



Celery Allergy: The Facts

Celery is one of 14 major food allergens that must be declared in the ingredient lists whenever they appear in pre-packed food. The inclusion of celery on this list, approved under EU law, is based on the view that celery allergy is a serious problem in certain European countries such as France, Germany and Switzerland. Based on our experience, celery allergy would appear to be rare in the UK. However, reactions to celery, when they do occur, can be severe for some people.

Celery is used in food in various forms including:

- Celery sticks
- Celery leaves
- Celery spice
- Celery seeds, which can be used to make celery salt

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

People with celery allergy also need to be aware of the issue of allergy to celeriac. Celery and celeriac are varieties of the same species, which are the result of selection and cultivation over hundreds of years. Although our factsheet is entitled Celery Allergy, the reader must assume that they should also avoid celeriac. It is probable that both cause reactions for people with this food allergy, although we know of no published evidence to confirm this.

If you know or suspect you are allergic to celery, the most important message is to visit your GP and seek a referral to an allergy specialist even if your symptoms have been mild.

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 food allergy?

Food allergy occurs when a person's immune system reacts inappropriately to a food. The first stage of the process is called sensitisation – when the immune system's "memory" registers the food as a threat. Antibodies to that food are produced, and at a subsequent encounter, these antibodies connect with the food's proteins and trigger the release of certain substances in the body, such as histamine. This results in an allergic reaction.

The symptoms of celery allergy

The symptoms of a food allergy, including celery allergy, may come on rapidly (usually within minutes but sometimes up to two hours).

Symptoms of celery allergy may include some or all of the following:

- Nettle rash (otherwise known as hives or urticaria) anywhere on the body
- Swelling or itching in the face, mouth or throat
- Difficulty breathing
- Severe asthma
- Abdominal pain, nausea and vomiting
- Anaphylaxis (a life-threatening allergic reaction affecting several parts of the body)

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

Celery can also trigger a condition known as pollen food syndrome. The people affected become allergic to pollen first of all, experiencing the symptoms of hay fever, and later become sensitised to celery or celeriac. This is because the proteins in the pollen are similar in structure to those in the food and are recognised by the person's immune system as such. The condition was referred to in the past as oral allergy syndrome.

For most people, the symptoms caused by pollen food syndrome are not serious. There may be an itchy feeling or tingling in the mouth, throat or lips, or perhaps a slight swelling. Usually the symptoms remain mild and do not progress to other parts of the body. The trigger is **raw** celery – reactions to cooked celery are unlikely for people with pollen food syndrome. However we advise anyone affected to seek medical advice to ensure they are not one of those people who is at risk of a more serious reaction.

How common is allergy to celery?

No one knows for sure, although estimates suggest that celery allergy is one of the more common pollen-related food allergies among adults in central Europe. For example, one study found that five out of 107 cases of severe anaphylaxis in France in 2002 were due to celery (Moneret-Vautrin et al 2004). The prevalence of celery allergy in the UK is unknown. We believe it to be low compared with allergies to other foods such as egg, milk, fish and nuts.

Getting a diagnosis of celery allergy

Because symptoms can be severe in some cases, it is important to see your GP as soon as possible if you suspect you have celery 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. Skin prick tests and blood tests may help, but positive tests do not always mean the patient will actually have an allergic reaction to celery. When doubt remains, the consultant may recommend a "food challenge" – where the patient eats a small amount of celery, 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.

Your history may contain clues about the severity of your allergy. For example, the seriousness of any past reaction and the amount of celery that caused it may prove to be important factors. If you have reacted to a very small amount of a food containing celery, 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.

If symptoms occur only in the mouth, the likelihood is that your allergy will remain mild but medical advice on this **must** be sought.

Treating symptoms

Mild allergic reactions can be treated with antihistamines.

If your GP or allergist believes you are at risk of a more severe reaction, 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.

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.emerade-bausch.co.uk

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

If you are prescribed an adrenaline injector, you will need to know how and when to use it. It is vital that you ask your GP or allergist for training. You can also find help on the website relevant to the injector you carry.

If in addition you have asthma it is important to ensure that it is treated to achieve good control. This should be discussed with your GP or allergist.

Avoiding celery

The first line of defence is to avoid foods that contain celery or celeriac. It is vital to read food labels carefully every time you shop. Remember that ingredients are sometimes changed. The good news is that all pre-packaged food sold within the EU, including the UK, must declare and highlight the presence, in an ingredient list, of major allergens including the presence of celery or celeriac even if they appear in small quantities.

Watch out for “may contain” warnings, which indicate the possibility of cross-contamination during the food production process. We advise people to heed these warning statements whenever they appear.

It is helpful that 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 celery, 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 celery 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.

A stick of celery or celeriac is easy to recognise but other forms of the food are less easy to spot. For example, celery salt can be used in a variety of food including soups, sauces, stews, stocks, bouillons and seasonings. It can also be used as a seasoning for tomato juice.

Other possible sources of celery include:

- Canned soups
- Stock cubes
- Salads
- Pre-prepared sandwiches
- Crisps
- Spice mixes
- Marmite
- Batter for frozen foods

For some people, allergic reactions to cooked celery will take place even after high temperatures are used (Vieths et al 2002; Ballmer-Weber et al 2002).

Exercise induced anaphylaxis

In 2013, researchers reported on the case of a patient who suffered anaphylaxis to celery after strenuous exercise (Chen et al 2013). Ingestion of celery **without** exercise produced only itching around the mouth. The severe reaction suffered by the patient is termed food-dependent, exercise induced anaphylaxis (FDEIA). Wheat is often the culprit food, but in the case reported here it was celery. Anyone who believes they may have a food allergy that is linked to exercise should ask their GP to refer them to an 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

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Reviewers

The content of this fact sheet has been peer-reviewed by Dr André C. Knulst, Dermatologist, Dept. Dermatology/Allergology, UMC Utrecht, Netherlands; and Prof John Warner, Professor of Paediatrics and Head of Department, Imperial College, London (at the time of publication). The Anaphylaxis Campaign is not aware of any conflicts of interest relating to the input given by these reviewers.

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).v8