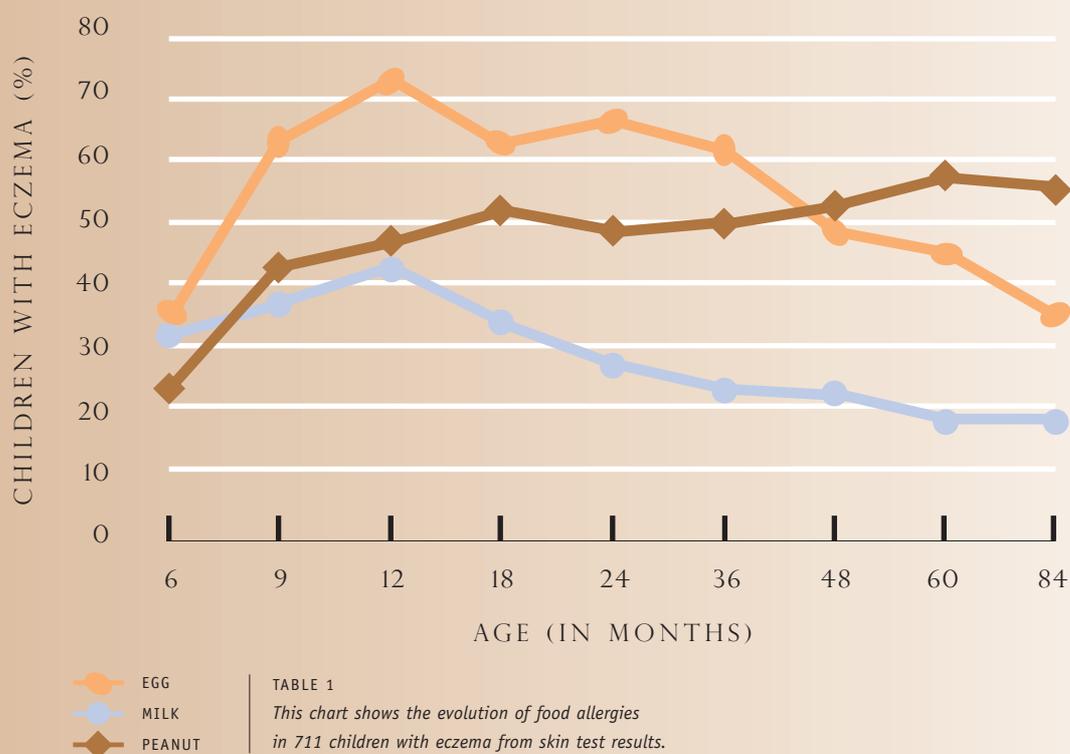


peanut allergy

How common is peanut allergy?

PEANUT ALLERGY IS THE SECOND MOST COMMON FOOD ALLERGY IN CHILDREN AND IS ON THE INCREASE. IT OCCURS IN ABOUT 1 IN 50 CHILDREN AND 1 IN 200 ADULTS. PEANUT IS THE MOST LIKELY FOOD TO CAUSE ANAPHYLAXIS AND DEATH. IT HAS BEEN ESTIMATED THAT THERE IS ONE DEATH FOR EVERY 200 EPISODES OF ANAPHYLAXIS.



peanut allergy

TABLE 2 Children with a history of anaphylaxis to food are significantly more likely to have a food allergy to peanuts and nuts than children with food allergy and eczema.

Food allergies	Skin test results in children with atopic eczema (% , n = 224)	Children with a history of anaphylaxis (% , n = 212)	Cause of fatal food allergy reactions (% , n = 31)
Egg	74	61	-
Peanut	63	84	62
Cow's milk/dairy	46	42	4
Tree nuts	23	35	30
Fish	14	14	4
Sesame	17	12	-
Soy	4	9	-
Wheat	13	8	-
Shellfish	1	7	-



At what age does peanut allergy become evident?

Peanut allergy most commonly becomes evident during infancy and preschool years, usually the very first time an infant or toddler is given a piece of toast with peanut butter.

How do children become sensitised to peanut?

Children can become sensitised to peanut in a variety of ways:

Via breast milk. In nursing mothers who consume peanuts regularly, small amounts of peanut protein can be found in the breast milk. This is probably the most common means of sensitisation.

