



# PATIENT GUIDEBOOK



**FOODPRINT<sup>®</sup>**

*Food IgG Antibod Test*

# Guidebook Contents

The Guidebook explains how to interpret the results obtained from your FoodPrint® IgG antibody test and how to plan for a change of diet. The information contained will help to identify which foods should be eliminated, reduced or rotated and will provide ideas for alternative/substitute foods. Understanding how to re-introduce foods once symptoms have subsided, will ensure that a varied and balanced diet is adopted, which is essential to maintain good health. Ideas contained in the Guidebook will also assist with developing an achievable, sustainable and enjoyable dietary regime.

The following information is contained within this Guidebook:

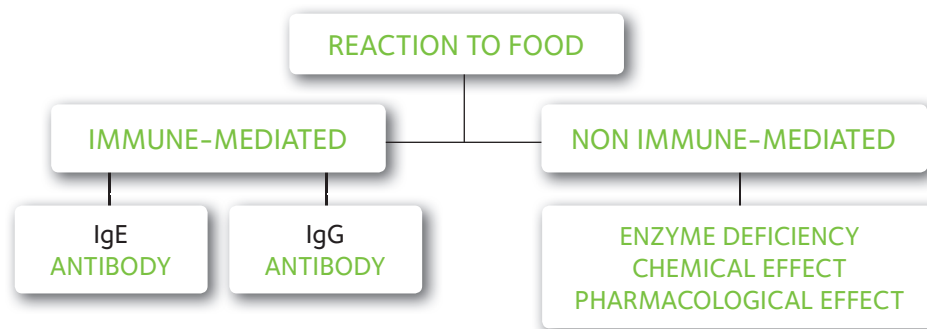
	PAGE
Understanding Food Intolerance	2
Interpreting Your Test Results	4
Important Points	5
Planning Your Diet	6
Monitoring Your Symptoms	7
How To Avoid Dairy	8
How To Avoid Eggs	9
How To Avoid Wheat	10
How To Avoid Gluten	12
How To Avoid Yeast	13
Frequently Asked Questions	15



# Understanding Food Intolerance

## TERMINOLOGY

The terms 'food allergy', 'food intolerance' and 'food sensitivity/hypersensitivity' are often used interchangeably and are often confused, but essentially they all mean an abnormal reaction to certain foods which can manifest themselves in a number of different ways. They may result from mechanisms that involve activation of the immune system, and the subsequent production of antibodies, or reactions that are not immune-mediated.



## IMMUNE-MEDIATED REACTIONS

Reactions that trigger an immune response are most often referred to as '**allergies**' and occur when the body over-reacts to foods that do not usually produce a response in the majority of people. This over-reaction triggers the immune system to produce antibodies to attack the 'foreign' food proteins which the immune system recognises as a threat.

Allergies are grouped into four types: I, II, III and IV. These classifications are based on which part of the immune system is activated and how long it takes for a reaction to occur. The two types of allergy that are most often associated with adverse reactions to food are:

### Type I Allergy

Also known as IgE-mediated allergy/Type I hypersensitivities/true allergy

These reactions are characterised by the production of IgE antibodies and the release of histamine, and other chemical mediators, upon exposure to an allergen (e.g. peanuts and shellfish). They are responsible for the 'immediate-onset' of symptoms that can occur within seconds or minutes following ingestion of certain foods. Symptoms often associated with a classical 'allergic response' include: rashes, sneezing, difficulty breathing and anaphylactic shock. It is usually obvious which foods are responsible for a food allergy and these have to be avoided for life.

### Type III Allergy

Also known as IgG-mediated allergy/food intolerance/food hypersensitivity

These reactions are characterised by the production of IgG antibodies and the gradual formation of antigen/antibody complexes which are deposited in tissues, causing chronic inflammation. They are responsible for the 'delayed-onset' of symptoms, which can occur several hours or days after foods are ingested. Symptoms include: anxiety, depression, IBS, headaches/migraines, fatigue, hypertension, eczema, asthma, joint pain, chronic rhinitis, arthritis, weight problems and fibromyalgia. It is possible to eliminate the offending food(s) from the diet for a short period of time and then gradually re-introduce them when symptoms have improved.

# Understanding Food Intolerance

## NON IMMUNE-MEDIATED REACTIONS

Reactions that do not produce an immune response are often referred to as '**food intolerances**'. They can be caused by sensitivities to certain chemicals/additives found in food, or more commonly due to enzyme deficiencies:

### Enzyme Insufficiency/Deficiency

#### Lactose Intolerance

- Caused by a deficiency of lactase – an enzyme that breaks down lactose (a complex sugar).
- Foods that contain lactose include: dairy products (milk, cheese, yoghurts, etc).
- Symptoms include: bloating, diarrhoea and flatulence.

