

# SmartFood GUIDE



.....  
A WHOLE SCHOOL APPROACH TO EATING WELL

## Section 2. Food and nutrition

This is a section of the SmartFood Guide

---

Overview

Food and nutrition

---

Management

---

SmartFood Program:

Policy and procedures

---

Food safety

---

Menu

---

Whole school approach

---

Templates

---

You can access other sections of the Guide on the School Food Matters website:  
[www.schoolfoodmatters.org.au](http://www.schoolfoodmatters.org.au)



**SCHOOL  
FOOD**  
*matters*

# FOOD AND NUTRITION

## In this section

---

**What are children and young people eating?**

---

**Australian Dietary Guidelines**

---

**Australian Guide to Healthy Eating**

---

**How much do children need?**

---

**Nutrients in food**

---

**The SmartFood Program and nutrients in focus:**

---

Eat more calcium

---

Eat more dietary fibre

---

Eat less saturated fat, salt and sugar

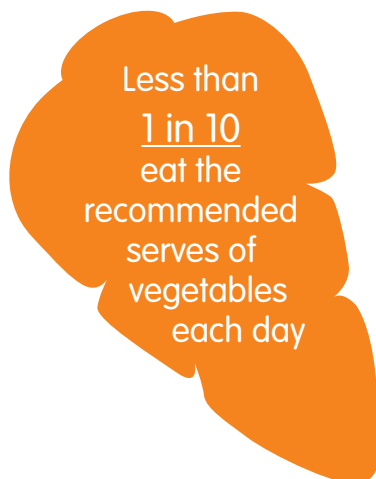
---

**Dietary and cultural considerations**

---

## What are children and young people eating?

Tasmania has much to be proud of as a producer of fresh and affordable vegetables, fruit, dairy, seafood and meat. But evidence shows that many children and young people are not eating enough of these fresh foods<sup>1</sup>:



Instead, Australian children are growing up in an environment where food and drink high in added sugar, saturated fat and salt are readily available, highly promoted and are perceived as low cost. Evidence shows that many Australian children are eating these occasional food and drinks regularly and in much higher amounts than recommended:<sup>2</sup>

Occasional food and drinks do not contain the nutrients needed for good health and wellbeing and to prevent illness. Eating these foods often and in large amounts can result in poor oral health, children being above their most healthy weight and at increased risk of developing chronic diseases like heart disease, stroke and type 2 diabetes and some cancers. The school food service has a role in shifting this trend by ensuring the menu is dominated by well-priced everyday foods that empowers children to make choices that supports their health and wellbeing.

## The Australian Dietary Guidelines

The Australian Dietary Guidelines (2013) give advice about the types and amounts of food, food groups and eating patterns that we need for health and wellbeing.<sup>3</sup>

**Table 1:** *The Australian Dietary Guidelines*

<b>Guideline 1</b>	To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs.
	<ul style="list-style-type: none"> <li>• Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly.</li> <li>• Older people should eat nutritious food and keep physically active to help maintain muscle strength and a healthy weight.</li> </ul>
<b>Guideline 2</b>	Enjoy a variety of nutritious foods from these five groups every day:
	<ul style="list-style-type: none"> <li>• Plenty of vegetables, including different types and colours, and legumes/beans</li> <li>• Fruit</li> <li>• Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa, and barley</li> <li>• Lean meats and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans</li> <li>• Milk, yogurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under the age of 2 years)</li> </ul>
	And drink plenty of water.
<b>Guideline 3</b>	Limit intake of foods containing saturated fat, added salt, added sugar, and alcohol.
	<p><b>A.</b> Limit intake of foods high in saturated fat such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.</p> <ul style="list-style-type: none"> <li>• Replace high fat foods which contain predominately saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominately polyunsaturated fats such as oils, spreads, nut butters/pastes and avocado.</li> <li>• Low fat diets are not suitable for children under the age of 2 years.</li> </ul> <p><b>B.</b> Limit intake of foods and drinks containing added salt.</p> <ul style="list-style-type: none"> <li>• Read labels to choose lower sodium options among similar foods.</li> <li>• Do not add salt to foods in cooking or at the table.</li> </ul> <p><b>C.</b> Limit intake of foods and drinks containing added sugars such as confectionary, sugar sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sport drinks.</p> <p><b>D.</b> If you choose to drink alcohol, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.</p>
<b>Guideline 4</b>	Encourage, support and promote breastfeeding.
<b>Guideline 5</b>	Care for your food, prepare and store it safely.

