

Mustard Allergy: The Facts

Mustard is one of 14 major allergens that must be declared in the ingredient lists whenever they appear in pre-packed food. The inclusion of mustard on this list, approved under EU law, was based on the view that mustard allergy is a serious problem in certain European countries such as France and Spain, although no one knows for certain how many people are affected. Based on our experience, mustard allergy would appear to be rare in the UK. However, reactions to mustard, when they do occur, can be severe.

This Factsheet aims to answer some of the questions which you and your family might have about living with mustard allergy. Our aim is to provide information that will help you to avoid mustard, minimise risks and know how to treat an allergic reaction should it occur.

If you know or suspect you are allergic to mustard, the most important message is to visit your GP and seek a referral to an allergy specialist – even if your symptoms have so far been mild. Future symptoms could be more severe.

Throughout the text you will see brief medical references given in brackets. More complete references are published towards the end of this Factsheet.

What is mustard?

The familiar jars of mustard that we see on supermarket shelves are made by grinding the seeds of the mustard plant and mixing them with water, vinegar or other liquids. Other ingredients can be added such as sugar, salt and wheat flour.

Apart from jars of mustard, there are other foods derived from the mustard plant including mustard leaves, seeds and flowers, sprouted mustard seeds, mustard oil, mustard and cress, and foods that contain any of these. All are likely to cause reactions in people with mustard allergy.

There are various species of mustard plant, and we advise people with mustard allergy to avoid mustard in all its forms.

Symptoms of mustard allergy

The symptoms of a food allergy, including mustard allergy, may come on rapidly (usually within minutes but sometimes up to two hours). Mild symptoms may include nettle rash (otherwise known as hives or urticaria) that could occur anywhere on the body, or a tingling or itchy feeling in the mouth.

More serious symptoms include:

- Swelling of the face, throat and/or mouth
- Difficulty breathing
- Severe asthma
- Abdominal pain, nausea and vomiting

In some cases there is a dramatic fall in blood pressure (anaphylactic shock). This is where the person may become weak and floppy and may have a sense of something terrible happening. This may lead to collapse and unconsciousness.

In a Spanish study of 29 patients with a history of mustard allergy, most had severe reactions (Caballero et al, 2002).

Symptoms occurring more than two hours after eating mustard make food allergy less likely. Your doctor would need to consider a coincidental, non-allergic cause in addition to the possibility of allergy to mustard.

Getting a diagnosis of mustard allergy

Because symptoms can be severe, it is important to see your GP as soon as possible if you suspect you have mustard allergy. Some GPs have a clear understanding of allergy, but allergy is a specialist subject so it is more likely that your doctor will need to refer you to an allergy clinic. Anyone who has suffered anaphylaxis should certainly be referred.

Your GP can locate an allergy clinic in your area by visiting the website of the British Society for Allergy and Clinical Immunology (www.bsaci.org).

Once you get a referral, the consultant will discuss your symptoms with you in detail as well as your medical history. Even for an experienced consultant, mustard allergy is sometimes difficult to diagnose. Skin prick tests and blood tests may help, but positive tests do not always mean the patient will actually have an allergic reaction to mustard. When doubt remains, the consultant may recommend a “food challenge” – where the patient eats a small amount of mustard, increasing the dose gradually, to test whether or not a reaction occurs. This must only be done by an experienced consultant in a medical setting.

Even when there is a positive diagnosis, allergy consultants cannot tell you how severe your next allergic reaction might be. It is not true that each allergic reaction is more severe than the last one. The next reaction might be just the same, it might be mild, or it could be a lot more severe.

Your history may contain important clues about the severity of your allergy. For example, the seriousness of any past reaction and the amount of mustard that caused it are important factors. If you have reacted to a very small amount of a food containing mustard, this suggests your allergy is probably severe.

Supporting people at risk of severe allergies

Also, the presence of asthma – especially when poorly-controlled – is known to be a major risk factor for the occurrence of more severe allergic reactions.

Treating symptoms

If mustard allergy is confirmed, you are likely to be prescribed adrenaline (also known as epinephrine). Adrenaline comes in an injectable form – a preloaded device designed for self-use. If you are prescribed adrenaline, it must be carried at all times – with no exceptions. Always dial 999 immediately after use, as symptoms may return after a short period and more than one injection of adrenaline may be required to control the reaction.

If you are prescribed adrenaline, you will need to know how and when to use your injector. Ask your GP or allergist for advice. You can also find help on the website relevant to the injector you carry.

The injectors prescribed in the UK are Emerade®, EpiPen® and Jext®. For details of each, visit the following websites:

Emerade: www.emerade-bausch.co.uk

EpiPen: www.epipen.co.uk

Jext: www.jext.co.uk

How many injectors should I carry?

The Anaphylaxis Campaign supports the view of the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) and the European Medicines Agency (EMA). Both organisations recommend that medical professionals should prescribe **two** auto-injectors, which patients should carry at all times. This is because some people can require more than one dose of adrenaline or the adrenaline auto-injector device can be used wrongly or occasionally misfire. For further details, visit our web page on [adrenaline](#).

