

## **Food Hypersensitivity Science Communication Resource Plain Text**

### **Food Hypersensitivity**

Food hypersensitivity is an umbrella term that encompasses a repeatable adverse reaction to food, this can be associated with IgE-mediated food allergy, non-IgE food allergy or food intolerances.

In this resource you will find information on:

- IgE-mediated food allergy including information on severe anaphylaxis reactions,
- Coeliac disease (which is a type of non-IgE mediated food allergy),
- Food intolerances.

### **IgE-mediated food allergy**

#### **What is IgE-mediated food allergy?**

IgE-mediated food allergy is the most common type of food allergy and is an immune reaction that occurs when an allergen from a specific food is encountered.

The immune system (the body's defence) mistakes the protein found in the food as a threat and this results in an allergic reaction where a type of antibody called immunoglobulin E is produced (IgE).

#### **How do I know I have IgE-mediated food allergy?**

- Symptoms of an allergic reaction vary in severity between different people.
- Some people may experience very severe reactions known as anaphylaxis whilst others may experience more mild symptoms of food allergy.
- Reactions often occur rapidly within minutes of encountering the allergen but in some instances it can take up to 2-3 hours to experience symptoms.

Mild/moderate symptoms can include:

- itchy and teary eyes,
- itchy ears, stuffy nose,
- sneezing,
- swollen lips or tongue,
- skin rash or red and itchy skin, urticaria/hives,
- vomiting, nausea, diarrhoea.

A more severe reaction results in anaphylaxis.

### **Anaphylaxis**

#### **What is anaphylaxis?**

Anaphylaxis is a severe type of allergic reaction. This happens because your body has come into contact with something it thinks is harmful. So our immune system (which protects us against bacteria, virus and cancer cells) tries to attack it but it reacts too strongly and causes a lot of damage to its surroundings and beyond.

There are different triggers for anaphylaxis: Medications, bee stings and food items. Food reactions are most common.

14 Common food allergens:

Gluten	Milk	Molluscs
Eggs	Tree nuts	Lupin
Fish	Celery	Sulphite
Peanuts	Mustard	Crustacean
Soya	Sesame	

\*\* other rarer food allergens are not mentioned

### **How do I know I have anaphylaxis to food?**

Symptoms of food induced anaphylaxis occur often within 2 minutes but can take up to 2 hours to arise after encountering the trigger allergen . You may also experience symptoms of a less severe reaction alongside symptoms of anaphylaxis.

### **Think ABC:**

A is for Airways: Hard to swallow / speak, Coughing, Vocal changes, Swollen tongue

B is for Breathing: Difficulty breathing, Wheezing

C is for Circulation/ Consciousness: Feeling clammy, Sudden fall in blood pressure causing loss of consciousness/ unresponsive, Confused and light headed

### **What happens next?**

Anaphylaxis is very serious. You will need to go to the hospital and get help. If you feel any of the symptoms mentioned above after trying a food item, stay calm and contact 999 or get the nearest adult.

### **In the hospital**

Oxygen mask + fluids through your veins (IV Fluids)

Adrenaline: works quickly to calm down your immune cells

Antihistamines to reduce inflammation

### **After the hospital**

1. You will be discharged with 2 adrenaline injection pens.
2. Allergy clinic- you will get a doctor and a specialist nurse who will explain about allergies and avoiding having another episode.
3. You should now avoid that food source at all times.

### **Food allergy reactions and Anaphylaxis**

#### **How can I avoid it?**

1. Always read the labels
2. Ask for allergy menus at cafes and restaurants
3. Always carry your adrenaline injection or allergy medication

4. Be prepared! Make sure your friends, teachers, extended families know about your allergy
5. If you have asthma, make sure you are taking regular medications.

**Resources:**

<https://www.allergyuk.org/>

<https://www.anaphylaxis.org.uk/>

**What is Coeliac disease**

**Basic Facts**

- Coeliac disease is a long term autoimmune condition caused by gluten. Gluten is something that is found in bread, cakes etc. It is a type of non-IgE mediated food allergy which means that it involves the immune system and IgE antibodies are not produced.
- When a person with coeliac disease ingests gluten it causes an autoimmune response where the immune system attacks its own tissues when gluten is ingested.
- During the body's immune response to gluten, hair like projections(villi) in the small intestine are damaged. This means that the small intestine can't absorb the nutrients found in food as well because the villi are damaged.

