

Allergy to Fish: The Facts

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

Common varieties of fish eaten in the UK include cod, plaice, haddock, herring, trout, salmon and tuna. There are many other varieties and all are capable of triggering allergic reactions.

If you know or suspect you may be allergic to fish, the key message is to seek medical advice by visiting your GP.

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 are the symptoms of food allergy?

The symptoms of a food allergy can come on rapidly. These 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 may include:

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

The term for this more serious form of allergy is anaphylaxis. In extreme cases there could be a dramatic fall in blood pressure (anaphylactic shock). The person may become weak and floppy and may have a sense of something terrible happening. This may lead to collapse and unconsciousness. On rare occasions, death can occur.

How can I get a diagnosis?

If you know or suspect you are allergic to fish, it is important to see your GP as soon as possible. Some GPs have a clear understanding of allergy, but as allergy is a specialist subject your doctor may need to refer you to an allergy clinic. The results of skin prick tests and blood tests will help form a clear picture.

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).

In many cases, doctors cannot easily determine whether a food allergy is mild or severe. However, there will be certain clues. For example, the severity of the reaction you suffered and the amount of fish that caused it are important factors. If you have reacted to a very small amount, this suggests your allergy is probably severe. If you have asthma you may face a higher risk of severe reactions, especially if your asthma is poorly-controlled.

Allergy to fish often begins in childhood and is likely to be lifelong, but it can also begin in adulthood (Tsabouri et al., 2012).

Treating symptoms

If severe fish allergy is strongly suspected you should have an emergency treatment plan which will include antihistamines and 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. Your injector should be available at all times – with no exceptions. Medical attention should be sought after use as symptoms may return after a short period and more than one injection of adrenaline may be required.

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

Is it necessary to avoid all fish?

People who are allergic to one type of fish have a high chance of reacting to others. For example, a study of nine common edible fish showed that cod, salmon, pollock, herring and wolf-fish share similar allergy-inducing proteins and are therefore very likely to cross-react (Torres Borrego et al., 2003). There is also a high chance of cross-contamination, for example in the fish market or on the supermarket counter where different types of fish are in close contact. For those reasons, people with fish allergy are normally advised to avoid all types of fish.

Shellfish (crustaceans and molluscs)

We are aware of no evidence to suggest that people who are allergic to fish are at significantly increased risk of allergy to shellfish such as crustaceans (which include shrimp, prawns, crayfish lobster and crab) and molluscs (which include squid, octopus, scallops and oysters). Uncommonly, people may suffer allergy to both groups (fish and shellfish), but this is more likely to be due to coincidence than cross-reactivity. If you suspect you are allergic to shellfish as well as fish, discuss this with your doctor.

People with allergies to crustaceans or molluscs are encouraged to read our separate fact sheet on shellfish allergy <https://www.anaphylaxis.org.uk/wp-content/uploads/2019/02/Shellfish-Allergy-The-Facts.pdf>

Pre-packaged foods

If you have a food allergy, always check ingredients. Under European law, all pre-packaged food sold within the EU must declare and highlight major allergens, including the presence of fish, crustaceans and molluscs, even if they appear in minute quantities.

Eating out

In restaurants, tell staff about your allergy. Even if you think you have chosen a safe dish still query the ingredients, including those in stocks and soups. Remember that everyday meals such as shepherd's pie might contain fish if Worcestershire sauce (which contains anchovies) is an ingredient.

Check to find out if there is any risk of cross-contamination. Find out what your food is fried in and whether the oil has been used for anything else. For example, your chips could be fried in the same oil as fish (Lehrer et al., 2007).

Caterers are governed by strict laws. When you eat out or buy from a takeaway, the food business will be required to provide information on major allergenic ingredients. This information can be provided in writing and/or by word of mouth. If information is provided by word of mouth, the food business will need to ensure there is written signage clearly visible to indicate that you can obtain allergen information from a member of staff. Systems must be in place to ensure the information you receive is accurate. These rules also apply to food sold loose – for example on deli counters or in-store bakeries.

Reactions to fish vapour

If your allergy to fish is particularly severe, there is a chance you may react when you breathe in the vapours while fish is being cooked. If you think this applies to you, your family or friends should avoid cooking fish in your presence.

In 2000, a study found that fish allergen was detectable in the air at an open-air fish market (Taylor et al., 2000). Our expert reviewer of this fact sheet agreed that such reactions can occur but believes anaphylaxis to be highly unlikely in this scenario. If your allergy is particularly severe, this is something to be discussed with your doctor.

Dishes, products and ingredients to look out for

Caesar salad and Caesar dressings normally contain anchovies. They might not be easily noticed.

Worcestershire Sauce contains anchovies. Products labelled “Worcester Sauce” may or may not contain anchovies so it is important to read the label.

Fish sauce is commonly served here in the UK and also elsewhere in the world – notably in the Far East.

Scampi the name given to large prawns fried in breadcrumbs but white fish can be used. Pre-packed scampi should make the ingredients clear on the label.

Examples of foreign dishes to watch out for:

Kedgeriee
Paella
Bouillabaisse
Gumbo
Jambalaya
Fritto Misto
Etouffee

If you see any of these on sale, check with staff to find out exactly what ingredients are used.

Personal care products

Food ingredients such as oils can turn up in non-food products including cosmetics, toiletries, medicines and bath and massage oils. As an example, our medical advisers know of a case where an eye shadow that contained fish scales (to make the wearer’s eyelids glitter) caused severe facial dermatitis in a teenage girl with a known fish allergy. We advise that if you react to any product in this way, stop using it and consult your doctor.