#### Histamine Intolerance

- Caused by an elevated histamine level due to a deficiency or inhibition of diamine oxidase (DAO) – an enzyme that breaks down histamine (a chemical that triggers an inflammatory response).
- Aggravated by foods high in histamine, including: red wine, cheese and tuna fish.
- Some foods are low in histamine, but can trigger the release of histamine in the body, including: citrus foods, bananas, tomatoes and chocolate.
- Symptoms include: migraines, dizziness, bowel/stomach problems, rhinitis, depression, irritation and reddening of the skin.

## **FOODPRINT**<sup>®</sup>

This chapter has discussed different types of adverse reactions that can be associated with food, including immune-mediated and non immune-mediated reactions. The FoodPrint<sup>®</sup> IgG antibody test measures immune-mediated, Type III allergy (IgG-mediated) reactions.

**Note:** although Type III (IgG-mediated) reactions are classified as 'allergies', the colloquial term for this type of reaction is 'food intolerance' and, therefore, this terminology will be adopted throughout the Guidebook.

# Interpreting Your Test Results

## TEST REPORT

The FoodPrint® Test Report lists the foods that your blood sample has been tested for – the number of foods displayed will depend upon the FoodPrint® IgG antibody test selected. Two different types of Test Report are provided with every FoodPrint® test:

- **Food Groups** – foods are listed alphabetically within their respective food group
- **Order of Reactivity** – foods are listed according to the strength of antibody reaction

## ANTIBODY LEVELS

A numerical value is also displayed in a coloured box adjacent to each food. This represents the concentration of IgG antibodies detected (in U/ml) for each food and the higher the value assigned, the stronger your body's immune response to that particular food. Depending upon the antibody level detected, foods are categorised as: **ELEVATED**, **BORDERLINE** or **NORMAL**. Colour-coding of these categories allows 'problem' foods to be easily identified and avoided.

ELEVATED	BORDERLINE	NORMAL
Indicates that a high antibody reaction was detected	Indicates that a moderate antibody reaction was detected	Indicates that no significant reaction was detected
<p>These are the primary 'problem' foods, which should be eliminated from your diet for at least 3 months.</p> <p>Substitute with NORMAL (green) foods from the same food group. Please refer to 'Test Report: Food Groups'.</p>	<p>These are moderate 'problem' foods, which should be reduced and rotated for at least 3 months to avoid an increase in intolerance.</p> <p>Substitute with NORMAL (green) foods from the same food group. Please refer to 'Test Report: Food Groups'.</p>	<p>These foods can be eaten without restriction, unless they have previously caused an adverse reaction.</p> <p>If you have a known <u>allergy</u> to a specific food that triggers a rapid-onset of symptoms (Type I allergy), this food should be avoided.</p>

If you are experiencing adverse symptoms and the FoodPrint® test has identified **ELEVATED** or **BORDERLINE** IgG antibody levels, this may indicate an intolerance to those specific foods. Removing them from the diet usually results in an improvement of symptoms. Please refer to 'Planning Your Diet' for more detailed information about removal/substitution of foods.



# Important Points

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- If the FoodPrint® IgG antibody test has not identified any **ELEVATED** foods, but you are experiencing any symptoms associated with food intolerance, we recommend that **BORDERLINE** foods be avoided for 3 months.
- It can be difficult to eliminate multiple **ELEVATED** foods at the same time. You may find it easier to:
  - a) Completely avoid the top 4 or 5 foods showing the highest antibody concentrations.
  - b) Reduce and/or rotate the remaining foods showing moderate antibody concentrations.Please refer to 'Test Report: Order of Reactivity' for antibody concentrations.
- It is normal to feel worse for a few days after eliminating specific foods and changing your diet. Your body will need time to overcome the withdrawal symptoms it is experiencing, so be prepared to persevere. Improvements may only become apparent after a few weeks.
- To rotate foods, eat them no more than once every 4-5 days. For example, to rotate wheat, eat wheat bread on day 1; oat cakes on day 2; corn cakes on day 3; rye crispbread on day 4 and durum wheat pasta on day 5, etc.
- If **ELEVATED** foods are to be eliminated from the diet (e.g. milk), it is essential that nutrients found in this food group (e.g. calcium) should be sourced from other foods.
- Do not eliminate foods and then substitute them solely with other foods from the same food group, as this is likely to create another intolerance. For example, if wheat is being eliminated from the diet, but is regularly consumed for breakfast (e.g. toast), do not substitute it for porridge oats every day. It is advisable to eat and rotate a wide variety of foods from the same food group.
- Many people experience the greatest improvement when they completely eliminate 'problem' foods. However, do not worry if these foods cannot be completely eliminated or you need to break your diet occasionally – just start again as soon as it is convenient.
- If a particular food has not been consumed within the last 3 months, the FoodPrint® test is likely to produce a **NORMAL** reaction due to low IgG antibody levels.
- If symptoms have not improved after 2-3 months, despite eliminating the **ELEVATED** foods identified in the FoodPrint® test, this could indicate that IgG-mediated food intolerance is not the cause of your symptoms. We recommend that medical advice be sought from a doctor/healthcare professional.
- Gliadin is a protein fraction of gluten and is found in the grains of wheat, barley and rye. Due to the nature of the FoodPrint® IgG antibody test, gliadin is tested separately to these grains. If your test shows an **ELEVATED** response to gliadin, it is advisable to avoid any foods containing wheat, barley or rye, even if these grains are listed as **NORMAL** in your Test Report.



