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## Allergy prevention: consumer perspectives

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### **Abstract**

Consumer concerns about allergy have increased considerably in the last decade. Peanut allergy in particular has generated panic among many families, and there is often a misconception that children affected are unlikely to reach adulthood. Patient-support organizations offer essential advice and guidance to these people, with a great deal of effort directed towards allergen avoidance. The Anaphylaxis Campaign receives approximately 20,000 enquiries annually – the vast majority being people seeking information about food allergy – and every year sends out 140,000 information sheets. Its website ([www.anaphylaxis.org.uk](http://www.anaphylaxis.org.uk)) attracts 4,000 visits per day.

Allergen avoidance is difficult enough for the person with access to high-quality information, but much harder for those with none. Allergens sometimes turn up unexpectedly in pre-packed food or they may not be presented in common everyday language. The presence of the 25 per cent rule governing compound ingredients offers further potential hazards. The answer is better education for consumers and a commitment by the food industry to listen to the allergic consumer's voice.

The presence of allergen traces, caused by factory cross-contact, also poses hazards. In the UK many food labels now carry the warning "may contain nut traces". These appear so frequently and sometimes so inexplicably (e.g. on bags of green salad) that the public has become sceptical about the reason for their use. Many nut-allergic people ignore "may contain" warnings, believing that the manufacturer or retailer is simply "covering its back". Sometimes these warnings signify a genuine risk. The Anaphylaxis Campaign urges manufacturers to explore ways of eliminating or minimizing this risk, thus negating the need for "may contain" labels.

Although most allergic reactions are triggered by a small number of foods (now subject to a recently-published EU Directive) we must remain watchful for new, emerging allergens. In the UK, novel foods are subject to scientific investigation by the Government's Advisory Committee on Novel Foods and Processes (ACNFP). The ACNFP does not resist the approval of new foods simply because they may be allergenic. After all, any food containing protein may cause reactions for someone, somewhere. The key issue is whether the food will constitute a problem as a result of 'cross-reactivity' with another known allergen. Many manufacturers appear unclear on this issue and seem to be trying to demonstrate that their proposed new products are totally non-allergenic. If they contain protein, this is highly improbable.

Finally there is the important issue of sensitization. How can we minimize the likelihood of children becoming allergic in the first place? What is the role of maternal diet during pregnancy and lactation? At what age may allergenic foods be safely introduced into a child's diet? These are questions that can only be answered by

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scientific research. The Anaphylaxis Campaign has plans during 2005 to set up a research programme that, we hope, will make an important contribution to the understanding of food allergy.

**Keywords:** anaphylaxis; food allergy; peanuts; allergen labelling

## **Background**

Consumer concerns about allergy have increased considerably in the last decade. In the UK, this has been reflected in alarming newspaper and magazine headlines, many of which refer to “killer allergies” or “children in peril”. One newspaper headline, referring to peanut allergy, described it as “the deadly allergy we should all fear”. Such headlines have generated needless concern among members of the general public as well as among families in which there are food allergies. The Anaphylaxis Campaign, a patient-support organization set up in the UK in 1994, exists to raise the profile of allergy but has increasingly found itself dampening down some of the hysteria that is connected with food allergy. The Campaign’s message is: Anaphylaxis is serious, but it’s manageable. Lives don’t have to be lost.

Peanut allergy in particular has generated panic among many families, and there is often a misconception that children affected are unlikely to reach adulthood. The anxiety provoked by some allergies is mirrored in the letters and telephone calls received by patient groups.

One mother wrote to the Anaphylaxis Campaign saying: “My little boy suffered a very severe allergic reaction to a slice of cake in a restaurant while we were on holiday. The cake contained walnuts. I am terrified I will lose him. I feel we are living with a ticking time bomb”.

Another said: “I am going out of my mind with worry and told I must wait three months before I see a consultant. My GP knows very little and would rather say nothing. Please can you help me?”

## **Poor allergy services**

At the heart of the problem is the fact that allergy services across the UK are poor and many patients see voluntary organizations as valuable sources of information where the health services have failed them. This situation was highlighted in a report published by the Royal College of Physicians in 2003 (2003).