**Symptoms**

- There are a variety of different symptoms that a person with coeliac disease can suffer with but the symptoms developed depends on the person.
- Some common symptoms are: bloating, constipation, diarrhoea, indigestion
- There are also some less common symptoms:
  - feeling tired
  - red itchy rashes
  - unintentional weight loss
  - vitamin deficiencies
  - hair loss
  - neurological problems (nerves)

**Coeliac disease vs Gluten intolerance**

**What are the differences?**

- Intolerances are non-immune mediated meaning they do not involve the immune system and involve the digestive system instead whilst coeliac disease involves the immune system.
- Coeliac disease can go underdiagnosed for a long time which is why some people don't realise they have it until later life. When a person with gluten intolerance ingests something containing gluten, the body struggles to digest it which causes side effects.
- Some symptoms for gluten intolerance: Stomach pain, bloating, skin rashes
- These symptoms don't usually appear until hours after ingesting gluten. So the effects of gluten aren't immediate or serious after ingesting gluten. So with coeliac disease symptoms are immediate and typically more serious.

### **Who suffers with Coeliac disease?**

- There are many groups of people that suffer with coeliac disease. Sometimes its caused by genetics or risk is increased by having another illness.
- People suffering with Type 1 diabetes, autoimmune thyroid disease and Addison's disease etc have an increased risk of developing coeliac disease.
- People who have a family history of coeliac disease are also more prone to developing it. 1% of the uk population is estimated to have celiac disease. However only 24% of the 1% are diagnosed. (celiac uk)

### **Psychological effects**

There are many psychological effects that having something like coeliac disease can cause. Such as worrying about eating in a restaurant though fear of eating gluten. Or even worrying about going on holiday

### **Food intolerance**

Unlike food allergy, food intolerance does not trigger an immune response so are considered food allergy. Instead food intolerances involved the digestive system. Food intolerance is most commonly caused by an absence of digestive enzymes or by sensitivity to certain chemicals. The reaction after ingesting a problematic food item takes longer and is usually less severe. Trace amounts do not usually cause any problems, unlike in people with allergy.

Common types of intolerances include lactose, wheat, gluten, caffeine, histamine, additives such as artificial sweeteners, colouring, or other flavourings.

### **Symptoms**

- Digestive issues such as indigestion, bloating, cramps, constipation, diarrhoea
- Cold symptoms
- Headaches & Fatigue
- Skin problems (such as rash, eczema or psoriasis)

The reaction typically occurs within hours (up to two days) after consumption and only when ingested. It might be tricky to spot as commonly eaten foods such as dairy or gluten tend to be the culprits.

### **Common types of intolerance**

#### **Lactose intolerance**

Lactose is a carbohydrate present in dairy products (milk, cheese, yoghurt..).

Lactose intolerance is caused by the lack of digestive enzyme lactase that breaks down lactose in your gut. If your body does not produce enough lactase (digestive enzyme), lactose cannot be digested effectively, causing cramps, bloating, abdominal pain (belly ache).

## **Gluten Intolerance**

Gluten (wheat) and gluten like proteins are present in wheat, rye and barley. Intolerance signifies the inability to digest gluten effectively, causing indigestion, abdominal pain, bloating, cramps.

## **Dairy alternatives**

- plant-based milks: soya, almond, coconut, oat (not for gf)
- plant-based butter
- plant-based yoghurt: soya, almond, coconut
- vegan cheese

## **Gluten free grain alternatives**

- rice, corn/maize, gluten-free oats, buckwheat
- gluten-free pasta
- gluten-free bread
- rice noodles

## **How to spot intolerance**

Determining whether you have an intolerance can be tricky as the symptoms might be similar to an allergy. Always check with your GP. Mind that symptoms might change so can the severity of response.

## **Discomfort**

Have you noticed feeling unwell or bloated? Do you suffer from recurring headaches or get a runny nose regularly?

## **Look for patterns**

Does your belly hurt every time you eat a sandwich? Do you get cramps after drinking milk? Is your nose runny? Any repeating reactions or discomfort after eating food can hint a potential intolerance.