For more information on the Australian Dietary Guidelines go to: [www.eatforhealth.gov.au](http://www.eatforhealth.gov.au)

## The Australian Guide to Healthy Eating

The Australian Guide to Healthy Eating (2013) (Diagram 1) shows the proportion of food from the five food groups needed each day for good health and wellbeing.<sup>4</sup>

The five food groups are:

- grain (cereal) foods, mostly wholegrain and/or high fibre varieties
- vegetables and legumes/beans
- fruit
- milk, yoghurt, cheese and/or alternatives, mostly reduced fat
- lean meats and poultry, fish, eggs, tofu, nuts and seeds and legumes.

The Australian Guide to Healthy Eating plate shows how the five food groups should make up most of what we eat. The sections of the plate show the proportion to choose from each food group.

Foods from the five food groups are also called everyday foods. They are classified as GREEN in the SmartFood Program, which is based on a traffic light system. They contain a wide variety of nutrients and are lower in saturated fat, sugar and sodium (salt). They are also generally higher in fibre.

Foods not on the main plate do not fit into the five food groups. This includes foods like sweet drinks, chocolate, confectionary and fried foods. These are called occasional or discretionary foods because they are higher in fat, sugar and sodium (salt) and lower in fibre.

Occasional foods can be enjoyable to eat but are not essential for good health. They should only be eaten from time to time and in small amounts. These foods are classified as RED in the SmartFood Program and are not recommended on the menu.

For more information on how foods are classified in the SmartFood Program, go to the Menu section of the SmartFood Guide.





## How much do children need?

The amount of food that children need to eat each day from the five food groups will depend on their age, size, gender, amount of activity and stage of growth. The Australian Guide to Healthy Eating gives advice on the amount of food from the five food groups that children need each day to get the nutrients needed for good health, to prevent illness and provide enough energy to be active and to learn.

The guide outlines 'serve sizes' for each food group and the number of these serves recommended for different genders and ages (Diagram 2). These 'serve sizes' are not meant to represent how much should be eaten at one time; but can be used to help work out if a child is meeting their nutrient requirements across the day or week.<sup>5</sup>

**Diagram 2:** Serving sizes for children and adolescents  
Source: National Health and Medical Research Council, 2013.

# SERVE SIZES

## Vegetables and legumes/beans



**Serves per day**

	2-3 years	4-8 years	9-11 years	12-13 years	14-18 years
Boys	2½	4½	5	5½	5½
Girls	2½	4½	5	5	5

**A standard serve of vegetables\* is about 75g (100-350kJ) or:**

- ½ cup cooked green or orange vegetables (for example, broccoli, spinach, carrots or pumpkin)
- ½ cup cooked dried or canned beans, peas or lentils
- 1 cup green leafy or raw salad vegetables
- ½ cup sweet corn
- ½ medium potato or other starchy vegetables (sweet potato, taro or cassava)
- 1 medium tomato

*\*with canned varieties, choose those with no added salt*

## Fruit



**Serves per day**

	2-3 years	4-8 years	9-11 years	12-13 years	14-18 years
Boys	1	1½	2	2	2
Girls	1	1½	2	2	2

**A standard serve of fruit is about 150g (350kJ) or:**

- 1 medium apple, banana, orange or pear
  - 2 small apricots, kiwi fruits or plums
  - 1 cup diced or canned fruit (with no added sugar)
- Or only occasionally:*
- 125ml (½ cup) fruit juice (with no added sugar)
  - 30g dried fruit (for example, 4 dried apricot halves, 1½ tablespoons of sultanas)

Diagram 2 (continued): Serving sizes for children and adolescents

Source: National Health and Medical Research Council, 2013.