Omega 3

There is no definitive research showing whether Omega 3, when derived from fish, will trigger reactions in people with fish allergy. We advise people with fish allergy to avoid Omega 3 unless they know it has been derived from a non-fish source.

Fish gelatin

Fish gelatin is an alternative to beef or pork gelatin. It is extracted from the skin and bones of several fishes, such as cod, pollock, salmon or tuna. A 2008 study showed that fish gelatin can be a trigger for severe allergic reactions (Kuehn et al., 2009). Anyone who is fish-allergic should check food labels to see whether the source of gelatin is fish or not. Products that may have fish gelatin as an ingredient include marshmallow and nougat.

Occupational allergy and asthma

Allergic reactions among workers in the seafood industry have become more common because of their exposure to seafood (Jeebhay, 2011). Symptoms include occupational asthma, contact rashes, rhinitis and conjunctivitis. The problems seem to be caused by either aerosolized tiny particles of fish or shellfish or cooking steam. Any seafood worker who has experienced allergy-like symptoms is advised to seek medical advice.

Other causes of symptoms

Some people who suspect they are allergic to fish may in fact suffer from one of these conditions:

- **Anisakis simplex** (also known as the herring worm) is a common parasite present in many marine fish and shellfish (Olivares et al., 2015). Not only can it cause human infection, it can also cause allergic reactions in a very small minority of people. People reacting to anisakis may think they have fish or shellfish allergy. Anyone reacting to a particular shellfish or fish that they have previously eaten with no problem should consider the possibility that the herring worm was responsible and seek medical advice.
- **Histamine poisoning:** Histamine can sometimes be present in spoiled fish (especially tuna and mackerel) and can cause a condition not unlike allergy called scombroid poisoning (Attaran & Probst, 2002). Unlike an allergy, this would often affect everyone who ate the offending food, although some people might be more susceptible than others.

Your doctor should be able to confirm whether you have an allergy or whether one of the above conditions caused your symptoms.

References

Attaran, R.R. & Probst, F. (2002). Histamine fish poisoning: a common but frequently misdiagnosed condition. *Emergency Medicine Journal*. [Online]. 19 (5). p.p. 474–475. Available from:

<http://emj.bmj.com/cgi/doi/10.1136/emj.19.5.474>. [Accessed: 10 June 2016].

Jeebhay, M.F. (2011). Occupational allergy and asthma in the seafood industry – emerging issues. *Occupational Health Southern Africa*. 17 (6). p.pp. 4–13.

Kuehn, A., Hilger, C., Hentges, F., Kelso, J.M., Jones, R.T., Yunginger, J.W., Sakaguchi, M., Naayama, T., Inouye, S., Wang, J., Sicherer, S.H., Taylor, S.L., Kabourek, J.L., Hefle, S.L., Sakaguchi, M., Toda, M., Ebihara, T., Irie, S., Hori, H., Imai, A., al., et, Hamada, Y., Nagashima, Y., Shiomi, K., Shimojo, N., Kohno, Y., Shibata, R., al., et, André, F., Cavagna, S., André, C., Hansen, T.K., Poulsen, L.K., Skov, P.S., Hefle, S.L., Hlywka, J.J.,

Taylor, S.L., al., et, Taylor, S.L. & Hefle, S.L. (2009). Anaphylaxis provoked by ingestion of marshmallows containing fish gelatin. *Journal of Allergy and Clinical Immunology*. [Online]. 123 (3). p.pp. 708–709. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0091674908023762>. [Accessed: 10 June 2016].

Lehrer, S.B., Kim, L., Rice, T., Saidu, J., Bell, J. & Martin, R. (2007). Transfer of Shrimp Allergens to Other Foods Through Cooking Oil? *Journal of Allergy and Clinical Immunology*. [Online]. 119 (1). p.p. S112. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0091674906028636>. [Accessed: 10 June 2016].

Olivares, F., González-Muñoz, M., Carballeda-Sangiao, N., Rodríguez-Mahillo, A., Careche, M., de Las Heras, C., Navas, A. & Tejada, M. (2015). Removal of Anisakis simplex allergens from infected fish during the washing step of surimi production. *Journal of the science of food and agriculture*. [Online]. 95 (13). p.pp. 2626–31. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25378259>. [Accessed: 10 June 2016].

Taylor, A. V, Swanson, M.C., Jones, R.T., Vives, R., Rodriguez, J., Yunginger, J.W. & Crespo, J.F. (2000). Detection and quantitation of raw fish aeroallergens from an open-air fish market. *The Journal of allergy and clinical immunology*. [Online]. 105 (1 Pt 1). p.pp. 166–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/10629467>. [Accessed: 10 June 2016].

Torres Borrego, J., Martínez Cuevas, J.F. & Tejero García, J. (2003). [Cross reactivity between fish and shellfish]. *Allergologia et immunopathologia*. [Online]. 31 (3). p.pp. 146–51. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/12783765>. [Accessed: 10 June 2016].

Tsabouri, S., Triga, M., Makris, M., Kalogeromitros, D., Church, M.K. & Priftis, K.N. (2012). Fish and shellfish allergy in children: review of a persistent food allergy. *Pediatric allergy and immunology : official publication of the European Society of Pediatric Allergy and Immunology*. [Online]. 23 (7). p.pp. 608–15. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22554093>. [Accessed: 10 June 2016].

Reviewers

This fact sheet was peer reviewed by Dr Shuaib Nasser, Consultant in Allergy and Asthma at Cambridge University Hospitals NHS Foundation Trust; and Dr Isabel Skypala, Clinical Lead for Food Allergy, Royal Brompton and Harefield NHS Foundation Trust. Neither reviewer has declared any conflict of interest in relation to their review of this work.

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).