## **Worsened mental health**

intolerance can affect your mental health, it has been linked to anxiety and depressive symptoms. Current research is focused on understanding the link between gut flora and mental health

## **Consult your GP**

If you have suspicion for intolerance or experience persistent digestive problems, talk to your GP who might order you to start an elimination diet.

If you have a suspicion you might have a food intolerance, visit your GP, who will perform a physical examination and likely some tests in order to eliminate the possibility of allergy, coeliac disease or IBS.

## **I have an intolerance... what now?**

### **AVOIDANCE DIET**

If you're confident you are intolerant to a particular food item, the only way to manage this is to stop eating the foods that trigger the reaction.

### **Living with intolerance**

Living with food intolerance can be frustrating and even worrying as you need to be careful what foods you are eating and what is every meal made of. This can cause nervousness when eating out as you often need to enquire about ingredients present in meals. No need to worry, living with intolerance is manageable, it just takes some getting used to it.

### **Eating out**

- Always check with the staff or look up the menu beforehand, many restaurants nowadays mark common allergens (problematic food items) in the menu
- When eating at a friends house, always make sure they are well informed about your condition and that they only provide you with food that is safe for you
- Beware of cross-contamination = the possibility of trace amount of the allergen used in the kitchen contaminating your meal
- Restaurant chains are typically very good at providing information about ingredients etc., as they follow strict policies, where contents and preparation are monitored

### **Free from**

- Check the labels
- Choose products marked Free-from

### **Better safe than sorry**

- Having to ask about what the food contains all the time might be uncomfortable but it is certainly not something to be embarrassed about: Your health comes first
- The more experience you get, the easier and more automatic it becomes
- Reach out for support (family, friends, groups)
- You can learn some hacks or useful tips from blogs or forums

### **Travelling**

- Look up the dining options beforehand
- Learn whether free-from products are available in the area/country you are travelling to
- Search for blog posts or reviews of people with the same condition, who had been to the place of your travel
- Take an emergency food supply with you (e.g. bars)

### **Checklist**

- Avoid eating products or meals when you are not sure what they contain
- Products which do not have ingredients clearly marked on the packaging
- Check the menu beforehand and check with the restaurant
- Inform your friends and wider family

## **Quick Q&A**

What to do if I am unsure what the food contains?

When eating out, always ask or if you are unsure, avoid it. Better safe than sorry.

I miss eating (...). How to learn to cope with having to avoid a certain food item?

Look for alternatives. In the UK lots of free-from alternatives are available to cater for people with allergies and intolerances.

If I have a food intolerance of (..), will continue eating it harm me?

It would mean you continue to experience unpleasant symptoms.

Is it permanent?

Food intolerances are usually permanent

What is cross-contamination?

It is the possibility of trace amount of the allergen (used in the kitchen) contaminating your meal.

## **Meet the team who created this resource**

Hi I'm Jana.

I am currently a fourth year Psychology and Counselling student at Abertay. I am gluten and dairy intolerant and I know how much I struggled with adjusting to it. I thought making it easier for others with intolerance through the LUNA project was a great opportunity. It was a fun group experience, plus it helped me with expanding my design skills!

Hi I'm Emily.

I am an undergraduate student in my first year studying Psychology at the University of York. I decided to get involved with the LUNA project because I really wanted to be part of something that would help children understand allergies. Knowing that something I helped to create will be distributed to so many children is really exciting. I have also loved working with different people who I wouldn't have had the chance to meet if I hadn't taken part.

Hi I'm Simran.

I am a 5th year medical student from Edinburgh. I am really interested in medical education so hearing about the opportunity to work with the Luna Project to make a resource for youth on chronic medical conditions was definitely right up my street! I have really enjoyed working with my group and learning more about allergies. It was great having Ayah there as an expert to learn more about the science behind allergies and the new updates on the topic. I have really enjoyed researching about anaphylaxis and designing a leaflet about it. I hope that its useful!

Hi I'm Ayah.

I was the supervisor and also the expert my experience for this resource. I work in allergy regulation as an Allergen Risk Assessor (Higher Scientific Officer). I decided to be a part of this project because I want to increase awareness about food hypersensitivities. I have food allergies myself and growing up there was never any resources I could find that was targeted

towards children and young adults to help me and my friends (allies) learn more about my food hypersensitivities so I wanted to be a part of creating one!