## SERVE SIZES

### Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties



#### Serves per day

	2-3 years	4-8 years	9-11 years	12-13 years	14-18 years
Boys	4	4	5	6	7
Girls	4	4	4	5	7

#### A standard serve (500kJ) is:

- 1 slice (40g) bread
- 1/2 medium (40g) roll or flat bread
- 1/2 cup (75-120g) cooked rice, pasta, noodles, barley, buckwheat, semolina, polenta, bulgur or quinoa
- 1/2 cup (120g) cooked porridge
- 2/3 cup (30g) wheat cereal flakes
- 1/4 cup (30g) muesli
- 3 (35g) crispbreads
- 1 (60g) crumpet
- 1 small (35g) English muffin or scone

### Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans



#### Serves per day

	2-3 years	4-8 years	9-11 years	12-13 years	14-18 years
Boys	1	1 1/2	2 1/2	2 1/2	2 1/2
Girls	1	1 1/2	2 1/2	2 1/2	2 1/2

#### A standard serve (500-600kJ) is:

- 65g cooked lean meats such as beef, lamb, veal, pork, goat or kangaroo (about 90-100g raw)\*
- 80g cooked lean poultry such as chicken or turkey (100g raw)
- 100g cooked fish fillet (about 115g raw weight) or one small can of fish
- 2 large (120g) eggs
- 1 cup (150g) cooked or canned legumes/beans such as lentils, chick peas or split peas (no added salt)
- 170g tofu
- 30g nuts, seeds, peanut or almond butter or tahini or other nut or seed paste

\*weekly limit of 455g

### Milk, yoghurt, cheese and/or alternatives, mostly reduced fat



#### Serves per day

	2-3 years	4-8 years	9-11 years	12-13 years	14-18 years
Boys	1 1/2	2	2 1/2	3 1/2	3 1/2
Girls	1 1/2	1 1/2	3	3 1/2	3 1/2

#### A standard serve (500-600kJ) is:

- 1 cup (250ml) fresh, UHT long life, reconstituted powdered milk or buttermilk
- 1/2 cup (120ml) evaporated milk
- 2 slices (40g) or 4 x 3 x 2cm cube (40g) of hard cheese, such as cheddar
- 1/2 cup (120g) ricotta cheese
- 3/4 cup (200g) yoghurt
- 1 cup (250ml) soy, rice or other cereal drink with at least 100mg of added calcium per 100ml

● To meet additional energy needs, extra serves from the Five Food Groups or unsaturated spreads and oils, or discretionary choices may be needed by children who are not overweight but are taller, more active or older in their age band.

● An allowance for unsaturated spreads and oils for cooking, or nuts and seeds can be included in the following quantities: 4-5g per day for children 2-3 years of age, 7-10g per day for children 3-12 years of age, 11-15g per day for children 12-13 years of age and 14-20g per day for adolescents 14-18 years of age.

● For meal ideas and advice on how to apply the serve sizes go to:

[www.eatforhealth.gov.au](http://www.eatforhealth.gov.au)

## Nutrients in food

Nutrients are compounds found in foods that the body uses for energy and to grow and repair tissues and muscles. Enjoying a variety of foods from the five food groups everyday helps the body get all the nutrients it needs for good health and to prevent illness. The main types of nutrients found in food are described in Table 2.

