bones and teeth, neuromuscular function and heart function. Getting enough calcium and exercise in is important for increasing bone mass to prevent osteoporosis in later life. Calcium is also important for maintaining normal blood pressure. The average requirement for calcium for adolescents aged 14-18 years is 1,050 mg per day but because of individual variation, some adolescents of this age need 1,300 mg or more a day.

Milk and dairy products like cheese, yoghurt and custards are the major sources of calcium in a western diet. Dairy products also provide valuable protein, and vitamins A and B (thiamin, niacin and riboflavin). Reduced fat dairy foods should be encouraged for adolescents now that the diet has diversified. Low or reduced fat dairy products have similar protein, calcium and vitamin values to 'full fat' equivalents.

Adolescents who do not eat dairy products (e.g. vegans or those with diagnosed lactose intolerance) will need to obtain calcium from a non-dairy source. Non-dairy foods that contain useful amounts of calcium include: leafy green vegetables; wholegrain cereals and breads; canned fish (eaten with bones); legumes (e.g. kidney beans, chick peas, lentils); calcium-fortified soy products; and calcium-fortified breakfast cereals and juice.

A high salt intake can decrease calcium levels by causing more calcium to be excreted. This may be particularly important for adolescents who tend to eat more salty take away foods and who also have a very high consumption of caffeinated soft drinks. If caffeinated drinks replace milk-based drinks in the diet, this can also adversely affect calcium levels.

Fruit and vegetables

National and state surveys show that, on average, adolescents consume only a third of the recommended amount of fruit and vegetables. Fruit and vegetables contain many vitamins and minerals essential for good health as well as antioxidants and phytochemicals. They are also generally low in fat and high in fibre. Diets high in fruit and vegetables have been shown to lower risks of coronary heart disease, stroke, type 2 diabetes and some cancers. Although these diseases primarily occur in adults, the precursors to these diseases, high blood pressure, high blood cholesterol and obesity,

begin in childhood and adolescence. Rates of obesity and overweight in children and adolescents have doubled since 1985. Type 2 diabetes, once a mature onset disease, is now affecting adolescents and children.

Try these useful suggestions to ensure an adequate intake of fruit and vegetables:

- Always serve main meals with cooked vegetables or a salad
- Make meat go further by adding extra vegetables in a stir-fry or casserole
- Add vegetables in season or legumes (eg dried beans, peas or lentils) to soups for added flavour and taste
- Include fruit juice or fresh fruit at breakfast, either by itself or on top of cereal or porridge
- Have fruit salad or baked fruit for dessert
- Puree stewed fruit as a topping for desserts or swirl into yoghurt
- If there is a lack of time to cook, use tinned or frozen fruit and vegetables in meals. Tinned or frozen fruit and vegetables are just as nutritious but be wary of brands with a lot of added salt and sugar.

For more ideas and recipes visit <http://www.healthyactive.com.au>

Some Healthy Breakfast Ideas

Adolescence is often a time of irregular eating behaviour. Adolescents tend to miss breakfast more than children or adults. Breakfast is a very important meal as it provides many essential nutrients and energy to start the day. A nutritious breakfast can also prevent mid-morning hunger leading to snacking on energy dense but nutrient poor 'junk' foods.

For a bit of variety, try the following quick and easy breakfast ideas:

- Wholegrain toast and baked beans
- Wholegrain toast topped with low fat cheese and tomato
- Whole wheat breakfast cereal with sliced banana or strawberries in low fat milk
- Porridge with sultanas or dates
- Fresh fruit salad and low fat yoghurt
- Low fat fruit or vegetable muffins or wholemeal crumpets
- Wholegrain toast topped with ricotta or light cream cheese, salmon and tomato

Eating away from home

Adolescents tend to 'eat out' more often than children or adults. Many 'take away' foods are high in salt, sugar and or fat. Try to choose healthy options when eating out.