The report said there is a growing gulf between the need for effective advice and treatment and the availability of professional allergy services. The incidence of allergy has risen, and the nature of allergy has changed. A number of severe and potentially life-threatening allergies, previously rare, are now common. Patients now usually have disorders affecting several systems. For example, a child with peanut allergy often has eczema, rhinitis and asthma. Poorly controlled asthma in a patient with nut allergy is a risk factor for life-threatening reactions.

The College report highlighted the scale of the problem:

- One-third of the UK population will develop allergy at some time in their lives.
- Asthma, rhinitis and eczema have at least doubled in the last 20 years.
- Hospital admissions for anaphylaxis have increased sevenfold over the last decade.
- Food allergy is increasingly widespread and the most common cause of anaphylaxis in children. Peanut allergy has trebled in incidence over four years and now affects one in 70 children. Ten years ago it was rare.

- Eight per cent of healthcare workers have an allergy to latex rubber, which in some cases leads to anaphylaxis. Twenty-five years ago only two cases of latex allergy had been reported.

The College reported described the current state of the UK's allergy services:

- Only six major centres staffed by consultant allergists offer a full-time service with expertise in all types of allergy problems. A further nine centres staffed by allergists offer a part-time service.
- The remaining allergy clinics in the UK –the majority– are run part-time by consultants in other fields, such as respiratory medicine.
- Overall, there is only one consultant allergist for every two million people.
- Most GPs have no clinical training in allergy and no access to expert advice.
- Many patients face long waiting times and the necessity to travel long distances.

### **Work of support organizations**

This unmet need is filled by support organizations such as the Anaphylaxis Campaign and Allergy UK. The Campaign receives approximately 20,000 enquiries annually – the vast majority being people seeking information about food allergy. The charity sends out 140,000 leaflets and fact sheets per annum. Its website ([www.anaphylaxis.org.uk](http://www.anaphylaxis.org.uk)) attracts 4,000 hits per day.

The Anaphylaxis Campaign and other patient-support organizations offer essential support and guidance to people, with a great deal of effort directed towards helping them avoid the allergens that harm them and thereby preventing allergic reactions from happening. There is also help and guidance available for the food industry, which acknowledges the problem and – for the most part – responds positively; and help too for health professionals, who sometimes lack the knowledge they need to provide good quality advice and care to patients. Information is provided via a telephone helpline, fact sheets and newsletters, training videos for schools, a website and workshops and seminars.

### **Allergen avoidance**

In the case of food allergy, an individual's main defence strategy involves avoidance of the allergens that are known to cause the problems. There is no cure. People affected need to read food labels scrupulously, question catering staff very directly, and be prepared to treat reactions with injectable epinephrine (adrenaline).

Allergen avoidance is difficult enough for the person with access to high-quality information, and even harder for those with none. Allergens sometimes turn up unexpectedly in pre-packed food. For example, milk protein may be found in sliced white bread, Brazil nuts can be glazed with egg, and at least one major fast-food chain coats French fries with wheat flour.

There is a further problem where allergens are not presented in common everyday language. Despite voluntary guidelines published by the Institute of Grocery Distribution (2000), some food companies still use the terms casein or whey without reference to milk.

Furthermore, the presence of the 25 per cent rule governing compound ingredients has led occasionally to 'hidden' allergens provoking very severe reactions. For example, a milk-allergic teenager took one bite of a pre-packed apple pie and suffered

anaphylaxis. It was later revealed that the pie contained 0.006 per cent milk protein, legally undeclared under the 25 per cent rule. As a further example, a woman with soy allergy suffered a severe allergic reaction after eating a vegan 'cheese alternative' thinking it was safe. The product contained soy protein, legally undeclared<sup>1</sup>.

Fortunately the new European Directive that removes the 25 per cent rule has now been published in the Official Journal of the European Union (European Union 2003) and all major allergens will have to be labelled when they appear in pre-packed food, even when they are present in minute quantities. Improved allergen labelling will be required in law by November 2005 and food companies can start to comply now. Indeed many UK manufacturers and retailers have been complying voluntarily for some years.