Through intimate contact with a person who often eats peanuts or peanut butter. In several peanut allergic infants, parents have reported that the first evidence of the allergy was a wheal on the baby's cheek after being kissed by someone who had recently consumed peanut butter.

From skin massage with oils containing peanut protein.

Children with an allergy tendency often have dry skin and so they are more likely to have these oils applied generously and often.

How serious is peanut allergy?

Children who are allergic to peanut and other nuts are at increased risk of anaphylaxis compared with those who are allergic to other foods such as egg and milk.

One in 5 children with a food allergy will have a severe reaction requiring emergency medical attention, and this is most often triggered by peanut (Table 3).

	First anaphylactic reaction (%, n = 186)	Subsequent anaphylactic reactions (%, n = 176)
Peanut	35	32
Cow's milk/dairy	24	19
Egg	18	18
Tree nuts	11	6
Fish	4	6
Sesame	2	1
Soy	<1	1
Shellfish	<1	<1
Wheat	-	-
Other	1	4
Unknown	4	12

TABLE 3 Peanuts and peanut products are the most common cause of first and subsequent anaphylactic reactions. While first reactions are often from peanut butter exposure, for subsequent reactions the peanut content of the problem food has usually been invisible.

How much peanut does it take to cause a reaction?

It's been calculated that highly sensitised individuals can react to as little as 1/2000th of a single peanut. In research studies of adults with a known peanut allergy the amount varied from one tiny fragment to two peanuts.

If there is ongoing exposure, even to small amounts, it can take less and less to cause a reaction as time goes by. This is because repeated exposure *boosts* the immune response, and the IgE antibody levels rise. The size of the allergy skin test is a rough guide to a person's antibody levels.

Can peanut oil cause an allergy reaction?

Clinical studies have found that people with peanut allergies can tolerate highly refined peanut oils safely. This is because the refining process removes all the protein—the oil on its own cannot trigger the IgE antibodies. However, less refined oils (such as cold pressed oils) may contain enough protein to cause a reaction, and should be avoided.



peanut allergy

In restaurants it can be hard to get reliable information about what kind of oil is used, so it's best to avoid dishes and salad dressings prepared with peanut and other nut oils. Cosmetics and body lotions may contain peanut oils (sometimes labeled as arachis oil) and other nut oils that can cause reactions, and are best avoided. Massage oils should also be checked carefully.

What kind of exposure can lead to severe reactions?

Route of exposure (n = 362)	Reactions (%)
Swallowed	82
Skin contact	11
Skin & eye contact	1
Inhaled	2
Eye contact	1
Unknown	3

TABLE 4 *Most anaphylactic reactions occur after ingesting the food.*

Although most life-threatening reactions are triggered by ingested foods, serious reactions can also occur from skin contact, eye contact and inhalation of food particles. In young children, even though the initial contact might be on the hands or arms, the reaction can spread through scratching and rubbing of the face and eyes.

Does the clinical severity of the first reaction to peanuts help decide the management policy for avoidance and the need for an emergency plan?

Due to the huge increase in the prevalence of peanut allergies there is some concern that too many children have adrenaline available and that this may diminish the seriousness of peanut and nut allergies in the minds of others.

Mild index reactions to peanuts and nuts do not provide reassurance as up to a half may go on to have a severe reaction. Most severe and fatal reactions in later childhood and the teen years after peanuts or nuts occur in those who have previously experienced a food allergy reaction. In most of these instances the allergy was recognized but not deemed severe enough to raise the alarm that the child was at risk of such a reaction and adrenaline was not available or not given promptly for the reaction.

On the other hand more than half of the children who have one anaphylactic reaction will never have another one to that food. In fact in our survey covering 362 anaphylactic events, in 40% of subsequent anaphylactic reactions a different food was involved. A second anaphylactic reaction should raise an alarm that all the allergies have not been identified and that the avoidance measures are not that stringent within the family and care environment.

In our experience, not having a severe food allergy reaction is mostly good management rather than good luck. Complacency can have fatal consequences.

