

View this article online at: patient.info/news-and-features/nightshade-allergy-aubergine-potatoes-peppers-tomatoes

Could you have a nightshade allergy?

Do you have a sneaking suspicion that meals containing aubergines, peppers, or potatoes don't quite agree with you? We explore the difference between a nightshade allergy and a nightshade intolerance, plus the symptoms these foods can trigger in those who are susceptible.

What are nightshades?

First things first, what *are* nightshades? You wouldn't be far off the mark if your mind drifted to deadly nightshade, a plant the Ancient Romans used as a poison, otherwise known as 'devil's berries'.

But many of us enjoy nightshade foods, which are foods that belong to the nightshade family *Solanaceae*. Nightshade vegetables include tomatoes, aubergines, potatoes, cayenne pepper, green pepper, pimento, bell peppers and paprika. While these are usually staples in a healthy, balanced diet, some people develop an intolerance or allergies to eating nightshade.

Nightshade allergy vs intolerance

Solanine is a substance common to all nightshade plants, in varying proportions. Its main purpose is to defend the plant from predators. In the agricultural crops we consume it is perfectly safe, but some people can't tolerate it. That doesn't mean you're allergic, however.

What is nightshade intolerance?

"Allergy to nightshade family is very infrequent," explains allergy and immunology consultant Professor Michael Rudenko. "More often we detect sensitisation or clinically relevant food allergy to some members of the family. By 'intolerance' we understand a condition that is related to problems digesting these foods. Usually, **intolerance** compared to allergy is not dangerous and happens because of a deficiency of enzymes that help to break down a particular food."

Nightshade intolerance symptoms

While an allergy can cause life-threatening [anaphylaxis](#), the symptoms of nightshade intolerance are uncomfortable rather than dangerous.

Nightshade intolerance can manifest as digestive issues including loose stools, [bloating](#), and nausea. Other common signs of food intolerance include [hives](#), skin rashes, itchy eyes and excessive mucus.

Diagnosis

There is a specific test for a nightshade allergy, but nightshade intolerance is a little trickier to diagnose. Elimination diets are the [gold standard for diagnosing dietary intolerance](#).

"With regard to intolerance, there is no laboratory test that can help," emphasises Rudenko. "Only a food and symptoms diary can help to determine primary intolerance. It also can be secondary to other conditions like autoimmune diseases - for example, [coeliac disease](#), leading to the inflammation, and the digestion of other proteins is impaired as a result of it. [In which case], after the main condition is diagnosed and treated it usually disappears."

Can nightshades cause autoimmune conditions?

Despite the health benefits of nightshades, many people with autoimmune conditions have chosen to eliminate them from their diet.

However, at present, there is no research to support the idea that nightshade fruit and vegetables contribute to autoimmune disorders.

Nightshades and IBD

Inflammatory bowel disease ([IBD](#)) is a group of diseases including Crohn's disease that cause the digestive tract to become inflamed.

With these diseases, the intestinal lining doesn't work properly, so it allows harmful substances to enter the bloodstream. When this happens, the immune system attacks these substances, and the bowels become inflamed. This immune response may result in pain, diarrhoea, and malabsorption.

There is [some research](#) to support the idea that the alkaloids contained in nightshades may worsen IBD symptoms. However, this study was conducted on mice and used doses of alkaloids far in excess of those found in a typical serving of nightshade vegetables. It's important to remember that more research is required to conclusively claim that nightshades aggravate IBD.

What is an elimination diet?

An elimination diet involves cutting out certain foods from your diet and later on re-introducing them one at a time, all the while monitoring your symptoms. Elimination diets are most effective when you keep a food diary to help keep track of your symptoms.

For years Pollyanna, 35, suffered from unexplained irritable bowel syndrome (IBS) symptoms and infections. She underwent an elimination diet, initially thinking her symptoms were down to gluten intolerance. But cutting out gluten didn't help.

How might an elimination diet help with nightshade intolerance?

"I thought of [nightshades] after reading that nightshades can be a problem for asthmatics. I have asthma and my chest was tightening," she explains. "I tried each nightshade vegetable in turn on separate days and every time I reacted. I get very bloated three-four hours after eating, experience stomach and gut cramps, and have a tight chest, followed by diarrhoea the next day." After excluding nightshade foods from her diet and experiencing an amelioration of symptoms, she realised nightshades were the real culprit behind her digestive issues and so removed nightshades from her diet.

Avoidance is recommended in the case of an intolerance, to reduce related symptoms. However, some people with food intolerances can tolerate a small amount of a culprit food. This differs from food allergy, where even the tiniest exposure can trigger a sometimes life-threatening reaction.

Identifying nightshade foods

Nightshade foods are staples in many cultures; tomatoes and potatoes are particularly ubiquitous, forming the base of many dishes in British, Italian, Mexican and Indian cuisines. Aubergines and bell peppers, also called eggplants in the US, often end up in stir fries or stews.

If you're sensitive to nightshade foods, or in the process of an elimination diet, it pays to call restaurants prior to dining to inform them of your intolerance, or read ingredient lists and learn the different terms for the same foods in order to avoid nightshades. Potato starch, often called maltodextrin, is a common thickening agent used in sauces, salad dressings, marinades and processed foods. Paprika is sometimes used in food colouring, as well as seasonings.

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Egton Medical Information Systems Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our [conditions](#).

Authored by:	Peer Reviewed by: Dr Sarah Jarvis MBE, FRCGP	
Originally Published: 20/11/2023	Next review date: 22/05/2019	Document ID: doc_30938

View this article online at: patient.info/news-and-features/nightshade-allergy-aubergine-potatoes-peppers-tomatoes

Discuss Could you have a nightshade allergy? and find more trusted resources at [Patient](#).



To find out more visit www.patientaccess.com
or download the app



Follow us

