

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 fact sheet.

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, and foods that contain these. All are likely to cause reactions in people with mustard allergy.

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

Symptoms of mustard allergy

The symptoms of a true 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) anywhere on the body, or a tingling or itchy feeling in the mouth.



More serious symptoms include:

- Swelling in 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). The authors of the paper advised that mustard allergy should be routinely tested in patients with idiopathic anaphylaxis (anaphylaxis of unknown cause).

Symptoms occurring more than two hours after eating mustard make food allergy an unlikely cause. Your doctor would need to consider a coincidental, non-allergic cause.

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 have no way of telling you how severe your next allergic reaction is going to 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.

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 strongly suspected, and especially when allergy tests have confirmed it, you are likely to be prescribed adrenaline (also known as epinephrine). The adrenaline injectors prescribed in the UK at present are Emerade®, EpiPen® and Jext®. These injectors are easy to use and designed for self-administration. If you are prescribed an injector, it should be available at all times – with no exceptions. Medical attention should still be sought 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 an adrenaline injector, you will need to know how and when to use it. Ask your GP or allergist for advice. You can also find help on the website relevant to the injector you carry.

Emergency treatment of anaphylaxis – what injectors are available?

Pre-loaded adrenaline injection devices – Emerade®, EpiPen® or Jext® – are available on prescription for those thought to be at risk of a severe reaction.

Emerade® is the most recent single use adrenaline auto-injector to become available. It has a needle guard to protect against needle stick injury. Visit www.emerade.co.uk

EpiPen® has a spring-loaded concealed needle. The built-in needle protection keeps the needle covered during and after use. Visit www.epipen.co.uk.

Jext® has a locking needle shield which engages after use, designed to protect against needle injury. Visit www.jext.co.uk.

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. Remember that ingredients are sometimes changed. As stated above, all pre-packaged food sold within the EU, including the UK, must declare and highlight the presence in the ingredient list, of major allergens including mustard, even if they appear in small quantities.

The food allergen labelling laws that cover pre-packed food now also apply to the catering sector. When eating out or buying takeaway food, food businesses will be 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 will need 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 also question staff very directly, asking whether 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 mustard is used to make a sweet mustard syrup with fruits to eat as a relish with meats (look out for the word mostarda).

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 said to be a remedy for certain physical complaints, having 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. A Spanish study of 34 people with mustard allergy found cross-reactivity with certain fruits or nuts to be especially common (Vereda et al, 2011). Amongst those 34 people, 21 also suffered from allergy to fresh fruit (such as peach, apple, pear, apricot, cherry, plum, kiwi or melon) and 20 suffered from allergy to one or more nuts. 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 allergic to mustard, all of them were sensitised to other member of the botanical family to which mustard belongs. 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., Padiá M.A. et al. Clinical characteristics of patients with mustard hypersensitivity. *Annals of Allergy Asthma and Immunology* 2002;89(2):pp166-71.

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Reviewers

The content of this Fact Sheet has been **Peer Reviewed by Dr Michael Radcliffe, Consultant in Allergy Medicine, University College London Hospitals NHS Foundation Trust; and Dr Pierre Dugue, Consultant Allergist, London Bridge Hospital, Chelsea Hospital, London.**

Disclosures - none



Supporting people at risk of severe allergies

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 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).