Check out the energy and fat content of some of the following take away foods compared to some healthier alternatives. Note that the hot dog, meat pie, doughnut, commercial burger and chips, battered fish and pizza are very high in energy and fat. The healthier take-away options: salad roll, sushi, grilled fish and thai beef salad are much lower in energy and fat. They also provide more essential nutrients.

Hot dog – 18 grams of fat, 1,445 kJ
Meat Pie – 24 grams of fat, 1,660 kJ
Doughnut, custard filled – 17 grams of fat, 1,350 kJ
Commercial burger and chips – 40 grams of fat, 3280 kJ
Fish, battered – 23.5 grams of fat, 1590 kJ
Pizza, super supreme – 21 grams of fat, 1,820 kJ

Salad roll with low fat mayonaise – 5 grams of fat, 745 kJ
Sushi (4 pieces) – 1 gram of fat, 575 kJ
Fish, flathead, grilled – 1 gram of fat, 570 kJ
Fruit salad and low fat yoghurt – 4 grams of fat, 1,105 kJ
Thai beef salad – 8.5 grams of fat, 975 KJ

Alcohol

Adolescents often begin to experiment with alcohol. Drinking alcohol can be risky in both the short and long term. Short-term or binge drinking can lead to poisoning, accidents, violence and unprotected sex. Long-term excessive use of alcohol can lead to alcohol addiction, and liver, heart and brain damage.

One quarter of 12–14 year olds drink some alcohol. According to a recent survey, 39% of males and females in the 15–24 year age group consumed alcohol at ‘risky’ levels (7 or more standard drinks in any one day within a month). No amount of alcohol is ‘safe’ for adolescents and it is particularly risky for a person under 16 to drink alcohol.

Parents of younger adolescents need to be aware of potential situations where their children may be drinking alcohol—such as parties, school dances, and excursions—and ensure that there is adult supervision.

Parents of older adolescents may not be in a position to supervise such situations at all times, and should discuss the potential dangers of alcohol abuse with their children as well as encourage responsible behaviour in them. It is illegal to provide alcohol to children under 18 years of age.

‘Soft’ alcoholic drinks, i.e. spirits mixed with soft drinks are often attractive to adolescents, but contain at least as much alcohol as a standard beer.

The Department of Health and Ageing has an extensive website on alcohol for more information:

<http://www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/home>

To view information on alcohol and teenagers see the following page:

<http://www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/brochure-teen-alcohol>

Soft drinks, sports drinks and caffeinated drinks

There is a plethora of drinks available on the market these days. These include soft drinks (flavoured sweetened drinks), sports drinks and caffeinated drinks. Athletes whose sport involves long periods of perspiring such as marathon runners, benefit from having water enriched with a very small amount of salts and sugar to replenish those lost during the sport. The consumption of sports drinks, however, for those that do not engage in this type of sport, is not as healthy as plain water. Caffeinated soft drinks are also popular (see next section), with accompanying marketing efforts targeted at adolescents.

Male adolescents are the highest consumers of added sugars, and they get most of these added sugars from soft drinks. There is a growing body of evidence that drinking soft drinks may be a risk factor in developing obesity.

It is important for adolescents to keep well hydrated. Choose water as a drink, and limit drinks such as soft drinks and sports drinks to occasional treats rather than everyday choices.

Caffeinated drinks

Caffeine is in tea, coffee, chocolate, cocoa, some cola drinks and more recently in a wide range of caffeinated soft drinks. Some caffeinated soft drinks contain very high levels of caffeine.

In moderate doses, caffeine causes increased mental arousal and alertness. Some people think they need caffeine to become alert in the morning but in actual fact your body needs food and water, not caffeine, which is one of the reasons breakfast is important.