Avoiding mustard

The first line of defence is to avoid foods that contain mustard. It is vital to read food labels carefully every time you shop as ingredients are sometimes changed. As stated above, all pre-packaged food must declare and highlight the presence of major allergens including mustard in the ingredient list even if they appear in small quantities.

The food allergen regulations that cover pre-packed food also apply to the catering sector. When eating out or buying takeaway food, food businesses are required to provide information on allergenic ingredients. This information can be provided in writing and/or orally. If information is provided orally, the food business needs to ensure that there is some sort of written signage that is clearly visible, to indicate that allergen information

is available from a member of staff. Systems should also be in place to ensure that, if requested, the information given orally is supported in a recorded form (in writing for example) to ensure consistency and accuracy.

In some other European countries, food businesses are required to provide the information only in writing. You should question staff directly, asking if mustard is an ingredient of the food you have chosen or whether there is a risk of cross-contamination. Don't be afraid to ask the waiter to check with the chef.

Mustard can be used in a wide range of foods. Examples include mayonnaise, barbecue sauce, fish paste, ketchup, tomato sauce, marinades, processed meats, sausages, piccalilli, pickles, pizza, salad dressings and salad oil.

Mustard seed and mustard oil are often used in Indian cooking, including curries. You may also find mustard used in the dishes of other countries including Russia. In Italy look out for the word 'mostarda,' which is a sweet mustard syrup with fruits to eat as a relish with meats.

The major allergy-inducing proteins in mustard are heat-resistant and are not greatly affected by food processing. Therefore people with mustard allergy will react to mustard in processed or heated meals (Dominguez et al, 1990).

Traditionally mustard is used as a remedy for certain physical complaints. It is said to have laxative, antibacterial, antifungal, antiseptic and anti-inflammatory properties. Check with your pharmacist to see if any medicines you are prescribed, or buy over the counter, contain mustard.

What else might someone with mustard allergy react to?

People who are allergic to a specific food may also react to a different food where the allergy-inducing proteins are similar in structure. This is known as cross-reactivity. If you are allergic to mustard, remain particularly aware of fresh fruits (such as peach, apple, pear, apricot, cherry, plum, kiwi or melon) and nuts. In a Spanish study, 21 out of 34 people with a mustard allergy had cross-activity with fresh fruit, and 20 suffered from allergy to one or more nuts (Vereda et al. 2011). Most of these cases occurred in hay fever sufferers. Allergy to mugwort pollen (a weed that causes late summer hay fever) was especially common.

In another Spanish study of 38 adults with mustard allergy, all of them were sensitised to other members of the botanical family to which mustard belongs (Brassicaceae, which includes cabbage, brussel sprouts, turnip etc.). However only 40% of these had true allergy, mainly to cabbage, cauliflower and broccoli (Figuroa 2005).

If you are allergic to mustard and suspect you may also react to other foods, it is important to discuss this with your allergist.

The key messages

A diagnosis of a food allergy can be daunting but by thinking ahead and employing coping strategies, people affected can get on with their lives.

- Always be vigilant when food is around
- Check food labels
- Be proactive when eating out
- Carry prescribed medication everywhere
- Learn how and when to use your adrenaline auto-injector
- Ensure that asthma is well managed.

References

Caballero T., San-Martin M.S., Padial M.A. et al. Clinical characteristics of patients with mustard hypersensitivity. *Annals of Allergy Asthma and Immunology* 2002;89(2):pp166-71.

Domínguez J., Cuevas M., Ureña V. et al. Purification and characterization of an allergen of mustard seed. *Ann Allergy*. 1990 Apr;64(4):pp352-7.

Figuroa J., Blanco C., Dumpierrez A.G. et al, 2005. Mustard allergy confirmed by double-blind placebo-controlled food challenges: clinical features and cross-reactivity with mugwort pollen and plant-derived foods. *Allergy* 2005 Jan 60 (1): pp48-55.

Vereda A., Sirvent S., Villalba M. et al. Improvement of mustard (*Sinapsis alba*) allergy diagnosis and management by linking clinical features and component-resolved approaches. *Journal of Allergy and Clinical Immunology* 2011;127(5);pp1304-7.

Reviewers

The content of this Factsheet has been **Peer Reviewed by Dr Michael Radcliffe**, Consultant in Allergy Medicine, University College London Hospitals NHS Foundation Trust. He has stated that he has no conflicts of interest in relation to his review of this Factsheet.

Disclaimer – The information provided in this Factsheet is given in good faith. Every effort has been taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About the Anaphylaxis Campaign: Supporting people with severe allergies

The Anaphylaxis Campaign is the only UK wide charity to exclusively meet the needs of the growing numbers of people at risk from severe allergic reactions (anaphylaxis) by providing information and support relating to



Supporting people at risk of severe allergies

foods and other triggers such as latex, drugs and insect stings. Our focus is on medical facts, food labelling, risk reduction and allergen management. The Campaign offers tailored services for individual, clinical professional and corporate members.

Visit our website www.anaphylaxis.org.uk and follow us on Twitter [@Anaphylaxiscoms](https://twitter.com/Anaphylaxiscoms).