### **“May contain” labelling**

The presence of allergen traces, caused by factory cross-contact, also poses hazards for people with food allergy. In the UK many food labels now carry the warning “may contain nut traces”. These appear so frequently and sometimes so inexplicably (e.g. on bags of green salad) that the public has become sceptical about the reason for warning labels. Some nut allergic people, particularly teenagers, ignore “may contain” warnings, believing that the manufacturer or retailer is simply “covering its back”. They would do well to heed warning labels. From time to time, nut traces genuinely appear in products such as confectionery and cause allergic reactions. Sometimes reactions are severe.

The Campaign's view is that so-called defensive labelling is acceptable only in cases where allergen cross-contact is genuinely uncontrollable; it must never be used as a substitute for good manufacturing practice. In all cases, there should be a thorough risk assessment to determine whether warning labels are necessary; and where they are deemed necessary they must be placed on the food label in such a way that the customer can find them and read them easily. A survey conducted by the UK Government's Food Standards Agency in 2002, carried out on the FSA's behalf by the Anaphylaxis Campaign (Food Standards Agency 2002a), found that frequently nut warnings were some distance from the ingredient list, in tiny, unreadable type, or under a flap.

This point was also highlighted the same year in a separate FSA consumer survey (Food Standards Agency 2002b). The Agency set up interviews with allergic consumers to obtain their views on allergen labelling. Twenty-one interviews were carried out with people with nut allergy, or the parents of children with nut allergy. The main focus was “may contain” labelling. The results showed that many consumers said they wanted greater consistency in labelling information and its presentation; many said they wished to see nut-free production lines. One consumer commented: “It would cause outrage if vegetarians were treated in the same way. Can you imagine vegetarian products with a sign on saying ‘may contain a trace of mince’?”

### **Food alerts**

A few UK retailers have seen a marketing opportunity in labelling some food products as “free from” certain ingredients, such as milk or gluten. This is to be welcomed by consumers who have mild food allergies or intolerances, but there are pitfalls for the person with a severe allergy. On at least three occasions, the “free

from” claim was found to be inaccurate. As an example, a dessert labelled “100 per cent dairy free” and “suitable for milk allergy sufferers” triggered a reaction in a boy with milk allergy. Tests showed the product contained casein in significant amounts (up to three per cent). The suspect batches were recalled <sup>2</sup>.

In the above case, the Anaphylaxis Campaign sent out an alert by mail to its milk-allergic members. This was just one of 28 alerts sent out during 2003. The reasons for these included inadequate labelling, cross-contamination or some other cause. The most striking case involved chocolate bars manufactured by a well-known UK company, when several customers found large pieces of nut embedded in the product. The cause was accidental cross-contamination.

## **News updates for food companies**

In order to help the food industry face the challenges posed by food allergy, the Anaphylaxis Campaign has set up a scheme under which corporate members receive regular news bulletins about allergy. Reports are sent by email. So far, 40 UK companies have joined. News topics covered so far include food allergy research, European legislation, the work of the Food Standards Agency and diverse individual subjects such as butterfat, kiwi fruit, coconut, milk and egg allergy, gluten, Quorn and oral allergy syndrome. All reports are reviewed by experts and there is an intention to interpret sometimes complex issues into plain language.

## **Catering establishments**

Whilst the ingredients of pre-packed food have to be listed by law, this is not so for food sold in catering situations or at in-store service counters. Around six deaths per annum are known to be caused by food allergy in the UK, and studies have found that 75 per cent of these are related to food bought in catering establishments (Pumphrey 2000). A much publicized fatality involved the Olympic athlete Ross Baillie, who died after eating a Coronation chicken sandwich. The Coronation chicken recipe was devised to commemorate the crowning of Elizabeth II and contains almonds as an intended ingredient. Ross Baillie did not know the sandwich contained nuts. Furthermore, he did not have prompt access to injectable epinephrine.

Tragedies could be avoided if patients were better informed and if there was an improved awareness among catering staff. To achieve the latter objective, the Anaphylaxis Campaign favours the establishment of a comprehensive allergy-training programme for environmental health officers (‘the food police’). So far, the UK Government’s Food Standards Agency has not indicated that it will initiate a far-reaching programme.