# Planning Your Diet

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## BEFORE MAKING ANY CHANGES

Nutrition and health go hand-in-hand and there are some simple rules that should be followed before changing your dietary regime:

- If you have a medical condition, are pregnant or on medication, it is advisable to discuss the proposed dietary changes with a doctor/health professional.
- Be aware of the range of foods that can be eaten. Although some foods may have been identified as having high IgG antibody levels, there will be many foods in the same food group that can be eaten freely without causing any adverse symptoms. Rather than concentrate on foods that can't be eaten, it is often more positive to concentrate on all the delicious foods in the **NORMAL** range that can be consumed.
- Investigate which products contain foods that you are reactive to. Many ready-made meals and sauces contain ingredients that are not obviously associated with those products, so it is important to always check the labels before purchase.
- Vary foods as much as possible. Choose a variety of different coloured fruit and vegetables daily; include different proteins such as scrambled egg for breakfast, tuna salad for lunch and chicken for the evening meal. By eating a variety of foods, this increases the range of important vitamins and minerals in your diet and decreases the risk of developing an intolerance to any single food.

## PLANNING AHEAD

It is advisable to take a day or two to prepare yourself before starting a new diet. Reading this Guidebook will provide all the information required to ensure that maximum results are obtained from your FoodPrint® test. We recommend that daily menus are planned well in advance, incorporating as many **NORMAL** foods as possible. By collecting recipe ideas and shopping ahead of time, you are less likely to struggle with adopting and maintaining a new diet.

## ELIMINATING/ROTATING FOODS

If any foods are listed as **ELEVATED** or **BORDERLINE**, they should be eliminated or rotated for at least 3 months. Most foods are relatively straightforward to eliminate from the diet and can be replaced with **NORMAL** foods from the same food group. These can be found in 'Test Report: Food Groups'.

However, foods such as wheat, gluten, dairy, eggs, soya and yeast are more difficult to eliminate from the diet completely, as they are widely used in everyday foods. To help you plan your diet more effectively, further information for each of these foods is provided in this Guidebook, pages 8-14.





# Monitoring Your Symptoms



## FOOD/SYMPATOM DIARY

It is often useful to keep a food/symptom diary to monitor your progress. Record the foods that are consumed before any dietary changes are made and then continue as new foods are introduced. Record how you feel and note any changes in symptoms (i.e. better or worse), as this will help to identify any patterns emerging with respect to certain foods.

## RE-INTRODUCING FOODS

After at least 3 months, and only when symptoms have subsided, **ELEVATED** foods may be re-introduced to the diet. However, this should be a gradual process. Introduce one food at a time and monitor your symptoms over a 5 day period. If symptoms return, this food is still likely to be a problem and should be avoided for another month or two. If symptoms do not return, this food can be included in your diet, but eaten occasionally. Another food can then be introduced and symptoms monitored for 5 days.

## HINTS AND TIPS

- Be patient when introducing foods back into your diet.
- Do not over-indulge! You may have missed your favourite foods, but enjoy them occasionally to prevent intolerances from re-occurring.
- Initially re-introduce foods with the lowest antibody levels - refer to 'Test Report: Order of Reactivity'.
- Wait 5 days to observe whether symptoms develop before introducing the next food.
- Continue to introduce increasingly reactive foods, one at a time, leaving 5 days between each new food.

## AVOIDING NEW FOOD INTOLERANCES

As a new diet regime is adopted and additional foods are introduced, it is possible that intolerances to these new foods may develop. This usually occurs when a "problem" food is swapped almost exclusively for a different food. For example, if wheat is being eliminated from the diet, instead of substituting toast with porridge every day, vary your breakfasts and alternate porridge with fruit salad and yoghurt or poached eggs on rye bread.