The body does not need caffeine at all but most people can tolerate small doses. For some though it's not a good choice. Caffeine raises the heart rate, promotes release of free fatty acids into the bloodstream, and acts as a diuretic. Higher doses can cause anxiety and dizziness, and can interfere with normal sleep patterns. Whilst there have been no long-term studies into the effects of high doses of caffeine on children and adolescents, we know from adult studies that some people are more sensitive than others to caffeine, and smaller people will be more affected than people of higher body weight. Caffeine is also addictive and may cause withdrawal symptoms such as severe headaches in those who stop consuming it. It is better to cut down slowly than stop suddenly if you want to cut caffeine out of your diet.

Effects of caffeine as intake is increased

Moderate amounts (less than 600 mg/day)	Large amounts (greater than 600 mg/day)	Long-term effects of large amounts (greater than 600 mg/day)
Become more alert	Get headaches	Find sleeping difficult
Heart rate increases	Feel restless and jittery	Worry more
Urinate more frequently	Feel nervous	Depression
Body temperature rises	Become delirious	Have stomach upsets

More acid produced in digestive system	Find it difficult to sleep	May become addicted to caffeine
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Caffeine content of various drinks and foods

Food/drink	Amount caffeine
Instant coffee	60–100 mg per cup
Fresh coffee	80–350 mg per cup
Tea	8–90 mg per cup
Cola drinks	35 mg per 250 ml
Caffeinated energy soft drinks	106 mg per 250 ml
Cocoa and hot chocolate	10–70 mg per cup
Chocolate bars	20–60 mg per 200 g bar

Energy bars and meal replacement bars

Be wary of high energy bars and meal replacement bars. While these products may contain some nutrients, they are often high in fat, sugar and kilojoules. These products often do not fill you up and end up being consumed in addition to a normal diet.

Fad diets

In many cases fad diets have short term results but are difficult to sustain (as they are often very low in kilojoules and have strict rules about how and when to eat certain foods). They can lead to ‘yo-yo’ dieting ie losing weight only to regain it (and more), with a net reverse in weight. Fad diets also tend to result in nutrient deficiencies.

You should consider the following when assessing nutritional advice:

- the qualifications of the author (eg does the author have any nutrition or dietetic qualifications?)
- is there a promise of a quick fix or a magic solution?
- is there adequate scientific evidence? Unsound nutritional advice is frequently based on misinterpreted science, very few or an isolated study or sometimes no solid research at all.
- is the diet promoting the sale of a particular product or service rather than teaching people how to eat sensibly and make good food choices?
- does the diet encourage realistic lifestyle and behavioural changes?

A sensible eating plan adheres to the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

Remember - Not everyone needs to lose weight. Health Professionals urge people to maintain their weight within the healthy weight range (BMI 20 -25).

Example of a Healthy Meal Plan for a 16 year old adolescent girl

For this example we have based the daily energy requirement on a 16 year old adolescent girl, about 1.6m in height, weighing about 54kg, with a fairly sedentary life: a student who does little strenuous leisure activity. The meal plan is designed as a guide and meets recommended dietary intakes. The meal plan is for a single day, the Australian Dietary Guidelines recommend eating a variety of foods every day to meet nutritional needs.

Energy requirements (kilojoules/day)

- About 9,500 kJ/day (2,270 cal/day)

Food	Quantity	Energy (kJ)	Protein (g)	Carbohydrate (g)	Fat (g)	Salt (Sodium, mg)
Breakfast						
Cereal, flake, low sugar, fortified*	1 cup	475	2.04	25.17	0.21	324
Skim milk	1/2 cup	189	4.68	6.5	0.13	57
Orange juice, no added sugar	1 cup	362	1.58	18.64	0.26	13
Nutritious Snack						
Apple, unpeeled	1 medium	319	0.42	17.5	0.14	1
Carrot bran muffin	1	659	3.36	21.23	6.15	273
Water bottled	200ml	0	0	0	0	0
Lunch - Ham and salad roll						
Bread roll, mixed grain	Long roll	760	6.08	31.25	2.6	353
Leg ham, fat trimmed	2 slices	219	7.69	0	2.39	649
Cucumber	3 slices	12	0.13	0.49	0.03	5
Avocado	2 slices	267	0.57	0.12	6.78	1
Lettuce	1 large leaf	6	0.14	0.06	0.02	3
Tomato	3 slices	30	0.45	0.86	0.05	3
Carrot, grated	1/3 cup	52	0.32	2.12	0.04	18
Low-fat chocolate milk	300ml carton	671	15.58	21.62	1.59	197
Fruit, nut & seed	1 small	399	1.38	10.64	4.4	22