**Table 2:** *Nutrients in food*

<b>Nutrient</b>	<b>Food sources</b>	<b>Role in the body</b>
Protein	<ul style="list-style-type: none"> <li>• Red meat, poultry, fish</li> <li>• Eggs</li> <li>• Tofu, nuts, seeds, legumes/beans</li> <li>• Milk, yoghurt, cheese</li> </ul>	Used to grow, maintain and repair body tissues.
Carbohydrate	<ul style="list-style-type: none"> <li>• Grain (cereal foods) – bread, cereal, rice, pasta, noodles</li> <li>• Some vegetables – potato, sweet potato and corn</li> <li>• Fruit</li> <li>• Milk and yoghurt</li> </ul>	Provides the cells in the body with energy.
Saturated fat	<ul style="list-style-type: none"> <li>• Cream, butter, ghee</li> <li>• Palm oil, coconut oil</li> <li>• High fat meats</li> <li>• Processed foods such as cakes, biscuits and pastries</li> <li>• Full fat dairy foods</li> </ul>	Raises cholesterol levels and can increase the risk of stroke and heart disease.
Monounsaturated and polyunsaturated fat	<ul style="list-style-type: none"> <li>• Olive, canola, peanut, sunflower, safflower and corn oils</li> <li>• Margarine</li> <li>• Nuts, seeds</li> <li>• Avocado</li> <li>• Oily fish such as salmon, sardines and tuna</li> </ul>	Provides the cells in the body with energy. Helps absorb and transport some nutrients around the body.
Dietary fibre	<ul style="list-style-type: none"> <li>• Grain (cereal) foods, mostly wholegrain and high fibre varieties</li> <li>• Vegetables, legumes/beans</li> <li>• Fruit</li> </ul>	Keeps the digestive system healthy by keeping faeces moving through the bowel and feeding healthy gut bacteria.
Vitamins and minerals <i>Vitamins: A, thiamine, riboflavin, niacin, B6, B12, folate, pantothenic acid, biotin, choline, C, D, E and K.</i> <i>Minerals: calcium, chromium, copper, fluoride, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium and zinc</i>	<ul style="list-style-type: none"> <li>• Grain (cereal) foods</li> <li>• Vegetables and legumes/beans</li> <li>• Fruit</li> <li>• Milk, yoghurt, cheese and/or alternatives</li> <li>• Lean meats and poultry, fish, eggs, tofu, nuts, seeds and legumes/beans</li> <li>• Monounsaturated and polyunsaturated fats and oils</li> </ul>	Only needed in very small amounts. Used in most body functions.
Water	<ul style="list-style-type: none"> <li>• Water and other drinks</li> <li>• Most foods</li> </ul>	Forms part of cells in the body. Helps absorb and transport nutrients around the body. Helps eliminate waste. Regulates body temperature.



## The SmartFood Program and nutrients in focus

### Eat more calcium

Calcium is needed for healthy bones and teeth. During childhood and adolescence, the skeleton is constantly growing, with bones reaching their maximum strength and density known as 'peak bone mass' during puberty. Reaching a good bone mass during childhood can protect against fractures and osteoporosis later in life.<sup>6</sup> Children and young people have high calcium needs to help them to achieve good bone mass.

Milk, yoghurt and cheese are the best source of calcium, with very few other foods in the Australian diet containing as much of this important nutrient. But evidence shows that many children and young people are not eating enough of these important foods:<sup>7</sup>



The SmartFood Program classifies plain milk and reduced fat yoghurt and reduced fat cheese as GREEN and encourages a variety of these foods on the menu. Flavoured milks and ice creams, milk-based ices, dairy desserts and custards that have milk listed as the first ingredient and that meet criteria for energy and saturated fat are classified as AMBER because they provide calcium but are higher in sugar.

### Eat more dietary fibre

Dietary fibre helps to keep our bowel healthy and working properly. It has also been shown to lower cholesterol and help to control blood sugar levels. Because fibre is slower to be digested, it helps to keep us feeling full for longer.<sup>8</sup>

Vegetables, fruit and wholegrain or wholemeal grain foods such as bread, cereal, pasta and noodles are high in fibre and contain a wide range of vitamins and minerals. We know that many children and young people are not eating enough foods high in fibre. Less than one third of the grain (cereal) foods eaten by children and young people aged two to eighteen are wholegrain or higher fibre varieties.<sup>7</sup>

The SmartFood Program classifies vegetables, fruit and many breads, cereals, pasta and noodles as GREEN and encourages a variety of these foods on the menu. The AMBER SmartFood criteria for sweet snack foods such as biscuits, slices, muffins and pastries require these foods to contain a certain amount of fibre. While these foods are not encouraged as an everyday choice, the criteria promotes options that provide more fibre.



### Eat less saturated fat, salt and sugar

The Australian Dietary Guidelines (2013) encourage children and young people to limit the amount of food and drinks they eat that are high in:

- Saturated fat
- Added sugar
- Added salt

Foods that are high in these nutrients are called occasional foods and do not fit into the five food groups. They are high in energy and can take the place of more nutritious foods in the diet if eaten too often. Evidence shows that many children and young people are eating occasional foods regularly.<sup>1,2</sup>

The SmartFood Program aims to reduce the amount of occasional food and drinks that are available on school menus, knowing that many children are eating these foods regularly outside of school. The SmartFood Program classifies foods as RED if they contain high amounts of saturated fat, sugar and/or salt. For more information on how foods are classified in the SmartFood Program, go to the Menu section of the SmartFood Guide.