In summary, to avoid new food intolerances:

- Avoid eating any one food too regularly.
- Limit each food to being consumed every few days.
- Include a wide variety of foods in the diet to ensure that a range of important vitamins and minerals are consumed.
- **Occasionally, a food may need to be omitted from the diet indefinitely.**



# How To Avoid Dairy



If the FoodPrint® test has shown an **ELEVATED** reaction to milk, it is recommended that you eliminate all consumption of milk and milk products.

Milk is an important source of protein, calcium and vitamins including A, D and B complex, so it is important to obtain these nutrients from alternative food sources.

FOODS TO AVOID	INGREDIENTS TO AVOID	ALTERNATIVE FOODS
<p>Dairy products can be found in many foods:</p> <ul style="list-style-type: none"> <li>• Milk, milkshakes</li> <li>• Yoghurt, fromage frais</li> <li>• Cream, ice cream</li> <li>• Cheese</li> <li>• Butter, spreads</li> <li>• Custards</li> <li>• Puddings</li> <li>• Sauces</li> <li>• Gravy</li> <li>• Creamed soup</li> <li>• Cakes, scones, doughnuts</li> <li>• Waffles, pancakes</li> <li>• Biscuits</li> <li>• Bread, pizza</li> <li>• Instant mashed potato</li> <li>• Ready meals</li> <li>• Processed meats, sausages</li> <li>• Packet snacks</li> <li>• Confectionery, chocolate</li> </ul>	<p>Dairy may be hidden in many foods and so it is important to always read the food ingredient labels carefully before purchase.</p> <p>Ingredients to avoid:</p> <ul style="list-style-type: none"> <li>• Butter, butter oil</li> <li>• Casein, caseinate</li> <li>• Cream, light cream</li> <li>• Demineralised whey</li> <li>• Beta-lactoglobulin</li> <li>• Alpha-lactalbumin</li> <li>• Non-fat milk</li> <li>• Milk powder, skimmed milk powder</li> <li>• Milk solids, non-fat milk solids</li> <li>• Whey, sweet whey powder</li> </ul>	<p>Dairy-free foods are available:</p> <p><b>Milk</b> – Oat milk, rice milk, soya milk, quinoa milk, pea milk, coconut milk, nut milks such as almond or cashew (if no risk of allergic reaction). Some people can tolerate other animal milks, however sheep’s, goat’s and buffalo milk contain similar proteins to cow’s milk, and can cause similar reactions, therefore these milks should be consumed cautiously.</p> <p><b>Butter</b> – dairy-free and vegan spreads, nut spreads, tahini, cold pressed olive oil or coconut oil</p> <p><b>Cheese</b> – hard and soft varieties of soya cheese; rice slices</p> <p><b>Yoghurts</b> – soya or oat</p> <p><b>Ice-creams</b> – soya, oat or rice</p> <p><b>Cream</b> – soya, oat, cashew or almond</p> <p><b>Fromage frais</b> – soft tofu</p> <p><b>Chocolate</b> – dairy-free chocolate</p> <p><b>Mayonnaise</b> – dairy-free mayonnaise</p>

## PROTEIN, CALCIUM AND VITAMINS

To ensure a rich source of protein, calcium and vitamins (A, D and B complex), consume a variety of foods such as soya, cod liver oil, vegetable oil, sardines, whitebait, salmon, nuts, red meat, fresh fruit, vegetables (especially green leafy vegetables such as spring greens, watercress, spinach and broccoli), rhubarb, figs, mushrooms, oranges, apricots, prunes, pumpkin seeds, sesame seeds, lentils and legumes. Note: calcium is water soluble – ideally vegetables should be steamed or boiled in a little water, which can be then be used in soups, gravy and sauces.

# How To Avoid Eggs

If the FoodPrint® test has shown an **ELEVATED** reaction to egg white and/or egg yolk, it is recommended that you eliminate consumption of these foods, including egg proteins.

However, eggs are an excellent source of protein and provide significant amounts of calcium, iron, zinc and B-vitamins. Alternative foods that provide an equivalent nutritional value should be consumed.