bar	27g bar					
Nutritious Snack						
Bread, wholemeal	2 slices	757	7.52	29.83	2.31	382
Peanut butter, no added salt or sugar	6 teaspoons	974	10.39	3.04	19.35	0
Low-fat vanilla yoghurt	1 x 200g tub	652	11.8	24.2	0.4	158
Strawberries	½ cup	79.2	1.36	2.16	0.08	4.8
Water	1 cup	0	0	0	0	0
Dinner - Beef and vegetable noodles						
Egg noodles	1/6 cup	561	5.3	25.6	0.6	68
Beef, fat trimmed	80g	663	22.24	0	7.68	46
Vegetable oil	1 teaspoon	170	0	0	4.6	0
Onion	1 small	35	0.41	1.43	0.02	3
Garlic	1/2 clove	6	0.07	0.11	0.03	0
Broccoli	1/2 cup flowerets	54	1.63	0.62	0.13	8
Snow pea	8	60	0.9	1.38	0.45	0
Oyster sauce	1 tablespoon	117	0.7	5.25	0.25	948
Chilli sauce	1 tablespoon	94	0.18	3.78	0.52	268
Low-salt soy sauce	1 teaspoon	9	0.28	0.14	0	184
Carrot	1 medium	66	0.42	2.73	0.05	20
Water	1 cup	0	0	0	0	0
Snack						
Vanilla ice-cream	2 scoops	388	1.75	10	5.35	30
Chopped peanuts	1 tablespoon	239	2.48	0.9	4.73	0.1

* Fortified means vitamins and or minerals have been added to the product.

Variation to Energy Expenditure depending on Physical Activity Level for a girl 16 years, about 1.6m in height, weighing about 54kg

Lifestyle/Exercise level	Energy requirement (kJ/day)
At rest, exclusively sedentary or lying (chair-bound or bed-bound)	7,200kJ/day
Exclusively sedentary activity/seated work with	8,400-8,950 kJ/day

little or no strenuous leisure activity eg office employee	
Sedentary activity/seated work with some requirement for occasional walking and standing but little or no strenuous leisure activity eg drivers, students	9,500-10,100 kJ/day
Predominantly standing or walking work eg shop workers	10,700-11,300 kJ/day
Heavy occupational work or highly active leisure eg construction workers, farmers, high performance athletes.	11,900-13,100+ kJ/day

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Healthy Eating Guidelines for Boys 14 – 18 years

The *Australian Guide to Healthy Eating* recommends the following servings per day:

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An example of one serve is 2 slices of bread; 1 medium bread roll; 1 cup of cooked rice, pasta or noodles; or 1 1/3 cup of breakfast cereal flakes.

There is an allowance of about 30g a day for poly or monounsaturated fats and oils that can be used to spread on breads or rolls or used elsewhere in the diet.

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- 1 serving from the lean meat, fish, poultry, eggs, nuts and legumes group

An example of one serve is 65 – 100 grams cooked meat or chicken; 2 small chops; 2 slices of roast meat; 1/2 cup of cooked (dried beans); 80 – 120 grams of fish fillet; 1/2 cup of peanuts (almonds); or 2 small eggs.

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Heights and weights are indicative. To convert mega-joules (MJ) to kilojoules, multiply by 1000.

Physical activity

14-18 year old boys

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A high salt intake can decrease calcium levels by causing more calcium to be excreted. This may be particularly important for adolescents who tend to eat more salty take-away foods and who also have a very high consumption of caffeinated soft drinks. If caffeinated drinks replace milk-based drinks in the diet, this can also adversely affect calcium levels.