On average, children eat between 4 and 6 serves of occasional food and drinks each day

6 serves might look like this...



## Dietary and Cultural Considerations

While it is important that your menu is consistent with the Australian Dietary Guidelines (2013), it should also reflect the cultural and special dietary needs of your school community. Some children may observe specific dietary practices for religious, cultural, ethical or medical reasons. Your school should try to meet these needs as much as you are able so that all children can enjoy food provided or purchased at school.

### Religious and cultural practices

Australia is a multicultural nation. In 2019, almost 30% of Australians were born overseas, representing over 200 different nationalities.<sup>9</sup> With such a diversity of cultural backgrounds it is likely there are students in your school community who observe different religious and cultural food practices. The degree to which families observe these dietary practices may differ, so it is best to talk to the families within your school community, to make sure that the school offers a menu that meets everyone's needs.

Asking families to share their favourite recipe to prepare at school can be a way to celebrate the culture of families within your school community. It is also a chance to expose the whole school community to a range of ingredients and dishes that they may not have had the chance to try before.

**Table 3:** Dietary requirements of different religious groups

Religion	Dietary requirement
Baha'i	May include periods of fasting Exclude alcohol
Buddhism	May be vegetarian or vegan
Christian	No dietary exclusions Traditionally observe meat free day, especially during the period of Lent
Exclusive Brethren	No dietary exclusions
Hinduism	May be vegetarian or may eat meat excluding beef Dairy may be acceptable
Islam	Exclude pork and pork products Halal beef, lamb, poultry and fish Dairy may be acceptable
Judaism	Exclude shellfish, pork and pork products Kosher beef, lamb, poultry and fish Meat and dairy foods not eaten at the same meal Dairy may not be eaten for three hours after consuming meat or poultry
Mormon	Consume meat sparingly
Seventh Day Adventist	May be vegetarian or may eat meat excluding pork or seafood
Sikhism	May be vegetarian or may eat meat excluding pork or beef Do not eat Kosher or Halal meat
Rastafarianism	May be vegetarian and exclude eggs or may eat meat excluding pork Exclude stimulants such as tea, coffee and alcohol

### Vegetarian diets

Vegetarian diets are plant-based diets that exclude meat and/or animal products. The reason for eating a vegetarian diet may differ for the individual person, but may include religion, culture, concern for animal welfare and the environment or taste preferences. There are three main types of vegetarian diet:

- **Lacto-ovo vegetarian** – avoids red meat, poultry and seafood, but eats dairy foods (milk, cheese, yoghurt), eggs and plant foods.
- **Lacto-vegetarians** – avoids red meat, poultry, seafood and eggs, but eats dairy foods (milk, cheese, yoghurt) and plant foods.
- **Vegan** – does not eat any animal products, only plant foods.

A well-planned vegetarian diet will include a variety of foods from the five food groups to provide enough energy and essential nutrients. Careful planning of food menus is needed to provide enough of some essential nutrients such as protein, vitamin B12 and minerals such as calcium, iron and zinc.

A well-planned vegetarian diet should try to include a variety of foods from the five food groups everyday including:

- Vegetables
- Fruit
- Meat alternatives: tofu, tempeh, legumes, lentils, nuts, seeds and eggs (if eaten)
- Grain (cereal) foods, mostly wholegrain and/or high fibre varieties
- Dairy or alternatives: milk, yoghurt and cheese (choose those fortified with calcium if possible).

If you are including a vegetarian dish on your food service menu, aim to include a meat alternative as an ingredient. Alternative meat options include eggs, tofu, lentils or legumes

such as chickpeas, kidney beans, cannellini beans or borlotti beans. This will ensure the dish is a good source of important nutrients such as protein, iron and zinc.



### Food allergy

An allergy is an overreaction by the body's immune system to a normally harmless substance in the environment. These substances are called allergens and may be in medications, chemicals, the environment or in foods. Any food can cause an allergic reaction, however there are ten allergens which cause around 90% of food allergic reactions. These are:

- Peanuts
- Tree nuts e.g. almonds, cashews, pistachio, brazil nuts, hazelnuts
- Egg
- Cows milk
- Fish
- Shellfish e.g. prawns, crayfish, mussels, calamari, oysters, scallops
- Sesame seed
- Soy
- Wheat
- Lupin (a legume related to peanut and soybean).