FOODS TO AVOID	INGREDIENTS TO AVOID	ALTERNATIVE FOODS
<p>Eggs can be found in many foods:</p> <ul style="list-style-type: none"> <li>• Omelettes, quiches</li> <li>• Cakes, biscuits, sweets, meringues, ice-cream, custard</li> <li>• Steamed pudding, pancakes, crepes, cheesecakes, pavlova, crème caramel</li> <li>• Pasta, noodles</li> <li>• Chinese rice and soups, some sushi</li> <li>• Yorkshire puddings, foods coated in batter/breadcrumbs</li> <li>• Mayonnaise, tartar sauce, horseradish sauce, lemon curd, salad dressings</li> <li>• Scotch eggs, gala pie, hash browns, some potato products, ready meals</li> <li>• Fresh bakery goods may not be labelled so check the ingredients with the bakers</li> <li>• Soups</li> </ul>	<p>Eggs are hidden in many foods, so it is important to always read the ingredients label carefully before purchase.</p> <p>Below is a checklist of the main product ingredients that are derived from eggs:</p> <ul style="list-style-type: none"> <li>• Albumin</li> <li>• Egg white</li> <li>• Egg yolk</li> <li>• Frozen egg</li> <li>• Pasteurised egg</li> <li>• Dried egg</li> <li>• Egg powder</li> <li>• Egg protein</li> <li>• Ovalbumin</li> <li>• Ovovitellin</li> <li>• Ovaglobulin</li> <li>• Ovamucin</li> <li>• Globulin</li> <li>• Livetin</li> <li>• Vitellin</li> </ul>	<p>Egg-free foods are available:</p> <ul style="list-style-type: none"> <li>• Pasta made from corn, rice, quinoa or buckwheat (soba)</li> <li>• Rice or buckwheat noodles</li> <li>• Boiled or fried rice (e.g. brown basmati rice)</li> <li>• Clear soup or broth</li> <li>• Egg-free mayonnaise</li> <li>• Egg-free snacks (e.g. crisps, rice cakes, corn thins and rye crispbreads)</li> <li>• Fresh fruit, stewed fruit or crumble</li> <li>• Sorbet or soya ice-cream</li> <li>• Home-made cakes (using egg replacer, jams, jelly, marmalade or glacé icing)</li> </ul>

# How To Avoid **Wheat**



If the FoodPrint® test has shown an **ELEVATED** reaction to wheat, it is recommended that you avoid all wheat and wheat products for at least 3 months.

Wheat is an important source of fibre, vitamins and minerals, particularly vitamin B complex, chromium and zinc. If wheat is to be eliminated from the diet, it is important that these nutrients are obtained from alternative sources.

FOODS TO AVOID	INGREDIENTS TO AVOID
<p>Wheat can be found in many foods:</p> <ul style="list-style-type: none"> <li>• Breads, rolls, chapatis, naan breads, crumpets, scones, pancakes, wafers, cakes, biscuits</li> <li>• Breakfast cereals</li> <li>• Pizza, pasta, pastries and Yorkshire puddings</li> <li>• Ice-cream, powdered drinks, malted drinks, chocolate bars, liquorices and puddings</li> <li>• Beer, stout, lager and most spirits</li> <li>• Wheat is also found in many convenience foods such as:</li> </ul> <p>Soups, sauces, spices, processed meats, ready-made meals (including burgers), oven chips, salami, sausages, scotch eggs, meat or fish coated in breadcrumbs, corned beef, pates and spreads, crisps, commercial sauces, salad dressings, ham, gravy, stock cubes, herbs, spices, baking powder, tinned foods (including beans), spaghetti and soup.</p>	<p>Wheat is hidden in many foods, so it is important to read the ingredients label carefully before purchase:</p> <p>Below are some ingredients that may be listed:</p> <ul style="list-style-type: none"> <li>• Binder or brown flour</li> <li>• Breadcrumbs</li> <li>• Bulgar wheat, triticale, kamut, spelt, cracked wheat or kibbled wheat</li> <li>• Couscous, wheat bran, durum wheat or semolina</li> <li>• Gum base</li> <li>• Hydrolysed wheat protein or wheat gluten</li> <li>• Rusk, wheat starch, modified starch, food starch, wheat flakes or edible starch</li> <li>• Whole wheat or puffed wheat</li> <li>• Wheat germ flour or unbleached flour</li> <li>• Wheat germ oil or wheat germ extract</li> <li>• Wholegrain or wholemeal flour</li> </ul>

# How To Avoid **Wheat**

## ALTERNATIVE FOODS

Although wheat is a significant source of nutrients, there are alternative food products that provide equivalent vitamins and minerals. Whilst it may be challenging, alternative foods should be eaten to ensure that an enjoyable, varied and healthy diet is adopted:

- **Breads** – wheat-free bread is now widely available and generally made from rice flour, rye flour or blended from potatoes and corn. These types of bread contain the essential B vitamins, iron and folic acid that are found in wheat bread. Choose from 100% rye bread, pumpernickel or rye/barley soda bread. Crackers or crispbreads such as rye crispbreads, oatcakes, corn cakes and rice cakes can be used in place of bread for meals and snacks.
- **Pasta** – choose pasta made from rice, quinoa, corn or buckwheat, which all also contain B vitamins. Noodles are also available in buckwheat or rice.
- **Biscuits** – a wide range of biscuits are available that are made from maize or oats, and can be either sweet or savoury.
- **Breakfast cereals** – a wide selection of cereals are available that do not contain wheat, such as cornflakes, wheat-free muesli, porridge oats, millet puffs, brown rice puffs, puffed buckwheat, shredded oat bites and quinoa flakes. These all provide a good source of B vitamins and iron.
- **Batter and breadcrumbs (made from wheat flour)** – use wheat-free bread or corn flakes to make bread crumbs instead.
- **Sausages** – usually contain wheat rusk but rice rusk is used in some wheat-free alternatives available in supermarkets, butchers shops and meat producers at farmers markets.
- **Japanese, Chinese and Thai dishes (containing soy sauce)** – soy sauce is produced using wheat. At home, try Japanese Tamari soy sauce which is made without wheat.
- **Gravy** – use vegetable stock or wheat-free stock tablets and thicken with corn flour. If a brown gravy is preferred, add gravy browning. Wheat/gluten-free instant gravy powders are also available.
- **Sauces** – to make a white sauce use corn flour or another wheat-free flour (e.g. rice, potato or gram flour) to thicken the sauce. To prevent lumps forming, mix the corn flour first with a little cold milk. Heat the remaining milk in a pan and then add a small amount of the hot milk to the cold mix and stir. Add the remaining milk to the pan, cook through and then add the flavouring (e.g. grated cheese or parsley).
- **Baking** – There are many foods that can be used as a substitute to wheat that provide variety to meals and essential nutrients. Ingredients that can be used in many recipes instead of wheat include:  
Bicarbonate of soda, cream of tartar, tapioca, gelatine or veggel based desserts, pure spices, cornflour, rice and arrowroot; amaranth; potato flour; barley (flakes or flour); quinoa; buckwheat (flakes or flour); rice grains (flakes or flour); corn (cornflour, maize and polenta); rye; ground nuts (e.g. almonds); sago; lentils; pea, bean, gram flours; soy (flakes or flour); millet grains (flakes or flour); tapioca and oats.
- **Wheat-free manufactured products** – a wide variety of wheat-free speciality products such as flour, bread, biscuits, cakes and gravy mixes are now available at supermarkets, chemists and on-line. Some cafés or restaurants sell home baked gluten-free cakes – check that they are also wheat-free.

***Please note that products labelled gluten-free may not be wheat-free as some are made from wheat starch and these are not suitable for wheat-free diets. REMEMBER: always check the label.***

# How To Avoid Gluten

If the FoodPrint® test has shown an **ELEVATED** reaction to gliadin (a protein fraction of gluten), it is important to eliminate consumption of foods that contain gluten-based grains, even if the individual grains (wheat, barley and rye) are not **ELEVATED** on your Test Report – the gliadin and gluten-containing grain results should be interpreted together.



Some people with gluten intolerance can tolerate oats, but they are often contaminated with wheat, rye and/or barley, so it is recommended that foods containing oats are also avoided.

FOODS TO AVOID	INGREDIENTS TO AVOID	ALTERNATIVE FOODS
<p><b>Foods containing wheat:</b> Refer to 'How To Avoid Wheat'</p> <p><b>Foods containing rye:</b></p> <ul style="list-style-type: none"> <li>• Crispbreads</li> <li>• Crackers</li> <li>• Pumpernickel bread</li> <li>• Rye bread</li> <li>• Some types of whisky</li> <li>• Some types of beer</li> </ul> <p><b>Foods containing barley:</b></p> <ul style="list-style-type: none"> <li>• Barley water</li> <li>• Pot barley</li> <li>• Pearl barley</li> <li>• Some soups and stews</li> <li>• Coffee substitutes</li> <li>• Some types of whisky</li> <li>• Some types of beer</li> </ul>	<p>Gluten may be hidden in many foods and so it is important to always read the ingredients label carefully before purchase.</p> <p>Below are some ingredients that may be listed:</p> <ul style="list-style-type: none"> <li>• Wheat</li> <li>• Rye</li> <li>• Barley</li> <li>• Spelt</li> <li>• Durum wheat</li> <li>• Couscous</li> <li>• Kamut</li> <li>• Malt</li> <li>• Bran</li> <li>• Triticale</li> <li>• Dextrin</li> <li>• Oats</li> </ul>	<p>Alternative ingredients that can be used in gluten-free baking include:</p> <ul style="list-style-type: none"> <li>• Amaranth</li> <li>• Potato flour</li> <li>• Quinoa flour</li> <li>• Buckwheat flour</li> <li>• Rice flour</li> <li>• Corn flour</li> <li>• Ground nuts (e.g. almonds)</li> <li>• Sago flour</li> <li>• Lentil flour</li> <li>• Chickpea/gram flour</li> <li>• Soy flour</li> <li>• Millet flour</li> <li>• Tapioca</li> </ul>

Please refer to 'How To Avoid Wheat' for further information.