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Adding a glass of fruit juice or other foods rich in vitamin C (such as tomato, broccoli or capsicum) to a meal will increase the amount of iron the body absorbs. In contrast, tea and coffee and unprocessed bran can inhibit iron absorption.

Fruit and vegetables

National and state surveys show that, on average, adolescents consume only a third of the recommended amount of fruit and vegetables. Fruit and vegetables contain many vitamins and minerals essential for good health as well as antioxidants and phytochemicals. They are also generally low in fat and high in fibre. Diets high in fruit and vegetables have been shown to lower risks of coronary heart disease, stroke, type 2 diabetes and some cancers. Although these diseases mainly occur in adults, the precursors to these diseases, high blood pressure, high blood cholesterol and obesity, begin in childhood and adolescence. Rates of obesity and overweight in children and adolescents have doubled since 1985. Type 2 diabetes, once a mature onset disease, is

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Some Healthy Breakfast Ideas

Adolescence is often a time of irregular eating behaviour. Adolescents tend to miss breakfast more often than children or adults. Breakfast is a very important meal as it provides many essential nutrients and energy to start the day. A nutritious breakfast can also prevent mid-morning hunger leading to snacking on energy dense but nutrient poor ‘junk’ foods.

For a bit of variety, try the following quick and easy breakfast ideas.

- Wholegrain toast and baked beans with alfalfa sprouts or parsley
- Wholegrain toast topped with low fat cheese and tomato
- Whole wheat breakfast cereal with sliced banana or strawberries in low fat milk
- Porridge with sultanas or dates
- Fresh fruit salad and low fat yoghurt
- Low fat fruit or vegetable muffins or wholemeal crumpets
- Wholegrain toast topped with ricotta or light cream cheese, salmon and tomato

Eating away from home

Adolescents tend to ‘eat out’ more often than children or adults. Many take-away foods are high in salt, sugar and/or fat. Try to choose healthy options when eating out.

Check out the energy and fat content of some of the following take-away foods compared to some healthier alternatives. Note that the hot dog, meat pie, doughnut, commercial burger and chips, battered fish and pizza are very high in energy and fat. The healthier takeaway options salad roll, sushi, grilled fish and thai beef salad are much lower in energy and fat. They also provide more essential nutrients.

Hot dog – 18 grams of fat, 1445 kJ

Meat Pie _ 24 grams of fat, 1660 kJ
Doughnut, custard filled – 17 grams of fat, 1350 kJ
Commercial burger and chips – 40 grams of fat, 3280 kJ
Pizza, super supreme – 21 grams of fat, 1820 kJ

Salad roll with low fat mayonnaise – 5 grams of fat, 745 kJ
Sushi, (4 pieces) – 1 gram of fat, 575 kJ
Fish, flathead grilled – 1 gram of fat, 570 kJ
Thai beef salad – 8.5 grams of fat, 975 kJ

Alcohol

Adolescents often begin to experiment with alcohol. Drinking alcohol can be risky in both the short and long term. Short-term or binge drinking can lead to poisoning, accidents, violence and unprotected sex. Long-term excessive use of alcohol can lead to alcohol addiction, and liver, heart and brain damage.

One quarter of 12–14 year olds drink some alcohol. According to a recent survey, 39% of males and females in the 15–24 year age group consumed alcohol at ‘risky’ levels (7 or more standard drinks in any one day within a month). No amount of alcohol is ‘safe’ for adolescents and it is particularly risky for a person under 16 to drink alcohol.

Parents of younger adolescents need to be aware of potential situations where their children may be drinking alcohol—such as parties, school dances, and excursions—and ensure that there is adult supervision.

Parents of older adolescents may not be in a position to supervise such situations at all times, and should discuss the potential dangers of alcohol abuse with their children as well as encourage responsible behaviour in them. It is illegal to provide alcohol to children under 18 years of age.

