

Your quick guide to: Reactions to Wheat

Wheat is an ingredient in a wide range of foods. Reactions to wheat can vary and may be due to:

- IgE mediated (immediate allergy)
- Non IgE mediated (Delayed allergy)
- Coeliac Disease (an autoimmune response)
- Fermentation in the gut due to fructans (carbohydrates) in wheat
- Gluten sensitivity

Some people also react to other grains such as rye and barley which contain similar proteins to wheat. Your doctor or dietitian will be able to advise whether you also need to avoid these grains as well as oats.

IgE mediated allergy (immediate)

This type of reaction is caused by the body producing IgE antibodies to one or more proteins found in the wheat grain. Allergic reactions to wheat and other cereals are most common in children, however adults can also develop wheat allergy. Symptoms of IgE mediated wheat allergy can occur from within minutes to up to 2 hours after ingestion and include rhinitis, asthma, hives (urticaria), swelling (angio-oedema) or anaphylaxis. There may also be vomiting, diarrhoea, abdominal pain and a flare up of eczema.

Wheat dependant exercise induced Anaphylaxis

Some people only experience reactions to wheat when they have exercised after eating it. These reactions can be severe and is known as 'wheat dependant exercise induced anaphylaxis'. Inhaling wheat flour can also cause asthma-type symptoms; this is often referred to as 'Baker's asthma'.

Diagnosis is made by using a combination of case history and skin prick tests and/or specific IgE blood tests. Further specialist allergy tests may be necessary. These tests should be interpreted by a health professional with the relevant experience.

Non IgE mediated allergy (Delayed)

This type of reaction does not involve

IgE antibodies can occur from between several hours to a number of days after eating wheat. e.g. diarrhoea or worsening of eczema.

Unfortunately, tests are unhelpful for this type of reaction, so diagnosis is made using a combination of symptoms history and a trial of exclusion and reintroduction. As wheat is a major part of the diet, this should only be undertaken with the supervision of an experienced Dietitian.

Coeliac Disease

Coeliac disease is not an allergy or intolerance but is an autoimmune disease triggered by gluten proteins found in wheat, rye and barley. The reaction causes damage to the lining of the small bowel which decreases the ability of the gut to absorb nutrients and can lead to nutritional deficiencies.

Some people are asymptomatic and others present with symptoms of bloating, diarrhoea, nausea, wind, constipation, tiredness, sudden or unexpected weight loss, hair loss, joint or bone pain, pins and needles, infertility or repeat miscarriages and anaemia. Some people with coeliac disease will also have a skin condition called, 'dermatitis herpetiformis' which is not as common as coeliac disease.

Diagnosis for coeliac disease is by blood testing and/or a biopsy of the gut lining. A biopsy of the skin is taken to diagnose dermatitis herpetiformis. Gluten must be a regular daily part of the diet for at least 6 weeks before these tests are carried out, otherwise they will not be accurate. For more information on the diagnosis and management of Coeliac Disease, see www.coeliac.org.uk, or call the helpline on 0333 332 2033.

Wheat Intolerance

An intolerance is different to IgE and non IgE mediated allergy as it does not involve the immune system. Many people experience IBS-type symptoms such as bloating, wind, gurgling and abdominal pain after eating wheat which can be due to the high level of fructans (a type of

Key facts:

Symptoms of IgE mediated wheat allergy occur within minutes or up to 2 hours after ingestion and include **rhinitis, asthma, hives** (urticaria), **swelling** (angio-oedema) or **anaphylaxis**.

Some people only experience **reactions to wheat** when they have **exercised after eating it**.

Delayed reactions occur **several hours to days** after eating wheat e.g. **diarrhoea** or worsening of **eczema**.

Allergy UK Helpline

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fermentable carbohydrate) found in wheat, barley and rye. Symptoms are caused by bacteria in the large intestine fermenting the poorly absorbed fructans. People who have IBS or gut fermentation should be referred to a specialist dietitian who can guide them through the Low FODMAP diet approach.

Gluten sensitivity

Gluten sensitivity is when symptoms similar to coeliac disease present but it is unclear how the immune system is involved, It is a relatively, new diagnosis and it is unclear if it is life long or whether it is a temporary condition.

People commonly report a mixture of symptoms in response to eating wheat, including abdominal pain, altered bowel habit, bloating, nausea and reflux. However, the condition is also associated with symptoms outside the gut such as foggy mind, joint pains, fatigue, depression, headaches, anxiety and a general lack of well being.

Presently there are no tests and diagnosis is made by excluding coeliac disease and wheat allergy and using wheat elimination to see if symptoms resolve followed by wheat reintroduction to determine if symptoms reappear. Patients should be referred to a specialist dietitian who can guide them through the appropriate dietary regimen.