# How To Avoid Yeast



If the FoodPrint® test has shown an **ELEVATED** reaction to Baker's or Brewer's yeast, it is recommended that any products that contain yeast should be avoided for at least 3 months. It is also advisable to avoid all forms of yeast, such as moulds, fungi, mouldy cheeses and other forms of fungi in their foods and environment.

Note: Bakers and Brewer's Yeast are 2 strains of the same organism and it is highly likely that if you react to one strain, you may also react to the other.

Of all the foods to avoid, yeast is probably the most difficult as it is hidden in so many processed foods. It is vital that you plan ahead before starting a yeast-free diet.

Live yeast is used in food preparation and processing, where it converts sugar into carbon dioxide and alcohol. It is a good source of vitamin B, but this can be also obtained in meat, fish, whole grains, nuts and dark green leafy vegetables. Yeast-free diets need to avoid natural sources of yeast, as well as those added to food, so adopting a low sugar diet may also provide benefits by preventing the growth of yeast cells within the digestive system.

## FOODS TO AVOID

- Baker's yeast, Brewer's yeast.
- Breads, pizza bases, pastries (e.g. croissants) and other bread-type cakes raised with yeast.
- Some flat breads (e.g. pitta breads and naan breads) contain a small amount of yeast which allow them to rise and produce 'pockets' when cooked.
- Some sourdough and pumpernickel breads use a starter that includes yeast and a lactobacillus culture.
- Yeast extract such as Marmite, Vegemite, Bovril, stock cubes and gravies.
- Fermented food and drink such as beer, wine, cider, spirits, ginger ale, vinegar, soy sauce and dressings.
- Tempeh, miso and tamari (Japanese/Indonesian seasonings made by fermenting soy beans).
- Vinegar containing foods such as pickles, relishes, salad dressings, tomato ketchup, mayonnaise, Worcestershire sauce, horseradish and chilli sauce.
- Mushrooms, mushroom sauce and truffles contain organisms closely related to yeast.
- Pickled, smoked and dried fish, meat and poultry.
- Cured pork bacon.
- Peanuts and peanut products.
- Pistachios.
- Ripe foods, especially very ripe cheeses such as Brie and Camembert.
- Malted milk, malted drinks and home-made ginger beer.
- Textured vegetable protein, Quorn (mycoprotein) and tofu.
- Dried fruits (figs, dates, raisins, apricots, etc).
- Over-ripe fruit, any unpeeled fruit.
- Fruit juices – only freshly squeezed are yeast-free.
- Hydrolysed protein, hydrolysed vegetable protein or leavening – check the ingredients label.
- Citric acid and monosodium glutamate (MSG) may be derived from yeast.
- Some nutritional supplements – check the ingredients label.

# How To Avoid Yeast

INGREDIENTS TO AVOID	ALTERNATIVE FOODS
<ul style="list-style-type: none"> <li>• Hydrolysed protein</li> <li>• Hydrolysed vegetable protein</li> <li>• Leavening</li> </ul>	<p>The following foods are yeast-free:</p> <ul style="list-style-type: none"> <li>• Pasta, brown rice, brown flours, corn, wild rice, buckwheat, couscous, barley and millet.</li> <li>• Rice cakes, oat cakes, corn tortillas, tacos and rye-crispbreads (e.g. Ryvita).</li> <li>• Home-made breads (with baking powder/bicarbonate soda for leavening). Also muffins, biscuits, chapatis and Irish soda bread.</li> <li>• Flatbreads that do not contain yeast (e.g. matzos and flour tortillas).</li> <li>• Pancakes and crepes use baking soda or baking powder instead of yeast.</li> <li>• Fresh, frozen or tinned vegetables and vegetable juice. Particularly good are onions, garlic, green leafy vegetables (e.g. cabbage, broccoli and kale), Brussels sprouts, spring greens, mange-tout, etc).</li> <li>• Salad vegetables such as salad leaves, herbs, rocket, spinach, peppers, alfalfa sprouts, avocado, etc.</li> <li>• Peas, beans and lentils.</li> <li>• Free range/organic poultry, lamb, pork, beef and veal.</li> <li>• Fish especially mackerel, sardines, cod, salmon, herring, tuna and trout.</li> <li>• Shellfish</li> <li>• Free-range eggs, soya milk, cottage cheese and plain organic live yoghurt (the lactobacilli content will help to re-balance the gut flora).</li> <li>• Non-citrus fruits such as blackcurrants, strawberries and tropical fruits (e.g. pineapple, papaya, mango, kiwi and banana).</li> </ul>





# Frequently Asked Questions

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**Q Is it possible to be affected by foods that are not detected by the FoodPrint® test?**

Some foods may cause a classic allergic reaction involving the production of IgE antibodies (Type I allergy). These will not be detected by the FoodPrint® test as it detects IgG antibodies. There are also many foods that can cause a reaction in the body without involving the immune system, but produce symptoms similar to IgG reactions: amines found in chocolate, cheese and red wine may cause migraines; some food additives such as tartrazine, can trigger hives, rashes and asthma; monosodium glutamate (MSG) found in restaurant/take-away food can produce sweating and dizziness; 'Nightshade' alkaloids in potatoes, tomatoes and peppers may affect the joints. Food intolerance may also be due to a deficiency of a particular enzyme, such as in lactose intolerance. Avoid foods if you suspect they are causing adverse effects.