‘Soft’ alcoholic drinks, i.e. spirits mixed with soft drinks are often attractive to adolescents, but contain at least as much alcohol as a standard beer.

The Department of Health and Ageing has an extensive website on alcohol for more information: <http://www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/home>

To view information on alcohol and teenagers see the following page:
<http://www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/brochure-teen-alcohol>

Soft drinks, sports drinks and caffeinated drinks

There are a lot of drinks available on the market these days. These include soft drinks (flavoured sweetened drinks), sports drinks and caffeinated drinks. Athletes who’s sport involves long periods of perspiring such as marathon runners, benefit from having water enriched with a very small amount of salts and sugar to replenish those lost during the sport. The consumption of sports drinks, however, for those that do not engage in this type of sport, is not as healthy as plain water. Caffeinated soft drinks are also popular

(see next section), with accompanying marketing efforts targeted at adolescents.

Male adolescents are the highest consumers of added sugars, and they get most of these added sugars from soft drinks. There is a growing body of evidence that drinking soft drinks may be a risk factor in developing obesity.

It is important for adolescents to keep well hydrated. Choose water as a drink, and limit drinks such as soft drinks and sports drinks to occasional treats rather than everyday choices.

Caffeinated drinks

Caffeine is in tea, coffee, chocolate, cocoa, some cola drinks and more recently in a wide range of caffeinated soft drinks. Some caffeinated soft drinks contain very high levels of caffeine.

In moderate doses, caffeine causes increased mental arousal and alertness. Some people think they need caffeine to become alert in the morning but in actual fact your body needs food and water, not caffeine, which is one of the reasons breakfast is important.

The body does not need caffeine at all but most people can tolerate small doses. For some though it's not a good choice. Caffeine raises the heart rate, promotes release of free fatty acids into the bloodstream, and acts as a diuretic. Higher doses can cause anxiety and dizziness, and can interfere with normal sleep patterns. Whilst there have been no long-term studies into the effects of high doses of caffeine on children and adolescents, we know from adult studies that some people are more sensitive than others to caffeine, and smaller people will be more affected than people of higher body weight. Caffeine is also addictive and may cause withdrawal symptoms such as severe headaches in those who stop consuming it. It is better to cut down slowly than stop suddenly if you want to cut caffeine out of your diet.

Effects of caffeine as intake is increased

Moderate amounts (less than 600 mg/day)	Large amounts (greater than 600 mg/day)	Long-term effects of large amounts (greater than 600 mg/day)
Become more alert	Get headaches	Find sleeping difficult
Heart rate increases	Feel restless and jittery	Worry more
Urinate more frequently	Feel nervous	Depression
Body temperature rises	Become delirious	Have stomach upsets
More acid produced in digestive system	Find it difficult to sleep	May become addicted to caffeine

Caffeine content of various drinks and foods

Food/drink	Amount caffeine
Instant coffee	60–100 mg per cup
Fresh coffee	80–350 mg per cup
Tea	8–90 mg per cup
Cola drinks	35 mg per 250 ml
Caffeinated energy soft drinks	106 mg per 250 ml
Cocoa and hot chocolate	10–70 mg per cup
Chocolate bars	20–60 mg per 200 g bar

Example of a healthy meal plan for a 17-year-old adolescent male

For this example we have based the daily energy requirement on a 17-year-old adolescent, about 1.8m in height, weighing about 65kg, with a light activity level. The meal plan is designed as a guide only, and meets recommended dietary intakes. The meal plan is for a single day, the *Dietary Guidelines for Children and Adolescents in Australia* recommend eating a variety of foods every day to meet nutritional needs.