Growing out of peanut allergies

It is evident from both longitudinal and cross sectional studies of peanut allergy that the allergy fades in up to 20% of children. This does not mean that other nut or food allergies in a peanut allergic child will fade simultaneously. Although a direct or accidental challenge is the most reliable method of identifying individuals with peanut or nut allergy, the size of the reaction on skin testing (see page 5 DEALING WITH FOOD ALLERGY) is a reliable guide to the risk. Parents need to know that the wheal size on skin testing and the risk of a severe reaction varies with age in children. An average figure of 6x6 mm is used to define those that will definitely react but in babies skin test wheals of 4x4 mm can be associated with life-threatening reactions.

WHAT ABOUT

other nuts

and seeds?

WHETHER YOU VIEW THOSE WITH A PEANUT ALLERGY AS HAVING A 1:4 CHANCE OF BEING ALLERGIC TO ONE OR MORE OF THE OTHER NUTS OR THAT TWO-THIRDS OF THOSE WITH A NUT ALLERGY ALSO HAVE A PEANUT ALLERGY, ALL CHILDREN WHO HAVE A PEANUT ALLERGY OR A NUT ALLERGY SHOULD BE SCREENED FOR ALLERGIES TO THE RANGE OF NUTS AS THEY ARE THE MOST HIGHLY ALLERGENIC FOODS.

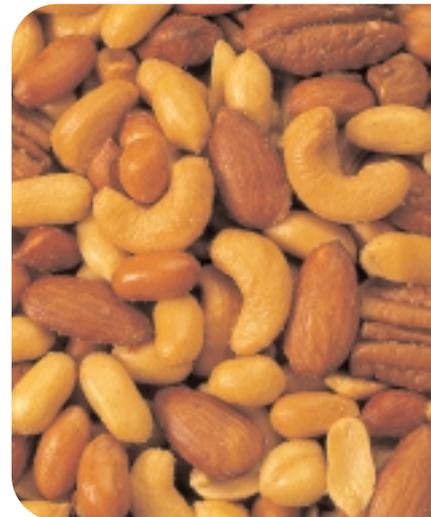
In Australia the widespread consumption of nuts other than peanuts was once reserved for Christmas feasts as they were expensive and availability was limited. During the 1970's and 1980's this changed as complex breakfast cereals, muesli and nut snacks became a part of the daily diet. In different communities there are very different patterns of nut consumption depending on traditions and personal wealth and this is reflected in the patterns of allergies affecting susceptible children.

Tree nut allergies are just as severe as peanut allergies and individual nuts are the second most likely cause of death from a food allergy. One nut allergy tends to be as severe as another. There is no evidence that an allergy to one nut is specifically associated with an allergy to another nut. Amongst children with an allergy to a tree nut, two-thirds are also allergic to peanuts.

Amongst the tree nuts, **CASHEW** is the most common cause of nut allergy reactions in our experience but **HAZELNUT**, **ALMOND**, **WALNUT**, **BRAZIL NUTS** and **PECAN** can also cause severe allergy reactions.

Other tree nuts such as **PINE NUTS** (from pinecones of several trees), **PISTACHIOS** and **MACADAMIA NUTS** are also highly allergenic; however, since they are more expensive fewer are consumed and allergies are less frequent. This may soon change as they are used in more widely in small quantities to give a different flavour to food. They are not normally tested for unless there is a clinical suspicion of an allergy.

Nuts that cause allergies are not related to each other. For instance the almond is the seed of trees related to plums and apricots and was first cultivated in Asia whereas the Brazil nut is a native of the Amazon and the macadamia was first found in south eastern Queensland. What they do have in common is that they are very high in oils (50 to 60% of their content is fat) and they are full of good nutrients including calcium, magnesium and Vitamin E.



other nuts & seeds



Parents often express concerns about COCONUT allergy since it is a *nut*. Although it must be possible in very highly allergic children this has not been observed to be a problem. The same concerns could apply to foods like olives but likewise these are not noticed and it may be due to patterns of consumption rather than lack of allergenic potential in these foods.

Nuts such as chestnuts, ginkgo nuts and acorns are not commonly eaten so we have no experience with allergies to these nuts. They are higher in starch and therefore have less fat than the nuts that commonly cause allergies.