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**Q I have been avoiding a food for several months/years. Will this affect my test results?**

The FoodPrint® IgG antibody test is based on the immune system's ability to produce antibodies in response to certain foods. If a food has been avoided for more than 3 months, it is likely that IgG antibody levels will be insufficient to be detected by the test and may give a **NORMAL** result. To test intolerance to a certain food, it should be included in the daily diet, or at least every other day, for 4-6 weeks before testing. However, if the food concerned is known to cause extreme symptoms/discomfort, do not reintroduce it.

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**Q What does U/ml mean?**

U/ml stands for 'Units per millilitre' and is a measure of concentration. The result for each food listed in the Test Report is expressed in U/ml, which shows the concentration of food IgG antibodies detected in the blood sample provided.

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**Q Do I need to visit a nutritionist to discuss the test results?**

Once you have received the FoodPrint® test results, it is advisable to consult a nutritionist registered with the British Association for Applied Nutrition and Nutritional Therapy ([www.bant.org.uk](http://www.bant.org.uk)), who can help advice on dietary changes and provide a supplement programme. They may also offer support and encouragement with regular progress checks, as it can be quite a daunting task to persevere with a new diet on your own.

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**Q If cow's milk is ELEVATED, does this mean that I am lactose intolerant?**

No. Lactose intolerance is the inability to digest lactose, the major sugar found in milk, and is caused by a deficiency of the enzyme lactase. The FoodPrint® test detects IgG-mediated food intolerance caused by the specific proteins found in milk, but does not detect the lactase enzyme and, therefore, cannot diagnose lactose intolerance.

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**Q Is the FoodPrint® test suitable for testing children?**

Yes, but we recommend a minimum age limit of 2 years.

# Frequently Asked Questions

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**Q Is gluten-free the same as wheat-free?**  
No. A product can be wheat-free but not gluten-free and vice versa. Products are available that are both gluten-free and wheat-free, but it is important to read the ingredients label to be certain. The FoodPrint® IgG antibody test uses wheat, barley and rye food extracts that do not contain gluten and this is tested separately as gliadin (a storage protein found in gluten-based grains).

If your Test Report shows an **ELEVATED** reaction to gliadin, it is important to eliminate any foods that contain gluten-based grains and substitute with naturally gluten-free foods, such as quinoa, buckwheat, corn, oats and wild rice. If your Test Report shows an **ELEVATED** result for wheat, rye or barley, but NOT for gliadin, the reaction may be due to one of the other proteins found in the grains.

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**Q Why is gliadin tested separately to the gluten-containing grains?**  
The FoodPrint® test uses water-soluble food extracts to detect food-specific IgG antibodies. Grain extracts, however, do not contain gliadin (gluten) because gliadin is only soluble in alcohol and cannot be extracted with the rest of the grain. For this reason, gliadin is tested separately.

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**Q Do I need to be cautious when removing a food group from my diet?**  
Yes, so you should be careful when introducing a new dietary regime. We offer follow-up dietary advice from qualified nutritionists to anyone who has taken the FoodPrint® test.

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**Q Do I need to have a re-test after a few months?**  
Most people do not need to have a re-test, but if you would like to take another test, we advise a period of 6 months between tests. If symptoms have improved and you have successfully re-introduced 'problem' foods, a re-test is unnecessary.

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**Q Why do I react against a food that I have never eaten?**  
It is occasionally observed that patients react to foods that they are convinced they have never eaten. Although not unusual, it is not attributable to a false positive result, but instead a 'cross-reaction' with another food. Some foods contain identical antigens (food proteins), even though they are not related to each other and/or do not belong to the same food group. These identical food proteins will be detected by the same antibody, thus producing an **ELEVATED** result. Please contact CNS for further information regarding cross-reactions.

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**Q What if I don't experience any improvement at all?**  
If, after changing your diet according to the test results, improvements have not been achieved after 3 months, food intolerance is unlikely to be the cause of your symptoms and other investigations should be undertaken. Results of the FoodPrint® IgG antibody test are intended as a guide to diet alteration only and should be complementary to advice from a healthcare professional.



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