Energy Requirements (kilojoules per day)

- About 12,200 kJ/day (2,900 calories/day)

Food	Quantity	Energy (kJ)	Protein (g)	Carbohydrate (g)	Fat (g)	Salt (Sodium, mg)
Breakfast						
Oats	1 cup	881	8.3	27.3	7	60
Skim milk	1/2 cup	189	4.7	6.5	0.1	57
Honey	2 tablespoons	755	0.2	47	0	8
Banana	1	451	2	23.9	0.1	1
Wholemeal toast	2 slices	434	4.3	17.1	1.3	219
Peanut butter, unsalted, no added sugar	4 teaspoons	649	6.9	2.1	12.9	0
Juice	1/2 cup	181	0.7	9.6	0.1	8
Water	1 cup	0	0	0	0	0
Nutritious Snack						

Wholemeal, low fat, carrot muffin	1 medium	495	2.7	17.2	3.9	221
Low fat fruit yoghurt	200 mL	640	10.4	25.6	0.4	122
Water	250 mL	0	0	0	0	0
Lunch - Salad roll						
Wholemeal bread roll	1	849	7.6	34.6	2.7	414
Tahini, sesame butter	3 teaspoons	408	3.1	0.2	9.1	12
Beetroot	2 slices	30	0.2	1.4	0	48
Tomato	3 slices	30	0.5	0.9	0.1	3
Cucumber	4 slices	7	0.1	0.3	0	3
Carrot	1/4 cup grated	37	0.2	1.5	0	13
Lettuce	1 cup torn leaves	12	0.2	0.3	0	3
Alfalfa sprouts	3 tablespoons	8	0.3	0	0	3
Capsicum	2 rings	23	0.3	0.8	0	0
Mandarin	1 large	180	0.9	8.1	0.2	2
Water	1 cup	0	0	0	0	0
Nutritious Snack						
Carrot sticks	1 cup	166	1	6.8	0.1	58
*Fortified chocolate beverage base	4 teaspoons	160	1.3	6.1	1.1	30
Skim milk	1 cup	377	9.4	13	0.3	114
Multi-grain crackers	5 rectangular biscuits	406	1.9	14.9	5.8	163
Hommous	7.5 teaspoons	396	3.6	3.6	6.7	121
Water	1 cup	0	0	0	0	0
Dinner - Roast lamb and vegetables						
Cous cous	1 1/2 cups	455	3.7	22	0.2	2
Roast Lamb, fat trimmed	2 1/2 slices	898	28.8	0	11	63
Baked potato	1 medium	294	2.7	13	0.3	7
Baked onion	1	59	0.4	1.1	0.8	8

Baked celery	1 medium stalk	27	0.3	0.9	0	30
Baked pumpkin	1/2 cup	105	1	3.6	0.1	3
Baked capsicum	1/4 cup chopped	46	0.7	1.6	0.1	0
Safflower oil	2 tablespoons	1362	0	0	36.8	0
Mint jelly	1 tablespoon	84	0.1	5.1	0	10
Broccoli	1/2 cup flowerets	70	2.4	0.3	0.2	10
Mango	1	513	2.1	26.1	0.4	2
Ice Cream. Low fat ,vanilla	4 level scoops	477	4.3	18.4	3	66
Water	1 cup	0	0	0	0	0

* *Fortified means vitamins and or minerals have been added to the product.*

Variation to energy expenditure depending on physical activity level for an 17 year old adolescent, weighing about 65 kg and about 1.8 m in height

Description of Lifestyle/exercise level	Energy requirement (kJ/day)
At rest, exclusively sedentary or lying (chair-bound or bed-bound)	9,200 kJ/day
Exclusively sedentary activity/seated work with little or no strenuous leisure activity eg office employee	10,700-11,450 kJ/day
Sedentary activity/seated work with some requirement for walking and standing but little or no strenuous leisure activity eg drivers, students	12,200-12,950 kJ/day
Predominantly standing or walking work eg housewives, sales persons	13,700-14,450 kJ/day
Heavy occupational work or highly active leisure eg construction workers, high performance athletes	15,200–16,700+ kJ/day

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