Allergic reactions range from mild to severe (anaphylaxis) and can happen almost immediately after eating. Most often, a reaction will occur within 20 minutes to 2 hours after eating. When a food allergen is eaten the immune system releases a large amount of chemicals that trigger symptoms that can affect a person's breathing, heart, skin and gut. No two people are the same in the way they respond, and allergic reactions can be different every time a food allergen is eaten. Allergic reactions are unpredictable and can be life threatening. There is currently no cure for food allergy and the only successful way to manage it is to avoid the food allergen completely.



**It is important to consider the safety and wellbeing of students with a food allergy when planning a menu in the school setting.**

### **Managing food allergy in the school food service**

It is important to consider the safety and wellbeing of students with a food allergy when planning a menu in the school setting. Issues relevant to school food should be included in the whole school risk management plan.

The specific requirements for Department of Education schools in relation to risk minimisation for food allergies is outlined in the following policy: *Specific Health Issues: Procedures, information and contacts (2017)*. It suggests:

- All students have an up to date medical management plan including an ASCIA action plan
- All staff receive education on anaphylaxis management
- Individual schools should implement necessary risk minimisation strategies as appropriate to their school community.

The Australian Society of Clinical Immunology and Allergy (ASCIA), provides general anaphylaxis guidelines for schools, preschools and childcare in the following document: *ASCIA guidelines for prevention of anaphylaxis in schools, preschools and childcare (2015)*. Specifically, in relation to food provided and purchased at school, they recommend:

- If food is purchased from the school food service, parents should check the appropriateness of food by speaking directly with the food service manager
- All staff who prepare food for a child with food allergies should be educated on how to read food labels for allergies and instructed about measures necessary to prevent cross-contamination.<sup>10</sup>

- Staff and volunteers who prepare food are aware of and follow a 'procedure of responsibility' on how to safely prepare and serve food to children with food allergies.
- Parents of students with food allergies are encouraged to visit the school food service to check which foods are safe for their child.

For more information on food safety training for food service staff and volunteers go to:

[www.foodallergytraining.org.au](http://www.foodallergytraining.org.au)

[www.allergy.org.au](http://www.allergy.org.au)

### Food intolerance

Food intolerance is a term used to describe a wide range of adverse reactions that cause symptoms after eating some foods. Symptoms can be distressing and uncomfortable and if not properly managed, can adversely affect general health and wellbeing but are generally not life threatening.

A food intolerance reaction can be triggered by eating food that contains additives or chemicals that are naturally occurring or added to foods. The following substances can trigger symptoms of food intolerance in some people:

- **Salicylates** – natural preservatives found in a wide variety of fruits, vegetables, nuts and spices
- **Amines** – produced during fermentation, aging and ripening
- **Glutamates** – an amino acid found naturally in all protein foods and MSG, used as a preservative (additive number 620/621)
- **Preservatives and colours.**

When eaten, these additives or chemicals irritate nerve endings in different parts of the

body causing symptoms. Symptoms vary from person to person and can include stomach pain, bloating, flatulence, diarrhoea, irritable bowel syndrome, rashes, hives, mouth ulcers or headaches. Reactions are dose related, which means the severity of the reaction will depend on the amount of food eaten. This will vary from person to person. Reactions can be delayed, with symptoms appearing several hours or days after eating trigger foods.

There are no proven laboratory tests for food intolerance. Diagnosis is through an elimination diet under medical supervision. All food chemicals and additives are removed from the diet, then slowly reintroduced to find out which ones trigger a reaction and the individual's threshold for tolerating the foods. Once a person knows their trigger foods, they can decide how they balance the benefits of being symptom free against the inconvenience of restricting their food choices.

As the food triggers, symptoms and degree of dietary restriction is different for every person with a food intolerance, it is best to talk to individual families within your school to determine how best to cater for students with a food intolerance.

For more information on food intolerance go to: [www.allergy.org.au](http://www.allergy.org.au)

## Coeliac disease

Coeliac disease is a condition where the immune system reacts abnormally to gluten. Gluten is the protein component of wheat, rye, oats and barley. When people with coeliac disease eat gluten, tiny finger-like projections which line the small bowel (villi) become inflamed and flatten. This reduces the surface area of the bowel available to absorb nutrients and causes many symptoms. People who have coeliac disease can become very sick from eating only small amounts of gluten and may experience symptoms such as nausea, bloating, pain, change in bowel habits, fatigue and vitamin or mineral deficiency.