Nuts that may cause allergies that are equally as severe as peanut allergies:

Cashews

Walnuts (*also known as butternuts*)

Pecans

Almonds

Hazelnuts (*also known as Filberts*)

Brazil nuts (*also known as Cream nut and Para nut*)

Pine nuts (*also known as Pignoli, Piñon nuts, Indian nuts and Stone nuts*)

Macadamia nuts (*also known as Australian nuts and Queensland nuts*)

Pistachios

What about allergies to other seeds?

An allergy to SESAME SEEDS is also common in younger children with peanut allergy. Sesame allergies can cause life-threatening reactions in infants and are commonly seen in young children especially where mothers have attempted to boost their calcium intake by eating lots of tahini or they are vegetarian. Sesame allergies acquired in infancy tend to fade in middle childhood.

Allergies to other seeds such as SUNFLOWER SEEDS and LINSEEDS can also occur but they are really quite rare. Seed allergies seem to be a more notable problem in children where seed products are used as birdseed or chicken feed.

What about allergies to other beans, legumes and pulses?

Many parents raise concerns about allergies to soybeans, green peas, split peas, chickpeas and lentils. Bean is a term loosely applied to any legume whose seeds or pods are eaten and that are not classed as a PEA or a LENTIL.

Soybeans are high in protein and fat and mild allergies that cause rashes and flaring of eczema are quite common where soy has been a substantial part of the maternal diet or soy-based infant formula has been introduced. Lentils have the next highest protein content (just on 25%) of any vegetable. Allergies to lentils are common in the Mediterranean region. The occasional child with multiple food allergies develops a food allergy to these foods just as they can to many foods like wheat, potato, banana, lamb, chicken and beef. These allergies tend to fade in early to middle childhood like egg and milk allergies.

THE MAIN hazards

1

PEANUT BUTTER

Peanut butter presents the greatest hazard for peanut allergic children.

It is a particularly sticky product and causes widespread contamination of:

- KNIVES, FOOD PREPARATION SURFACES, KITCHEN SPONGES, AND BARBEQUE PLATES;
- BUTTER AND MARGARINE TUBS (FROM KNIVES USED TO SPREAD PEANUT BUTTER);
- DOOR HANDLES, TAPS, TOYS, PLAYGROUND EQUIPMENT, SCHOOL DESKS;
- HANDS, LIPS, TEETH, BEARDS AND MOUSTACHES.

Popular snack-packs of peanut butter can be messy when eaten by young children, leaving them with contaminated hands, face and clothing. Coming into contact with a peanut allergic child in the classroom or playground can then cause a reaction.

2

RESTAURANT MEALS

EATING ASIAN FOODS in restaurants or as takeaway poses the greatest hazard for peanut allergic adolescents and adults. **LIFE-THREATENING REACTIONS CAN OCCUR** even though the person is aware of their allergy and has gone to great lengths to check that there are no peanuts or other nuts in the foods ordered.

Dishes may be described with foreign names and abbreviated ingredient lists on the menu, so the presence of nuts may not be recognized, and complex recipes can contain nut products as hidden, unlisted ingredients. This is particularly true for salad dressing that may contain a satay sauce and toppings or pastries and cakes that may have ground up nuts added.



3

PROCESSED FOODS

Peanuts are more widely used in manufactured foods than ever. Many foods carry a warning on the label that the food may be contaminated. This warning usually indicates that the food is made in a facility that makes a food containing peanut and nut products.

Severe food allergy reactions are mostly due to commercially prepared foods and this includes peanut butter. One in five severe reactions in children are to food that has no label.

Notes about chocolate

Foods can become contaminated with peanut or other nuts during the manufacturing process. Chocolate products are a particular problem in this regard. When contamination is a possibility, manufacturers will sometimes put a warning statement on the food label, eg. *May contain traces of peanuts and other nuts*. It's generally wise for peanut allergic individuals to avoid these products. Remember, though—the absence of such a warning doesn't guarantee that there's no contamination.

Chocolate is an expensive product and not to be wasted. During the coating of peanuts parts of the batch don't roll well so this *waste* is ground up and returned to the chocolate mass for use in various chocolate items.

Outsourcing

Other companies now produce many ingredients outside of the main factory. Since it is hard to be certain about handling practices in other factories the *may contain...* label is added.

The same trays are used to treat cocoa beans, seeds and nuts at the point of origin and many places along the way.