## **Teenagers**

Risks for allergic consumers increase during teenage years and young adulthood. There may be a number of reasons for this. Whilst young children are under parental care and control, their lives change when they reach the teen years. Frequently they lead active social lives at pubs, clubs, restaurants and parties, they do not follow advice, they succumb to peer pressure and may be too awkward and embarrassed to make a fuss in restaurants. Occasionally tragedies occur. The actual number of deaths may in fact be higher than the 6-7 reported in the media; perhaps a proportion of the 1,500 annual asthma-related deaths in the UK have a food-allergy trigger.

The Anaphylaxis Campaign places a great deal of emphasis on educating teenagers. Once a year, awareness posters are distributed to universities and colleges, and the Campaign runs a programme of educational workshops. This programme is being expanded in 2004 thanks partly to a grant from Unilever UK.

## Novel foods

What is the potential for new foods causing problems in the future? Although most allergic reactions are triggered by a small number of foods (now subject to the recently-published EU Directive) we must remain watchful. New common allergens may be identified as novel foods are introduced into the diet.

One example is kiwi fruit. The kiwi, a native plant of China, started to be grown commercially in New Zealand in the 1930s. Kiwi fruit became a part of the UK diet in the early 1970s and reports of mild allergy were reported soon afterwards in UK adults. In the early 1990s it was apparent that kiwi allergy was becoming common in children as well – in many cases causing severe symptoms. A possible reason is the use of kiwi as a weaning food. Researchers in Southampton have recruited more than 300 people with kiwi allergy in their studies.

As new foods are eaten more regularly, it must be assumed that they may cause allergic reactions in a small section of the population. A further example is lupin. Lupins have a long history of being cultivated for their seeds, which can be eaten whole or used to make flour. Lupin can be found occasionally in products sold in the UK such as waffles and other baked items, especially if imported from France, Belgium or Holland. Occasional allergic reactions to lupin have been reported. In 1999 a French research team concluded that people with peanut allergy might be particularly susceptible to lupin allergy (Moneret-Vautrin et al. 1999). There is a rigorous system for assessing new foods. In the UK, each one is subject to scientific investigation by the Government's Advisory Committee on Novel Foods and Processes (ACNFP) – an independent team that includes members with expertise in allergy. Recently, a food company attempted to introduce chia seeds on to the market but the ACNFP blocked the move, ruling that further analysis was needed on people with known seed allergies.

The ACNFP does not resist the approval of new foods simply because they may be allergenic. After all, any food containing protein may cause reactions for someone, somewhere. The key issue is whether the food will constitute a problem as a result of cross-reactivity with another known allergen. In other words, if someone reacts to one food (e.g. peanut), will they react to another with a similar chemical structure (e.g. lupin)? Many manufacturers appear unclear on this issue and seem to be trying to demonstrate that their proposed new products are totally non-allergenic. If they contain protein, this is highly improbable.

One hopes that the current assessments are rigid enough to prevent problems, but two further measures are also vital:

- Food labelling must be thorough. People allergic to an ingredient should always be able to avoid it. Labelling might be extended in some cases to warn people about 'cross-reacting foods'. For example, people with peanut allergy need to be aware that they may react to lupin. People who are allergic to the mould *Fusarium venenatum* need to be aware that they may react to Quorn.
- Post-marketing surveillance is also important. Once a food has been released on to the market, there should be an early-warning system of any allergy problems.

## Sensitization

Finally there is the separate issue of sensitization. Parents frequently ask support organizations how they might minimize the likelihood of their children becoming allergic in the first place. But too many questions remain and it is difficult to provide robust answers. What is the role of maternal diet during pregnancy and lactation? At what age may allergenic foods be safely introduced into a child's diet? What are the reasons behind the enormous rise in peanut allergy? What domestic strategies can families adopt to minimize the chances of a child developing allergies? We can only be guided by scientific research and promote further research where there are gaps in knowledge.

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### Endnotes

<sup>1</sup> Source: Anaphylaxis Campaign news bulletins

<sup>2</sup> Evidence of the Anaphylaxis Campaign