



The **Anaphylaxis** campaign
Helping people with severe allergies live their lives

Does heating affect food allergens?

The above question is one we are frequently asked. To find answers we have consulted trusted sources (see foot of page) and sought confirmation from our medical advisers.

Peanuts: The main proteins in peanut that trigger allergic reactions are very robust during heating and processing and therefore there is no reduction in allergenicity. Roasted peanuts (those commonly eaten in the West) appear to be more allergenic than boiled and fried peanuts. In fact roasting can actually increase the allergenicity of peanuts.

Tree nuts: Roasting may reduce but not abolish hazelnut allergenicity. No such data are available for other nuts, but it is unlikely that heating will destroy their allergenicity.

Sesame: As with peanuts, the allergenic proteins of sesame survive heating.

Milk: Low heat treatment like pasteurisation ensures the bacteriological safety of milk but does not cause significant reduction in the allergenicity. Strong heat treatment largely destroys the allergenicity of whey proteins, but only reduces that of casein. Anyone allergic to casein is likely to react to milk that has undergone strong heat treatment. Without sophisticated testing, people with milk allergy will not know which milk protein they are allergic to.

Egg: Cooking can destroy some of the allergens in egg, but not all of them. This means that some people react to raw eggs but not cooked eggs. These are the ones who are more likely to grow out of egg allergy. Others are allergic even to well-cooked egg and these are the ones for whom egg allergy is more likely to be severe and maybe lifelong.

Wheat: Since wheat is mostly eaten cooked or heat-treated, it is evident that its allergenicity normally survives thermal treatment. Some wheat allergens can be destroyed by heating, while others are thermostable.

Fish: The fish protein parvalbumin remains stable after cooking, thus fish remains allergenic after cooking and other processing. In fact, some people with fish allergy can be allergic to cooked fish but not raw fish.

Shellfish: The allergenicity of shellfish is not reduced by heating.

Fruit: There are two important types of protein in fruit – profilins and lipid transfer proteins. Profilins, look similar to the proteins in birch pollen and therefore pollen-allergic people often suffer mild reactions to certain fruits. These people can eat the fruit when it

is cooked, however lipid transfer proteins are more stable and people who react to these suffer more severe reactions, even if the fruit is heated or processed.

Celery: Allergic reactions occur predominantly to raw celery, but heating only partially depletes its allergenicity. For some people allergic reactions to cooked celery will take place even after high temperatures are used.

Mustard: The major allergens of mustard are resistant to heat and other food processing procedures.

Lentils: As with peanuts, lentils may be more allergenic when cooked.

Our sources: Informall, the Food Standards Agency, the European Food Safety Authority.