4

FAILING TO READ

food labels accurately

Peanut is being used increasingly as an ingredient in manufactured foods, so you may find peanuts and nuts where you least expect them. The product name, taste or appearance is not a good guide. It's critically important, therefore, to read every label carefully.

Under the Australian Food Standards code, it's mandatory to declare the presence of peanut on food labels. However, labels generally list ingredients in order of the amount that's in the food. This means that peanuts and other nuts may appear in the middle of a long list, making them hard to find on the label even though the message may be repeated at the end of the list eg.



INGREDIENTS: TOMATO PASTE, CANOLA OIL, LEMON JUICE, ROMANO
 CHEESE, PEANUTS, SUN DRIED TOMATOES, CREAM POWDER, SALT,
 CARBS, PINENUTS, VINEGAR, FLAVOUR, YEAST EXTRACT,
 HERBS AND SPICES, VEGETABLE GUM (415), WATER ADDED.
 CONTAINS PEANUTS AND OTHER NUTS.
 MADE IN AUSTRALIA FROM LOCAL AND/OR IMPORTED INGREDIENTS
 DEPENDING ON AVAILABILITY

Children should be taught to examine labels carefully, and to ask an adult to read the label out loud to them if they're at all uncertain. Particularly on small packages, the size of the printing can make it difficult for children to read until they have more advanced literacy skills. Most people over 50 will not be able to read a label without the benefit of glasses.

Food (such as biscuits and muesli bars) may be packaged as an individual unit that does not carry an ingredient list because it was not intended for individual sale.

SPECIFIC precautions for peanut allergies



Make sure you get a MEDICALERT® bracelet or necklet for the child to wear. This will provide vital information about the nature of the problem in an emergency.

Available from:
 Australia MedicAlert® Foundation
 Phone 1800 882 222
 Fax 1800 643 259
www.span.com.au/medic

Total avoidance OF PEANUT BUTTER AND OTHER SIGNIFICANT PEANUT PRODUCTS in the care environment. This avoidance policy should extend to no peanut butter kept on the premises because of surface and other food contamination during preparation and consumption.

EAT HOME-PREPARED FOOD WHERE POSSIBLE.

Always carry a supply of safe food when traveling.

EATING PROCESSED FOODS particularly chocolate, confectionery, unlabelled foods and restaurant food always represents a risk.

Always READ ALL LABELS VERY CAREFULLY EVERY TIME FOOD IS PURCHASED as ingredients may change. Remember that may contain warning is not very discriminating and gives no indication whether the risk is substantial or minimal.

TAKE NOTE THAT EATING OTHER NUT PRODUCTS REPRESENTS A RISK as there can be cross contamination, substitution and unrecognized allergies.

ADVISE FAMILY, PARTY HOSTS AND CATERERS WELL IN ADVANCE of your allergies and that the risk extends to contaminated cooking surfaces and serving bowls. Advise them about problem foods and safe alternatives.

AVOID NUTS AND SEED PRODUCTS such as tahini (sesame paste) in very young children with peanut allergies as they may have an unrecognized allergy to these foods or a new allergy may develop. In older children and adults this needs to be managed on an individual basis.

FOR EVERYONE

precautions

with a severe allergy

ALWAYS CARRY AN EPIPEN® and make sure that those you are with are aware of your allergies and the need to administer the EpiPen should you be unable to do so. An adult carer should always assume the responsibility for administering an EpiPen.

EDUCATE ALL CARERS ABOUT THE SIGNS of an anaphylactic reaction and have an Action Plan in the event of an accidental contact reaction.

WEAR A MEDIC ALERT BRACELET.

NEVER LEAVE A GROUP TO GO TO THE BATHROOM ON YOUR OWN if you have symptoms of a food allergy reaction.

KEEP A CHECK ON THE EXPIRY DATE OF THE EPIPEN and the colour of the fluid in the barrel according to the manufacturers instructions, as there is a limited shelf life.

NOTE THAT EXPOSURE TO HEAT ABOVE 30°C MAY DEGRADE THE ADRENALINE. This means that adrenaline can't be carried too near to the body in a pocket or in a car or to the beach without adequate insulation.