Coeliac disease is a life-long condition and there is currently no cure. The only treatment available is a strict gluten free diet. This is the only way to avoid short-term symptoms and longer-term health impacts. People need to follow the diet even if they are not unwell with symptoms. For more information on gluten free food preparation in your school food service go to the Food safety section of the SmartFood Guide.

For more information on coeliac disease go to: [www.coeliac.org.au](http://www.coeliac.org.au)



## Food additives

Food additives are chemicals added to foods to keep them fresh or to enhance their colour, flavour or texture. Food additives include colours, flavour enhancers, preservatives, glazing agents, emulsifiers and gelling agents.

Food additives in most packaged food must be listed in the statement of ingredients on the label. Most food additives must be listed by their class name, followed by the name of the additive or the food additive number. For example, Colour (Caramel 1) or Colour (150a).

There is evidence that a small number of people will have reactions to food additives, including behavioural changes. Additives are usually found in packaged foods high in saturated fat, sugar and/or salt which are classified as RED in the SmartFood Program. GREEN food and drinks, which are everyday foods encouraged as the main choice on the menu in a SmartFood Award school, contain minimal additives.

For more information about food additives go to: [www.foodstandards.gov.au](http://www.foodstandards.gov.au)

Following a strict gluten free diet is the only way to manage coeliac disease

## References

1. Australian Bureau of Statistics. National Health Survey: First Results [Internet]. Canberra: ABS; 2018 December 12 [cited 2020 November 24]. Available from: [www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey-first-results/latest-release#key-statistics](http://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey-first-results/latest-release#key-statistics)
2. Australian Bureau of Statistics. Australian Health Survey: Nutrition First Results – Foods and Nutrients [Internet]. Canberra: ABS; 2014 May 9 [cited 2020 November 24]. Available from: [www.abs.gov.au/statistics/health/health-conditions-and-risks/australian-health-survey-nutrition-first-results-foods-and-nutrients/latest-release#key-findings](http://www.abs.gov.au/statistics/health/health-conditions-and-risks/australian-health-survey-nutrition-first-results-foods-and-nutrients/latest-release#key-findings)
3. National Health and Medical Research Council. Australian Dietary Guidelines. Canberra: NHMRC; 2013.
4. National Health and Medical Research Council. Australian Guide to Healthy Eating. Canberra: NHMRC; 2013.
5. National Health and Medical Research Council. Australian Dietary Guidelines Educator Guide. Canberra: NHMRC; 2013.
6. Osteoporosis Australia. What you need to know about osteoporosis 4th Edition [Internet]. NSW: Osteoporosis Australia; 2017 [cited 2020 November 24]. Available from: [www.osteoporosis.org.au/sites/default/files/files/OA%20Consumer%20Guide%204th%20Edition.pdf](http://www.osteoporosis.org.au/sites/default/files/files/OA%20Consumer%20Guide%204th%20Edition.pdf)
7. Australian Bureau of Statistics. Australian Health Survey: Consumption of Food Groups from the Australian Dietary Guidelines, 2011-12 [Internet]. Canberra: ABS; 2016 May 11 [cited 2020 November 24]. Available from: [www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.012~2011-12~Main%20Features~Key%20Findings~1](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.012~2011-12~Main%20Features~Key%20Findings~1)
8. National Health and Medical Research Council, Australian Government Department of Health and Ageing, New Zealand Ministry of Health. Nutrient Reference Values for Australia and New Zealand. Canberra: NHMRC; 2006.
9. Australian Bureau of Statistics. Migration, Australia [Internet]. Canberra: ABS; 2020 April 28 [cited 2020 November 24]. Available from: [www.abs.gov.au/statistics/people/population/migration-australia/latest-release#key-statistics](http://www.abs.gov.au/statistics/people/population/migration-australia/latest-release#key-statistics)
10. Vale S, Smith J, Said M, Mullins R, Loh R. ASCIA guidelines for prevention of anaphylaxis in schools, pre-schools and childcare: 2015 update. *Journal of Paediatrics and Child Health*. 2015;51(10):949-9