It is important that you seek advice from your GP initially if you suspect you are reacting to wheat before making changes to your diet. Onward referral can then be made to a healthcare professional with the relevant expertise for further testing and/or dietary advice as appropriate.

Foods which are likely to contain wheat

Food labelling legislation states, wheat (and also rye, barley and oats along with other allergens) must be labelled on any packaged and manufactured foods.

Here is a list of foods likely to contain wheat along with suitable alternatives. This is not an exhaustive list but will provide you with some ideas.

Foods which contain/may contain wheat	Foods to check with your dietitian whether to exclude	Wheat free alternatives
Breads: <ul style="list-style-type: none"> Wheat based breads (white, brown, wholemeal, granary, soda, half and half), pitta, chapattis, croissants, crumpets, brioche muffins, naans, tortillas, breadsticks, bagel, wraps 	<ul style="list-style-type: none"> Rye bread, rye crispbreads, oatcakes 	<ul style="list-style-type: none"> Bread made with wheat free flour. As well as wheat free crackers and crispbreads made with rice, corn, buckwheat, tapioca, quinoa
Cereals: <ul style="list-style-type: none"> Wheat based cereals, cereal bars 	<ul style="list-style-type: none"> Oat cereals, porridge, granola, Ready Break, barley malt 	<ul style="list-style-type: none"> Rice, corn, buckwheat, millet cereals
Pasta, pizza, noodles, potato: <ul style="list-style-type: none"> Fresh or dried pasta, minestrone, tinned spaghetti, pizzas, dough balls, noodles, some frozen chips, waffles 		<ul style="list-style-type: none"> Pasta made from rice, corn, buckwheat, legumes, jacket/boiled/mashed potato, wheat free pizza, dough balls and bases
Grains, flours, flakes: <ul style="list-style-type: none"> Bulgurwheat, couscous, durum wheat, freekeh, einkorn, emmer, farola, kamut, malted wheat, semolina, spelt, triticale, whole wheat, wheat bran, wheat germ. 	<ul style="list-style-type: none"> Rye, oat, barley flour 	<ul style="list-style-type: none"> Amaranth, beans, buckwheat (also called sarasin/sarasin flour), carob, chestnut, coconut, fava/broad bean, flaxseed, fufu flour, gram/chickpea/garbanzo, hemp, lentil/urid/urd/urad, maize/corn. corn meal, polenta, millet, mustard, nut, plantain, potato, quinoa, rice sago, sesame, sorghum, soya, sweet potato, tapioca, teff, yam
Meat/fish/pulses/egg/nuts: <ul style="list-style-type: none"> Breaded or battered fish/meats, sausages, burgers, scotch egg, quiche pastry 	<ul style="list-style-type: none"> Roasted/flavoured nuts 	<ul style="list-style-type: none"> All plain fresh/frozen meats/fish without coatings or wheat free alternatives, gluten free sausages, plain egg, tinned pulses, tofu, hummus, nut butters

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Cakes/desserts: <ul style="list-style-type: none"> Semolina, crumbles, pastries, cheesecake, sponges, eclairs, steamed puddings, trifles, biscuits, cakes, scones, pancakes, doughnuts, muffins, ice cream wafers/cones, Chelsea/hot cross buns, flans, tarts 		<ul style="list-style-type: none"> sorbets, custard, meringues, flourless sponges, gluten free cakes and biscuits
Milk/dairy products: <ul style="list-style-type: none"> Yoghurts with added cereals/muesli 	<ul style="list-style-type: none"> Oat based milk alternatives 	<ul style="list-style-type: none"> All animals milk, cheeses, yoghurts, cream
Fruits and vegetables: <ul style="list-style-type: none"> Vegetable products e.g. some pates and spreads, vegetables coated in breadcrumbs or batter/in sauces, soups, some pre-packed vegetables, pie fillings, fruit crumbles 		<ul style="list-style-type: none"> All plain fruit vegetables: fresh, frozen, dried, tinned. Vegetable crisps
Misc: <ul style="list-style-type: none"> Baking powder, wheat Protein isolates, flavoured crisp snacks 		<ul style="list-style-type: none"> Wheat free baking powder, cream of tartar, bicarbonate of soda, xanthan gum, gelatine, jams, marmalades, honey, syrup, sugar, Vanilla essence

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Clinical contributions:

Allergy UK Clinical Team

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Additional Resources / References

Food Labelling Advice
<https://www.allergyuk.org/resources/food-labelling/>
 Food Allergy Testing and Diagnosing
<https://www.allergyuk.org/resources/food-allergy-testing-and-diagnosing/>

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