INFORM YOUR DOCTOR about your relevant food, drug and latex allergies.



Airline travel and peanut allergies

Peanut and nut allergies present difficulties on several fronts in relation to traveling on planes where access to sophisticated resuscitation may be hours away.

1 *Carry a letter outlining*

A—YOUR ALLERGIES

B—THE NEED TO CARRY the EpiPen

&/or ampoules of adrenaline with a needle and syringe

C—FOOD AND DRINK

(check on quarantine regulations at the other end as part of your travel plans)

2 Check whether the carrier that you have chosen for a long haul flight will be serving peanut snacks. Peanut snacks in small bags packed at atmospheric pressure are distributed to a large number of people in a short space of time.

The release of peanut particles in the air is evident not only from testing samples but also reactions have occurred including anaphylaxis following this event.

- 3 Local airlines recommend traveling on flights early in the day. Check if peanut snacks will be distributed on your flight and change to a time where this unlikely.
- 4 Eating food provided by airlines even if a peanut or nut-free meal has been ordered is not recommended. There are too many links in the food chain and too many examples of dismissive behaviour have been reported to trust this source. Rather I recommend carrying a safe supply of food.
- 5 Children with allergies should not be allowed to wander in the aisles.
- 6 Apart from carrying an EpiPen, I recommend having extra ampoules of adrenaline that can be used for follow-up injections should there be a rebound reaction.
- 7 Carry a supply of prednisolone and treat even a suspicious reaction with an extra dose of antihistamine and a dose of prednisolone if you are on a long haul flight.
- 8 Take non-sedating antihistamine for a few days prior to and during the travel period.
- 9 Make sure that asthma symptoms are fully controlled well before the travel date.

FOOD

precautions

if in doubt don't eat the food

- *Always* CHECK LABELS CAREFULLY *every* TIME.
- “PEANUTS” ARE ALSO KNOWN AS “GROUNDNUTS” IN MANY COUNTRIES EG. ASIA AND UK. THEY ARE ALSO SOMETIMES KNOWN AS “BEER NUTS” OR “MONKEY NUTS”
- ONE IN FOUR WITH A PEANUT ALLERGY WILL ALSO HAVE AN ALLERGY TO ANOTHER TYPE OF NUT. THE ALLERGIES TO THE OTHER NUTS MAY NOT BE APPARENT OR THERE MAY BE CROSS CONTAMINATION OR SUBSTITUTION.
- NUTS OR PEANUTS PICKED OUT OF OR OFF FOOD CAN LEAVE DANGEROUS TRACE AMOUNTS FOR THE PERSON WITH ALLERGIES.



peanut allergy

Peanuts or other nuts as a <u>major ingredient</u>	Peanut or other nut butters and pastes	Satay sauce
	Peanut sauce	Nut meat or nut rissoles
	Nut biscuits	Baklava and other nut pastries
	Nutella® (<i>hazelnut and chocolate spread</i>)	Nuts in salads such as Waldorf salad
	Crushed nuts on cakes, buns, ice-creams and desserts	
	<i>Praline (finely or coarsely crushed nut and toffee used in desserts and chocolates)</i>	
Peanuts or other nuts as a <u>usual ingredient that may be overlooked</u>	Muesli, fruit containing breakfast cereals	Turkish delight
	Muesli bars, health bars, energy bars	Vegetarian burgers
	Carrot cake and muffins	Friands and flourless cakes
	Christmas cake and Christmas pudding	Nougat
	Marzipan and icing on wedding cakes	Pesto
	South East Asian, Indian and Chinese foods	
Peanuts or other nuts as a <u>possible ingredient</u>	Cakes, biscuits, buns and pastry	Chocolate
	Pies, puddings and desserts	Fudge
	Cosmetics and massage oils	Animal and bird feeds
	<i>Natural flavourings</i>	Sauces
	Gourmet or special ice creams, cassata	
	Salad dressings, textured or hydrolyzed vegetable protein (TVP & HVP)	
Products at risk of being <u>contaminated</u> with peanuts or other nuts (not as an ingredient)	Restaurant food	Asian or other ethnic foods
	Takeaway or unlabeled food	Commercial biscuits
	Commercial breakfast cereals	Commercial ice creams
	All chocolate products	Confectionery